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Editorial

The Challenges of Social Infrastructure for Urban Planning

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Abstract
This editorial addresses social infrastructure in relation to urban planning and localisation, drawing together the themes in this thematic issue on "Localizing Social Infrastructures: Welfare, Equity, and Community." Having contextualised social infrastructure, we present each of the 12 contributions by theme: (a) the social consequences of the localisation of social infrastructure for individuals, (b) the preconditions for localising social infrastructure in the urban landscape, and (c) the social consequences for the long-term social sustainability of the wider community. We conclude with the openings for future research, such as the need to continue researching localisation (for example, the ways localisations of social infrastructure support, maintain, or hinder inclusion and community-building, and which benefits would come out of using localisation as a strategic planning tool); second, funding (the funding of non-commercial social infrastructure and who would take on the responsibility); and third, situated knowledge (the knowledge needed by planners, architects, social service officials, decision makers, and the like to address and safeguard the importance of social infrastructure in urban development and regeneration processes).

Keywords
community; localisation; social infrastructure; urban planning; vulnerable groups; welfare

Issue
This editorial is part of the issue "Localizing Social Infrastructures: Welfare, Equity, and Community" edited by Ebba Högström (Blekinge Institute of Technology), Lina Berglund-Snodgrass (Swedish University of Agricultural Sciences), and Maria Fjellfeldt (Dalarna University).

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1. Introduction

The American sociologist Eric Klinenberg (2018) may have been the one to set the social infrastructure ball in motion with his book *Palaces for the People*. He was not the first to coin the term, though; there had been others who had taken social infrastructure to heart (Oldenburg, 1989; Putnam, 2000). In recent years there has been an increasing array of engagement from scholars, journalists, and others at conferences and in podcasts, the news media, and policy documents. In the discipline of urban geography things have been particularly lively, exemplified by the recent thematic issue of *Urban Geography* edited by Alan Latham and Jack Layton (2022). What is arguably new—connected to simultaneous social and infrastructural turns in the social sciences generally and in urban planning specifically—is the combination of something less tangible, the social, with something more tangible, infrastructure. The concept of social infrastructure has a specific (spatial) capacity to bridge the social and infrastructural dimensions of living environments. The elision of infrastructure and social is a clever way of pointing up its systemic features: the assemblages and connections between the various physical, spatial arrangements that support socialisation, cohesion, trust, and co-presence, and the actors and processes that make this happen.

With this thematic issue, our aim is to chart the localisation of social infrastructures from an urban planning perspective. What counts as social infrastructure, however, is not clear-cut, as there are several sometimes

contradictory definitions (see Middleton & Samanani, 2022). Two suggested by Latham and Layton (2022) are useful here, the first being concerned with the infrastructures of social care, where social infrastructure is understood as spaces (e.g., hospitals, schools, care homes, mental health services) that collectively provide care and services for a whole range of people, and the second with the infrastructures of social life, where social infrastructure is understood as "the public and quasi-public spaces and places that support social connection" (Latham & Layton, 2022, p. 661). Inserting these definitions into an urban planning perspective directs focus toward the multitude of actors involved in planning social infrastructure, all with different roles and responsibilities, leaving the localising of social infrastructure a complex fusion of interactions and collaborations. Here, we are particularly concerned with what governance arrangements best facilitate their establishment and long-term maintenance, and what cross-sectorial collaborations that inform such arrangements (Berglund-Snodgrass et al., 2020). We concentrate on the "where"—the effects (or lack) of strategies for localising social infrastructure in urban landscapes—which is a somewhat neglected part of the spatial disciplines (Fjellfeldt et al., 2021). We also ask what different lived experiences are afforded by social infrastructure, and what lessons the urban planning and social work professionals can draw from such inquiries.

2. The Contributions

The 12 articles in this thematic issue ask crucial questions about the localisation and social infrastructure nexus. Each proposes a range of productive ways to analytically and empirically engage with the theme of social infrastructure's localisation in order to address important societal phenomena embracing people, places, policies, and planning. The contributions are sorted by theme: (a) the social consequences of the localisation of social infrastructure for individuals, (b) the preconditions for localising social infrastructure in the urban landscape, and (c) the social consequences for the long-term social sustainability of the wider community.

The first theme—the social consequences of the localisation of social infrastructure for individuals—centres on the everyday effects of the localisation, organisation, and design of social infrastructure on individuals and certain groups (here, vulnerable groups and people living in rural areas). In the first article, Bricocoli et al. (2022) investigate the spatial organisation of social services, which they argue has long been secondary for both urban planning and social welfare policies in Italian cities. A new concept, "WeMi spaces," which evolved from a reorganisation of the local welfare system of the municipality of Milan, led to innovation in both Milan's social services and its spaces, where improving access was the key strategy in branching out with a broader arena of users and to discourage stigmatisation. The social consequences for people with intellectual disability living in high-density urban settings is raised by Carnemolla (2022), who discusses how the urban design elements of a high-rise apartment complex influence how people with intellectual disability receive support and participate in the wider community. This lays the ground for urban design recommendations to support safe, efficient, and quality care in high-density urban settings for people with disability, older people, and other community groups who rely on community-care support to live independently at home. Kuoppa and Kymäläinen (2022) analyse the essential factors, challenges, and contradictions in the provision of social infrastructure in suburban contexts and argue that the relationship between users of suburban spaces and street-level workers is significant in the construction of social infrastructures. A topic for further investigation is vulnerable people's agency in the suburbs. In Rees et al. (2022), digital social infrastructure is shown to help with social connectedness despite not being in the same physical space. They find that social infrastructure is not limited to urban, physical areas, and instead should be conceptualised as a digital, rural social phenomenon too. Stender and Wiell Nordberg (2022) discuss how social connectedness is crucial for people's wellbeing and sense of community in the last article of the first theme. Using a case study of a disadvantaged housing area in Denmark in Covid-19 pandemic lockdowns, three levels of social infrastructure—formal, informal, and digital spaces—are identified. When the formal spaces closed due to the lockdown, residents found innovative ways to socialise. In terms of informal spaces, they impress a message on urban planning and design: Do not forget the overlooked, underappreciated urban spaces because in a crisis like the pandemic they are invaluable in sustaining the social, even if using different infrastructure than the intended first level.

The second theme is the planning perspective, and specifically the preconditions for localising social infrastructure in the urban landscape. Urban planning has undergone major transformations in recent decades, offering both opportunities and challenges in the provision of a range of spaces and facilities for social life in the course of urban (re)development processes. The funding mechanisms, resources, and incentives to develop spaces that cannot be commodities in a "market" is a concern for many authors. Hence the contribution by Fobel (2022), who finds the provision of social infrastructure in peripheral regions is the result of committed individuals, voluntary work, and non-profit actors and the securing of third-party funds at higher levels of government or from foundations or fees. The changing role of student housing as social infrastructure is addressed by Franz and Gruber (2022), who look at the shift from providing student housing as a basic need to providing it as part of the financialised housing market, and by extension the implications for the provision of social spaces for students. They raise important questions about the governance arrangements which best facilitate the provision

of social infrastructure and what the specific responsibilities of public actors should be. Finally, Mager and Wagner (2022) examine how political and social relations are formed, negotiated, and challenged in the development of cultural infrastructure in a German city, concluding that the development project abandoned its discourse of providing spaces for cultural workers for one where it was a motor for urban (re)development.

The third theme looks to the future, focusing on the social consequences of the localisation of social infrastructure for the long-term social sustainability of the wider community. Agervig Carstensen et al. (2022) investigate the planned interventions to improve socio-spatial relations between disadvantaged districts and their more affluent neighbours. This "opening-up strategy" (Agervig Carstensen et al., 2022, p. 487) constructing shared meeting places in disadvantaged districts is designed to promote "publicness" and external relations. However, the authors highlight the risk that the common meeting place strategy will only result in an increase in visitors from outside rather than meaningful contacts between residents in the disadvantaged and more affluent areas, leaving the life chances of the former unchanged. Recent developments in Sweden's privatised social infrastructure is the subject of Grundström's (2022) article, demonstrating that in the shared housing complexes the internal social infrastructure has largely replaced residents' daily use of public space. The conclusion is that planning with specific groups in mind may undermine the development of an urban social life while adding to housing inequality, and the risk is that urban planning may favour privatisation to avoid maintenance costs. Jing (2022) has a different, more tactical approach to social infrastructure in her focus on affordability of streetscapes for residents and visitors in urban areas, and the streetscapes as part of urban development processes. She concludes that the urban design discipline should see social infrastructure as a tool in planning and designing liveable cities. By "thinking with social infrastructure," Lewis et al. (2022, p. 531) analyse the impact of urban regeneration on older people living in an inner city neighbourhood. The long-term social sustainability of the wider community in view of an "ageing in place" policy and local social infrastructures is investigated, especially in terms of the functional and affective impact on older people. In many respects, older people have been "erased" from the urban renewal discourse by the focus on the needs and lifestyles of incoming groups rather than long-term residents. The authors argue that the affordances of social infrastructure should be foregrounded in any discussion about urban change to ensure new urban spaces will foster social connections for all generations and support older residents' sense of belonging and inclusion.

3. Conclusions

This thematic issue charts the localising of social infrastructure from an urban planning perspective. The 12 articles outline different ways of dealing with this, whether as an analytical lens or in empirical cases, which, taken together, inspire further research. First, there is a need to continue researching localisation (for example, the ways localisations of social infrastructure support, maintain, or hinder inclusion and community-building, and which benefits would come out of using localisation as a strategic planning tool); second, funding (the funding of non-commercial social infrastructure and who would take on the responsibility); and third, situated knowledge (the knowledge needed by planners, architects, social service officials, decision makers, and the like to address and safeguard the importance of social infrastructure in urban development and regeneration processes). Finally, we hope this thematic issue will inspire further research on the challenges of social infrastructure for urban planning.

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Conflict of Interests

The authors declare no conflict of interests.

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Article

The Spaces of Social Services as Social Infrastructure: Insights From a Policy-Innovation Project in Milan

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Abstract
The spatial organisation of social services has long been residual for both urban planning and social welfare policies in Italian cities. This often results in randomly chosen locations and poor design arrangements, which ignore the role that space might play in fostering social life and inclusion. The scarce relevance given to the topic both in research and implementation is connected to the historical evolution of social services in the country and the scant resources devoted to their provision. Basing itself on the debate on welfare spaces and social infrastructures and drawing on a collaborative-research experience within an experimental policy-innovation project developed in Milan, this article tackles the role of space in social services provision following three directions. Firstly, it analyses how, at the urban level, welfare innovations and the interplay between urban planning and welfare policies might contribute to reshaping the traditional physical structures of social services and their map to favour more inclusive patterns of access to local welfare. Secondly, it investigates the role of social services as social infrastructures in increasing accessibility, reducing stigmatisation, and interpreting in a more inclusive way the complex public-private partnerships that allow welfare implementation nowadays. Finally, it discusses how, in the face of contemporary trends in the activation of welfare spaces, traditional urban planning tools are challenged in monitoring their increasingly dynamic distribution in the city. This highlights the need to develop innovative urban planning strategies and tools to effectively support decision-making and design.

Keywords
local welfare; Milan; services localisation; social infrastructures; social services; spaces for welfare; territorialisation; welfare services; WeMi

Issue
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1. Introduction

Economic restructuring processes, increasing flexibilisation of labour markets, socio-demographic changes, and the crises of national welfare systems have notoriously eroded traditional social protection and exacerbated traits of social fragility in many European countries in the past decades. The profiles of individuals and households in need of support have increased and diversified, well beyond the typical poor and multi-problematic social assistance recipients. Against this backdrop, local governments have been facing, for long years now, the urgency to reorganise welfare measures in order to provide more effective and appropriate answers to social needs while dealing with decreasing resources. In fact, in the frame of “subsidiarisation” (Kazepov, 2010), since the 1980s, welfare regulation and financing have increasingly been a competence of sub-national institutional levels,

and its provision is growingly carried out by non-public actors within a variety of multi-level governance patterns (Ascoli & Ranci, 2003; Bifulco & Vitale, 2006) and new "statutory spaces of planning" (Haughton et al., 2009). The Great Global Recession started in 2008, and the related austerity measures affected welfare services provision and their organisation at the local level. Processes of social innovation (Oosterlynck et al., 2013), as well as of policy innovation were introduced, intensifying the implementation of networked forms of governance and hybrid forms of provision (Davies & Blanco, 2017) in the attempt to cope with more widespread and diversified needs through scanter resources. The changing profiles of both social needs and people in need brought firmly to the floor the necessity to rethink the contents of welfare support, but also the way citizens access it, questioning issues of threshold, proximity, visibility, and the quality of spaces that, for a long time, had been neglected both by policymakers and by scholars. This renovated attention towards the accessibility and design of premises where citizens get access to welfare can be grounded on the debate on social infrastructures, i.e., "the networks of spaces, facilities, institutions and groups that create affordances for social connections" (Latham & Layton, 2019, p. 3), regardless of age, race, gender, or income. The fact that places where social services are provided matter in terms of developing and maintaining social bonds could indeed seem axiomatic, but it is rarely investigated and discussed. Drawing on what we learned from our involvement, first as project partners and later as scientific consultants, in an innovative case of reorganisation of access to social services—the WeMi programme in the City of Milan, Italy—this contribution discusses the role and the potential of social services as part of the "social infrastructures" of the city (Klinenberg, 2018) and questions the reasons and implications of the neglect of both urban planning and welfare policies over the spatial qualities of social services. In particular, the article aims at answering the following questions:

1. What are the contemporary challenges for local Italian administrations in planning the spaces of social services?
2. Which actors take part in the current provision of social services and how do their presence and their interrelations affect the spatial configurations of such spaces?
3. How may design strategies contribute to increasing accessibility and social inclusion?

The article is organised as follows: The next section explores different theoretical perspectives on the spatial features of social welfare services from a multidisciplinary perspective. Section 3 sets the context and presents the recent innovations of the local welfare system in Milan. Section 4 describes the research actions and methods on which the article draws. Section 5 further delves into the spatial configurations of the WeMi spaces. The last section discusses the project's innovative features against the theoretical overlook and points to different research paths.

2. Understanding the Changing Patterns and Meanings of the Distribution of Spaces for Welfare

Analysing the relationship between welfare services and space requires assuming different disciplinary viewpoints. Studies on welfare services in urban areas have mainly focused on specific programs and contexts, particularly in deprived neighbourhoods (Moulaert et al., 2012, p. 16). Many scholars have explored the spatialisation of poverty and social exclusion dynamics with specific reference to unfair planning policies/programmes or unequal redistributive welfare measures (Cassiers & Kesteloot, 2012; Musterd & Ostendorf, 2013). More recent contributions have also investigated the relationships between the territorial distribution of poverty and social exclusion, the existing panorama of welfare services, and the rise of post-crisis social innovation initiatives (Blanco et al., 2016). Within these neighbourhood-based analyses, there is minimal investigation dedicated to the physical features of the concrete spaces in which welfare services are provided and how these may affect user-provider relationships. Created in the past century as the "material infrastructures for welfare provision and representations of the nation-state powers" (Cochrane, 2003), many of these structures have gone through major reconfigurations over the past decades, following the transformation of national welfare systems. In the Italian urban planning academic debate, this perspective has been introduced by Secchi's (2005) pivotal analysis of the morphological changes of 20th-century cities and, more specifically, of the "material dimension of welfare provision." Secchi's definition of welfare spaces includes a broad spectrum of urban facilities ranging from collective meeting places to parking lots and churches. Scholars who worked around this approach based their argumentation on the notion of urban welfare, intended as the right to a planned city (Caldarice, 2018, pp. 2–3; Renzoni, 2018). This term embraces all the urban facilities that guarantee the citizens' well-being and considers them products of the welfare state. Within this theoretical stream, Tosi and Munarin (2009) used the term *welfare spaces* with a comprehensive reference to those services and infrastructures that shape people's lives in cities, referring, among others, to green areas, parks, and open spaces. While recognising the comprehensiveness of this debate, our interest mainly focuses on the spatial features of *social services*, i.e., the facilities through which in-kind or in-cash social assistance interventions that help households and individuals cope with different forms of vulnerability are organised and delivered (United Nations Research Institute for Social Development, 2019).

If the urban planning debates fall short in defining the welfare spaces, the social policy literature has

long neglected the analysis of these spaces' localisation and physical characteristics. In one notable multidisciplinary exception, Bifulco (2003) highlights how spatial features, social interactions, organisations, and institutions are bound to shape welfare services provision and people's experience of welfare policies. These should be understood against the backdrop of a twofold shift that reshaped spaces for welfare at the beginning of the 2000s: "from quantity to quality" and "from structures to processes' " (Bifulco, 2003, p. 10; Bifulco & Vitale, 2006). The first refers to the inadequacy of quantitative-based planning tools to grasp and respond to changing social needs in contemporary cities (Tosi, 2003). The second concerns the mentioned challenges of local welfare systems and the ever-changing nature of social needs, which entailed a reinterpretation of the traditional structures of welfare provision towards flexibility and diversification. Indeed, DeVerteuil (2000) draws up a thorough overlook of how quantitative strategies for public services' localisation, mostly based on cost-benefit analysis and catchment areas (Teitz, 1968), have progressively been superseded by a more contextualised and human-based approach (Dear et al., 1994) leading to a "post quantitative era" of service planning. These scholars stress the differences between private and public services, questioning how public disinvestment and devolution might have affected localisation strategies and opening up the debate on how third-sector actors might contribute to reshaping public services' geographies (DeVerteuil, 2000).

Along with localisation, though, Bifulco (2003) also introduces other relevant physical dimensions that we embrace in this contribution, such as settings (i.e., the architectural and interior design arrangements) and artefacts (i.e., objects, lights, colours; Bifulco & Vitale, 2003; de Leonardis & Bifulco, 2003).

Evidence from organisational studies shows how these spatial aspects contribute to the process of "sensemaking" (Weick, 1995), that is the way organisations create and acknowledge their environment. This analytical perspective has created a significant shift in this field of study, traditionally focused on functional analysis, towards more human-centred approaches. According to this theoretical trend, space is co-determined and constantly reshaped by the relationship between human and physical environment and can be interpreted as a sociocultural process (Gagliardi, 1990). In this "relational perspective" (Fjellfeldt et al., 2021) stands the "generative power" (Weick, 1995) of space for organisations, a continuous process of learning by/from doing that simultaneously reshapes spatial features, social interactions, and the meanings and goals of organisations themselves. From this viewpoint, the way spaces are planned, designed, maintained, and practised (Star, 1999) acquires a renewed importance, for the intertwining of spatial features and human behaviours generates a "social surplus" to the functional features of the physical environment (Amin, 2008). This surplus is what defines "social infrastructures," i.e., those spaces that, besides hosting a functional use, can foster inclusion, publicness, and coexistence among different social groups (Klinenberg, 2018). It might seem tautological to state that the spaces of social services are social infrastructures. They are, in fact, "long-term physical assets in the social sectors that enable goods and services to be provided" as in the institutional definition of social infrastructure adopted at the European level (Fransen et al., 2018, p. 14). Still, they have not been regarded yet as spaces that—despite their strong institutional features and functional vocation—may also allow social gatherings and inclusion, in other words, as "affordances for social connections" (Latham & Layton, 2019). We believe this viewpoint is even more relevant in the light of the complex public-private partnerships that characterise the current provision of social welfare services, which questions not only the traditional planning strategies and tools used to design the spaces for social services, but also the ways in which people approach and experience their provision.

3. The Context: Roots and Recent Innovations in Milan Municipal Welfare

Social services have long received marginal resources and attention in the Italian welfare system. In contrast, most public financing has historically been devoted to old-age pensions and healthcare services. Support for persons in need has primarily been the responsibility of family solidarity and local bodies where it was lacking (Madama, 2010). In the prolonged absence of a national framework, municipal provision of social assistance has developed in a very diversified way. Typically, large municipalities display a set of physical premises, which are the sites of municipal social services, where social workers manage social assistance programmes and measures. After three decades of decentralisation in the absence of a national frame, in 2000, social assistance services have been framed by National Law No. 328 that also introduced specific tools to promote a social planning culture (i.e., the Piano di Zona, a three-year local welfare plan) that, however, had no connection with the urban planning tools and no focus on localisation of facilities. Currently, social assistance services are financed by the National Fund for Social Policies (Fondo Nazionale per le Politiche Sociali) and by regional and municipal budgets. The National Fund for Social Policies underwent significant reductions over the austerity years that followed the economic and financial crises of 2008 and 2011, passing from €1.8 billion in 2004 to €42.9 million in 2012—97,72%—which was followed by a recovery in 2013 (€343.7 million) and a substantial stabilisation afterwards (according to the authors' own calculations based on data from the Ministry of Welfare [Ministero del Lavoro e delle Politiche Sociali, 2022]). However, before the recent and comparatively late introduction of the first (2018) and the current (2019) national

minimum income schemes, the National Fund for Social Policies resources represented only 8.3% of the overall investments in social assistance provision, according to data retrieved from the National Institute of Statistics (Istituto Nazionale Previdenza Sociale, 2022). The provision of social services is still primarily assigned to municipal administrations that plan and provide services with resources based on national and regional norms and transfers.

The Milanese local welfare system is rooted in a long-term inheritance of enlightened charity activities. From the late 19th century and especially after the end of the Second World War, the tradition of reformist socialism and that of social Catholicism converged to a pragmatic attitude towards support provision (Agnoletto, 2015). The continuity of centre-left local administrations led by socialist mayors since the fall of the fascist regime and until the early 1990s promoted the building of a modern local welfare system imbued with universalistic principles and empowerment-oriented approaches (Benassi, 2019). The city administration developed an early capacity to steer the energies and the initiatives of civil society. Since the mid-1990s, over two decades of centre-right local administrations, a passive approach to the economic support of the poor prevailed, together with an exacerbation and repression of social conflict (Costa et al., 2016). It should be noted that, over the same two decades, Lombardy (the region of which Milan is the capital city) was also steadily governed by centre-right coalitions, characterised by extensive use of externalisation and marketisation policies in welfare provision (Gori, 2011). Despite the leading role of political parties endorsing both localism and the prominence of non-public actors, in these years, the distinctive local capacity for the governance of horizontal subsidiarity went "paradoxically lost" (Polizzi & Vitale, 2010). Sharp top-down relations characterised both the interaction between the region and the municipalities ("regional centralism"; Bifulco, 2011) as well as the connections between the Milanese city administration and the third-sector welfare providers. In parallel, the role of non-public bodies, like large bank foundations, able to finance welfare provision and innovation, grew significantly in the wake of the reduction of resources related to austerity measures.

In 2011, a significant political change at the local level brought a centre-left coalition to power after two decades. One of the distinctive characteristics of the new political action was a renewed attention to the centrality of local welfare interventions that aimed at reinterpreting the best traits of the Milanese tradition of horizontal subsidiarity, with the recovery of a decisive coordination role in the hands of the public administration, which was—as we shall see—also acknowledged by the non-public financing actors.

In order to face the challenges posed by the reduction of transfers from the national level and by the concomitant increase and diversification of social needs, starting in 2011, the Department of Social Policies of the City of Milan introduced a thorough reorganisation of the local welfare system. The social assistance services had been traditionally organised in a rigid category-based system typical of municipal welfare in big Italian cities. Each category—which represented a socio-demographic profile or a specific condition of need (e.g., households with underage children, the elderly, disabled persons, adults without underage children)—corresponded to a specialised municipal office with its own staff and facilities and a dedicated budget. In a cutting-edge rearrangement that demanded a significant effort from the staff at all levels, this category-based articulation was reorganised into three new transversal areas, corresponding to the main types of interventions of social assistance services: residential, territorial, and home-based (*residenzialità*, *territorialità*, *domiciliarità*; Ghetti, 2014). In parallel, the provisioning system was restructured into two levels: a first level of universal access, welcoming all the citizens expressing a need without any category-based restriction, and a second level of specialised services and structures to which citizens can be directed if necessary and appropriate.

Other Italian cities underwent similar organisational changes in the last decade. For example, between 2016 and 2017, the City of Bologna implemented a set of reforms to the local welfare model, introducing more transversal management and access areas and strengthening the role of citizens' access points (Marani, 2021; Tomesani, 2017). Moreover, many aspects of both the reorganisation cases of Bologna and Milan can be traced back to the pioneering and pivotal experience of the Microaree programme, implemented in 2005 in the City of Trieste thanks to an agreement between the regional health authority, the municipality, and the public housing agency, later also extended to third-sector organisations. This initiative was aimed at providing various forms of support to the residents of the most deprived neighbourhoods of the city, narrowing the gap between citizens and institutions while offering more appropriate responses to their needs and redistributing public spending (de Leonardis & De Vidovich, 2017; de Leonardis & Monteleone, 2007).

Within this broad reorganisation, a more specific reflection was initiated on the patterns of access to social services. The general decrease in the available resources made it necessary to rely on different channels granting additional funds to finance innovations and experimentations. In 2014, Fondazione Cariplo, a significant banking foundation, opened a public tender named Welfare in Azione (Welfare in Action), targeting proposals promoting new forms of welfare services that enhanced the joint action of public administrations, local communities, and third-sector bodies (Bricocoli & Sabatinelli, 2017c). For the first time, local public bodies were allowed to lead networks proposing projects to such tenders. The municipality of Milan led an extensive and diversified network of 16 local actors (public, private, and third sector, including university

departments), proposing the Welfare di Tutti (Welfare of/for All) project, which was shortlisted and financed. Welfare di Tutti, later renamed WeMi (an acronym for "Welfare Milan" and "We Milan"), aimed at overcoming the existing fragmentation of services provision, finding innovative answers to increasingly changing social needs, and extending access to social assistance services to a broader range of citizens, including those who may not be entitled to means-tested support, but still need orientation and intermediation to access reliable services through co-payment or out-of-pocket payment. WeMi mainly focused on home-based services, whose previously scattered and heterogeneous supply was being reorganised through a revision of the municipal accreditation system of non-public providers. The project aimed at testing two significant modalities of access to services. An online platform (https://wemi.comune.milano.it) was introduced, offering information on all the home-based service providers certified by the municipality of Milan, and allowing the matching between demand and supply. In parallel, the project aimed to test specific "territorial platforms," soon renamed "WeMi spaces," hybrid and innovative low-threshold places where citizens could find information and support but also offer their contribution as active citizens. These spaces were introduced with multiple purposes. First, to contrast the potentially adverse effects of the digital divide and the informative asymmetries that are typical in systems where private demand and private supply are supposed to be a direct match. Also, they aimed to support citizens in expressing their needs and, thus, increase the capacity of social services to grasp them. Furthermore, the WeMi spaces were intended to promote providers' supply and users' demand for new shared types of care and assistance services that are usually provided on an individual basis (e.g., babysitters, caregivers, after-school activities) to lower production costs and users' fees, but also to support the development of social bonds. Last but not least, especially for this article, the WeMi spaces were aimed at experimenting with new modes of allowing citizens access to social services, particularly through a different outlook on the spatial features of such places.

4. Case Study: An Articulated Collaborative Research Path

This contribution stems from an articulated experience of collaborative research, that is, a research process that bridges research and practice and in which scientific and societal stakeholders work jointly (Westling et al., 2014). Collaborative research is motivated by the awareness that the contribution of a variety of standpoints, not only from different scientific disciplines but also from the domains of both academic research and practice, is necessary to tackle complex issues and to produce "more usable knowledge" (Westling et al., 2014). Such added values, which for scientists also include access to otherwise unreachable information, come with a change in the researchers' positioning, within a shift from "a culture of scientific autonomy to a culture of accountability" (Nowotny et al., 2001, p. 119). The pursuit of accountability in collaborative research, therefore, requires developing reflexivity in two directions. Firstly, as a self-critical reflection of researchers on their role in knowledge production, to enhance transparency and legitimacy. Secondly, as a perspective favouring the collective awareness among the different participants of the existence, and legitimacy, around any complex issue, of different viewpoints, interests, and power degrees, and of the necessity to acknowledge all of them to make progress in the comprehension of the phenomena and in the drafting of solutions (Westling et al., 2014).

More particularly, this article draws on the work that the authors carried out in two different collaborative research actions that are detailed below with their phases and methods. In parallel to these research actions, the authors carried out a review of the existing literature and of administrative documents and an analysis of institutional and statistical data to set the background.

The first was developed during the initial three-year WeMi experimentation. The Department of Architecture and Urban Studies of Politecnico di Milano took part in the partnership, a heterogeneous mix of professional backgrounds and competencies that drafted the project proposal and that developed it after the selection. The department was involved in various project steps, with a particular commitment to accompanying and scientifically supervising the co-design of the WeMi spaces (Bricocoli & Sabatinelli, 2017b, 2017c). As typical in the "collaborative research" context, this allowed close observation of project-implementation dynamics, giving the authors the opportunity to access information on both organisational and spatial changes that would have else been unapproachable. The authors participated in dozens of meetings, first during the drafting of the proposal and over the three years of project implementation. In these meetings, which were held under the coordination of representatives of the Municipal Welfare Department, and that included plenary sessions with representatives of the entire partnership as well as sub-groups working on specific actions of the project, advancements were circularly planned and discussed. Besides, the authors led an intensive co-design activity involving 26 social workers partaking in the project, employed in the municipal services and the third-sector partners, with a twofold purpose. The first aim was to share knowledge on the current organisation, working practices, and spatial features (especially weaknesses) of social assistance services. The second aim was to collectively identify the goals to be pursued through the experimentation of WeMi spaces and to provide references, case studies, field visits, and open discussions to feed design orientations. The co-design activity consisted of five meetings, for a total of 30 hours. During the first phase, the features of existing spaces for welfare

were collectively observed, analysed, and discussed. In a second phase, the co-design workshop more specifically focused on issues related to the realisation of the first three WeMi spaces, that would be inaugurated between late 2015 and 2016: WeMi San Gottardo, WeMi Capuana, and WeMi Trivulzio. Detailed notes of the five meetings have been taken by the researchers. In a third phase, the authors led close scrutiny of the development of the WeMi San Gottardo space, which was the very first to be activated and where the pilot project intended to explicitly test the unprecedented co-habitation of a social assistance space with a bar run by a social enterprise. In this space, one of the authors carried out a one-year participant observation (2016–2017) to gain an in-depth understanding of service methodologies, as well as of the interactions—in a single space—between social workers, bar managers and tenders, clients of the bar, and users of the WeMi service (Marani, 2017). The researcher spent 15 hours a week inside the space for eight months working in close contact with the architect designing the space, the managers of the social cooperative that would run the bar as well as the WeMi social workers, with whom she agreed the times and days of the observations. The field notes from the participant observation have been jointly analysed and discussed within the authors' group.

The second research action started after the end of the WeMi project, in 2018. The authors carried out, on behalf of the Municipal Welfare Department, an investigation of the physical features of the spaces for social assistance in the City of Milan, aimed at providing an overview to be included in the new Welfare Development Plan (the Milan Piano di Zona). The investigation had two focuses: one on the existing spaces of the "ordinary" municipal social services and one on the evolution of the WeMi spaces after four years of activity. This research entailed several actions. First, 15 semi-structured interviews were carried out with managers of the Municipal Welfare Department, coordinators, and social workers from different sites of municipal social services, as well as social workers from different third-sector bodies working in the WeMi spaces. The interviews were conducted in the social services' premises, with one informant in the case of managers, and with small groups of two to three social workers respectively. Second, the authors visited 13 sites. On each visit, the features of the specific spaces where the service is located were observed through a guided tour (Thomson, 2018) led by one or more coordinators/social workers. Explorative walks in the area around the space were also carried out, to observe the location, the connection with the surrounding, and the building where the space is situated. The semi-structured interviews and the visits were carried out by one, two, or three of the authors in different combinations, and audio recorded. Notes from both the interviews and the site visits were analysed with reference to the following analytical dimensions related to the organisation of the spaces: localisation, visibility, accessibility, versatility of spaces, and uses. The analysis of localisation, settings, and artifacts (Bifulco, 2003), based on both documents, interviews, and visit notes, was synthesised through a graphic representation (conducted with Martina Bovo). A photographic survey (led by Giovanni Hänninen) was aimed to complement the effectiveness of the dissemination of the research results. In this article, a selection of these photographs helps the reader to visualise what is described and analysed in the text.

The articulated experiences of research detailed in this paragraph have benefitted from the above-mentioned major strengths that characterise "collaborative research," which are the access to invaluable sources of information, and the possibility to produce knowledge that concretely contributes to innovation processes. On the other hand, it also suffered from the main limitation of collaborative research, linked to the shift from a role that is external to the observed process to one that is embedded in the innovation process itself. The main countermeasures adopted have been the constant consideration of several diverse standpoints on the object of study, and the transparency in the authors' positionality in all the research phases, including dissemination.

The following section draws on the aforementioned research steps, focussing on the analysis of the spatial features of the WeMi spaces. In particular, the aim is to show how the involvement of different actors in social services provision leads to diversified spatial needs and outcomes that challenge traditional localisation strategies and planning tools. Also, the section analyses the potential of such spatial variety in creating "affordances for social connection" (Latham & Layton, 2019).

5. The WeMi Spaces: A Variety of New Access Points to Welfare Throughout the City

During the first phase of the co-design action, the general inappropriateness of many existing spaces for welfare in the city emerged. The viewpoints of the different actors involved (social workers and managers of both municipal services and third-sector bodies) converged in highlighting the unwelcoming settings and aesthetics, the scarce functional compliance and visibility, and, in some cases, the severely decayed conditions of either the structures, the internal spaces, or the equipment. The stigma as spaces for the poor and the lack of appeal for citizens who are not traditional welfare beneficiaries but still may be users of social services, such as the newly impoverished or the non-poor (like, for instance, foster parents), was also underlined (Bricocoli & Sabatinelli, 2017c). The Welfare di Tutti project aimed at tackling these limitations, experimenting with a different way of realising spaces for welfare. Within the three years of the funded project, three pilot spaces were developed: WeMi SanGottardo, WeMi Capuana, and WeMi Trivulzio. Drawing on this first experimentation, the three pilots were consolidated, while other WeMi spaces spread throughout the city. In spring 2022, their overall number

was 20. The new openings result from a negotiation between the Municipal Welfare Department and local actors with available spaces interested in integrating their (diverse) activities with a WeMi space. Along with the formal approval of the municipal administration, the organisations that decide to activate a WeMi space need to follow specific standards concerning their activities. In order to become a WeMi space, one of the requirements is also to conform to specific guidelines regarding the brand identity and coordinated image of their spatial configuration, defined by the experts of the Department of Design of Politecnico di Milano (Bucchetti, 2017). Geometrical forms in bright colours and an interactive panel presenting the WeMi programme are reiterated elements in all the WeMi spaces—although adapted to the specific physical features of each space. The development of a unique visual identity for the WeMi spaces has signed a marked difference to the existing sites of municipal social services, which—as opposed to other municipal services, such as day-care centres and pre-schools—lack even a unitary plate to signal the access point.

This section addresses the features of seven WeMi spaces among those analysed for the Welfare Development Plan in 2018, selected as typologically representative of the variety of the specific functional mix they host and of their diverse physical and spatial traits. The analysis is based on the findings raised both through the interviews and the site visits and, for WeMi SanGottardo, of the participant observation. Figure 1 outlines the basic features of the spaces and pinpoints their localisation in the different neighbourhoods of the city.

WeMi San Gottardo is the most emblematic example of the new Milanese welfare spaces. Here the aim was to develop a hybrid space where the WeMi space would cohabit with a cafeteria. Specially rented for the project experimentation, the space—formerly a grocery shop—was identified based on its location on a main commercial street (Figure 2), size, view on the street, and proximity to schools and urban gardens. Managed by a social cooperative that employs people with mental diseases (BarAcca), the bar coexists with the activities of WeMi, managed in shifts by social workers hired by different local cooperatives during the bar's opening hours:

> Here social operators can experience very different working conditions, that often change during the day. The space is generally very convivial, populated by users of different ages, with background music and chitchats. It can also be very crowded during the evening, attended by younger customers enjoying a drink. (Social operator of WeMi San Gottardo)

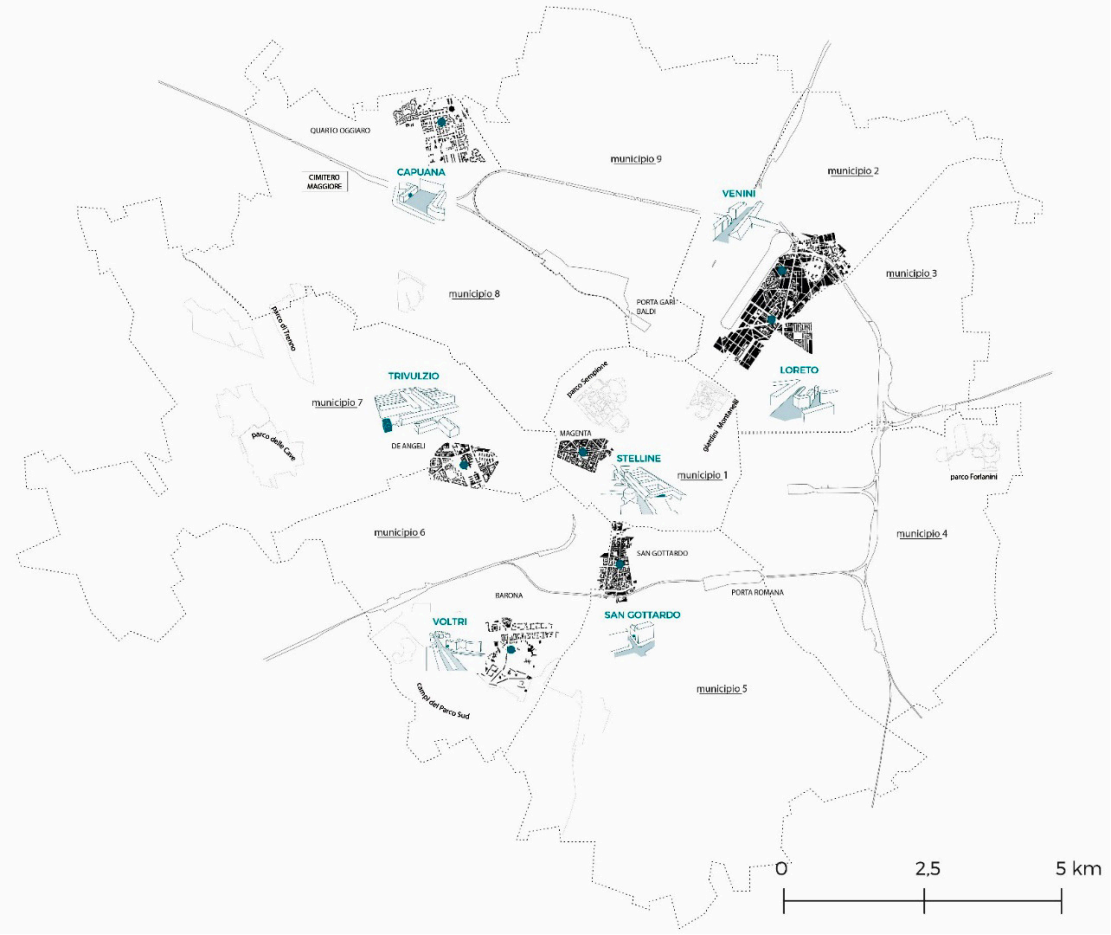

Figure 1. Localisation and morphological features of the WeMi spaces in the City of Milan, 2018.

Figure 2. RAB–WeMi San Gottardo, streetscape. Source: Courtesy of Giovanni Hänninen.

WeMi San Gottardo was designed by the architectural studio Consalez Rossi Architetti Associati that, through an intensive co-design process engaging all the actors involved (the municipal social workers, those from the cooperatives, and the social entrepreneurs managing the bar), emphasised its double identity, creating two distinct but communicating areas (Consalez, 2017). The reason was twofold: Firstly, during the aforementioned co-design workshop, social workers expressed the need for an intimate corner to be possibly used for private talks with the users if needed. Secondly, the municipal urban planning regulation required a precise calculation of those square metres dedicated to commercial activity and of those devoted to social services. Indeed, such a hybrid configuration had no previous reference in the local land use plan and the "smallest urban planning agreement ever drafted," in the words of a Municipal Urban Planning Department representative created a precedent for further experimentations. The aim was to jointly address the prospective users, people attending the bar and people requesting social services, creating an inclusionary space. To that aim, the use of the different portions of space is not exclusive: Outside of the WeMi opening hours, that corner can also be used by the patrons of the bar and, conversely, a WeMi interview could, in principle, take place at any of the bar tables. The double identity of the space can easily be detected from the outside through a double shop window that shows the bar counter on one side and the project graphics on the opposite side (Figure 3).

WeMi Capuana is located on a small square in a public housing neighbourhood of the periphery (Figure 4), inside a publicly owned space that had been entrusted for some years before the project to the use of a small network of associations and social cooperatives that mostly provide educational and parental support to the neighbourhood. The opening of a WeMi space provided an opportunity for this network to experiment with innovative, shared welfare services that further aggregate citizens' needs, providing them with a collective answer: "Listening to people is the greatest part of our job. Thanks to the diverse services we provide, we are able to grasp multi-dimensional needs and to provide individual and/or shared services" (social operator of WeMi Capuana).

From the physical point of view, the challenge was to operate in a space that was not purposely chosen for the project, but that was leased to it. The intervention aimed at reinforcing the space's flexibility that, through large doors and movable pieces of furniture, allows it to be adaptable for different activities at different hours or on different days. In the course of our observations, the space was often crowded with children who attended post-school activities in one of the sections of the large space, while their parents took the chance to formulate their needs to the social workers at the counter or in the dedicated office.

WeMi Trivulzio was initially located inside the largest nursing home in Milan (Pio Albergo Trivulzio), in the offices where a social cooperative managed the service that supported the demand-supply matching between households and individual carers for home-based services for dependent elderly persons. While flexible or hybrid use of the space was not an issue in this case, since the main function remained the support to demand-supply matching, carried out through individual

Figure 3. RAB–WeMi San Gottardo, view of the interiors. Source: Courtesy of Giovanni Hänninen.

meetings over the phone or in person, the site visit allowed us to appreciate how the location of the space was particularly important. Open to all citizens, it required walking through the entire length of the structure in order to reach it; this contributed to bringing the city inside the structure and letting citizens get in touch with some of the activities of the residents (Figure 5).

WeMi Voltri was created inside an informative point managed by a non-profit firm in a new, quite large social housing estate. Both orientation desks were opened within the framework of different projects funded by Fondazione Cariplo, and they now interact to cater to the needs of different people. This space is located on the ground floor (Figure 6), easily accessible from the

Figure 4. The square of WeMi Capuana. Source: Courtesy of Giovanni Hänninen.

Figure 5. The entrance hall of WeMi Trivulzio. Source: Courtesy of Giovanni Hänninen.

street. Besides the orientation desks, the space is available for different activities dedicated to and developed by the neighbourhood's residents (e.g., gym courses, parent meetings, etc.). The interviews conducted with social workers inside this space showed that these recreational activities were the occasion for the non-profit firm to establish a relationship with the inhabitants and their needs, and to direct them to other services provided by

Figure 6. The ground floor spaces of WeMi Voltri (on the right) inside the social housing estate of Via Voltri-Via di Rudini, Milan. Source: Courtesy of Giovanni Hänninen.

public and third-sector bodies already active in the area:

> During the inauguration of the space, a group of residents stopped by to ask about the possibility to use the space for recreational workshops. We agreed to share the space for this purpose and after this experience other initiatives were organised, some open to the residents and others to the whole citizenship. (Social operator of WeMi Voltri)

WeMi Loreto is located in the offices of a social cooperative, active for three decades in the field of social assistance and care services. The cooperative promoted its opening in partnership with the municipality and now manages it. Physically positioned in the internal courtyard of a residential building (Figure 7), its visibility from the street is guaranteed only by an external plate on the intercom system. A doorman indicates the presence of the services to the users during the morning hours. Our direct observations of the space, together with the interviews led by some of the social workers, show that the small dimensions of the space and its scarce visibility from the street are not conducive to collective activities. This encouraged the social cooperative to reach out to other actors and spaces in the neighbourhood, creating new partnerships and networks: "We reached out to some of the services located in the neighbourhood to look for potential collaborators and spread our services. We activated a collaboration with a bookshop and with schools, to activate cultural initiatives and workshops" (social operator of WeMi Loreto).

Also, WeMi Stelline is located at the site of the social cooperative (similarly active in care services for 30 years) that promoted and manages the WeMi space in collaboration with the municipality. What is radically different—as the researchers could hypothesise based on a preliminary desk analysis of the localisation, and then confirm through the site visits—is its location in the city, as well as the type of building where it is situated: a large, former orphanage for girls from the 16th century located in the city centre that now hosts a variety of private and public services, courses, and recreational activities. As in the previous case, the WeMi space is not visible from the outside and is also difficult to access due to the structural articulation of the building (Figure 8); users' orientation is supported by official plates and signs. On the other hand, it benefits from the coming and going that is specific to the building, due to the many functions it hosts. In any case, social workers state that the opening of the WeMi space has fostered local citizens' awareness of social services and stimulated their commitment, especially during evening or weekend events:

> Some people stop by during their visit to the building and the exhibitions hosted here just to ask about our service and its functions. They are usually elderly people with their grandchildren or parents with children asking for a babysitter or other personal or family services. (Social operator of WeMi Stelline)

Finally, WeMi Venini resembled the organisational model traced by WeMi San Gottardo, as it was located inside a multifunctional and fancy "hub" called HugMilano that opened in 2017 inside a former chocolate factory and hosted a bar, a co-working area, a bicycle repair shop, and a small stage for events. A complex co-existence of

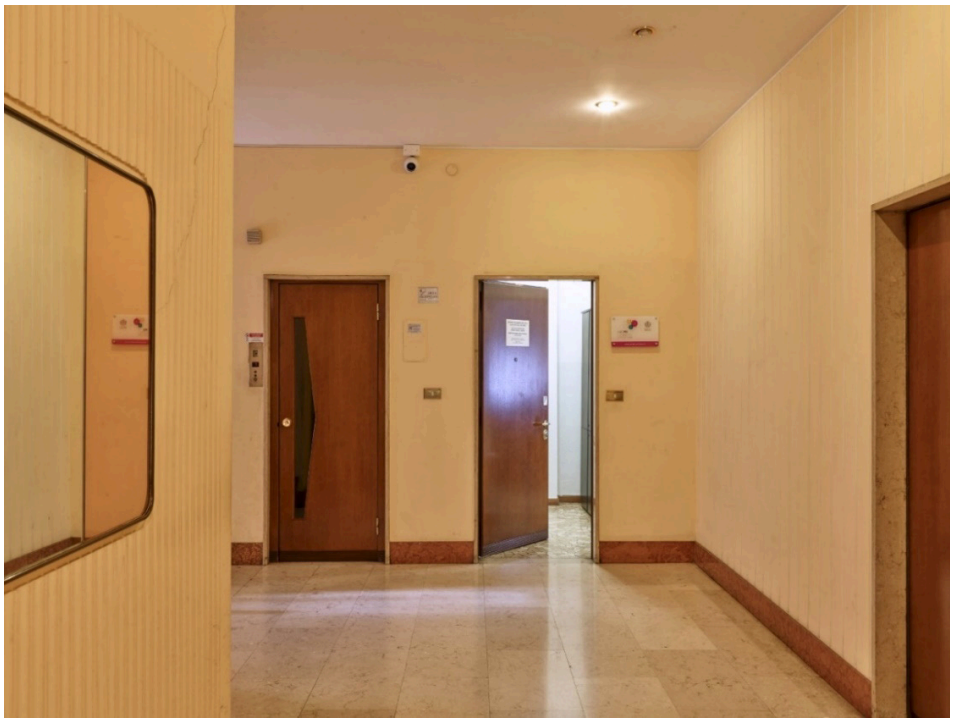

Figure 7. The residential building of WeMi Loreto. Source: Courtesy of Giovanni Hänninen.

Figure 8. The complex articulation of WeMi Stelline. Source: Courtesy of Giovanni Hänninen.

functions that was made possible by the strong versatile use of spaces managed through light tools and interventions: "Hug-WeMi is a cafeteria and a space for cultural events at the same time. All you need is to move the curtains. Also, we organise workshops and meetings on care-related issues, such as parenthood and disability" (social operator of WeMi Venini).

The place was not facing the street but was in an internal courtyard. The WeMi services were provided by an external social cooperative in an area near the entrance and a more private spot. In the course of our observations, we witnessed a lively atmosphere with loose spatial boundaries, where social workers, clients, and bartenders moved through the different areas of the

Figure 9. The courtyard whit the entrance of WeMi Venini/Hug Milano. Source: Courtesy of Giovanni Hänninen.

hub without specific restrictions, agreeing on the reciprocal circumstantial spatial needs. As we write, the hub is still open, while the WeMi space is no longer active as the social cooperative decided to relocate it to a different site.

In a nutshell, the brief overview of the WeMi spaces brought to light some common elements that will be discussed in the next section. Firstly, the relevance of the visual identity of WeMi, which helps users identify the service both from the outside (the plates on the building façade, the signs in the halls) and inside the space (the interactive panel). These *artefacts* (see Section 2) immediately communicate the presence of the social service and of those organisations involved in their provision. Secondly, the seven WeMi spaces are hybrid spaces that host various activities at different hours of the day, even simultaneously. This flexibility of spaces, serving differentiated functions and uses, constitutes an important "affordance," and broadens the possible range of provided services. This also allows mixing users with different profiles, contrasting services' targeting and stigmatisation. Thirdly, the interviews with the social workers inside these structures reveal the presence of a network of actors dealing with people's needs that is often reinforced by the coexistence of different subjects within the same multifunctional space. Finally, it is relevant to underline that none of these spaces is owned by the municipality of Milan, which promotes and coordinates the WeMi programme. This raises issues regarding urban planning localisation strategies and tools.

6. Discussion: New Spaces for Welfare, Old Urban Planning Tools?

The article outlined how the experimental project WeMi, developed within the reorganisation of the local welfare system of the municipality of Milan, led to the innovation of both social services and their spaces, improving *access* as a key strategy to branch out to a broader arena of users and to discourage services' categorisation and users' stigmatisation. In this perspective, the development of both the virtual and the physical WeMi platforms has had multiple purposes: to orientate citizens through the increasingly complex offer of welfare services and providers, to identify undetected social needs, to foster direct contact between citizens and social workers, and to promote shared service provision as well as the users' active involvement. They were deemed to work in an integrated way: The physical spaces offer support and direct interaction with citizens who, for different reasons, cannot autonomously use the online platform; the virtual platform is not only directly addressing the citizens but is also a tool that social workers can use to orientate them. In the spring of 2022, the online platform counted 292 services offered in the catalogue of home-based services, 55 providers reachable through the online platform, 4,491 social workers and carers involved with these providers, and 5,383 citizens that have accessed the online platform to use the supply-demand matching service for family assistants and childminders, or to access to home-based care services to be paid out of their own pocket. Between June 2020 and May 2021 (during the Covid-19 pandemic), around 10,000 citizens accessed one of the WeMi spaces to obtain information or to seek orientation.

At the same time, services' *localisation*, *settings*, and *artefacts* (de Leonardis & Bifulco, 2003) have been core elements of this transformation as conveyors of the new institutional organisation and its welcoming purposes. Indeed, the WeMi spaces are scattered in various city neighbourhoods and arose spontaneously. This has created a heterogeneous panorama of multifunctional spaces, where commercial, residential, and care-related services often overlap. It is to be remarked that, after the three pilot spaces were created during the initial three-year experimental phase, the first wave of openings of WeMi spaces was concentrated in relatively central and semi-central areas. After some years, though, in the spring of 2022, WeMi spaces were active in 20 locations and various urban contexts, including some locations in the most remote periphery. While the introduction of a coordinated image and branding of the service plays an important role in terms of recognition of the service and affiliation to the city, the versatile criteria that rule the localisation of the services contribute to a significant de-standardisation of welfare spaces and to the exploitation of the potential that some unusual and extraordinary spaces may have.

Such *spatial welfare mix* embodies the mentioned shifts from "quantity to quality" (Bifulco, 2003, p. 10) that characterised both the debate on and implementation of service planning over time, challenging the traditional quantitative choices of localisation to respond to more flexible citizens' needs. Indeed, a variety of spaces may help to overcome the inadequacy of quantitative-based planning tools towards grasping the ever-changing nature of social needs and providing answers to them, which entails a reinterpretation of the traditional structures of welfare provision towards flexibility and diversification. This calls for a reframing of the design strategies of both urban planning and social policies and it brings about renewed attention to the physical features of welfare provision. In particular, the hybridisation of functions, services, users, and providers calls for a revision of the traditional urban planning tools that still rely on parametric assessments and zoning practices which were defined in a time of city growth when big quantities of new services were required to be localised to meet the increasing population (Bricocoli & Sabatinelli, 2017a). In this sense, the case of WeMi San Gottardo, whose combination of functions created a precedent for embracing a more significant number of welfare services in the land use plan, may well become a benchmark and contribute to renewing the debate.

The Welfare di Tutti project also highlights how contemporary spaces for welfare increasingly are activated

where spatial, human, and economic resources are made available. The "material infrastructures for welfare provision" (Cochrane, 2003) that have characterised the 20th-century welfare provision are now accompanied and sometimes substituted by new spaces, managed by a wider variety of actors, and host multiple functions. More and more, policy innovation is developed in places where social entrepreneurship and spatial resources can be activated. Such a structural change in the system of welfare providers, far from the public monopoly of the Glorious Thirty, is mirrored in a structural change in the localisation logic, which entails a significant modification of perspective in urban planning. While through a phase of (both urban and welfare) expansion, the approach of service planning was to build and distribute public facilities across a growing city and according to localisation and sizing, nowadays services (very often managed by third-sector entities) are frequently activated where a space—mainly an existing space and often not a public property—becomes available.

Somehow these developments challenge the idea that localisation and provision of public services are ruled by an overall principle of equal distribution across the city. The outcome is a map of services including facilities that are no longer directly covered—and that often are not even seen and acknowledged—by the traditional urban planning tools. The map of services offered in the domain of welfare policies is more and more dynamic as the presence, provision, and localisation of services can vary in a relatively short time, depending on the fate and timing of projects, initiatives and—more generally—uses (e.g., the case of WeMi Venini). This can put a strain on the stability of the services (and therefore their reliability for the citizens), as not all project-based services do get consolidated and institutionalised, as it happened with WeMi. Moreover, it complexifies the overall map of welfare services in the city. In order for urban planning to continue steering the localisation of services according to principles of rationality and equity, it is essential to develop tools and lenses to identify services where they are and to monitor changes quickly over time.

Against this spatial and functional variety, *settings* and *artefacts* play a decisive role in fostering services' welcoming. The previous paragraph stressed how accessibility has been a fundamental spatial requirement for WeMi to be visible and reachable from the street level. In some cases, this meant gaining a showcase on the street, like in WeMi San Gottardo. In other cases, it required branching out with flyer campaigns, involving elements from the context (like the doorman) to orientate users or implementing artefacts (like inventive signs) to catch the attention of the citizens. Furthermore, the adaptability of the distribution and the internal partition of space turn out to be essential features to ensure the possibility of hosting diversified activities and targets, either at different moments (e.g., a financial education course, a yoga class, a choir rehearsal) or simultaneously (as the bar's clients and the WeMi users in WeMi San Gottardo or Venini). Even though this article does not focus on an analysis of the artefacts (that can be found in Marani, 2021), it is worth noting that the unitary visual identity communicates that a variety of different places, managed by a complex variety of (partnerships of) actors, all share common principles, objectives, and tools. A result that demonstrates the successful steering role of the local administration within a local welfare system characterised by an ever-complexifying governance. At the same time, the coexistence of multiple functions and actors within the same flexible space constitutes the base for the "affordances for social connections" (Latham & Layton, 2019) to develop and generate the "social surplus" (Amin, 2008) that stands at the base of social infrastructures.

To sum up, this pioneering case represents an interesting illustration of the fostering of social infrastructures in the city, and of how drawing on the potential of spaces where welfare services are provided matters in terms of allowing the development and maintenance of social connections. It also shows how innovative welfare projects may be drivers for integrating different planning practices that are often disparate and lacking in synergy. The possibility to institutionalise and upscale an innovative project that is grounded in the city, and that tackles relevant goals in the domain of social policies (namely, expanding access to welfare services to a broader range of prospective recipients) strongly depends on mechanisms that lie in the domain of urban planning policies and design. While urban planning tools have long tailored to a perspective of urban growth and extension, the features of current welfare policies challenge planning regulation at a much smaller and more refined scale in the face of the reuse and adaptation of existing spaces as well as in the regulation of combined and mixed uses along with a principle of localisation that follows a bottom-up or, better, a "pop-up" logic, in which services are popping up across the city, dispensing with any rational top-down planning approach. While this has proved to be relevant in the specific context of Milan, it is also a promising result from the perspective of dissemination, upscaling, and institutional learning.

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Conflict of Interests

The authors declare no conflict of interests.

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Article

Apartment Living and Community Care: Experiences of People With Intellectual Disability, Their Families, and Support Staff

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Abstract
Understanding how the design of urban infrastructure influences the independence and autonomy of people with intellectual disability has far-reaching implications for community inclusion and participation. This article explores how urban design elements of an apartment complex influence how a person with an intellectual disability receives support and participates in the wider community. The study reports on the post-occupancy evaluation of an Australian development of over 400 apartments in Sydney, where 25 people with intellectual disability received 24-hour support. Fifty-three interviews were conducted with people with intellectual disability, their families, and disability support staff. Participants with intellectual disability described what living in their new apartment was like and appreciated the outdoor gardens. However, they also explained that wayfinding was more difficult than in their previous homes—all free-standing group homes. Disability support staff discussed how providing community care for people with intellectual disability in an apartment differed from a suburban free-standing house. Findings were translated into design suggestions for improving service provision to people with disability through the urban design around multi-tower sites of mixed-tenure apartments. The article concludes with recommendations for urban design features to support safe, efficient, and quality care in a high-density urban setting. When viewed through a lens of social infrastructure, the results show how urban design has the potential to influence the collective independence and provision of care to diverse communities in urban centres and cities and is relevant to people with disability, older people, and other community groups who rely on community-care support to remain living independently at home.

Keywords
Australia; disability housing; group home; high-density apartment; intellectual disability

Issue
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1. Introduction

Considering urban settings as social infrastructure to support caregiving and community participation contributes to our understanding of models of disability support that prioritise agency and autonomy for people with disability (Eisenberg & Maisel, 2021). Research in health and urban planning recognises how urbanised, high-density settings influence a population's health, well-being, and participation in growing cities (Giles-Corti et al., 2016; Sallis et al., 2016). However, less research has been conducted that explores how high-density urban settings operate as both a "landscape of care" and as "social infrastructure," contributing to the public life of cities and how its spaces afford participation and social interaction.

The concept of "landscapes of care" has been applied in a wide range of care and support settings, including family care (Power, 2016), institutionalisation (Gleeson & Kearns, 2001), guardianship of minors (De Graeve, 2017), mental health care (Högström, 2018), and dementia care (Egdell, 2013). One of the most highly cited articles on "landscapes of care" explores the inter-dimensionality of care and spatiality, including concepts of proximity, distance, and reciprocity (Milligan & Wiles, 2010). In this article, we consider the role of urban design in relation to autonomy, independence, and the provision of support

for people with intellectual disability. In particular, we consider how design can give people with intellectual disability greater access to the city and the potential for community participation. People with intellectual disability continue to experience low levels of social and community participation (Robinson et al., 2022), and the framing of "social infrastructure" as including outdoor places that can support community interaction and encounters is important as a means of understanding how to improve these low levels.

Klinenberg (2018) explores the concept of social infrastructure and its role in supporting participation and inclusion in civic life. Social infrastructure can be considered as public spaces where people encounter one another. The physical design of our social infrastructures can shape how people interact, whether they can experience public spaces independently, and whether support (both paid or unpaid) to perform daily tasks and participate in daily life can be provided effectively and safely. Klinenberg (2018, p. 17) defines social infrastructure as including:

> Public institutions, such as libraries, schools, playgrounds, parks, athletic fields, and swimming pools, are vital parts of the social infrastructure. So too, are sidewalks, courtyards, community gardens, and other spaces that invite people into the public realm. Community organisations, including churches and civic associations, act as social infrastructures when they have an established physical space where people can assemble, as do regularly scheduled markets for food, furniture, clothing, art, and other consumer goods. Commercial establishments can also be important parts of the social infrastructure.

This article focuses on a very particular type of public space as social infrastructure: the public, shared areas between and around apartment buildings as social infrastructure. This social infrastructure is studied from the perspectives of people with intellectual disability who live and receive support in their apartments and is triangulated with interviews with family members who visit them there, and the support workers who provide 24-hour, daily support. People with intellectual disability have largely been excluded from discussions around urban planning, most likely because they have historically lived in forms of congregate care in institutional settings or, more recently, in group homes in suburban housing settings. In design research, there has been a focus on physical accessibility when designing housing and a lack of discussion around design and diverse models of community support, living, and inclusion. As a result, we know very little about the implications of urban design on how disability support is provided to and received by people with intellectual disability and their levels of community participation.

Terashima and Clark (2021) and Zallio and Clarkson (2021) have called for a more diverse understanding of disability in architecture and planning research, including people with intellectual disability, and implications for housing design and urban settings. Wright et al. (2017, p. 33) develop a set of design principles for housing design appropriate for people with complex physical and cognitive disabilities and calls for "housing for individuals with complex disabilities [to] move beyond narrow considerations of physical health to embrace a broader biopsychosocial environmental approach to residential design and development." Although recent research has explored the relationship between housing design, care provision, and independence (Carnemolla, 2018; Carnemolla & Bridge, 2016, 2019), they have not included the influence of the housing model (free-standing, apartment, low, medium, or high density) or the perspectives of people with intellectual disability.

This research study has been driven by a national Australian policy move towards person-centred, individualised housing planning and support for people with disability, and is implemented by the National Disability Insurance Agency (NDIA; Australian Government Productivity Commission, 2017). The introduction of consumer-led health and disability funding such as the NDIA across the globe (including the US, UK, parts of Europe, and Australia) has changed how disability housing support is provided and brought the opportunity for individualised living plans and accommodation settings. In the first wave of deinstitutionalisation, people with intellectual disability moved from large-scale, institutional settings into suburban, group home settings (four to six people with disability living together in a house, often with live-in staff). The NDIA continues to develop its policy and strategy narrative towards supporting greater housing choice, including more individualised housing alternatives to group homes. This provides the opportunity for people to live in a smaller household, such as in their own apartment, whilst still receiving 24-hour disability support. Despite the social policy narrative about the importance and benefits of community living for people with disability, we know very little about what influences outcomes for people with intellectual disability who live in these new, individualised settings, how they compare with other accommodation models, such as group homes, and what it means for support provision. In the Australian context, housing in which people with disability receive high levels of disability support is known as "specialist disability accommodation." The Australian National Disability Insurance Scheme, which funds specialist disability accommodation, defines it as "accommodation for participants who require specialist housing solutions to assist with the delivery of supports that cater for their extreme functional impairment and very high support needs" (NDIA, 2022).

1.1. Models of Housing and Community Care for People With Intellectual Disability

There continues to be a limited choice of supported accommodation options for people with intellectual

disability, and group homes have remained the predominant model of supported accommodation since deinstitutionalisation (Bigby & Bould, 2017). Australia's policy move towards more individualised support packages has encouraged choice of support and housing packages and, in turn, hoped-for innovation in housing (NDIA, 2022). However, evidence suggests that many young people with disability continue to live in aged care facilities (Barry et al., 2019). Evidence for the lack of choice within the housing market for supported accommodation can be found in Australian research (Parker & Fisher, 2010) as well as internationally (Gorfin & Mcglaughlin, 2003; Phillips, 2012; Power & Gaete-Reyes, 2019; Šiška & Beadle-Brown, 2022).

Given the prevalence of group homes as a community-based option, it is unsurprising that research has been undertaken to understand what characteristics of the group home setting make a difference to people's quality of life. Bigby and Bould (2017) and Clement and Bigby (2010) identify several propositions about group homes and quality of life outcomes in supported accommodation services that focus on staffing culture and practices and policy and procedural contexts. However, few studies have addressed the specific influence of built environment design details on outcomes for people with intellectual disability. This means we know very little about how different models of housing influence the receipt and provision of care.

1.2. Access to More Urbanised Parts of the City

In an Australian setting, studying apartment living as a place for receiving 24-hour disability support is essential to improving choice and equity of access in our cities. The building of new group homes is increasingly limited to the outskirts of central and regional cities because they require affordable, large flat land packages, most likely found in less populated areas. A consequence of this, over the long term, is that people with intellectual disability will be far less likely to live close to the city in urbanised areas, where infrastructure and services are more likely to be available. People with disability have the right to the city and the choice to live in more urban areas, close to established infrastructure and services, and to be near family and social networks. Therefore, studying apartments (or high-rise homes) as a viable supported housing option for people with disability contributes to opportunities for greater choice and access to more densified central city locations.

1.3. Group Home Vs. Individualised Apartment: What Are the Main Differences?

In a group home, up to six people with disability receive support in a single dwelling with multiple bedrooms and often an "office" or a "staff bedroom." In this high-density setting, referred to as an individualised apartment form of supported accommodation, people with disability live independently in a one-bedroom apartment or with one other person with a disability in a two-bedroom apartment. The apartments are "salt and peppered" throughout a larger apartment site of over 400 in a typical mixed-tenure setting, both privately owned and rented. The "salt and pepper" style of integrated community living was intended to reflect the housing options available to all and to support opportunities for social connection and participation that may not be possible where specialist disability accommodation is separate from other types. Another critical difference between the two accommodation models is that the new apartments do not have bedrooms or work areas for staff to sleep in, as the removal of sleepover shifts was expected to create more personalised support in a home-like, non-institutional setting.

1.4. Objective and Research Questions

The objectives of this study are to explore how urban design elements of an apartment complex influence how a person with intellectual disability receives support and participates in the wider community. We ask the following research questions:

> RQ1: How does the urban design of apartment settings influence how disability support is received by and provided to people with intellectual disability?
>
> RQ2: What are urban design considerations for future apartment settings as places of community participation for people who receive care in their daily lives?

This study explores the outcomes associated with a model of 24-hour disability support provided in a high-density apartment setting and frames them in the context of urban planning elements such as layout, landscape, and transport and site navigation. It specifically examines how the design of the built environment influences a range of outcomes for people living in supported accommodation and how it influences the provision of personal support. It builds a picture of the interdisciplinary relationship between the model of disability support, well-being, participation, design, and spatiality. It garners the perspectives of people with intellectual disability receiving support in the supported apartments, their families, and their primary support givers.

2. Methodology

This study is part of a more extensive investigation into housing options for people with intellectual disability (Carnemolla, 2020). This article reports on interview data designed to give detailed and rich insights into the impact of design elements in the built environment when providing high levels of support for people with intellectual disability in an apartment complex. The use of in-depth, semi-structured interviews enables

the researchers to explore the "deep meaning" and "inside view" that lie beneath the human behaviours and choices being explored in this research (Sechrest & Sidani, 1995). There are three main participant groups: people with intellectual disability living and receiving support in the accommodation, paid support staff, and the families of those with intellectual disability. The research applies a general inductive approach to analysing the interview data, whereby meaning and concepts are derived from the accounts of participants in the study (Neuman, 2006; Thomas, 2006).

2.1. Scope

The built environment has been defined as the "[constructed] surroundings that provide the setting for human activity, ranging in scale from personal shelter to neighbourhoods to the large-scale civic surroundings" (Tiwari et al., 2010, p 90). In this article, the built environment is considered as publicly accessible areas around the site of the apartments. It includes all outdoor and garden areas and extends to the streetscapes, building locations, and surrounding neighbourhood. This article does not consider the interior spaces within apartments.

2.2. Setting and Participants

The setting where the study was undertaken is a high-density Sydney apartment block of multiple towers. There are over 400 apartments in the complex. Disability support is provided for people with intellectual disability in 22 apartments (one- or two-bedroom) that are "salt and peppered" across the site. In those 22 apartments, staff provide 24-hour "awake" support.

2.3. Recruitment and Interviews

Self-selection sampling was used in this study to recruit participants with intellectual disability living and receiving support in apartments, their families, and support staff. Posters explaining the research were placed in staff quarters, and the researchers attended family and staff meetings to explain the research aims. Because of guardianships in place, all guardians and families were initially approached to obtain consent to approach their intellectually disabled family member. Researchers then met prospective participants with intellectual disability and introduced the research project. To be recruited, the person with intellectual disability and their family members provided consent separately. A family member or guardian's consent was required for the researcher to approach the person with intellectual disability. However, the person with intellectual disability's consent was the decider as to whether a participant and family member were included in the study.

The research team prepared easy-read versions of all written material, including consent forms and project information sheets. The easy-read forms were developed to inform participants with intellectual disability of the research's purpose and processes before recruitment and consent provision.

To understand the impact of apartment design on the well-being outcomes and quality of support provided, semi-structured interviews were conducted with the following:

- Eighteen people with intellectual disability who live in and receive 24-hour support in an individualised apartment;
- Fifteen family members and guardians of people who live in the supported accommodation;
- Twenty staff members provide support in an individualised apartment setting to people with intellectual disability who receive 24-hour support.

The interviews were conducted on-site in apartments where interviewees live and receive support. Because of the importance of relating the discussions to the apartments and site spatially, during interviews, the researcher invited the interviewees to give a guided tour of the apartment and surrounding site. Moving through and discussing different areas and parts of the site became an important trigger of discussion that linked activities and outcomes to the built environment. This type of interview is known as a "go-along" interview, the framing of which as a distinct qualitative method is attributed to Kusenbach (2003). The go-along interviews ranged in time duration from 21 minutes to 65 minutes. Each interview was audio recorded then recordings were transcribed and deidentified before analysis.

2.4. Analysis

Exploring the relationships in supported accommodation settings provides opportunities to examine how the built environment influences a range of outcomes for people with disability who receive support in their home environment, and to assist the providers who deliver that support. Interview data with people with intellectual disability, their families, and primary paid support staff were thematically analysed and coded to indicate where the support was delivered or how the outcomes of people living in the supported accommodation were influenced directly by an aspect of the built environment (design layout, spatiality, size, location). The coded results were then mapped thematically in terms of built environment elements, with further description of the impacts on people receiving support, implications for staff working practices, and examples of supporting quotes.

The analysis was conducted in two parts. The researcher first conducted a reflexive thematic analysis of the interview data using an inductive approach to identify broad patterns of meaning (Braun & Clarke, 2019; Braun et al., 2018). We then coded our data according to features of the built environment, enabling the data to be contextualised within the realm of the built

environment, and spatiality and care outcomes to be viewed through a lens of urban design and space.

We applied the results of our analysis to an illustration of a "typical apartment site" and have annotated the range of urban planning influences that were found to be important influences on community participation and the provision of high levels of support to the people with intellectual disability who live there (see Figure 1 at the end Section 3).

Ethics approval was granted by the University of Technology Sydney Human Research Ethics Committee Approval No. ETH17–2032: Supported Living Accommodation—Housing, Quality of Life and Support Services for People With Intellectual Disability. Participants (including people with intellectual disability, their families or guardians, and support staff) were required to sign a consent form to indicate their willingness to participate. Voluntary participation and the right to ask questions and decline participation at any time were emphasised during the data collection.

3. Results

This study explores participant perspectives of the outdoor areas of the apartment site and the independence and autonomy of people with intellectual disability. The apartment towers are surrounded by neighbourhood streets, one of which has heavy traffic during the day. The site includes several outdoor garden areas, including a heritage memorial garden, pathways, community buildings, and gardens.

3.1. What People With Intellectual Disability Told Us About Their Apartments

Analysis of the interview transcripts with people with intellectual disability revealed that, overall, they enjoyed living in their new apartment, including the flatmates with whom they lived. They also conveyed that they felt greater ownership of their apartments—including the living spaces around their apartments. This was in contrast to their experiences in group homes: "This is my chair here; I sit here…no one else" (participant, person with intellectual disability); "I have my family here to visit; they like to come; it is my own place to live…my own…we can have family barbeques here, but I couldn't really do that in the [group home]" (participant, person with intellectual disability); "I live with [flatmate, also with intellectual disability]; they are my best friend, it is just the two of us. It is good" (participant, person with intellectual disability).

3.2. Public and Shared Outdoor Spaces

The interviews with all participants often discussed outdoor areas. These were highly valued by people with intellectual disability themselves, as well as by family and staff as recreational spaces, calming spaces, and links to the wider community. What became apparent was that the urban design elements, in partnership with the model of support (the ratio of support staff to persons with intellectual disability) directly influenced whether and how these spaces were accessed. Analysis of the interview transcripts with people with disability, their families, and support staff indicate that there were three main areas within public spaces surrounding the apartment towers and streetscapes that influenced their independence, access to outdoors, and their visitability, as well as affecting how staff provided support: (a) complexity of site navigation, (b) shared garden landscapes, and (c) parking/transport and drop-off zones

3.2.1. Site Navigation

The interviews revealed how significantly the site design influences whether people move through and explore outdoor areas, visit people in the same apartment complex, and how easily they can access transport to areas beyond the site itself.

For people with disability, the site design directly influenced levels of autonomy and independence relating to independent movement outside their apartments. The need to swipe in and out of the site, coupled with the complex site plan of multiple towers and gardens, means that people receiving disability support on site were less likely to move independently from apartment to gardens: "I don't think [my brother] gets out of the apartment much in the afternoon on a weekday" (participant 4, family). People with disability also expressed that they do not leave the building independently: "I don't go out on my own. I always have my support person take me downstairs. We go together" (participant 17, person with intellectual disability).

Researchers also heard of a recent situation where a person with an intellectual disability had become separated from a group heading back to their apartments after a day excursion: "We lost [a person with intellectual disability] in the car park the other day. It was stressful. They walked away while [support person] was helping us get out of the car….They got found in another lift somewhere else" (participant 29, support staff).

For support staff, the design of pathways and navigation between apartments was complicated. When providing support across multiple apartments, walking between apartments took long periods and was rarely direct. It often involved going down lifts into underground parking to access the lifts of other towers. In some cases, staff reported that the cognitive load on them when they started working on the site was high—It took up to a month to remember the best routes between apartments, for example. The combination of a locked site and swipe access was seen as a positive for security reasons—Staff feel safe moving around the site at night; however, it makes accessing different areas more difficult:

> We are constantly ringing each other to let each other into the different tower lifts or to get the van or car

> keys. It took me a good month before I could work out how to get from apartment to apartment because the site is complicated. (Participant 22, support staff)

For families, the apartment complex was large and initially daunting. Families and staff expressed concern that the inherent security design of apartments, coupled with the complex navigation, made it difficult for support staff to respond to people's needs to go outside (because going anywhere outside depended on them having assistance): "When providing support for two people with high support needs in an apartment, both have to want to go outside; otherwise, [I] cannot leave" (participant 19, support staff).

Families also expressed concern that their family members living in apartments and receiving disability support may become disoriented—and that the risk of becoming lost was high. Older parents of people with intellectual disability considered the distance between the complex's entrance and the front door of their son or daughter's apartment to be too long and exhausting, given their age and mobility:

> We can really only visit once a week because the trip is very tiring for us. It isn't like it was when [our son] was in the group home, where we could park out the front and walk a few metres to the front door. We have to walk a long distance from the car park to the lift and then to the apartment door. (Participant 38, family)

3.2.2. Shared Garden Landscapes

The interviews indicate that the shared gardens surrounding the apartment towers are essential social infrastructure that may not have been designed to maximise accessibility and safe and comfortable use. People with disability who lived in apartments on the site often expressed joy and connection to outdoor elements on site: "I love the rose garden, and my favourite tree is there" (participant 1, person with intellectual disability).

The site has a heritage garden site and house. However, support staff reported in their interviews that they did not visit it often for a number of reasons. Firstly, there is little shade or rain protection and not much seating available. This is a particular problem in the hot and sunny Australian summers:

> There is nowhere for us to sit comfortably, so we cannot really plan for any outdoor activities in the garden landscapes surrounding the apartments. I would love to do some art classes out here, but there is nowhere to sit in the shade. We provide support to people with mobility limitations—We cannot just sit on the grass. (Participant 7, support staff)

The physical limitation of the landscape designs was not the only reason that support staff did not plan for more outdoor experiences. The interviews revealed that the support staff routines and task expectations for each shift meant that there was no time or capacity for any incidental walks in the garden: "Our shifts are too busy, our schedules too tight at the end of the day to even think about going outside for a walk" (participant 2, support staff). This was supported by interview data from other participants, with people with intellectual disability talking about not going out much in the afternoons: "I just stay inside in the afternoon. We don't go out then. I just stay home until it is time for us to go out the next day" (participant 12, person with intellectual disability).

Some people had a balcony overlooking the central garden and courtyard and enjoyed watching passers-by in the gardens. This was used in different ways by the households. For some participants, it was considered an outdoor space: "I like the balcony….I sit there sometimes….I sometimes just sit and watch people who go past…and their dogs and stuff…" (participant 9, person with intellectual disability). However, for others, it was not used: "The balcony just has our laundry; I don't sit there….If we go out, it is all the way outside….I don't go onto the balcony much" (participant 42, person with intellectual disability).

Family members expressed a concern that their family members did not get outdoors as much as when they were living in a suburban free-standing house:

> I have noticed that [my family member] doesn't talk about the garden anymore. I understand that it is just too risky to let [him] leave the apartment on his own, the paths are complicated, and he could get lost. He might not find his way back to the correct lift well. It is a shame because the garden surroundings are beautiful with many plants. But [he] doesn't get to enjoy them much anymore. In the group home, he could come and go outside to the garden all the time, and he loved it. (Participant 24, family)

3.2.3. Parking and Transport

In this large apartment complex, teams of disability support staff provide high levels of support to people with intellectual disability in 22 apartments dispersed across the site. In the interviews, participants reflected on the location of the apartment site as a place where people who receive care can live with autonomy and be visited by their families and friends as well as a place where support staff are required to meet workplace expectations as a disability support worker. These expectations may include accompanying people with disability to appointments, day programs, and social visits.

For this reason, it is essential to explore the site's design in relation to transport and parking. These concepts arose in all interviews with staff, families, and also those with disability; for them, the proximity of drop-off zones and access to a range of transport options arose in interviews: "I don't go out on my own. I have [support staff] with me….If they are busy, I don't go. I don't want

to go [to the doctor] all the time. I get tired walking" (participant 30, person with intellectual disability).

For staff, the interviews revealed that transport options for their support of people with disability were limited. One of the impacts of this is that non-urgent or spontaneous trips, which can be just as important as formal appointments, are impossible. Priority has to be given to all formal planned appointments and activities. Having multiple people with a disability needing to be at different places and activities in the community puts pressure on vehicle resources: "There are not enough transport options. There is a lack of vehicles and uncertainty around transport and NDIA funding—I have one vehicle and six people to transport" (participant 50, support staff).

Families expressed concern that the drop-off by taxis and vans was not in a safe pedestrian area: "They need a safe, dedicated drop-off zone. The road is so busy we are concerned for [our family member]" (participant 16, family). This concern was supported by one participant who relayed their stressful experiences of having to rush to get in and out of a taxi on a busy street: "I had to rush; I can't rush, I don't like it….I could fall over….But the car was honking us…we had to rush too much" (participant 36, person with intellectual disability).

3.3. Urban Planning Design Elements: Influencing Landscapes of Care

This article focuses on how urban design elements influence how people with intellectual disability receive 24-hour disability support and participate in their local community. The analysis shows that the details of cross-site navigation, shared garden landscapes, parking, and transportation (see Figure 1) directly influence the nature of independence and disability care provision in a high-support apartment setting, such as our study. These outdoor settings and landscapes play various roles for any apartment dweller. They are places to experience the outdoors, as well as public areas where social encounters take place.

Figure 1, below, captures the elements that have been shown to directly influence the nature of independence and disability care provision in a high-support apartment setting. People with intellectual disability, their family, and their support staff all revealed how the urban environment of the apartment complex, as a site of care, acted as a barrier to or an enabler of more independent lives with community participation.

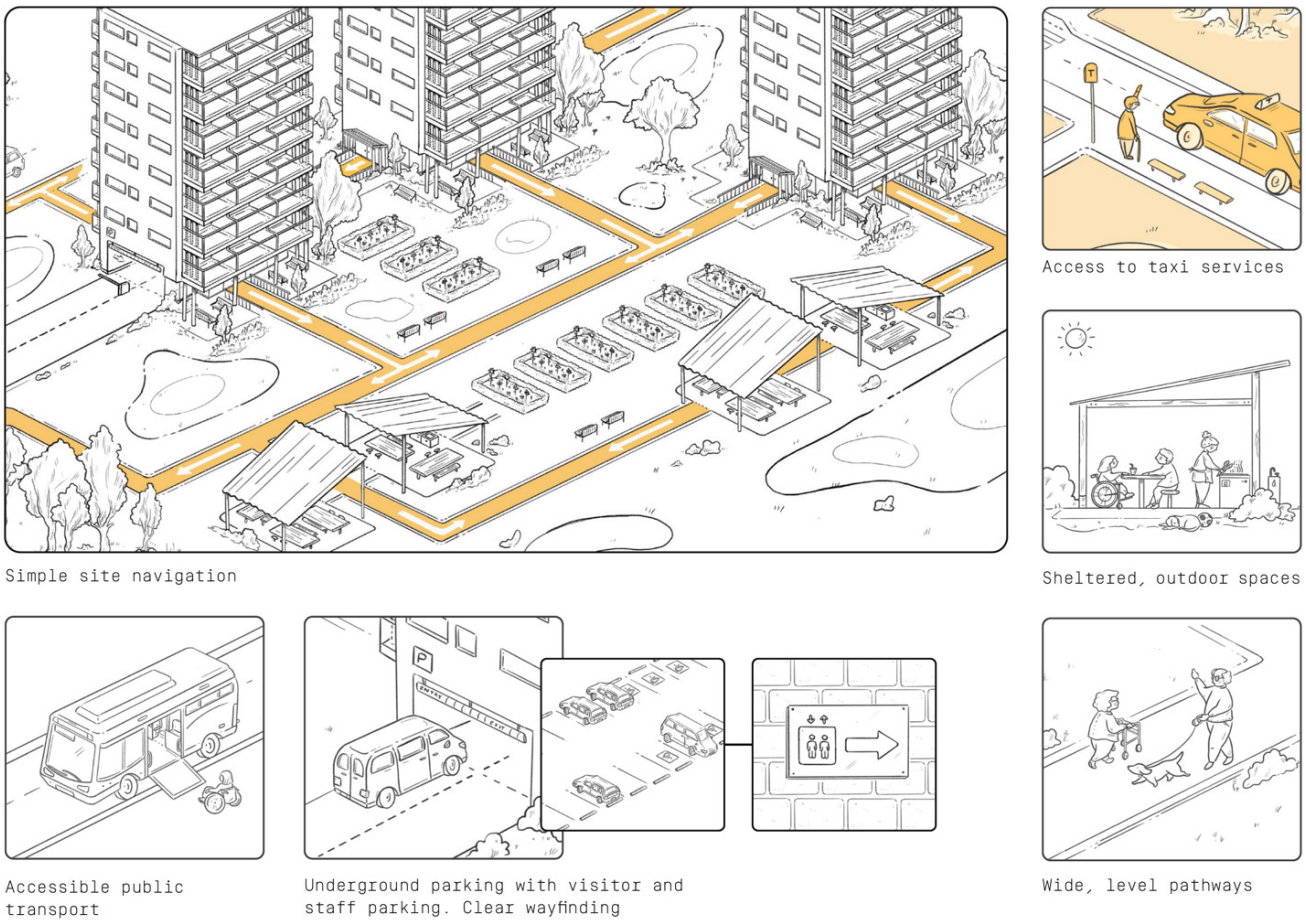

Figure 1. Outdoor urban setting elements that influence the independence of people with intellectual disability and the quality and effectiveness of disability support provided in a community setting. Source: Illustration courtesy of Kristelle de Freitas.

4. Discussion

This study frames the outdoor setting of an apartment complex as a "landscape of care" (Högström, 2018; Milligan & Wiles, 2010): a site where people live and receive care as well as work and provide care. As such, the design elements in the urban environment can serve as enablers or barriers to successful outcomes for people with disability and their carers. We can consider the built environment as an enabler of autonomy and independence for people with intellectual disability, thereby reducing the need for disability care and support. We can also view the built environment through a lens of enabling higher quality, more effective disability support. This reflects the concepts of care described in Milligan and Wiles (2010), where care is framed as reciprocal, relational, and involving a complex network of actors and actions (see also Milligan, 2000; Tronto, 1993; Wiles, 2003a, 2003b).

Our research questions asked how the urban design of apartment settings influences how disability support is received by and provided to people with intellectual disability. We found that the way apartment towers are connected, and the navigation required to travel from, to, and between apartments can be relatively complex, requiring swipe cards, lifts, and multiple keys. Redesigning sites to consider ease of cross-site navigation and intuitive wayfinding would positively influence the independence of people with intellectual disability, the visitability of the apartments by family, and the effectiveness and efficiency of disability support provided by staff across the site. Including well-designed accessible pathways (with a continuous path of travel without steps or stairs) was noted as necessary by family and staff when considering the independence of the people with intellectual disability whose safety they were responsible for. The more complicated process of accessing outdoor areas (including swipe cards and lift wells) coupled with the requirement that staff support more than one person at a time meant that people receiving support were less likely to experience the outdoors or garden area. This directly affects their autonomy within the community. By simplifying the navigation and wayfinding required to travel in and around the buildings, as well as reducing the perceived risk of trips or falls, people receiving support would be more likely to have the opportunity to leave their apartments independently.

Our analysis of the interview data enabled us to develop an illustration that maps a range of urban design considerations for future apartment settings—so that the design can support them as places of community participation for people who receive care in their daily lives. The results reported in this article provide new insights into how urban design can influence the independence, participation, and receipt of high levels of support for people with intellectual disability living in diverse local communities. This research demonstrates that the perspectives of people with disability, their families, and staff can give rich insight into how public spaces and urban elements operate as social infrastructure for people with intellectual disability. It explores how the urban design of apartment sites can influence the nature of independence, autonomy, support, and participation. Our illustration of outdoor urban design elements shows that the experiences of providing and receiving care can be mapped directly to the design elements, the structure, and the scale of the surrounding built environment in a way that informs our understanding of how and why different designs of supported accommodation settings work well, or not so well.

Historically neighbourhoods, communities, and cities have been designed to operate without the influence and input of marginalised communities, including, but not limited to, people with intellectual disability. Understanding what practices support their inclusion within the local community contributes to making neighbourhoods and communities more socially responsible and inclusive so that all people, regardless of disability or disadvantage, have opportunities to feel a sense of local belonging. Klinenberg's (2018) work has drawn attention to the role of social infrastructure in establishing equal and united societies. Our study highlights that access to public space and engagement in the local community, and therefore opportunities for social encounters, depend highly on urban design. The findings explain why considering social infrastructure as a landscape of care will contribute to greater inclusion for people with intellectual disability and other community groups.

In this research, we have drawn attention to how access to outdoor spaces can be reduced or limited through design, particularly for those who require high levels of support to perform daily activities. The findings complement the work by Power (2016), who describes the socio-spatial experiences of carers and writes about being tied to the home and having limited public outings. The research expands upon established landscapes of care research in several ways. Gleeson and Kearns (2001) examined community care compared to institutionalisation and conceptualised the new landscapes of inclusive and ethical community care. Our research is an example of how the community care landscape includes all of the community—its shared and public spaces, rather than just the homes in which care takes place. Our research, although it examines paid care and not family care, reinforces that built environments and limitations of care models can mean people with intellectual disability are less likely to experience their local community. Where Milligan and Wiles (2010) brought a new understanding to landscapes of care in terms of proximity, this research expands the concept of landscapes of care to include shared public spaces and show how design can influence the social sustainability of our current and future cities.

This article focuses on a particular type of public space as social infrastructure: the public, shared areas between and around apartment buildings. The findings

demonstrate how "landscapes of care" extend beyond the walls of the housing, facilities, and infrastructure where care is received, and that outdoor areas are integral to experiences of community participation for people who receive support in the community, especially those with intellectual disability. These outdoor spaces connect where people live with the outdoors and their local community and influence how the outdoors are experienced, if at all. Whilst being a particular type of public and shared space, exploring urban outdoor areas in this way has implications for how we consider cities and neighbourhoods more generally as landscapes of care and social infrastructure.

4.1. Future Research

Our results have raised some interesting discussion points around urban design and the nature of risk in the neighbourhood for those with intellectual disability. When we consider the importance of community participation, we also consider such people's agency and autonomy to live and make decisions in the community. This raises the consideration of the *dignity of risk*—What is an acceptable risk? And what level of independence and autonomy is traded when families and support staff want to minimise the risk of a person leaving their apartment unattended? The findings from these interviews indicate that an important area of future urban design research is how to design apartments and surrounding urban landscapes that consider safety and prioritise agency for more accessible and inclusive participation. This has implications not only for people with intellectual disability but also for children and those with dementia.

5. Conclusion

This research has examined how urban design elements of an apartment development can influence how a person with an intellectual disability receives support and participates in the wider community in connecting outdoor spaces. This provides rich insight into how external spaces operate as both a "landscape of care" and as "social infrastructure"—contributing to the public life of cities and how spaces afford participation and social interaction. Using qualitative enquiry, we have closely examined a model of 24-hour disability support provided in a high-density apartment setting. The perspectives provided by people with intellectual disability, their families, and support staff were framed in the context of urban planning elements such as layout, landscape, and transport and site navigation. Exploring the links between autonomy, community participation, and disability support provided in an apartment setting has value for several reasons. Firstly, the research demonstrates that individualised apartment living is a valued housing-choice option by people with intellectual disability, even if there are urban design elements that can be improved. Secondly, the study provides a useful comparison to the predominant *group home* model of supported housing for people with intellectual disability. Thirdly, it highlights the importance of increasing the housing type and support model options available to people with intellectual disability. Doing so will increase the number of location options, enabling greater housing choice for people with disability who receive high levels of support in daily life (e.g., in city centres and close to amenities, transport, and infrastructure).

People with intellectual disability expressed how much they enjoyed their new apartments, the flatmates they lived with, and how the space felt like their own. This contrasts with group homes where the living spaces are shared by up to five others. The interviews with participants also raised some defining characteristics of apartment living when discussing outcomes and support, including multi-level living, access to transport, larger complex overall sites, and shared gardens. The results revealed that these characteristics of apartment living worked in contrasting ways to either support better outcomes for people with intellectual disability or act as influences which need to be overcome through the provision of quality support. This highlights the role of quality support models in ensuring people with intellectual disability can access outside areas when and how they choose to. The characteristics of high-density apartments posed some challenges among the disability support workers; they felt that providing support across a large site (as opposed to a single suburban group home) was more physically demanding and complex. This feature of apartment living, combined with the care service models and shifts in place, also limited the number of times people left their apartment.

These experiences of people with intellectual disability, their families, and support providers highlight the significance of the urban setting in receiving and providing quality support and designing more inclusive cities for people receiving care. The results show how urban design can influence the collective independence and provision of care to diverse communities in urban centres and towns and are relevant to people with disability, older people, and other community groups who rely on community-care or support to continue to live independently at home.

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Conflict of Interests

The author declares no conflict of interests.

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Article

Street-Level Workers and the Construction of Social Infrastructure in Suburban Neighbourhoods

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Abstract
The article examines the provision of social infrastructures in suburban neighbourhoods from the perspective of street-level workers. The concept of infrastructure is usually related to material and structural conditions but can equally apply to social infrastructures that are continuously constructed and maintained in social practices. These social infrastructures are embedded in structures and social arrangements and are related to past decisions. Our research focuses on the social infrastructures of two high-rise suburbs in Finland, built in the 1960s and 1970s. Since the 1990s, these neighbourhoods have experienced socioeconomic decline and transformation into a multicultural milieu. While suburbs have often been overlooked in urban politics and public discourses, a wide range of social infrastructures have also evolved in these districts and are continuously maintained. The main research data consists of interviews with street-level workers who participate in the production of such local social infrastructures. The article identifies and analyses the essential factors and preconditions as well as the challenges and contradictions of the provision of social infrastructure in these suburban contexts. This understanding is needed in order to foster an extensive social infrastructure and to deter counterforces from exacerbating socio-spatial inequalities and social polarisation in cities.

Keywords
Finland; Kontula; social infrastructures; street-level workers; suburbs; urban politics; Varissuo

Issue
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1. Introduction

The concept of social infrastructure has focused attention on understanding cities as inclusive and welcoming places that provide care and support and foster connections and solidarity. Social infrastructures can be important resources, especially for economically or socially marginalized or vulnerable groups and communities (Klinenberg, 2018; Latham & Layton, 2019). According to its rather loose definition, the concept refers to “the physical places and organisations that shape the way people interact” (Klinenberg, 2018, p. 5), “the underlying structures that sustain social life” (Hall, 2020, p. 82), or “the networks of spaces, facilities, institutions, and groups that create affordances for social connection” (Latham & Layton, 2019, p. 3). Social infrastructures are thus laden with great expectations as regards their beneficial effects. Despite this, there are relatively few context-sensitive, empirical investigations which valorise how social infrastructures actually work in suburban contexts. This article contributes to the discussion on social infrastructures by addressing the essential factors and preconditions, challenges, and contradictions of the provision of social infrastructures in two suburban neighbourhoods. The topic is examined from the perspective of street-level workers who actively and directly

participate in the production and maintenance of local social infrastructures. The street-level participants in the study worked in institutions like nursery schools, psychiatric and substance abuse centres, churches, youth clubs, and libraries. In their everyday work, they encounter challenges and contradictions while managing, maintaining, and producing social infrastructures, and therefore have had a glimpse of the formation and significance of these infrastructures for people living in suburbs.

Our study focuses on the social infrastructures of two high-rise suburbs in Finland: Kontula in the City of Helsinki and Varissuo in the City of Turku. Both neighbourhoods were built in the 1960s and 1970s to accommodate a growing urban population. Since the 1990s, they have experienced a socioeconomic decline and a rapid transformation into a multicultural milieu (Huttunen & Juntunen, 2020; Tuominen, 2020), representing the suburban type of neighbourhood found in various European cities, commonly labelled as "disadvantaged" (cf. Blokland & Nast, 2014). Since the 1960s, the environments of many Finnish suburbs have been criticised for being monotonous sites of social alienation which lack the provision of public spaces (Saarikangas, 2014). However, inhabitants' accounts often contrast with these negative representations and express a strong sense of belonging and community (Huttunen & Juntunen, 2020; Saarikangas, 2014; Tuominen, 2020). Today, many high-rise Nordic neighbourhoods are facing major regeneration plans and the re-location of public services from the suburbs to larger units. There is, therefore, an acute need for a better understanding of the need for localized social infrastructures. Through studying neighbourhoods like Kontula and Varissuo, the potential, challenges, and politics of provision can be identified.

The first part of the article introduces previous research on social infrastructures and street-level workers and defines our own starting points for analysing these structures in a suburban context. The second section discusses the methodology of the research and introduces the neighbourhoods of Kontula and Varissuo. This is followed by the analysis and reflections on various aspects of a robust social infrastructure. The last section summarises the contribution of the article and suggests aspects that still need further research.

2. Infrastructural Approach

Urban infrastructures have attained a broad interest in recent decades, including discussions on topics such as building and maintenance, failures and collapses, and everyday experiences of infrastructures (e.g., Graham, 2010; Graham & McFarlane, 2015; Klinenberg, 2018). In addition to focusing on physical and socio-technical systems, research on infrastructures also incorporates intangible "soft" (social) networks and services (Addie, 2021; Addie et al., 2020; Filion & Keil, 2017). These "soft" social infrastructures and their role in urban social lives were already acknowledged several decades ago (e.g., Naidu, 1976). While the concept recognises the role of physical spaces as being necessary for social infrastructure, we follow the scholars who argue that physical spaces must be activated and enlivened by urban politics and by diverse actors—individuals, groups, and organisations—in order to function as social infrastructures (Campbell et al., 2021; Hall, 2020).

Common to many discussions is "a shared sense of infrastructure not just as a 'thing,' a 'system,' or an 'output,' but as complex social and technological *process* that enables—or disables—particular kinds of action in the city" (Graham & McFarlane, 2015, p. 1). Infrastructures facilitate activities and are closely intertwined with socioeconomic disparities (Latham & Layton, 2019; McFarlane & Rutherford, 2008). Accessibility to infrastructures varies, and some people are more affected by the breaking of infrastructure than others (Larkin, 2013; Star, 1999)—for instance, those who are tied to their own neighbourhoods due to their vulnerable position or reduced mobility resulting, for example, from age or sickness (Lo et al., 2015). For a neighbourhood, the degradation of social infrastructures might mean a decrease in the use of public spaces and civic participation in general, weakened social networks, and the isolation of people with reduced mobility (Klinenberg, 2018, p. 21).

Social infrastructures are relational and practised (e.g., Star, 1999). The agency and everyday practices of diverse actors—including residents and urban communities—are important in the creation, design, maintenance, and practice of social infrastructures (Sampson, 2012). Star (1999, pp. 381–382) describes how infrastructures are embedded into and exist within other structures and social arrangements and are always "built on an installed base." How they function and develop is affected by previous work, past decisions, and the strengths and limitations inherited from such a base (see also Latham & Layton, 2019). Thus, infrastructures are not natural and do not just appear. They are produced and embody the social relationships and contradictions that are part of their production. As with all infrastructures, social infrastructures are formed, shaped, and sustained by politics, networked systems, and governmental arrangements. The outcomes of social infrastructures depend partly on the physical spaces but also on the funding, management, regulation, and cultural norms practised around them (Layton & Latham, 2022).

There are always people whose work remains unnoticed or is not formally recognised (Star, 1999, p. 386). Such invisible work—that is encoded and embedded in infrastructures—is often neglected. The idea of people as a form of infrastructure has broadened the scope of infrastructure to include people's activities and efforts to improve their everyday lives, suggesting a focus on infrastructure as social practice (Addie, 2021; Simone, 2021; Wilson & Jonas, 2021). The role of labour has also been discussed by scholars who claim that the labour that

sustains social life worlds remains largely unrecognised, undervalued, and unsupported (e.g., see Hall, 2020; Lawson, 2007; Power & Williams, 2020; Williams, 2020). State involvement, investment, and responsibility for and within communities have sharply declined in the context of austerity, neoliberalism, and deinstitutionalisation. Therefore, this work—which has tended to be inherently gendered and racialised, for example, in the sectors of social welfare, healthcare, education, and childcare—is increasingly being undertaken by volunteers, communities, or over-stretched public sector employees (Hall, 2020; Power & Williams, 2020; Williams, 2020).

In order to understand the everyday realisation of social infrastructures in suburban neighbourhoods, we targeted our interest on street-level workers. We are partly contingent on the previous literature on street-level bureaucrats (e.g., Brodkin, 2012; Jansen et al., 2021; Lavee & Cohen, 2019; Levy, 2021; Lipsky, 1980; Proudfoot & McCann, 2008; Rice, 2012), but our usage of the term "street-level workers" illustrates that in addition to "public agencies that represent authorities" (Brodkin, 2012), our data includes resident-activists and representatives of the third sector. Characteristic to street-level bureaucrats is that they are "frontline workers who interact daily with citizens, providing…services, while enforcing and implementing dictated policies and regulations" (Lavee & Cohen, 2019, p. 476). They, thus, interpret public policy and enable communication between the government and the individual (Brodkin, 2012). Those street-level workers who are, for example, resident-activists or the representatives of associations, do not fit into the last parts of this definition as they do not directly enforce and implement state or city policies. Nevertheless, the difference is not clear-cut but rather somewhat blurred as some services that were previously the responsibility of the welfare state are nowadays carried out by volunteers (see also Brodkin, 2012).

In the research on local or urban communities, municipal, third-sector, and state institution workers are sometimes seen as representing bureaucracy and institutions (see Blokland, 2017, pp. 80–81) and positioned as outsiders whose relationships with local residents are hierarchical, power-laden, and tend to perpetuate urban inequalities and marginalising processes (Junnilainen, 2019, p. 40). Their relationships with clients are, then, regarded as instrumental transactions of an impersonal character, in which both parties expect the other side to conform to roles. Several studies, however, present a more multifaceted understanding of the relationships between street-level bureaucrats and clients (e.g., Blokland, 2012). These studies report, for instance, on the commitment of street-level bureaucrats and how they delve into the lives of their clients and neighbourhoods (e.g., Jansen et al., 2021; Lavee & Cohen, 2019) to the extent that the personal attributes of clients (as well as the worker) have a strong impact on everyday encounters and which tasks are prioritised (Rice, 2012). Many studies also highlight the agency of street-level workers and how, due to inadequate resources, they develop coping mechanisms, strategies, and informal practices that help them carry out their work and make a difference in neighbourhood spaces (Brodkin, 2012; Jansen et al., 2021; Proudfoot & McCann, 2008). Sometimes they are also able to influence policy design or shape societal structures (Lavee & Cohen, 2019; Levy, 2021; Rice, 2012).

By studying the experiences of street-level workers, Lipsky (1980) showed how their routines and daily encounters with customers actually become the public policies they carry out. There are conflicts between the workers' commitments, the ideal conception of the job, and organisational life. The work is characterised by a relatively high degree of discretion and autonomy from the organisational agencies but also by structural constraints and high workloads. The workers are forced to adopt a method of routinising client interactions, seeing individuals *en masse*, assigning people to categories and labels, and neglecting human responsiveness. As Lipsky (1980, p. 71) remarks:

> To deliver street level policy through bureaucracy is to embrace a contradiction. On the one hand, service is delivered by people to people, invoking a model of human interaction, caring and responsibility. On the other hand, service is delivered through a bureaucracy, invoking a model of detachment and equal treatment under conditions of resource limitations and constraints, making care and responsibility conditional.

3. Methodology and Research Areas

The research strategy was based on case study approach. As the definitions of case study approach emphasize (Flyvbjerg, 2006; Laine et al., 2007; Simons, 2009; Yin, 2014), the aim was to investigate social infrastructures in their real-life context to gain concrete, context-dependent knowledge and in-depth understanding of their provision. The study relied on multiple data sources. Interviews generated the primary research material, while planning documents, field visits, and observations on-site were used to support the analysis.

The selection of the cases was based on the expectations about their information content (see Flyvbjerg, 2006). In the Nordic countries, the term suburban usually refers to high-rise housing estates built in forestry landscapes to accommodate the growing urban population in the 1960s and 1970s. Many of the old suburbs have experienced a socioeconomic decline since the 1990s. Our research areas are no exceptions. Both are included in the activities of the Finnish Ministry of the Environment's Neighbourhood Programme (2020–2022), which aims to find ways to slow down the segregation process in declining neighbourhoods. Both Kontula and Varissuo have higher unemployment rates and lower education levels compared to the average level in the city. The unemployment rate is 19.2% in Kontula (9.6 % in Helsinki)

and 28.7% in Varissuo (13.0% in Turku; Statistics Finland, 2022). The percentage of the population with only a basic level of education is 38.7% in Kontula (23.0 % in Helsinki) and 34.1% in Varissuo (22.6% in Turku; Statistics Finland, 2020). They are also multicultural neighbourhoods: In Kontula, approximately 40% and, in Varissuo, 52% of the population speak as their first language a language other than Finnish or Swedish (Greater Helsinki Open Statistical Databases, 2021; Statistics Finland, 2018, as cited in City of Turku, 2022). Both suburbs offer good recreational facilities, green areas, and transport connections to the city centre. Both have a lively shopping centre, where services are concentrated. As previous studies show (e.g., Huttunen & Juntunen, 2020; Tuominen, 2020), there is a strong sense of belonging and community spirit among the residents of both neighbourhoods.

The research material consists of interviews with street-level workers in the organisations providing social infrastructures in Kontula and Varissuo. The aim of the interviews was to understand the functioning of social infrastructures from the point of view of street-level workers and to gain an insider understanding of their provision. We first familiarised ourselves with the neighbourhoods' social infrastructures through field visits, planning documents and internet sites, then contacted the potential organisations and individuals personally and utilised a snowball technique in the recruitment of the interviewees. The sampling of the interviewees was purposive, with the aim of reaching those agents involved and knowledgeable about the production of social infrastructures in the research areas.

We interviewed 51 persons, 31 in Kontula and 20 in Varissuo. The interviewees included 22 municipal and government street-level workers working in public institutions as nursery school teachers, elementary school teachers, librarians, youth club workers, sports instructors, social and health service workers, community workers, police officers, and maintenance workers. There were also 10 interviewees working in local third-sector organisations (foundations, associations, or parishes) that carried out social and community work, organised sports and leisure activities, and/or provided physical spaces for people to meet, assemble, and obtain social support. A further 10 interviewees were resident-activists and active members of local participatory networks or resident associations. In addition, nine city officials and policymakers working in the sectors of urban planning and development, health and social services, and education were interviewed. We use the term street-level worker to refer to those interviewees who are front-line workers and physically present in the neighbourhoods. Some of the city officials and resident-activists interviewed do not fit this characterisation, but they have an impact on the provision of social infrastructure through policymaking, planning, and regulation.

In line with previous studies reporting the gendered employee structure in the sectors of social welfare, healthcare, education, and childcare (Hall, 2020; Power & Williams, 2020; Williams, 2020), there was a strong representation of females in our research material. Of the interviewees, 38 (75%) were women, three (5.9%) had an immigrant background, and the age range was 30–70 years, with no considerable emphasis on any age group. Due to the need to limit the scope of the research, we decided not to examine any of the commercial services more closely. Nevertheless, the shopping centres of both Kontula and Varissuo were rather extensively discussed in the interviews as they are significant public spaces and concentrations of social life. Furthermore, although shared courtyards or community spaces of the housing estates can have the qualities of social infrastructure, they are not included in our research material.

The interviews were conducted during the winter and spring of 2021. Due to the Covid-19 pandemic restrictions, most of the interviews were arranged via Teams or Zoom video calls, but some were also conducted face-to-face in the interviewees' workplaces or as walking interviews in the research areas. Five of the interviews were arranged with two to four participants, all of whom represented the same organisation. This was suggested by the interviewees so that they could supplement each other's views. The interviews lasted between 45 and 90 minutes, and they were recorded and transcribed.

Following the principles of semi-structured thematic interviews, the themes of the interviews were relatively loosely defined, allowing interviewees to raise relevant issues and introduce their own experiences. The interviewer steered the discussion towards more targeted questions when necessary. The interview themes concerned the interviewees' understanding of (a) the role of their work as a part of the social infrastructure of the neighbourhood, (b) the resources needed to produce and maintain this service, (c) the context the suburban neighbourhood creates for (this specific) social infrastructure, and (d) the challenges related to producing and maintaining social infrastructures. The interviews with city officials and resident-activists focused more generally on the role of social infrastructures in the neighbourhood and how urban planning and policy may affect their provision. In the analysis, we also utilised the background information gained from shorter, informal discussions carried out during several field visits to the research areas. In Varissuo, some of the field visits included volunteering in the Girls' House, a multicultural meeting place for girls and women, and in a summer café organized by a local parish of the Finnish church.

Thematic analysis was used as a method of data analysis. Analysis was an iterative process and conducted as an interplay between the data and theory (Simons, 2009, pp. 116–134). Ideas were worked out in relation to data and existing theoretical ideas concerning social infrastructures in a hermeneutic process of learning (Laine et al., 2007, p. 22; Mills et al., 2010, pp. 1–3). The coding started with an inductive, detailed

reading of the data, as a result of which three broad themes were established describing those aspects that the interviewees saw as essential for the functioning of social infrastructures: physical spaces and facilities, organizational aspects (urban policy and planning), and the work of local actors, especially street-level actors. Each of these broad themes was then interpreted in an analytical framework of social infrastructures. However, both data gathering and empirical observations on the data depended on theoretically sensitised researchers and their previous knowledge of social infrastructures (Timmermans & Tavory, 2012). Thus, the analysis was not cleanly inductive but can be characterised as abductive (see Dubois & Gadde, 2002; Earl Rinehart, 2021; Mills et al., 2010, pp. 1–3; Timmermans & Tavory, 2012).

4. Essential Aspects of a Robust Social Infrastructure

In the following, we analyse the provision and construction of social infrastructure from the perspective of street-level actors: Which factors do they consider essential for a robust social infrastructure, and what kind of challenges and contradictions do they encounter in their work?

4.1. Physical Spaces and Facilities

Built environments and public spaces are essential for social activities and collective life. Modernistic planning principles have largely neglected public spaces and urban life between buildings (Gehl, 2010, p. 4; Jacobs, 1961), and, in Finnish suburbs, an urban streetscape with corner stores and open squares is largely missing. Instead, there are other important physical structures and sites of social infrastructures. For example, football fields, basketball courts, and playgrounds now form an important part of the social infrastructure of suburbs. Highlighting the importance of these facilities, the interviewee working with young people in Varissuo described how the closing of the basketball court for repair work during the previous summer had caused "disorder" and a "hard time" for the whole area. Public libraries, schools, and nursery schools also serve as important social infrastructures in these areas. In addition to such visible and known facilities, there is also a more hidden network of small, semi-public community spaces managed by the city or by third-sector organisations. The street-level workers in the public and third sector, working in these indoor spaces on a daily basis, note that many of the spaces—located in buildings from the 1970s—are inadequate, too small, and do not meet the requirements of present-day activities. The city officials conducting community work in the areas and perceiving themselves as advocates of a wide group of residents in the areas report the need for larger, multifunctional community spaces ("living rooms"), which would serve as open and low-threshold meeting places allowing a freer framework for interactions than the semi-public spaces managed and used by specific organisations and user-groups. Currently, the local parishes have spacious, centrally located premises which are used for larger community meetings and events, but for many people there are barriers to the usage of religious spaces due to their different religious convictions. These findings were found in both the neighbourhoods studied, and they reflect the planning history of suburban neighbourhoods in Finland.

Typically, in suburbs in Finland, the building stock of the neighbourhood is largely from the 1970s, which means that the spaces need maintenance, renovation, and adaptation to accommodate the changing uses. For example, according to the librarian who was interviewed, the functions of libraries have significantly changed, and the old buildings do not meet the requirements of functions beyond traditional library work, for example, increased remote working, studying, events, and community activities. The diverse forms of social infrastructure also have specific material and spatial needs. For example, meeting places for families need a kitchen for preparing food for the children, whereas a smoking place is essential for a drop-in centre for substance abusers, and a library needs more electrical sockets for customers working on its premises. Physical facilities also reflect the will of the city to invest in the neighbourhoods' social infrastructure and affect both its perceived position in spatial hierarchies and its image as perceived by outsiders: "I would like to see that the youth here in our neighbourhood would be given something a bit better….We have this crummy library—and a youth club building from the year 1978…that isn't any factor of success" (Worker from a youth club).

4.2. Urban Politics and Planning

Political decisions about social infrastructure play an important role in the development of these neighbourhoods. Our analysis shows how past decisions related to the policy sectors of education, culture and leisure, health and social services, and housing and urban planning are encoded in local social infrastructures and how the management of social infrastructures is embedded in a complex web of relationships.

Local street-level workers in both neighbourhoods raised how—as locally-based institutions—schools and nursery schools represent a cohesive power in these neighbourhoods; they "reach all" and provide possibilities for strengthening the pupils' and parents' inclusion in Finnish society. A nursery school teacher characterises nursery schools as a window into society, both enabling a family to become visible and offering a view of Finnish society. A key feature of Finnish multiculturalism policies—integration through education and employment (Huttunen & Juntunen, 2020)—is reflected in the discourse of those workers who stressed the role of social infrastructures as places of integration, which provide both the possibility to learn the Finnish language and "how the system works here." People from diverse

ethnic backgrounds do not mingle only in schools and nursery schools but also in youth clubs and the activities of local associations, as reported by their workers. In the fields of culture and leisure, the aims are not similarly burdened with the goals of education and integration. Thus, the workers can also adopt a freer attitude and, instead of, for instance, requiring good language skills, it is enough "if we are able to communicate" (Worker in a multicultural meeting place for adolescents).

Social infrastructures that exist and work inside other structures are affected by specific organisational aims and tasks as well as funding, resources, and practices of governance (cf. Star, 1999). In the suburbs, many nursery, primary, and secondary schools need more resources to carry out the diverse functions of social infrastructure they provide alongside their basic educational function. The interviewees working in the field of education described how the long-term effects of housing and immigration policy—such as ethnic and socioeconomic segregation or the spatial concentration of urban inequality and a disadvantaged position—can be seen in the functioning of social infrastructures. There are many children with special needs, and the personnel struggle with a heavy workload caused, for example, by language differences. Moreover, many parents have scarce material and social resources, and sometimes the families cannot afford, for example, equipment for the sports classes at school. The fatigue of the personnel leads to a considerable turnover of employees and makes it difficult to recruit competent, long-term teachers. The intergenerational transmission of social disadvantages and exclusion (e.g., Saari et al., 2020), segregation, and the differentiation of life worlds are structural phenomena which are difficult to alter by means of street-level actors whose practices are both embedded in and designed to replicate these structures.

The neighbourhoods are also affected by recent political decisions to concentrate health and social services into larger units located further away from the residents. Many third-sector organisations have adopted the tasks of the public sector in order to cover the lack of local services. The interviewees working in social infrastructures that provide support for people in vulnerable positions highlighted that the closing of local services directly affects their accessibility and decreases face-to-face transactions as well as the possibilities for cooperation between actors providing social support in the area. Thus, this policy decision has affected the networked functioning of the local social infrastructure.

Kontula provides an especially interesting example of how social infrastructure is entangled with urban planning and housing policy. Past decisions and current politics have created a quite contradictory context for the development of social infrastructures. The city of Helsinki currently promotes the area's gentrification by means of regeneration plans and complementary building. According to the planning documents and interviewees working on the development project, the aim of the project is to attract middle-class people to move into the area and to increase the share of owner-occupied housing in the area's building stock. The shopping centre—which accommodates, for example, grocery shops, ethnic retailers, a flea market, restaurants, bars, a library, a swimming pool, a youth club, and services for substance abusers—has become the focal point of the development plans.

According to the local interviewees (and verified by documents prepared during the conducted participatory process), the redevelopment plans have divided the residents, some of whom support the demolition and renewal, while others argue for preserving the old centre. The contradiction is partly a result of the urban politics in former years, which neglected the area, and has therefore created pressure for redevelopment but, at the same time, created a rather unique setting for the residents' social life. Hewidy and Lilius (2022) called the shopping centre "abandoned," referring to the physical condition of many premises and quite a drastic loss of mainstream operators. At the same time, affordable rents have enabled the spontaneous development of a cluster of small-scale entrepreneurs and cultural activities, forming an important aspect of the shopping centre's social infrastructure. Renewal plans are expected to diminish the diversity of entrepreneurs and small-scale actors dependent on the lower rents. Thus, the redevelopment will alter not only the physical appearance of the shopping centre but also its diverse social life, illustrating the difficulties of planning social infrastructures in suburbs.

While the interviewees reported disagreement regarding the redevelopment process among the Kontula residents, there was no such controversy among the street-level workers. This like-mindedness may stem from the numerous discussions on the topic in a local network in which many of the interviewees had participated. The interviewees supported the physical renovations and redevelopment of the shopping centre, but they also hoped that its open and tolerant atmosphere would be protected during the major redevelopment. At the same time, the shortcomings in the shopping centre were also widely identified, i.e., the disorderly nature of the shopping centre and the feeling of unsafety and discomfort created by intoxicated individuals. Many interviewees noted that these problems also restricted children's and young people's access to public spaces. The abundance of bars was criticised, as well as the city's policy of concentrating services and drop-in-centres for substance abusers in the disadvantaged neighbourhoods of Eastern Helsinki. This was discussed by the workers in these services, other street-level workers, and city officials, and they mostly held very similar views of the problem. Providing a social infrastructure for marginal and vulnerable groups may create contradictions in commercial and residential areas (cf. Klinenberg, 2018, p. 124). This was also seen to increase the stigmatisation of the neighbourhoods and their symbolic differentiation from the

rest of the city. While most interviewees sympathised with the marginalised groups' need for shelter and support, they emphasised the need to carefully consider the facilities of social infrastructures in the planning process of the shopping centre—especially regarding spaces for drug abusers and people suffering from mental illness:

> We need these services, but we should carefully design people's routes to them….This way, we can also prevent the threat that our services are evicted. Through careful planning, dialogue, and design, we can diminish the problems. The opening hours also affect [the possible controversies]. If the services close at the same time as schools end, I understand that the children can be scared of walking home through the shopping centre when the whole clientele is there on the premises. (Street-level worker in health and social services)

Many interviewees, both street-level actors and city officials, also raised an example of the city's unsuccessful attempt to regulate spaces. Interviewees mentioned how a park next to the shopping centre was renewed with exercise equipment in order to create a very welcoming training park for the residents. The initiative, however, was unsuccessful as the park eventually became a site for drug use and distribution. This example illustrates how changes in the physical environment do not necessarily change the social life of public spaces but requires that a change also occurs in everyday practices.

4.3. Labour of Local Actors

There is also a considerable amount of micro-level programming and daily, often invisible, work involved in constructing and maintaining social infrastructures. The public libraries of the neighbourhoods provide an illustrative example of micro-level arrangements. While the libraries generally represent open public spaces, the interviews with the library employees illustrate how the openness and inclusivity of the library are not automatic but need to be constructed and maintained. In Kontula, diverse materials (the multilingual collection of books, sewing machines, computer games) and activities invite a mix of people and a variety of uses; in addition to this, the library also provides a possibility for homeless people to have a rest and take a shower. This open and inclusive atmosphere, however, also creates contradictions and conflicts that the library staff needs to negotiate and manage as a part of their everyday work. Furthermore, other local interviewees mentioned the role of the librarians' work in the social infrastructures of the neighbourhood. For example, an interviewee said, "it's insane how many hats they have to wear," referring to the multiple roles of the librarians, for example, taking care of the children and adolescents in the neighbourhood and occasionally carrying out the tasks of social workers:

> It's quite terrific. I don't believe there is any guidance to this in their education or any manual for librarians concerning how their work has changed and how they need to react to the surrounding society. (Resident-activist).

The agency and labour of street-level workers in producing and maintaining social infrastructures were highlighted throughout our interview data. Many interviewees expressed a caring, dedicated interest in the well-being of their clients and the users of social infrastructures. They typically did not position themselves as outsiders or "only workers" in the neighbourhoods but strongly identified with the area (some also being long-term residents). For example, in the third sector organisations, one worker describes his work as "interacting with people, living here with these people," and another one has been given the name "the official Mrs Vakke" (a nickname for Varissuo). Many interviewees working with residents both in the public sector and third-sector organisations found their work meaningful and important for society. They do not draw the borders of their job description strictly: For instance, library workers may need to work with issues related to substance abuse, mental health, and social work, and the working day of a school principal sometimes included delivering food to quarantined students during the Covid-19 pandemic. Many actors think their organisation and work do not only contribute to the welfare of individuals but also to the social and collective life of the area.

However, the workers also have to negotiate between their own personal commitments and the organisational regulations—especially in the public sector's street-level bureaucracy (Lipsky, 1980). The interviewees, especially those working in the field of education, described care and social support as an invisible and under-resourced part of their work. Furthermore, the workers in the public and third sectors are in a different position from the more independent actors. An independent actor described this:

> Our group has become like a family for me, we are very close….The workers of the city are not allowed to make friends with their clients….They need to keep a hierarchy as those are essential structures that enable them to work in the way they need to. (Independent artist and community activist)

Some street-level workers (both municipal and third sector) describe, in turn, how the organisational practices—such as the use of professional language, organisational rules, or siloed governance—decrease the accessibility of social infrastructures or prevent people from being helped in an optimal manner. Some interviewees mentioned that interactions are affected by how the residents perceived them as a part of the (untrusted) bureaucracy. Many street-level actors working with children and

adolescents have faced difficulties in engaging the parents in their activities because of language barriers, cultural differences, the lack of parents' interest or trust in the institutions, and the institutional and organisational practices which do not encourage participation.

The actors also emphasised the potential for creating trust between the organisation and residents. According to the interviewees, from the perspective of trust building, having long-term and competent workers and face-to-face interactions are of the utmost importance. Many actors criticised the short-term projects coming to the area with the latest development goals and new workers and then leaving and being replaced again with the next project. The Girls' House valorises the essential role of street-level workers and their everyday practices in creating trust. In the multicultural neighbourhood, many interviewees observed that girls often have restricted possibilities as regards using public spaces and participating in hobbies. As an exception, the Girls' House has gained a trusted position among many immigrant parents due to its gender-sensitive operating principles, transparency, open-door events, and face-to-face meetings with girls and their families. While volunteering at the Girls' House, we witnessed small examples of how trust, an informal atmosphere, and personal relationships were built and maintained. The girls were provided with an arena for an emancipatory talk with each other or with a trusted adult, in addition to which trust was created with material, embodied, and spatial practices such as making sandwiches for hungry girls after school, providing physical and emotional comfort through massaging and hugging, or letting the girls freely occupy the spaces for relaxing.

Trust is also constructed through local networks that the interviewees across all of our four categories characterise as close and active in both neighbourhoods (see also Huttunen & Juntunen, 2020; Tuominen, 2020). There are professional networks, informal networks of actors, participatory local democracy networks, and networks that have evolved around common interests or target groups. The networks serve to share knowledge, resources, spaces, and mutual support and encouragement. Thus, the actors constructing social infrastructures build on existing networks and on the work of previous actors (see Star, 1999). Trust can also be advanced by creating connections with the key actors of communities whose approval affects the attitudes of the wider group of residents. Trusted and well-known actors—whose efforts are needed for the functioning of the networks—may use their existing connections and position to help others to contact and join the networks. However, as previous studies have shown, the "spokespersons" of the resident communities provide only a restricted view of suburban realities. Although they may be trusted individuals, accentuating their role may pose a threat to suburban democracy as the "spokespersons" do not have any official mandate to speak on behalf of others (e.g., Rannila & Loivaranta, 2015). Furthermore, whereas the networks were widely praised by the interviewees in both neighbourhoods, especially in Kontula, the interviewees also raised the problem of participatory networks weakly representing the multicultural community of a neighbourhood.

5. Conclusions

We have identified the essential factors and preconditions as well as the challenges of the provision of social infrastructure in two Finnish high-rise suburbs. The findings of the analysis of the interview data were considered in relation to the recent conceptual discussion on the social infrastructures in urban studies. Accordingly, we organised our results around the three main categories. First, the physical spaces and material facilities form the essential basis of any social infrastructure, as many kinds of physical (semi-)public spaces form a background for active social life. The network of this social infrastructure is rather fragmented, consisting of small spaces often in need of renovation and refurbishment. What is lacking are larger public spaces that are religiously and culturally neutral and not allocated to certain groups or activities.

Second, many examples from the fields of education, culture and leisure, health and social services, and urban planning show that the functioning of social infrastructures is firmly entangled with urban politics. Social infrastructures respond to the challenges and needs created by past political decisions, and the infrastructures are important resources and counterforces to socio-spatial inequalities and social polarisation. Schools, nursery schools, libraries, and social and health services have many extra functions beyond their primary tasks that facilitate social connections and well-being with scarce resources. The role of urban planning is also significant when designing urban spaces as it can implement policies sensitive to the social and collective life of the suburbs.

Third, social infrastructures do not occur naturally, they require regular effort and work, as well as maintenance, careful engineering, and management to meet human needs (Klinenberg, 2018, p. 20). We argue that the relationships between the users of suburban spaces and street-level workers are significant in the construction of social infrastructures. We found a group of dedicated employees whose everyday work consists of "living with residents." This challenges the understanding of workers as outsiders whose relationships with local residents are hierarchical, power-laden, instrumental, and impersonal (see Blokland, 2017; Junnilainen, 2019; Lipsky, 1980). The finding is in line with the previous research reporting the commitment and agency of street-level workers—or bureaucrats—who genuinely aim at making a difference in these neighbourhoods (e.g., Jansen et al., 2021; Lavee & Cohen, 2019; Levy, 2021; Proudfoot & McCann, 2008; Rice, 2012).

In order to understand the social infrastructures in the suburbs, it is useful to examine micro-level provision and maintenance and how they are connected to

macro-level processes and structures. We conceptualise infrastructure as being continuously constructed and maintained through everyday social practices. The role of micro-level practices and labour is acknowledged, for instance, in the literature on spaces and geographies of care, which could be more broadly integrated into examinations of urban social infrastructures in future research (e.g., see Hall, 2020; Lawson, 2007; Power & Williams, 2020; Williams, 2020). Care operates through state welfare, social policy, and allied sectors, but it is also present in urban spaces (Power & Williams, 2020). The agency and labour of long-term, competent, experienced, and (personally) committed street-level actors are essential for robust social infrastructures.

Social infrastructures in suburbs are important, especially for the vulnerable sector of the population who are tied to their own neighbourhoods for one reason or another. Some residents may suffer from reduced mobility because of age or sickness, or—as our data showed—because of being a young female who is supposed to stay in places trusted by the family. An important issue, and a topic for further investigation, is the agency of the vulnerable people themselves in the suburbs. Our data provided information on the agency of the street-level workers—whether they were representatives of public institutions, third-sector organisations, or resident-activists—but did not show how individuals themselves or together with others make a difference or cause things to happen in the neighbourhoods. The previous research has shown how even "broken" urban infrastructures—whether physical, social or any other—are "full of agency and meaning" (Amin, 2014, p. 156) and how there is "collective orientation through joint effort in securing everyday infrastructure" (Amin, 2014, p. 157). What forms does such an agency have? How do people themselves produce, live with, and contest infrastructures (see also Graham & McFarlane, 2015, p. 2)? How is this signified in a Nordic suburban context? These are intriguing questions to be explored by future research.

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Conflict of Interests

The authors declare no conflict of interests.

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Article

Towards Digital Social Infrastructure? Digital Neighborly Connectedness as a Social Resource

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Abstract
Social infrastructure is made up of various material as well as non-material goods, ranging from venues for leisure such as movie theaters to indispensable everyday commodities, like sidewalks and streets. This is true both for urban and rural areas. However, the increasing emergence of digital aspects of social infrastructure has seemed to go unnoticed to some extent, with research specifically focusing on these digital aspects of social infrastructure being scarce at best—even though digitalization is currently a major emerging meta-development worldwide. The goal of our contribution is therefore to investigate the digital sphere and integrate it into the concept of social infrastructure. Drawing on descriptive findings from a multi-sited, community-based survey of residents in four rural areas in Germany (N = 413) as well as from 40 qualitative interviews, we present an integrative and expanded conceptualization of what we term a tangible *digital social infrastructure*. To do so, we examine digital neighborly connectedness as a social resource during the Covid-19 pandemic as a case study. We argue that digital neighborly connectedness served as both an integral part of on-site social infrastructure and as a social resource, especially during pandemic times. We discuss our results in light of current research on social infrastructure, with a specific focus on the scope of what counts as social infrastructure, as well as current discourse on social infrastructure in rural areas.

Keywords
digital neighborly connectedness; digitalization; Germany; qualitative analysis; rural areas; social infrastructure

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1. Introduction

Infrastructure is omnifarious, which simply means that it is composed of many diverse components. It is a tangible and visible part of the daily life of all people living together in communities, in urban as well as in rural environments and regions. For years, the material and economic aspects of infrastructure have been the main field of study, but in recent years the *social* facets have increasingly emerged as a significant approach in human geography and urban sociology alike (Klinenberg, 2018; Latham & Layton, 2019). "Social infrastructure" includes a whole list of goods and commodities of everyday life. These phenomena exist all over the world—and in urban and rural areas equally—although scholars have tended to focus on urban areas. Roughly defined, social infrastructure includes all those facilities, commodities, and places that contribute to the public life of cities (Latham & Layton, 2019). Although this important empirical approach has shifted the focus away from

material goods and commodities in studying infrastructure to the importance of the social one, the focus still nevertheless seems to be on *physical* infrastructure, meaning physical places and spaces in a given spatial entity, city, or community. These places include public squares, libraries, public sports facilities, etc. (Latham & Layton, 2020; van Eck et al., 2020). The prerequisite of infrastructure serving as social places is decisively shaped and mainly possible due to people *physically* being there, socializing and engaging with one another (Latham & Layton, 2019). In our contribution, however, we investigate the emergence of another sphere, or rather facet, of social infrastructure that deserves to be studied just as much as the physical one: a place where people are among other people without being physically present. We are talking about the *digital* sphere of social infrastructure. We argue that digitalization—as a current, worldwide meta-development greatly facilitated by the Covid-19 pandemic—should be considered part of the in-situ social infrastructure in any given community. In addition, we also want to stress the importance of taking into account rural areas when it comes to studying social infrastructure. To do so, we draw on descriptive findings of a multi-sited, community-based survey of respondents in four rural areas in Germany (N = 413) as well as 40 qualitative interviews with residents of these respective communities focusing on the utilization of digital neighborhood networks. We hope to more clearly understand how community-based digital social connectedness serves as both a social resource and, more importantly, an integral part of what we conceptualize as evidence for *digital social infrastructure*.

2. Basic Concepts: Social Infrastructure and Digitalization in Rural Areas

2.1. "Social" Aspects of Infrastructure

For some time, infrastructure has evolved to become one of the dominant perspectives in various fields of urban theories and studies. These include all fields occupied with investigating cities and urbanity, particularly (human) geography (e.g., Gandy, 1999; Graham & Marvin, 2001; Ioris, 2012; Latham & Layton, 2019; Silver, 2016), but also economics and development studies (e.g., Calderon & Servén, 2004; Hirschman, 1958; Nijkamp, 1986; Snickars, 1989). What the most recent and the earlier perspectives on infrastructure have in common is that infrastructure comes in various forms, shapes, and sizes. It ranges from developmental facilities such as bridges and roads to commodities (see, e.g., Swyngedouw, 2009), to public places such as libraries and squares (Latham & Layton, 2019; Stanley & Emberton, 2005). Although a few earlier works defined infrastructure more broadly, as serving both material and immaterial purposes (e.g., Nijkamp, 1986, p. 1), in recent years, fortunately, these immaterial, *social* aspects of infrastructure have been more systematically taken into account (Klinenberg, 2018; Latham & Layton, 2019). This important perspective marks a shift in studying infrastructure, especially for all those researchers occupied with studying the social aspects of urban life. However, several questions important to the current work arise: First, how exactly is social infrastructure localized? Second, which facilities, commodities, and places does it include? Finally, how should we understand the term "social" when it comes to social infrastructure?

The first two questions are closely related; it makes sense to answer them jointly. In his influential work, Klinenberg (2018, p. 17) defined basically all public institutions as part of the social infrastructure, naming educational (libraries, schools) and leisure-time facilities (athletic fields and swimming pools) in particular. In addition, he included often-overlooked social places such as sidewalks and courtyards. One interesting aspect related to our endeavor of localizing *digital* social infrastructure is Klinenberg's (2018, p. 17) definition of social infrastructure in which he stressed the importance of "an established physical space." Picking up where Klinenberg left off, Latham and Layton (2019) conceptualized all those places as part of social infrastructure that made it possible for people to meet other people. In their concept, they nearly exclusively focused on cities and city life in particular—public places and spaces located specifically in urban areas. According to Latham and Layton (2019, p. 4), facilities defined as social infrastructure also serve a specific purpose. Places and spaces regarded as social infrastructure, thus, can most concisely be defined as (a) publicly accessible, (b) physical in nature, and (c) located in an urban environment. This perspective, however, generally disregards *digital* as well as *rural* areas of social infrastructure. Both of these aspects are key to the argument that we want to lay out and empirically enrich in the chapters to come: To extend the perspective of social infrastructure to the digital sphere. Before that, however, we have to reflect on what makes social infrastructure "social."

What makes infrastructure "social," and how should the term be understood in our context? First, it seems fruitful to take a closer look at the term "social" and then, in the second step, reflect on what this means for social infrastructure. "Social" can be defined in many ways; this has been the case for decades of philosophical and sociological thought (for a detailed overview, see Dolwick, 2009). Broadly defined, "social" refers to "discourse, intersubjectivity, and meaning making, involving mainly the use of language and symbols in micro-scale, face-to-face contexts" (Dolwick, 2009, p. 22; see also Goffman, 1959). Here, the importance of communication in the "social" context is already salient. Following this communication-based perspective on the term "social," Luhmann (1995) defined communication as key and "the basic unit of analysis" (Dolwick, 2009). Of course, the term "social" also involves more than only communicational facets. Aspects such as education (e.g., Stanley & Nelson, 2012), socioeconomic

status (e.g., Evans & Repper, 2000), and health (e.g., van Ommeren et al., 2005) are a few of the important facets of what is to be understood as "social" in a broader sense. Nevertheless, our work follows the aforementioned communication-based perspective examining social connectedness mainly as a communicational phenomenon. Returning to the concept of social infrastructure and the use of the term "social," Latham and Layton (2019) emphasized that the "social" aspect of social infrastructure mainly revolves around "people being out amongst other people." They went on to state that places and spaces regarded as being part of social infrastructure "facilitate shared use and collective experience" and "facilitate social connection" (Latham & Layton, p. 9). The term "social" in their original conceptualization, then, refers to being connected while being amongst other people. Next, we give an overview of digitalization and its impact on communities and neighborhoods, and challenges in rural areas.

2.2. Digitalization in Rural Areas

Digitalization is best characterized as a global meta-development, affecting all aspects of life, basically all over the world. The consequences and upsides (and possible downsides) of digitalization have been an established field of research for some time now. This research, however, typically focuses on urban areas and has an economic focus, as best exemplified in the "digital city" concept (cf. Ishida, 1999; Leach, 2009; Mossberger et al., 2013). Undeniably, digitalization has most profoundly affected urban areas (Stokes et al., 2017), with rural areas facing several difficulties hindering digitalization. Several factors affecting rural areas more generally account for this delay. They include challenges regarding (physical) infrastructure, (economic) development, and demographic change (Bürgin & Mayer, 2020; Williger & Wojtech, 2018). The significantly different general socioeconomic conditions of urban and rural areas are described by a distinct, salient "urban–rural divide," which has become its own field of study (Salemink et al., 2017; Townsend et al., 2015). This divide also affects digitalization in rural areas, in Germany as well as most other European countries, in a severe way. Hurdles to digitalization include, for example, fewer broadband connections and fewer users (see Williger & Wojtech, 2018). However, while conditions in rural areas differ (often times severely) from urban areas, the meta-development of digitalization has by no means excluded rural areas altogether. Studies focusing on the German context suggest that the pandemic led to an increase in digitalization in most sectors, for example, the economy (Zimmermann, 2021), education (Hafer et al., 2021), and digital communication in particular (Nguyen et al., 2020).

Even though most research conducted on digitalization and its socioeconomic effects has focused on urban areas, a few studies specifically examine rural areas. These studies range from specific (mainly economic) facets of digitalization in rural areas, such as agriculture (Haggag, 2021) or the labor market (Lishchuk et al., 2021), to a broader perspective focused on digitalization and its impact on social life in rural areas (Meyn, 2020; Zerrer & Sept, 2020). Focusing on the context of German rural areas, several studies have been conducted looking at the general role of digitalization in rural areas and "digital social innovation" (DSI) more specifically (Sept, 2020; Zerrer & Sept, 2020). Sept (2020) found that digitalization has indeed profoundly affected general life in rural areas and that the role of digitalization should be understood as an inherent part of development in rural areas. Relatedly, Zerrer and Sept (2020) used two cases in Germany to investigate how digital social innovation in particular has been useful in tackling the challenges rural areas face, especially regarding sociodemographic decline and infrastructural development (Zerrer & Sept, 2020). They put forward the concept of "smart villagers," which refers to local inhabitants of rural areas concerned with finding (digital) ways to solve everyday problems. In a noteworthy study investigating digital social infrastructure, Sept (2021) examined whether a digital application used in the village of Dreis-Brück in Rhineland-Palatinate could serve as a substitute for a (closed-down) village pub. She concluded that not *all* social functions of the analogue village pub were substituted by the digital alternative. Some key functions, however, including social interaction were successfully taken over by the village app.

From discussing the issues of social infrastructure and digitalization in rural areas, we can gather several important thoughts going forward: First, social infrastructure as a concept is almost exclusively studied in urban environments. Second, places regarded as social infrastructure by definition are publicly accessible as well as *physical* in nature (see Latham & Layton, 2019). Third, while digitalization in rural areas faces severe challenges, it nevertheless does play an important role in everyday life there. In the analyses below, we attempt to address all three of these aspects empirically. To do so, we present descriptive findings of a quantitative study and delve deeper into the utilization of neighborhood networks in everyday rural life by analyzing 40 qualitative interviews and applying qualitative content analysis (Mayring, 2000).

3. Methods and Data

In the study Digitales Dorfleben (Digital Village Life) conducted at Münster University of Applied Sciences, we examined what role the digitalization of communication and digital neighborhood networks has played in everyday life in four rural communities in Germany. We applied a mixed-methods design, combining both a quantitative study (N = 413 respondents) and a total of 40 in-depth interviews conducted with local inhabitants and social stakeholders in these communities.

The four communities were Metelen and Wettringen, both located in the Federal State of North Rhine-Westphalia, and Schapen and Schandelah, located in the Federal State of Lower Saxony. The quantitative study was only conducted in Metelen and Schapen, while qualitative interviews were carried out in all four respective communities. Due to the Covid-19 situation as well as social distancing guidelines, the interviews were carried out using video software. The quantitative data were compiled via email surveys in Metelen and Schapen. Interviewees for the qualitative study included local social stakeholders, for example, club chairpersons or long-time residents. We then developed interview guidelines that would help answer our research questions. They mainly included questions involving the utilization of digital neighborhood networks, and the impact of these networks on community life and social connectedness. The interviews were digitally recorded, transcribed, and anonymized. We then used MAXQDA 2020 to conduct the qualitative content analysis (Mayring, 2000). To better illustrate our findings, we have presented quotations from our interviews (Chenail, 1995). We believe the inclusion of qualitative interviews to be vital to get a deeper understanding of the underlying social dynamics of digital neighborly connectedness as a part of a *digital* social infrastructure. In addition, in-depth interviews are much better than quantitative survey data for taking into account the purposes and social practices of utilizing digital social infrastructure. All of our fieldwork was conducted during the Covid-19 pandemic. The interviews originally were conducted in German; however, we have presented the quotations in English. The translations were verified by all authors. To ensure anonymity, no additional information on the participants is given.

4. Results

4.1. Descriptive Quantitative Findings

The first step is to present descriptive findings, which give an overview of the use of digital neighborhood networks and its effects in two of our cases, Metelen and Schapen. Figure 1 shows the proportion of people who are in digital contact with their neighbors in these two communities. For both cases, around two-thirds of the population were in digital contact with their neighbors. We also asked what platform or other digital services they used to communicate with their neighbors. By far the most common services were the messenger service WhatsApp (Metelen, n = 121; Schapen, n = 118), followed by Facebook groups (Metelen, n = 29; Schapen, n = 21); less common were digital neighborhood platforms specifically designed for contacts among neighbors (Metelen, n = 6; Schapen, n = 11). We believe the abundant utilization of messenger services is due to the fact that digital communication among neighbors in rural areas has different, rather organizational functions compared to urban areas (see Section 4.2); such functions are easier and generally more accessible with messenger services.

To shed light on the impact of digital neighborhood networks, we asked about various effects of their use (Figures 2 and 3). Again, the patterns of answers were quite similar in both cases. The descriptive findings indicate that the utilization of digital neighborhood platforms did not lead to new contacts in the neighborhood. As illustrated in more detail by the qualitative analysis (Section 4.2), we believe that one possible reason for this is that usually people need to be in personal contact before being in digital contact. We also think digital networks mainly function as an extension and easier way of neighborly social connectedness. Moreover, being in digital contact did not lead to a change in perceptions of the respondents' neighbors. Some differences between our cases concern the impression that people undertook more activities with their neighbors since they began to be in digital contact. That was the case in Metelen, but not in Schapen. Digital communication among neighbors had no clear impact on personal recognition within the neighborhood but led to a slight improvement in the perception of the overall social climate within the neighborhood.

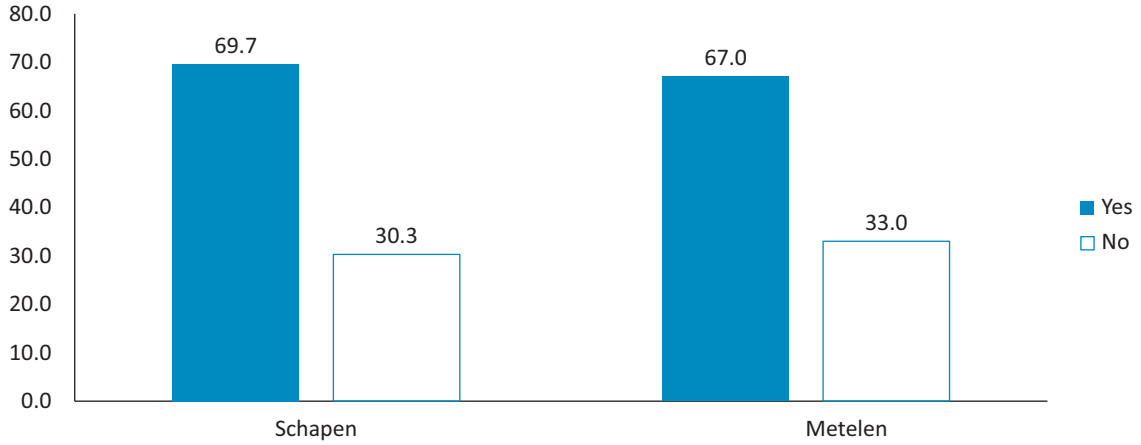

Figure 1. Are you in digital contact with your neighbors?

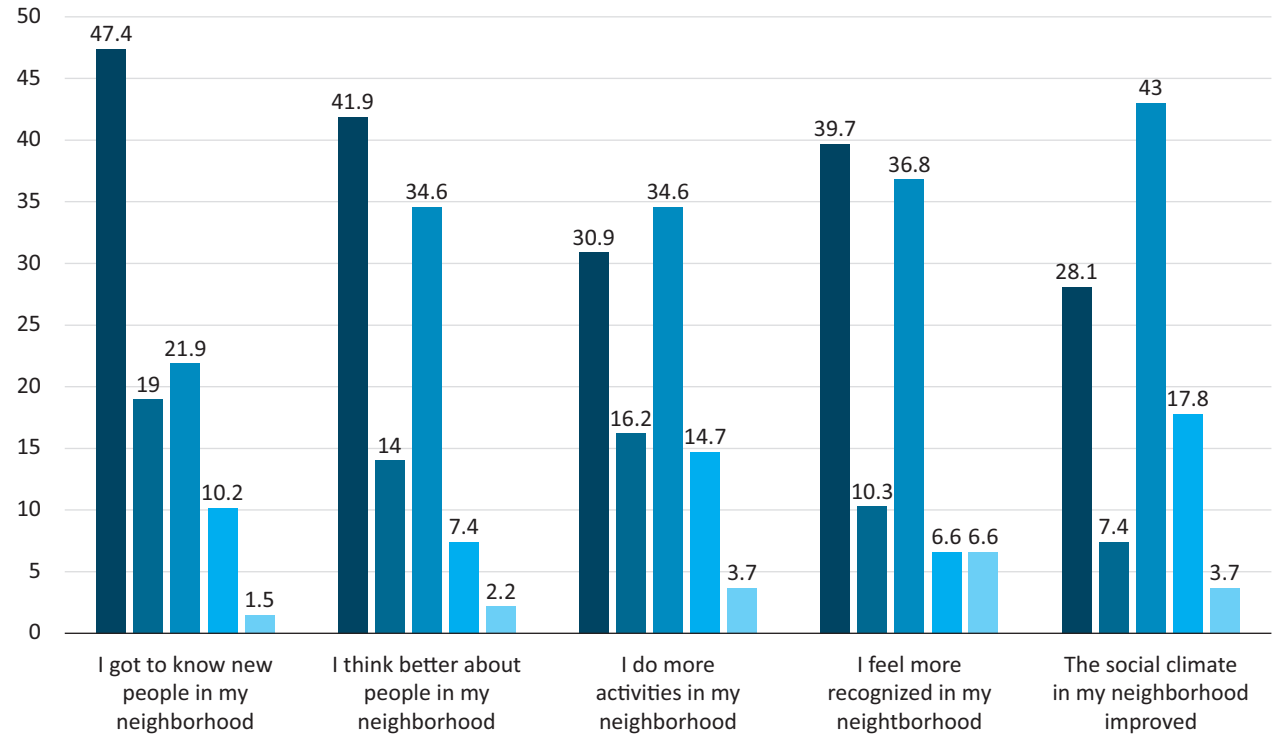

Figure 2. Metelen: By being in digital contact with my neighbors…. Note: Five-point Likert scale—I strongly disagree, I disagree, neither/nor, I agree, and I strongly agree.

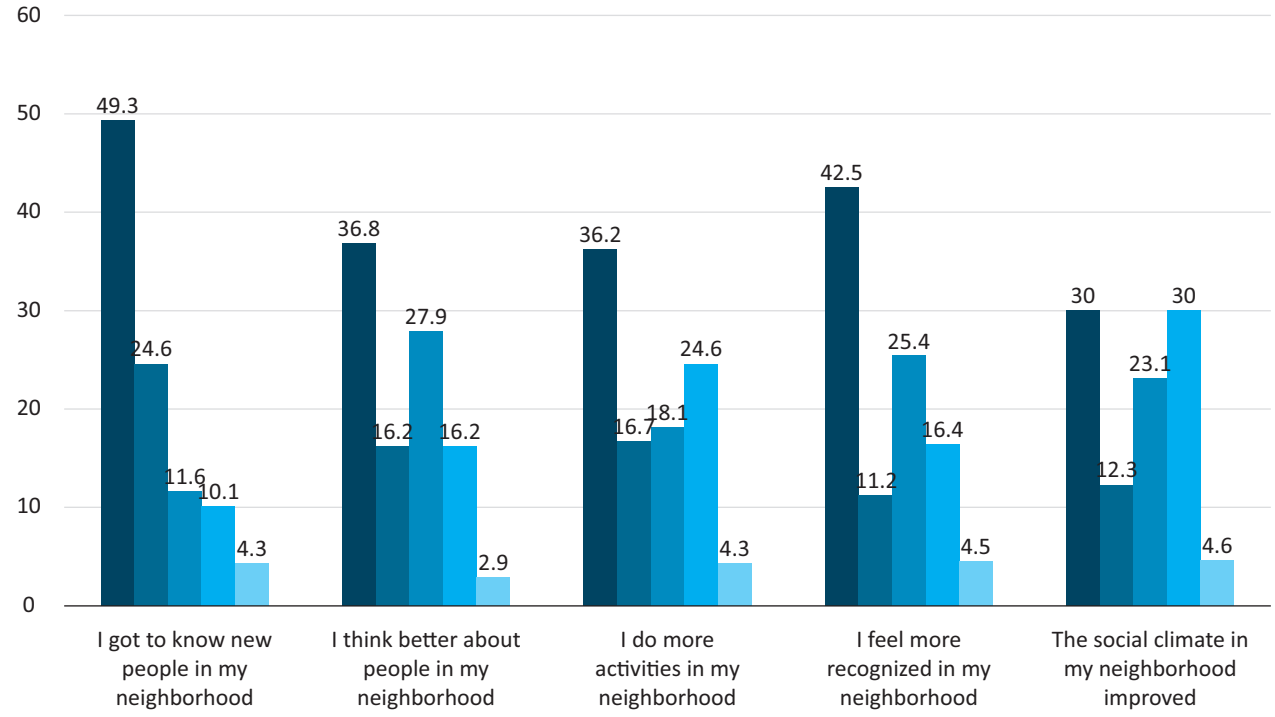

Figure 3. Schapen: By being in digital contact with my neighbors…. Note: Five-point Likert scale—I strongly disagree, I disagree, neither/nor, I agree, and I strongly agree.

The brief descriptive analysis highlights the fact that digital communication among neighbors is common in both our case studies, and there is no reason to suppose that this is somehow unusual for rural areas generally. However, it seems that digital communication mirrors the existing physical neighborly social connectedness of real life. In our data, the impact of digital neighborly connectedness seems more general in nature. While the descriptive findings show that, generally speaking, digital neighborly connectedness is rather common, they fail to sufficiently show how and for what purposes digital neighborhood networks are utilized.

4.2. Qualitative Analysis

4.2.1. The Covid-19 Pandemic as a Driver of Digital Neighborly Connectedness

The foundation of digital social infrastructure is still physical infrastructure. While some rural areas in Germany indeed suffer from a lack of digital infrastructure, particularly a lack of broadband access and fewer users (Williger & Wojtech, 2018), in our data, we found a generally high rate of digital connectedness as illustrated by the descriptive findings above (about two-thirds). This notion was also reflected in the qualitative interviews conducted in the villages under study. Mostly, interviewees reported being digitally connected to their neighbors. Moreover, they generally assessed the physical infrastructure in a positive way, as the following excerpt demonstrates:

> First of all, we are pretty much more or less well-connected here. Thanks to Covid, even a little bit better. Broadband access usually worked well. So, we were pretty quickly taken care of, which is not the case in the region as a whole. Surprisingly. And do we use digital media a lot? Yeah, we do. (Schapen 3)

Schapen 3's allusion above about the role Covid played in facilitating digital social infrastructure and digital social connectedness, in particular, is consistent with other studies (e.g., Nguyen et al., 2020). In our interviews, we also found that the Covid-19 pandemic facilitated the increased utilization of digital tools of communication in the areas studied. Due to Covid-19 restrictions and social distancing rules in Germany, most physical contact had to be reduced, with digital networks emerging as an alternative way of staying connected. This idea also came up and was reflected in our interviews, with some interviewees stating that digital networks were used to remain in contact with neighbors and friends when physical social contact could not be maintained:

> I mean, of course, because of Covid, this really increased, right? Because you just didn't meet too many people. With all the chats and Zoom….So I believe it really, really increased during the Covid pandemic. (Metelen 7)

However, while most interviewees stressed the importance of physical social contact, they also emphasized that especially during Covid-19, digital contact became more important to stay in touch with friends and neighbors. The following quote from Schandelah is characteristic of the idea that seniors in particular—often associated with less internet use, leading to the term "gray divide" (see Friemel, 2016)—enjoyed being digitally connected during pandemic times. At the same time, our interviewee acknowledged that Covid-19 generally could be understood as a driver of digital connectedness:

> If it had not been for Covid, I would not say these [digital] networks mattered, because normally you meet in person. But because of Covid, especially older people, most times it is the women who were still alive, one told me: "Oh, I am so happy when every night my cell phone flashes." You know, because this way they can be contacted from the outside. Such being the case, the importance [of digital networks] really increased. (Schandelah 1)

The aspect alluded to by Schandelah 1 reflects the positive outcomes of social connectedness: Referring especially to "older people," our interviewee gave an example of how an older senior neighbor felt connected to their neighborhood and the "outside" in general, and then ended his quote by stating that digital networks had become more important. The interrelation of social connectedness—in this case in a digital sense—and health, specifically for seniors, has been vastly studied (see, e.g., Haslam et al., 2015).

4.2.2. Extended and Easier Communication Through Digital Networks

As the descriptive findings highlighted, the most utilized digital network provider in the four areas studied was the instant messaging service WhatsApp. In the interviews with local inhabitants, we found that various groups with different purposes were established on this platform in particular. Some of these groups, mainly neighborhood groups, have been used for faster and simpler conversations, as well as rather brief conversations and information exchange that is particularly relevant to all those neighbors in close proximity. As the quote below illustrates, however, this faster and easier form of communication does not mean that personal physical contact is no longer valued:

> Many things are easier. Communicating even faster and more uncomplicated. But this does not mean personal contact would not be appreciated, you know? But it [digital communication] just made it easier, when you just quickly communicate trivial things like "cat ran away" or something like that. (Wettringen 6)

Related to the aspect of faster and easier communication via neighborhood networks is the increased frequency of social exchange. While most interviewees, again, recognized the importance of personal interaction, they also highlighted the overall increase in social exchange due to the utilization of digital neighborhood networks:

> Yes, it is positive that one communicates more. What's negative, though, is the fact that you do not have this personal, daily contact, but, instead, through digital media, you are in contact more quickly. Of course, personal exchange is still there but the little things…are digital. You are way more connected, especially in darker times of the year, when everyone drives off in the morning and comes back in the evening. You do not see each other then, in winter, and then with digital media, be it sharing soccer results or something funny, you are way more connected. Because grabbing the phone or just going over to your neighbor, calling when it is dark in the evening, is too much of a hurdle. (Wettringen 8)

It seems noteworthy that Wettringen 8 especially talked about the "little things" being exchanged digitally, meaning, while social exchange in his view overall increases due to digital networks, the content of social exchange seems to be rather mundane (or even "trivial," as one respondent put it) in nature. We believe this indicates that digital tools are used for different forms of communication: While the "little things" are discussed digitally, in higher frequency, the importance of personal contact comes up in nearly all the responses discussing the upsides of both digital and personal exchange. Discussing "little things," however, is part of social interaction and exchange. The following quote offers another example of the mundane nature of the content discussed digitally:

> Q: And with digitalization, do you recognize anything changing in the neighborhood?
> A: So, through digital media, you talk about things that you maybe would not have talked about earlier because then you would have had to meet in person or drive somewhere. But then, you sometimes discuss things where you would otherwise say: "Oh, that is not so important, driving somewhere for that. I would not do that." You know? (Wettringen 10)

Wettringen 10's quote illustrates that the content of social exchange in local digital neighborhood groups is "not so important," meaning that some of it is mundane or even trivial in nature. However, our interviewee also stated that being digitally connected to one's neighborhood increased the frequency of social interaction and simplified general accessibility, as one does not have "to meet in person or drive somewhere" to engage in social exchange. Whether this should be understood as a trade-off—meaning higher frequency of social exchange on the one hand, but its content being more trivial on the other—is a question of its own. We believe, however, that "trivial" social exchange between neighbors is not limited to the digital sphere, but on the contrary, is also empirically observable in analogous neighborly exchange.

4.2.3. Specific Neighborhood Groups

Apart from the more general neighborhood groups discussed above, we discovered groups in our interviews that were more focused on specific areas of communal life. Such is the case for organizing events, local clubs, and organizations focused on maintaining village life in general. However, this digitalization of village organization was described as being a rather recent development, again with Covid-19 serving as a facilitator, as the following quote indicates:

> Exactly. You know there are different groups. Every club, institution has a WhatsApp group, and you always know someone who is in some of these groups. So, five years ago it was not common that you used these groups or any [digital] neighborhood services and so on. It really increased in the last two years, also because of Covid, that you use these platforms. (Schandelah 8)

One vivid example of these more specific digital groups discussed in the interviews included the local female volunteer fire brigade in one of our research sites, Schandelah. In most areas of Germany, these institutions serve as important social spaces as well as actors in their respective communities and are widely regarded as part of the overall social landscape (Wenzel et al., 2016). As described in this interview from Schandelah, the local female fire brigade is organized via a digital group:

> They [the local female volunteer fire brigade] are organized in a WhatsApp group and this actually works wonderfully. Recently, the fire brigade could not meet in person because of Covid, so it is not passed on. So, the women organized everything themselves at short notice. (Schandelah 2)

In addition to specific groups on providers such as WhatsApp, in one of our research sites, Metelen, residents used a digital application specially designed to develop, maintain, and organize a community garden project in the village. It serves as both a platform to coordinate work and maintenance as well as a swap meet for gardening tools, as this quote illustrates further:

> This garden app. I do not know if you have heard…about this community garden. I am part of the committee. There is a special garden app, one that functions as a platform coordinating work and a swap meet or other activities, or just right now the building phase is not finished. The progress of all the building measures is shared in the app. (Metelen 2)

Both the examples of the local volunteer fire brigade and the garden app indicate the importance of volunteer work and its social role in the sites under study. Digital networks have played an integral role in organizing this valuable community work, which also has an administrative and community-building dimension, as the following example illustrates. Most local political and administrative representatives in the sites under study only receive a small payment for this (part-time) work. These institutions also organized their members digitally within specific groups on various platforms:

> Well, we do not have a digital group of all clubs in the village, but the village council has one, the local political parties, the gymnastics club. These are all WhatsApp groups….Or I sometimes say, "Alright, let's do JitsiMeet! I have an unresolved question that someone has to answer, or I am unsure of something, and I want to discuss with you, with the village council or whatever." You know? I can't decide on issues on my own and then it became quite funny because some people really were inexperienced with video conference stuff. I wrote down how it all worked for everybody and then it worked after all, and everyone was delighted. Like "Whoa, hello, I can see you all" [laughs]. (Schandelah 1)

4.2.4. The Limits of Organizing Village Life Through Digital Networks

While, as mentioned above, most interviewees stressed the benefits and integral importance of digital networks and groups for village life, oftentimes interviewees added that digital networks were unable to replace physical social connectedness. This notion was reflected in the descriptive findings (see Section 4.1), which in turn, was more deeply expanded upon in the qualitative interviews. The role digital networks play in organizing community life are manifold; however, as the quote below illustrates, these networks especially serve an organizing as well as a complementary role in village life:

> Whether it is an invitation, or if club committees need to engage. These things are way easier. One also can decide on certain issues via WhatsApp regarding club life or neighborhood life, and that is why a combination of these [digital] things and personal human contact is going to be important. That you are properly organized, not just by this digital force. But digitally, yeah, the cell phone certainly is essential for community life. (Wettringen 9)

Wettringen 9's quote rather nicely illustrates how digital neighborhood networks functioned in organizing community village life in the sites under study: Often, they rather serve as a preliminary basis for physical social interaction, while at the same time serving as a social space themselves. However, as noted in the quote above, digital interaction in the eyes of the interviewee could not and must not replace physical interaction completely, pointing out a distinct limit to digital social infrastructure. Another example highlighting this "preliminary" and rather organizational character that digital networks adopt in village life is discussed in the quote below by a member of a local sports club:

> Also carpooling, so who drives to the games? Who can support carpooling by taking someone with them or picking them up or bringing them back? And that is very handy because you are able to reach so many people, finding a fast solution….For sure, WhatsApp is omnipresent. If you have such digital groups to organize things, that is a fine thing. (Schandelah 9)

Besides physical digital infrastructure in the form of, for example, broadband access, a degree of digital competence is also required to utilize digital neighborhood networks as a social resource. This requirement limits access to this form of digital social infrastructure to some extent. This issue is often referred to as the "gray divide" (Quan-Haase et al., 2018), referring to age differences in usage and skill levels of digital media. Due to the challenging demographic situation in most rural regions in Germany, including in our sites under study, this also is reflected in the organizing role of digital networks, as illustrated by the quote below.

> Especially now in this time [Covid-19], digitalization helps keep contact with people, if, then, they are able to handle it. But you try to have a table of regulars at the pub, only digitally. Maybe some people will join, but I do not think that they will be welcomed the same as one who joined six or seven times in person. (Metelen 5)

Metelen 5 thus picked up on another aspect that further limits digital networks in their role as digital social infrastructure, stating clearly that digital space is not fully able to replace physical exchange. This finding of this distinct limit of digital networks is in line with other research that also specifically looked at the role of a village app as a surrogate for a village pub (Sept, 2020).

5. Conclusions

5.1. Discussion

Analyzing the social aspects of infrastructure has proven very useful in understanding how places and spaces are used by people. The prevailing definition, however, has regarded all those places and spaces as publicly accessible, urban, and physical in nature (Latham & Layton, 2019). With the current work, we have attempted to localize social infrastructure beyond this "physical" definition and have presented an extended and empirically enriched conceptualization, which we call *digital* social

infrastructure. Our analysis of four rural research sites in Germany has shown that the utilization of digital social infrastructure—facilitated by the Covid-19 pandemic—has served various roles, but most importantly these are *social* benefits. When confronted with the three characteristics of spaces regarded as social infrastructure as urban, publicly accessible, and physical in nature, we can only conclude that the definition must be modified; we clearly discovered evidence for a digital social infrastructure in our rural research sites. The descriptive findings in Metelen and Schapen illustrate a rather high general digital connectedness among local inhabitants. When only considering the descriptive findings, though, the immediate impacts of digital social connectedness among local inhabitants seem rather limited, which we believe is due to the fact that (common in rural areas) analog connectedness is highly prevalent among local inhabitants. Thus, we conclude that physical social connectedness serves as a basis for digital social connectedness. However, by taking a detailed look at how digital neighborhood networks are utilized in qualitative interviews, the picture becomes much clearer. Digital social connectedness among neighbors and community members serves as a social resource. Mainly organized in general neighborhood groups or through networks with a more specific purpose, digital connectedness contributes to extended and easier methods of communication and social exchange. Some research has suggested that social exchange through digital communication among neighbors and community members potentially leads to perceptions of more livable communities among residents (Kurtenbach et al., 2021); this corroborates the positive outcomes of utilizing digital social infrastructure. However, our results also suggest that one downside to the higher frequency of social exchange through digital ways of communication is that its content is often rather mundane or even trivial in nature. Still, we believe it is part of the everyday neighborly exchange that is not limited to the digital realm but also is observable in in-person everyday communication among neighbors. In addition, digital social connectedness is highly helpful in organizing neighborhood and community life in a general sense. As analyzed in the empirical section (Section 4), this form of digital social infrastructure nevertheless mainly has a complementary purpose as a communication and organizational tool of local social life, usually having a "preliminary" character to subsequent physical contact. Moreover, digital social infrastructure and digital networks, in particular, are unable to replace physical contact completely, as our interviewees stressed on several occasions (see Section 4). This was especially true for physical infrastructure with a purely social purpose, such as a table of regulars in a pub (see also Sept, 2020), for which personal attendance is required.

Social infrastructure mainly facilitates "people being out amongst other people." Moreover, it is made up of "spaces that facilitate social connection" (Latham & Layton, 2019, p. 9). Based on our analyses, we argue that both these main characteristics of social infrastructure, however, are not exclusive to physical spaces and places—nor are they exclusively urban phenomena. On the contrary, they can be digital in nature and easily found in rural areas. Thus, we believe we have discovered that social infrastructure is not limited to urban and physical areas but should be conceptualized as a digital as well as a rural social phenomenon as well.

5.2. Limitations

As true for all empirical studies, our current contribution is not without limitations. First, it is important to state that due to the case-study approach of our research design, we do not claim representativeness, and stress the limited generalizability of our findings. More research, both qualitative and quantitative, is needed to further our understanding of digital social infrastructure and its uses. However, we argue that this work contributes to this understanding, even though it might merely scratch the surface. Second, as stated in the empirical part of the current article, our fieldwork was conducted during the Covid-19 pandemic, which profoundly influenced experiences, actions, and perceptions throughout society, and consequently the responses of our interviewees. Third, due to our communication-based perspective on social connectedness and the term "social" more generally, we are unable to examine other potentially important aspects of digital social infrastructure. As these potential aspects are also related to future research, they will be discussed further below (see also Section 5.3). Fourth, as stated in the empirical part, in analyzing the interviews, it became clear that some content discussed in digital neighborhood groups seems mundane or even trivial in nature; this is a salient aspect. We believe this is not to be exclusive to digital communication, however. Just as in-person neighborly communication does, its digital counterpart also includes trivial and non-trivial content. In addition, while we believe the content discussed to be interesting units of analysis, we are even more interested in the *mode* of social connectedness, this being digital in nature. This aspect is interrelated to the fifth and final limitation we wish to note: Digital connectedness is not able to fully replace physical, in-person contact. One cannot utilize social infrastructure that requires mutual presence digitally, be it exercising together on a public sports ground, or going swimming at the local pool. Some facets of social infrastructure are undeniably analog and require mutual presence. The upside of digital social infrastructure, however, is easy accessibility, and it more easily incorporates people unable to do activities in person. Research suggests that while digital social connectedness is distinct from personal social connectedness (see Grieve et al., 2013), there seem to be nuances in the ways of digital communication when it comes to social connectedness: Voice or video communication is able to transport

a higher social presence than text messaging and social media (Nguyen et al., 2022).

5.3. Further Research

It would be fruitful for further research, both quantitative and qualitative, to examine rural areas more thoroughly with respect to (not only) the digital facet of social infrastructure to help enhance our understanding of where and how exactly social infrastructure can be localized. In addition, further research on (digital) social infrastructure should more systematically take into account the positive potential of digital connectedness—and not only during a worldwide pandemic. A wide range of potential benefits come to mind, both in a broader sense and on a community or neighborhood level. One benefit could be increased, more easily accessible communication between, for example, health professionals and individuals in need of care. Related to this, the benefits of (digital) social connectedness—in terms of both physical health (i.e., consultation with physicians) and inclusion (i.e., communication for its own sake)—for community members in general and especially for seniors (see Haslam et al., 2015), as some of our interviewees noted (see Section 4.2), potentially help strengthen the local social climate of a given community. This seems especially valuable for rural communities, as they are severely affected by demographic change; not only are rural areas themselves "graying," but they also need to find ways to better include these seniors in everyday community life. Another avenue of further research might focus on innovative ways of educational practices and exchange between educators and students, both in a general sense and in individual communities. All of these aspects serve as prime examples of the increased utilization of digital social infrastructure that has arisen not only during the Covid-19 pandemic, and of how the potential of digital social infrastructure can still develop.

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Conflict of Interests

The authors declare no conflict of interests.

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Article

Learning From Covid-19: Social Infrastructure in Disadvantaged Housing Areas in Denmark

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Abstract
The Danish post-war housing areas originally epitomised the dawn of the welfare state, with modern housing blocks organised as enclaves surrounded by open green spaces, promoting ideals like hygiene, light, fresh air, equity, and community. Often, these housing areas were developed in vacant lots in suburban areas, and social infrastructure planning was an essential part of stimulating the sense of community with centrally located community centres and other common facilities. Due to segregation, some of these housing areas have become disadvantaged neighbourhoods, and the Danish state has recently introduced new measures, including demolitions and evictions, to transform the areas and increase their social and functional mix. The social infrastructure of these areas has traditionally been a physical framework for organised social activities and social support for socially disadvantaged citizens, facilitated by professionals. However, during the pandemic lockdown, shared physical facilities were temporarily closed and all organised social activities cancelled, thus rendering visible critical aspects of social infrastructure that may normally be taken for granted or remain unnoticed. Yet the pandemic also activated communities in new ways, making visible more informal and ad hoc social infrastructure with new communication channels, practical help among neighbours, and community singing from balconies. Based on recent architectural-anthropological field studies in a range of disadvantaged housing areas in Denmark, this article locates social infrastructure during the time of Covid-19. It discusses the potential of mapping existing social networks and suggests a more differentiated view through three levels of social infrastructure learning from the pandemic's emergency period.

Keywords
communities; Covid-19; Denmark; disadvantaged neighbourhoods; housing areas; informal networks; regeneration; social infrastructure

Issue
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1. Introduction

The Covid-19 pandemic was not equally distributed among neighbourhoods and communities in Denmark. For example, a study shows that citizens living in the Danish disadvantaged housing areas had a three times higher presence of antibodies after Covid-19 compared to the general Danish population (Fogh et al., 2022, p. 2). The high infection rates repeatedly peaked in several of the disadvantaged housing areas, causing long-term closures of schools, daycares, and community centres. Many of these housing areas were built during the heyday of the welfare state, often by leading architects of their time. Today, 60 years later, views about these areas have changed radically, and some of them have instead been stigmatised in the public and political debate, dubbed "ghettos" or "parallel societies." Since 2010, the Danish government has annually published a list of so-called "parallel societies" of social housing areas comprising more than 1,000 residents and with a

high share of residents with non-Western ethnic backgrounds; low employment, education, and income; and high criminal conviction rates. In 2018, a new legislation called the Parallel Society Agreement (PSA) was passed, introducing new measures such as evictions, tenure mix, and targeted demolition aimed at opening these areas towards the surrounding society and obtaining a more socially balanced composition of residents. In the Danish context, this new approach to regeneration is based on the idea of transforming the areas' social dynamics by changing their physical design, housing types, and ownership. According to the PSA, the share of social housing in the areas included on "the list of parallel societies" must be reduced from 100% to 40% before 2030. This is done by way of extensive regeneration including demolition and densification, as well as the sale of existing housing blocks. Such approaches to regeneration have been substantially criticised and discussed in international research literature revolving around concepts such as social mix and social sustainability (Kjeldsen & Stender, 2022; Lelévrier, 2013; Ostendorf et al., 2001), state-driven gentrification (August, 2014; Lees, 2008; Tunström, 2019), and territorial stigmatisation (Arthurson, 2013; Jensen & Christensen, 2012; Wacquant, 2007). However, this large body of social science research is rarely preoccupied with spatial planning and built environment and is seldom linked to architectural and planning research on post-war social housing (Swenarton et al., 2014). This article aims to bridge that gap, as there is a need for thorough insight into the relationship between physical environments and social life in the disadvantaged housing areas that are currently being transformed. A focus on social infrastructure is particularly relevant as it helps recognise overlooked and undervalued spaces and networks that are quintessential for local social life (Latham & Layton, 2019). Though Covid-19 has had many unfortunate consequences in these areas, the lockdowns also offer a seldom insight into the functioning of such spaces and networks.

Based on architectural-anthropological field studies (Oz & Staub, 2019; Stender et al., 2022) in disadvantaged housing areas in Denmark, we will in this article localise social infrastructure during Covid-19 and discuss what lessons can be learned from the pandemic's period of emergency. With their influential book *Learning from Las Vegas*, Venturi et al. (1977) introduced a new approach to analysing current city phenomena in modernist architecture and planning. This work arose from an interest in understanding the consequences of the post-war areas in a broader context than merely the built environment and showed how architects and planners could learn from the habits and values of ordinary people, rather than focussing on the monumental works and heroic intentions of modernist architecture. Inspired by this approach, this article examines the relationship between social life and physical design in three post-war residential areas through the concept of social infrastructure.

The empirical basis of the analysis is a long-term evaluation of regeneration efforts in the 15 areas included in the PSA-related regeneration schemes. The evaluation follows the 15 areas over a period of 10 years (2018–2028) by way of recurrent field studies every second or third year in each of the 15 areas. As part of the field studies in each area, we conduct surveys among residents and other users, 20 to 30 in-depth qualitative interviews with residents, representatives of the housing organisations, community social workers, and other professionals involved in the regeneration, as well as observations of daily life in the areas, including mapping and registrations of the spatial layout and urban activity in common spaces. The methodological approach is architectural-anthropological as it merges mapping and registration of spatial aspects with insights from the surveys, interviews, and observations. Hence, we connect findings related to how people experience and use their neighbourhood to the mapping and analysis of the specific spaces where these experiences and practices occur. Furthermore, the evaluation includes recurrent media analysis registering all articles in local, regional, and national newspapers mentioning each area over 12-month periods to monitor changes in their place reputation. The methods and results of the broader field studies and media analyses including the relationship between territorial stigmatisation, residents' perspectives, and current architectural approaches to regeneration have been discussed elsewhere (Mechlenborg & Stender, 2022; Nordberg & Sundstrup, 2021; Stender & Mechlenborg, 2022). In this article, we will concentrate on the learnings from the Covid-19 lockdown and only focus on three of the 15 housing areas—namely Ringparken, Sundparken, and Mjølnerparken—as we conducted field studies during the lockdown in these case areas. The research design of our field studies was thus originally not focused on Covid-19, but rather on investigating how the regeneration processes and architectural transformations of these areas affect their social life, place reputation and relationship to the surrounding city. Our research methods are however predominantly qualitative and explorative, and we, therefore, realised that it was important to also take a closer look at the effects of the pandemic lockdown, as it played a considerable role in our interviews and observations. The lockdown of course interrupted and complicated our field studies: All interviews had to be conducted outdoors, via phone or online, and all the meetings and events for residents in which we would have normally participated as part of the fieldwork were cancelled.

To further qualify our findings relating to Covid-19, we also conducted follow-up interviews with representatives of the housing associations and tenants' boards of the three areas in the spring of 2022, focusing on what can be learned from the pandemic period. The analytical procedure was based partly on the coding of all data from the field studies relating to Covid-19 and lockdown, and partly on diagrammatic drawings

accentuating various spatial aspects of the housing areas. The analytical insights thus grew out of the process of moving back and forth between these two strands of empirical detail and key theoretical concepts. The first part of the article outlines our approach to the concept of social infrastructure, advancing existing research on social infrastructure in disadvantaged neighbourhoods related to studies on the consequences of Covid-19 lockdowns. The case-analysis mapping social infrastructure in each of the three areas during the pandemic follows. Finally, we identify and discuss transversal insights in the concluding discussion.

2. State of the Art: Social Infrastructure, Disadvantaged Neighbourhoods, and Covid-19

The concept of infrastructure has been a part of social and urban research since the mid-1990s. Latham and Layton (2019) argue that the concept of infrastructure evolves from a limited concept dealing mainly with technological networks and systems supporting urban structures to a broader understanding addressing social, economic, cultural, and political issues. Star (1999) states that infrastructure not only deals with material entities and systems, but also relates to organised practices, norms, and routines. Furthermore, Star (1999, p. 382) advocates that infrastructure is an integral but often invisible part of human organisation and the built environment and that the infrastructure systems often only become visible if something goes wrong or the system breaks down.

Klinenberg (2018), among others, expands on Star's definition and adds the concept of social infrastructure as an essential concept focusing on the different kinds of facilities necessary for cities to function as social spaces. According to Klinenberg (2018, p. 9), "social infrastructure is crucially important, because local, face-to-face interactions—at the school, the playground, and the corner diner—are the building blocks of all public life." He argues that a well-functioning social infrastructure can contribute to a more equal and united society and counteract contemporary societal challenges, such as loneliness and social isolation, by creating places for everyone, across gender, ethnicity, income, and age (Klinenberg, 2018, p. 9). In his opinion, social infrastructure affects everyone and contributes to a perception of areas as inclusive and inviting. Klinenberg defines social infrastructure as public institutions and areas like libraries, schools, playgrounds, parks, sports facilities, courtyards, sidewalks, and recreational areas. Churches, community centres, and sometimes even commercial functions are also included in his definition (Klinenberg, 2018, p. 18). According to Klinenberg, social infrastructure is significant for children, the elderly and other groups who have reduced mobility and are to a greater extent bound to the place where they live (Klinenberg, 2018, p. 17). Similarly, if the infrastructure is designed, built, and maintained with only a narrow demographic in mind, this may undermine its function as social infrastructure.

Social infrastructure for all is an essential part of the many Danish residential areas built in the post-war era, where welfare institutions were a fundamental aspect of planning (Kvorning, 2017). The welfare system ensures equal access to institutions and services in the local context; therefore, welfare institutions became structuring facilities in the newly built areas. Moreover, they enabled a modern daily life, with more women entering the labour market, which required easy access to school, institutions, shopping, and leisure activities. Kvorning states that welfare institutions today have a different meaning and role in the urban context than initially intended, as everyday life has acquired new rhythms and has become more differentiated and more spatially divided (Kvorning, 2017, p. 120).

Kvorning (2017, p. 128) argues that despite these changes, the local-oriented social infrastructure in the Danish residential areas still plays a significant role as social hubs that help shape the local civil society and have an inherent potential to be reinterpreted and further developed. In the disadvantaged areas on "the list of parallel societies," social infrastructure plays an even more critical role. There is an expanded welfare system in these areas, where social community work programmes (*boligsociale helhedsplaner*) co-funded by the non-profit housing sector and the municipalities aim to support the social life in the area, helping residents with job seeking and other daily necessities (Andersen et al., 2014, p. 5; Birk, 2017).

Existing research literature on disadvantaged areas identifies negative place reputation and territorial stigmatisation as particularly enduring aspects of these areas' multitude of problems (Permentier, 2012; Wacquant, 2007). Several studies find that negative place reputation is a significant worry for residents and that regeneration can paradoxically fuel territorial stigmatisation (Arthurson, 2013; Jensen & Christensen, 2012; Johansen & Jensen, 2017; Stender & Mechlenborg, 2022). Wacquant (2007) argues that residents internalise negative representations of their neighbourhood, resulting in lateral denigration and mutual distancing. However, this theory can be questioned, as it leaves little room for communities' local pride and ability to cope with and counteract the stigma (Jensen & Christensen, 2012), which we will return to in the case analysis and concluding discussion. In the disadvantaged areas, we typically find many vulnerable residents, many without work, and many children and elderly who are less mobile and more anchored to the local neighbourhood. Therefore, social infrastructure in these areas functions as a physical framework for organised social activities and social support facilitated by professionals for socially disadvantaged citizens. According to Latham and Layton (2019), social infrastructure is crucial because it is about accessibility for individuals from different social backgrounds to go about their daily activities freely and without barriers.

The Covid-19 pandemic severely impeded people's daily lives and created a range of new limitations for a while. The formal social infrastructure was closed for several months in Denmark and the rest of the world, though it was possible to go out in Denmark during all closures. The lockdown nonetheless made the formal social infrastructure visible in the selected cases, supporting Star's (1999) theory of an infrastructure's anatomy becoming more visible when it breaks down. Thus, the lockdown also made it possible to investigate otherwise unnoticed aspects of social infrastructure and register new, more temporary, and informal types of social infrastructure. The number of "pop-up infrastructures" (Flynn & Thorpe, 2021, p. 1) exploded worldwide during the pandemic, among other things, to regulate public space and promote social distancing. For example, the pandemic pop-ups included reorganising traffic systems for walking and biking, expanding restaurants into street spaces, and relocating refugees from tent camps to temporary accommodations in schools and hotels. Common for these pandemic pop-ups in Toronto and Sidney, however, was that they rarely involved the vulnerable citizens in the process. Deas et al. (2021) discuss examples of temporary use of public spaces in response to Covid-19-related literature and conclude that "creative temporary projects can have important demonstration effects, helping to influence future urban development policy and practice agendas" (Deas et al., 2021, p. 7).

Furthermore, some studies emphasise that the pandemic was not equally distributed geographically but reinforced disadvantaged areas (Bailey et al., 2020; Berkowitz et al., 2021; Brail et al., 2021). For example, in Denmark, already in the early stages of the pandemic, a higher incidence of Covid-19 was observed among non-western immigrants (Statens Serum Institut, 2020). At the same time, numerous disadvantaged areas on "the list of parallel societies" were highlighted in the Danish media as hotspots. Studies conclude that the media's representation and a high amount of negative media coverage increase stigma in these vulnerable areas and negatively affect the residents (Arthurson, 2013; Jensen & Christensen, 2012; Mechlenborg & Stender, 2022). Another group particularly vulnerable during the pandemic were the elderly, and some studies show that a large group of elderly were unsafe about leaving home and often forced to isolate themselves (Osborne & Meijering, 2021; Smith et al., 2020). The pandemic emphasised the need for local organizations and volunteers to provide services and help the elderly during these periods of isolation and increased risk of loneliness (Smith et al., 2020, p. 1).

Children and young people were also appointed as a group especially affected by the pandemic's consequences which more recent studies determine (Jones et al., 2020; Velde et al., 2021). Velde et al. (2021) conclude that Dutch children were less physically active during the lockdowns as the children spent more time inside in front of the screen. According to Jones et al. (2020), the pandemic impacted all Australian children and young people, but the study highlighted that the impact was extra hard on vulnerable children and young people from families with financial instability, unemployment, and other challenging life circumstances.

Glover argues that neighbourhood walking appears to have facilitated a rediscovery of our social connectedness as neighbours (Glover, 2021), and a Danish study shows a rise in voluntary help and care during the Covid-19 crisis in Denmark (Carlsen et al., 2020). Those receiving assistance were mainly people with few resources who are usually more dependent on welfare services, such as the unemployed who received support with the daily chores. The study however has an under-representation of ethnic minorities and the unemployed, whereas in our cases both groups are overrepresented. We want to stress the importance of including perspectives and voices from these groups. There is already rich evidence to suggest that the pandemic has had severe consequences for vulnerable groups and neighbourhoods, yet there is so far only sparse knowledge about how such people and places coped with the lockdown and what we can learn from this. Hence, this is our perspective in the case studies.

3. Ringparken

Ringparken is a social housing area located on the outskirts of Slagelse in a suburban location with a wide range of social infrastructure. In our interviews, residents stress the strong networks among the residents in Ringparken, though the community is also subdivided by different ethnic groups and networks. The largest networks have representatives on the tenants' board who act as intermediaries between the housing organisation and the residents. A group of predominately ethnic Danes is not included in those networks, however, and some of them, especially the elderly, are more socially isolated.

The residents highlight the community centre Nordhuset (see Figure 1) as the primary physical framework for social gatherings, with daily activities and events such as communal dining, flea markets, Christmas events, and Eid festivals. The general understanding is that their social network that bridges the ethnic divides partly comes from participating in the arranged social activities in Nordhuset. However, our field studies also revealed several overlooked social and shared spaces inside and around the housing blocks where residents meet daily. For example, a woman of Danish ethnic background stresses that although she mainly keeps to herself and does not attend events in Nordhuset, she knows her neighbours from the stairway or meets them outside the stairs and in the laundry room, which gives her a sense of social connectedness across ethnic divisions: "I don't mind the foreigners—they are nice and sweet. We greet and chat in the stairway, outside and in the laundry room," she says. Due to the pandemic, Nordhuset and

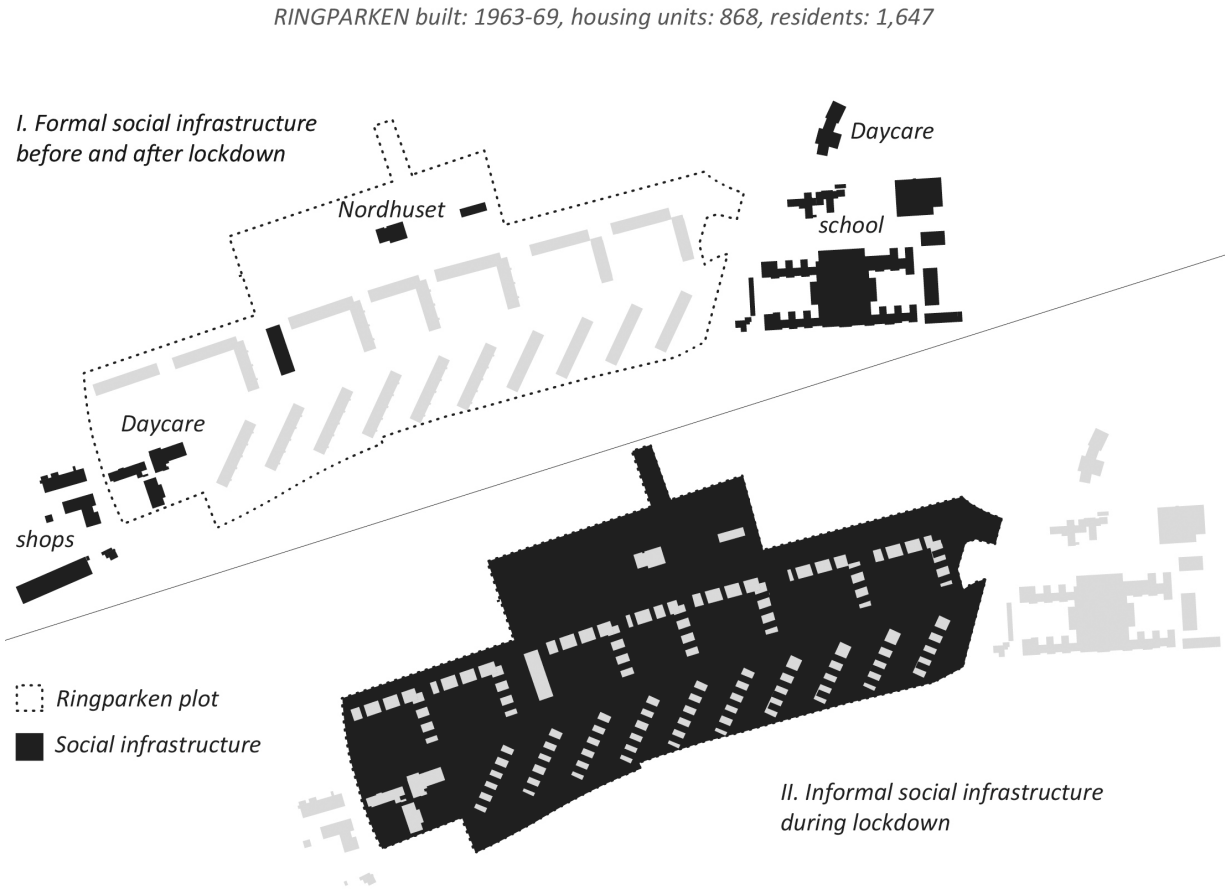

Figure 1. Social infrastructure before/after (I) and during the lockdown (II) in Ringparken.

other formal meeting places in and around Ringparken closed, and organised social activities were cancelled for months. During this period, we saw that the often-overlooked informal meeting places like the stairways and the laundry room became even more essential for maintaining social contact and interaction among the residents besides the recreational areas in and around the housing area. The increased use of the recreational areas facilitated a rediscovery of social connectedness as neighbours, supporting studies by Glover (2021).

During the first Covid-19 lockdown in the spring of 2020, Ringparken emerged as a hotspot that generated regional and local media attention. Several negative articles in the media focused on the numerous cases of infected residents in Ringparken and the need to communicate in many different languages to avoid the spread of Covid-19. A representative from the housing organisation stresses the importance of collaborating with the tenants' board in disseminating information about Covid-19:

> They were the ones who took responsibility and were able to reach out to the residents. Also, the residents listen to them much more, so if some people need to come out wagging a finger that they need to be vaccinated, then it's received better coming from them than from us.

They also went door to door to inform about the pandemic in different languages and handed out small gifts to the children and the elderly who isolated themselves to avoid infection. At the same time, non-physical platforms were established to provide help, such as a telephone number the elderly could call for help with grocery shopping. A local rapper made a music video with residents to inform and educate the youth in the neighbourhood on the importance of social distancing. Furthermore, a group of volunteers representing different ethnic groups took action and disinfected the stairways in Ringparken's housing blocks and the playgrounds in the area three times per week during the closure. Their initiatives created positive stories in the media with headlines like "Volunteers in Residential Areas Collect Garbage and Disinfect Stairwells: —We Do It to Help the Government" (Sativa, 2020). Contrary to dominating theories on territorial stigmatisation (Wacquant, 2007), the initially negative media stories about Ringparken did not make residents internalise the stigma and adhere to lateral denigration. Instead, they activated local networks and used existing shared spaces between the private and the public to meet and socialise despite Covid-19. Entrances, stairways, and laundry rooms are all necessary spaces in everyday practice and are not part of an active choice like the formal social infrastructure. Normally, these shared spaces have another

primary purpose than social interaction, but in this situation, they transformed into social and collective representative spaces to be purified and communicated to a broader public.

Overall, various initiatives during the pandemic shifted media coverage from negative to predominantly positive narratives of Ringparken. According to the housing organisation, there was an increased interest among the resourceful residents in helping their neighbours and a motivation to tell good stories about Ringparken, which converge with research by Carlsen et al. (2020). During the lockdown, the stairwells and other informal shared spaces in the area enjoyed a renewed role as a physical, social infrastructure for everyday interaction and distribution of help amongst residents (see Figure 2).

4. Sundparken

The social housing area Sundparken is located on the outskirts of Horsens, which is a medium-sized provincial town in Denmark. Our field studies and interviews in Sundparken emphasise the existence of social networks among the residents, though the community is also subdivided by different ethnic groups and networks. In our interviews, residents typically highlighted the proximity to the school, day-care, shopping, recreational areas, an activity centre and the so-called Sundparkhallen, a sport and community centre, as positive features of the neighbourhood (see Figure 3). Sundparkhallen attracts both residents of Sundparken and visitors from the surrounding local area and functions as a vibrant, centrally located meeting place. In addition, the area's large number of children and young people participate in activities in Sundparkhallen and use the facilities for leisure activities, which helps structure their free time. During daytime and evening hours, local organisations also offer line dancing, yoga, etc., to adults and the elderly in and around Sundparken, and the field studies clearly showed that Sundparkhallen functions as an essential gathering place for all ages.

During the pandemic, the activity centre transformed into a public test centre, while Sundparkhallen and other social infrastructure were closed, and activities were cancelled. However, the manager of Sundparkhallen launched alternative activities to engage the children forced to stay home during the lockdown. He started a new online channel where he arranged creative workshops, quizzes, and cooking lessons, and every night at 7 pm he read goodnight stories to the children. His intent was to maintain contact with the children, and his initiatives were highlighted in several articles as a positive story about Sundparken. Despite his efforts, he feels that the online activities did not reach all children:

> The initiatives we made online were a success, but it was far from everyone who participated. There were fewer [kids than usual]. Usually, we have 150 kids in Sundparkhallen each week, and not all 150 were online—So we lost something social.

Several residents add that some of the young people in the area seemed more bored during the lockdown, which led to more trouble in the form of vandalism and groups hanging out on the street corners. Subsequently, several of the interviewed children and young people themselves said that they missed the physical meeting places and activities. Despite this, the manager experienced that it was not until three months after lockdown that daily attendance reached pre-pandemic levels. From his perspective, it was very quiet in the residential area

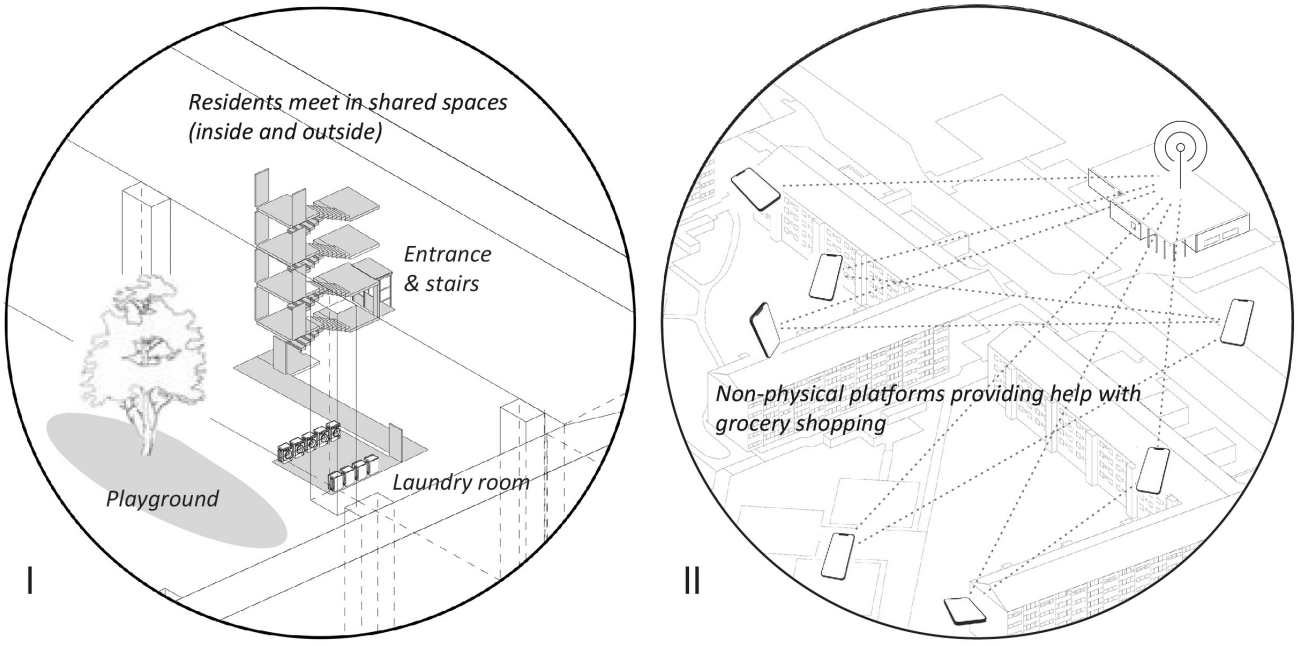

Figure 2. Informal and shared spaces (I) and non-physical platforms (II) in Ringparken.

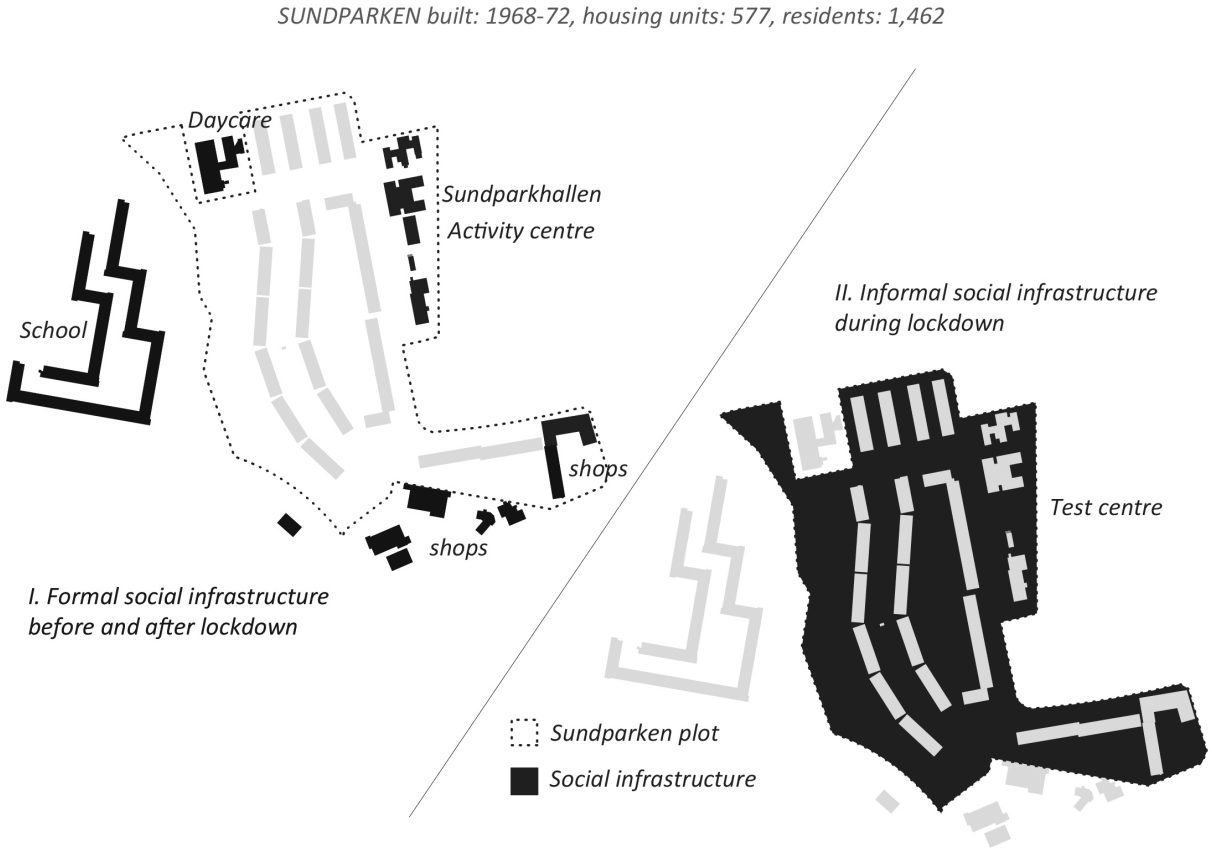

Figure 3. Social infrastructure before/after (I) and during the lockdown (II) in Sundparken.

during the shutdown, as many residents followed government instructions and stayed indoors.

An older resident from Sundparken stresses that under normal circumstances, she participates in activities in Sundparkhallen. For example, she attends line dancing and engages in communal dining, as she enjoys meeting the other residents at the many different activities arranged. She felt sad when Sundparkhallen closed, and her friends and neighbours stayed indoors. She says: "I felt lonelier during the Corona because all the activities stopped. Some of us met outside the hall and danced line dance when the hall closed. It helped a little to meet the others." In her perception, she was not the only one who felt lonelier during the Covid-19 period. Yet, she found it challenging to meet her neighbours and help them because people stayed indoors; therefore, she met fewer neighbours on the stairs and in the other shared spaces.

Our field studies show that many residents in Sundparken stayed indoors during the lockdown, especially older people, who felt even more lonely, which converges with research by Smith et al. (2020). The lockdowns created opportunities and platforms for social interaction and activated new gathering places in and around the area (see Figure 4). The activity centre was transformed into a test centre as an example of state-initiated pop-up infrastructure (Flynn & Thorpe, 2021). Areas between the activity centre and Sundparkhallen were activated by line dance, and other activities were arranged in small groups as an example of temporary use. Rather than a top-down initiative (Deas et al., 2021), this was based on self-organised networks. The current regeneration plan is to move Sundparkhallen to another location far from Sundparken as a part of the site's future development. However, our field studies indicate what it may mean if Sundparken loses its meeting point where residents of all ages meet, making it necessary to consider a strategy for alternative ways of social interaction. The location of Sundparkhallen inside Sundparken is of great importance, especially for groups with reduced mobility, such as the elderly and children, which supports one of Klinenberg's points that the social well-being of these groups often depends on easy access to social infrastructure (Klinenberg, 2018, p. 17).

5. Mjølnerparken

Mjølnerparken is located in Nørrebro, an inner suburb of Copenhagen and one of the densest areas in the city. It consists of four perimeter blocks arranged around common courtyards connected by a path throughout. Unlike most Danish post-war social housing areas, there are no green lawns within the estate, but instead two urban public parks on either side of Mjølnerparken: Mimersparken and Superkilen, where especially the former is often used by residents and regarded almost as "their own backyard" (see Figure 5).

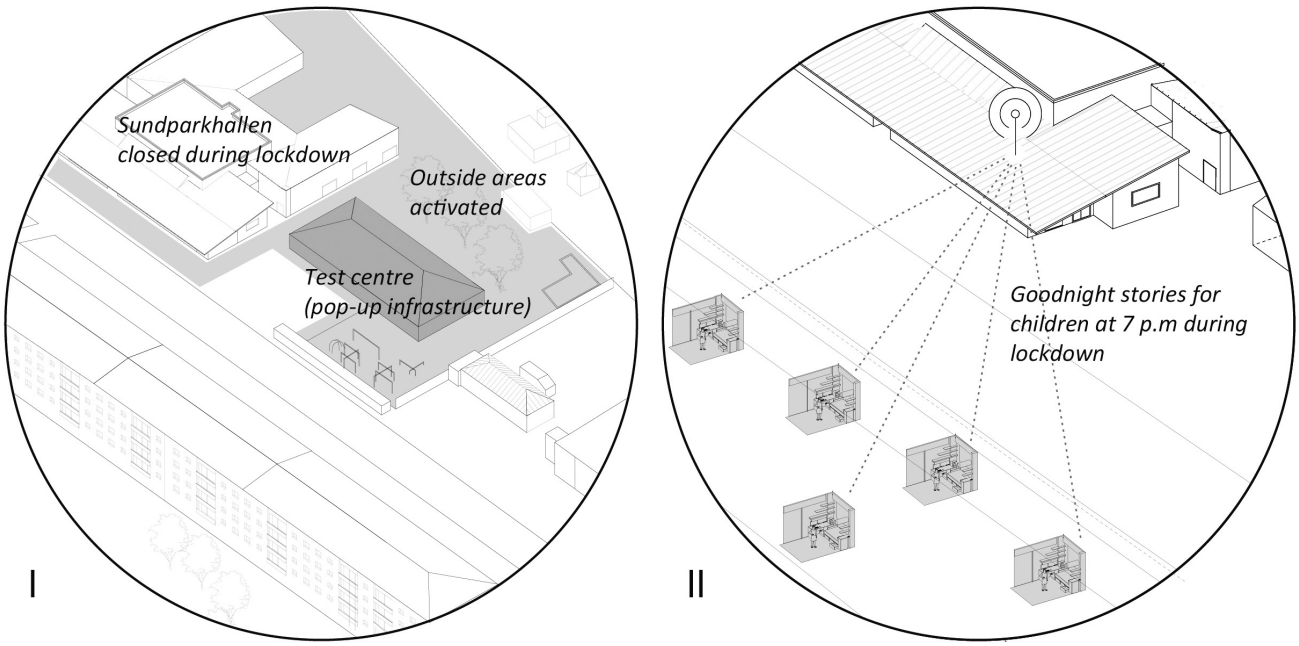

Figure 4. Informal shared spaces (I) and non-physical platforms (II) in Sundparken.

Some of Mjølnerparken´s social infrastructure is thus located in the surrounding neighbourhood. Yet the housing area also includes two day-care institutions, meeting rooms for the housing organisation's social community work programmes, and a community centre, which were all closed during the lockdown. The nearby schools and youth clubs were also locked down for several months, and according to one resident, this visibly fuelled the problem of youngsters hanging out in the neighbourhood: "It has become worse due to Corona, as they cannot go to the club. So, they hang out here and vandalise….The children have been out of school, and that is something one can really feel," she said.

One of the blocks in Mjølnerparken accommodates a senior co-housing scheme, where 18 elderly residents have their own flats and share a common room on the

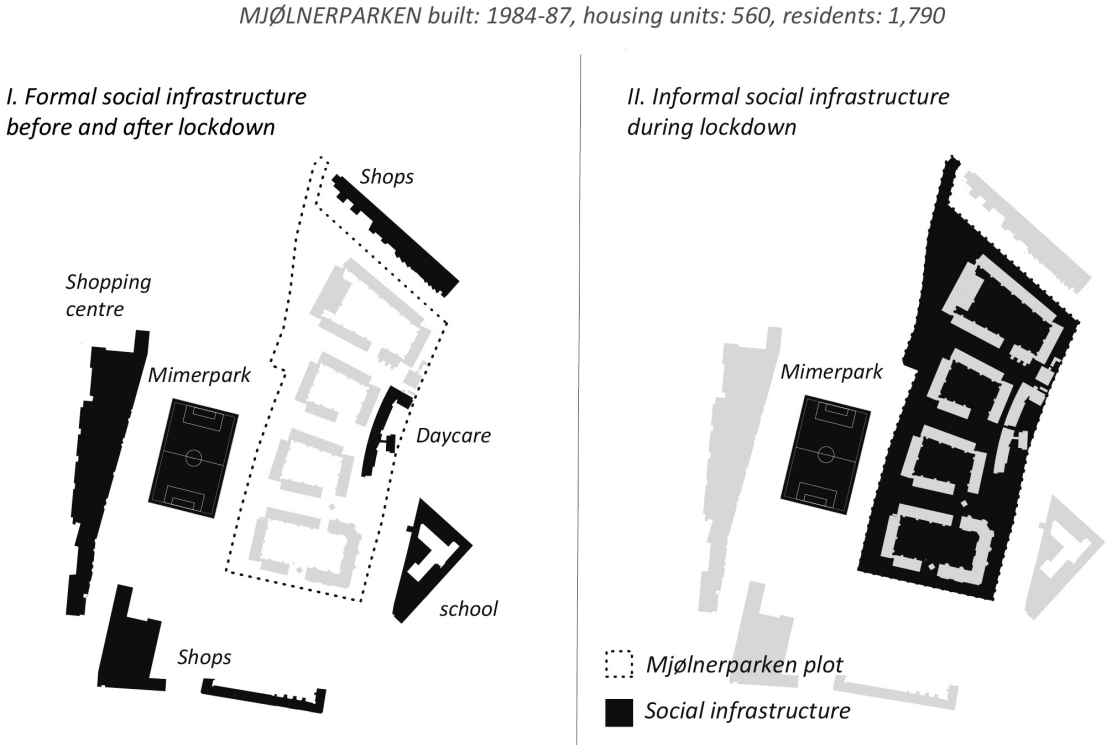

Figure 5. Social infrastructure before/after (I) and during the lockdown (II) in Mjølnerparken.

ground floor with a small garden. Some of these residents used to meet with other elderly from the neighbourhood for a senior work-out in the community centre, but during Covid-19, this was conducted on the lawn outside instead. They transformed their fitness classes into group walks in the nearby park Mimersparken, with exercise taking place on the outdoor sports and play equipment of the park. A woman residing in the co-housing scheme stresses that their proximity to the open green spaces proved quintessential for maintaining social activities, as did the semi-formal social networks:

> Something very important is that all our activities have a voluntary coordinator, someone who can take care of things….So, they measured up the rooms and said: "There can be five or 10 people in here." And they sent text messages to those who did not show up by themselves.

In the network of Arabic women, one resident created daily contests over WhatsApp revolving around questions like: How many steps are there on the stairs up to the third floor?

As these examples demonstrate, existing social networks were key in maintaining the community through alternative activation of the physical spaces. The residents also participated in balcony singing at five o'clock every day to keep socialising despite the lockdown, and organised entertainment by street performers in the courtyards and paths that residents could view from the balconies. Though temporary, such initiatives offer an interesting alteration of the area's social infrastructure: By using the balconies for community singing and performance, residents situationally transformed the building's façade into a vertical common room (see Figure 6). As in Ringparken, the residents transformed semi-private spaces into social and collective representative spaces to be communicated to a broader public.

An implicit aspect of the balcony singing is a demonstration against the PSA, which in Mjølnerparken involves a pending sale of this block and a relocation of residents, including the senior co-housing scheme. It is worth noting how two outside threats—Covid-19 and the pending sale—activate and render visible more informal and ad hoc social infrastructure in new spatial configurations. As in Ringparken, the stigmatisation inherent in both the PSA regeneration and negative media attention has not just been passively internalised but has sparked creative responses through the activation of social infrastructure. Rather than building on such infrastructure, the current regeneration efforts however inhibit it, e.g., by relocating the senior co-housing scheme outside of Mjølnerparken.

6. Concluding Discussion

The Covid-19 lockdown can be regarded as an experiment exposing essential social infrastructure on several different levels. The first level concerns the formal spaces and facilities designed with a specific purpose such as libraries, schools, playgrounds, parks, and sports facilities forming public life and facilitating social interaction (Klinenberg, 2018; Kvorning, 2017). These welfare institutions were often designed by leading architects of their time and were created as a physical structuring framework around the ideals of the welfare state. However, these formal spaces became even more visible during the pandemic through their temporary absence. As several authors have argued, social infrastructure thus tends to be invisible until it breaks (Star, 1999, p. 382), simply

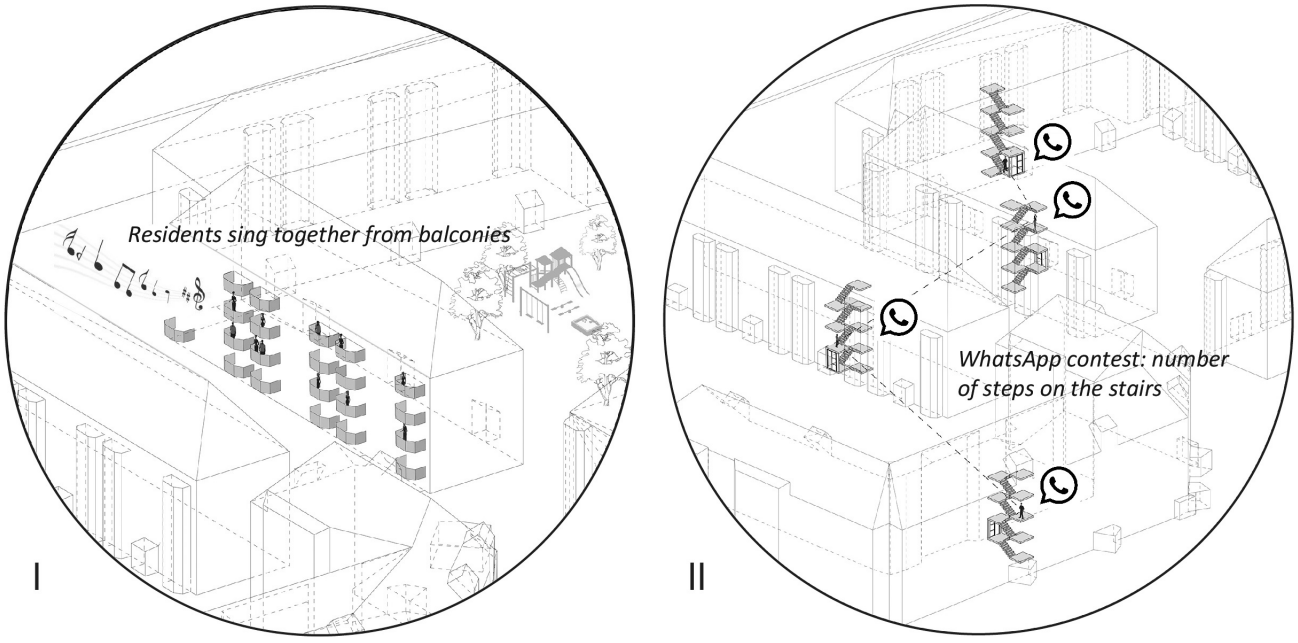

Figure 6. Informal social infrastructure (I) and non-physical platforms (II) in Mjølnerparken.

because we take it for granted and do not notice it until something goes wrong or it has been taken away (Latham & Layton, 2019).

The accounts from the three case studies above testify to how Covid-19 rendered fundamental social infrastructure conspicuously absent in disadvantaged neighbourhoods: The shut-down of basic state-supported social infrastructures such as schools and youth clubs suddenly stressed the utmost importance of providing places for children and youngsters to hang out, learn, and interact. As Steiner and Veel (2021, p. 80) note, many parents during the pandemic thus witnessed "the instantaneous breakdown of decades-old infrastructures that had once guaranteed full-time state-supported care and education for their children, whom they suddenly had to home-school and care for, often while maintaining full-time jobs." Such experiences of the break-down were amplified in disadvantaged neighbourhoods, where flats are often crowded, children do not necessarily have their own room, most parents cannot work from home, and many may have neither the technological devices nor the skills to help children engage in online instruction, which converges with studies by Jones et al. (2020). As our case studies demonstrate, it was thus not only parents but whole local communities who felt the breakdown of the infrastructures normally taking care of children and youngsters who were suddenly hanging out in the common spaces during the day, engaging in loitering and vandalism.

It was, however, not only the spaces for children and youngsters but also those where grown-ups and the elderly used to meet that were suddenly missing. Like Smith et al. (2020) and Osborne and Meijering (2021) point out, many elderlies felt unsafe about leaving home and were forced to isolate themselves during the lockdowns. When community centres and sports centres closed, residents and social workers in the areas could clearly feel the importance of such local spaces in facilitating their everyday social interaction. This absence also appears to be amplified in disadvantaged neighbourhoods, where many residents are more dependent on local networks and welfare services. In some cases, activities were transferred to outdoor areas, thereby maintaining the social activities in new spatial surroundings. This stresses the importance of providing adequate open outdoor spaces like parks, courtyards, and recreational areas as key flexible social infrastructure. Covid-19 internationally encouraged innovations in such spaces through pop-up infrastructure (Flynn & Thorpe, 2021) and temporary use (Deas et al., 2021). As these scholars emphasise, future urban planning ought to create capacity for emergency uses that can bolster resilience and ensure the support of innovative land use. Yet several of the examples from our case studies also involved even more mundane and normally unnoticed physical spaces like empty lawns between buildings, parking lots, stairways, corridors, entrance areas, and other zones bordering private and common spaces, like facades with balconies.

These constitute the second level of social infrastructure that was not absent in the pandemic but on the contrary appeared as alternative, temporary spaces for interaction or common reference. It was in these spaces that bills and notices communicating to and among residents were posted; it was here that food, gifts, and bags with supplies for children or sick residents were exchanged among neighbours. These shared spaces that are equally shared and accessible for all residents are part of daily routines and usually have another primary purpose than social interaction and rarely have the same architectural quality as the formal social infrastructure. Interestingly, the case studies show that such spaces are not just a locus for daily, social interaction, but also seem to have a symbolic function as a common reference, internally binding communities together—for instance, when a network of women holds a contest about guessing the number of steps without being there on the stairways together, or when small groups of residents come together cleaning and disinfecting the stairways as an event that reached the media, thereby improving the outwards representation of their community. This calls for nuancing leading theories on territorial stigmatisation (Wacquant, 2007). Residents in disadvantaged housing areas do not just passively internalise the stigma of negative media stories about their neighbourhoods. Rather, they also counteract the stigma and provide other stories about the place and community in collaboration with local professionals. Yet, it also calls for adding new perspectives to both the concept of social infrastructure and scholarly discussion of what urban planning can learn from Covid-19: Where existing research tends to emphasise state-initiated coping with disadvantaged groups or temporary use of unplanned spaces through pop-up infrastructure, we suggest paying closer attention to local self-organisation also in disadvantaged neighbourhoods.

Learning from Covid-19 is thus not only about how the importance of spaces designed to facilitate social interaction becomes more visible when they close or break down, nor is it only about providing sufficient space for temporary, pop-up, and emergency use to bolster resilience. It is also about directing our attention towards what Latham and Layton (2019, p. 5) describe as "the whole range of often overlooked and underappreciated urban spaces—and all sorts of overlooked and underappreciated practices," where we especially want to emphasise the interrelation between such spaces and social practices. Our study stresses the importance of ensuring a higher architectural quality in these shared spaces when areas are regenerated. There is considerable potential for more focus and care on the everyday spaces that are part of all residents' lives instead of a one-sided focus on the unique and formal welfare architecture used by some.

Important here is consequently also a third level of social infrastructure, namely the informal, often technologically mediated social networks activating

these spaces: the mailing lists, social media platforms, WhatsApp groups, and telephone lists making it possible for people to maintain contact even when they cannot meet face to face. The pandemic clearly fuelled the importance of such networks, yet even in pre- and post-pandemic times, they have an increasing impact on who uses what spaces and interacts with whom. Just like Venturi et al. (1977) developed new ways of mapping the urban environment to better include the ugly and ordinary, we need to develop new ways of mapping social infrastructure, including not only the spaces designed for social interaction but also those unnoticed places where social interaction takes place, as well as the social networks that activate them. Whereas the post-war housing areas were originally designed with an emphasis on the first level of social infrastructure, better insight into the other levels of social infrastructure is essential for their current regeneration, as this is also where people meet and mobilise, where information is exchanged, and where social life takes place.

Building on Klinenberg, Glover notes that a pandemic reveals "social conditions that are less visible, but nonetheless present in everyday life" (Klinenberg, 1999, p. 242, in Glover, 2021, p. 281). He argues that the pandemic has in fact strengthened social connectedness in many neighbourhoods, though there is no assurance that the resurgence of neighbouring will survive the pandemic (Glover, 2021). Based on our case studies, the observation on social connectedness also holds true in disadvantaged neighbourhoods, and there is potential that it can survive the pandemic if we find new ways to include it in urban planning and regeneration. Yet this still calls for some nuances: Some groups of residents were a lot more dependent on the designed places for social interaction that closed down during the pandemic, such as schools, churches, community centres, etc.; i.e., the state-supported spaces that we have referred to here as the first level of social infrastructure. This applies especially to children and the elderly, who as Klinenberg (2018) argues have reduced mobility and are to a greater extent bound to the place where they live. The field studies in Sundparken supported Klinenberg's theory that although the digital activities and goodnight stories were a success, the number of participating children fell. Though Covid-19 has made virtual space even more prevailing regarding social interactions, such platforms do typically not empower the already most vulnerable like the elderly and the children. This emphasises the importance of stimulating other self-organised actions and meeting places to compensate for this. Extensive international research shows that the pandemic especially impacted disadvantaged children and stressed that they are one of the groups that also need to meet physically (Jones et al., 2020; Velde et al., 2021). The same goes for those who are not included in the more informal and technologically mediated networks, and who neither receive text messages about turning gymnastics class into an outdoor walk in the park, nor participate in WhatsApp competitions about the number of steps. Those residents are more dependent on meeting—if only for a quick informal greeting or chat—neighbours in the park, on the stairs, and in the laundry room—which we refer to here as the second level of social infrastructure—perhaps even more so than the first level social infrastructure (community centres, etc.) where they do not necessarily feel comfortable attending as it requires an active choice to participate.

As already cited, Klinenberg (2018) emphasises that social infrastructure should ideally be for everyone and that spaces designed, built, and maintained with only a narrow demographic in mind may undermine their function as social infrastructure. However, spaces for everyone may also end up being spaces for no one, and in the post-war housing areas, it is not uncommon that lawns, community centres, and other facilities are standing empty, or only frequented by a very limited group of residents. The case studies, however, have shown how local networks can mobilise and activate such spaces in new and creative ways in a time of crisis. What we can learn from this is that even in post-pandemic urban planning, we should map, include, and build on these infrastructures to improve relations between local social networks and their physical spaces. In his essay on the political and social effects of Covid-19, Zizek (2020) warns against celebrating the pandemic as an opening for people to organise locally, arguing that an efficient state is needed more than ever, and that self-organisation of communities can only work in combination with the state and with science. We agree with this but stress that both the state and science ought to learn from the types of self-organisation that arise locally in a state of emergency like the pandemic. As this study has demonstrated, state-initiated social infrastructure plays an important role in disadvantaged neighbourhoods, yet it only constitutes the first level of social infrastructure. The second and third levels of social infrastructure are just as important to map, activate, and learn from in future regeneration.

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Conflict of Interests

The authors declare no conflict of interests.

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Article

Non-Formal Cultural Infrastructure in Peripheral Regions: Responsibility, Resources, and Regional Disparities

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Abstract
Non-formal cultural education (NCE) infrastructure has recently been at the centre of discussion regarding the promotion of equal opportunities as well as social cohesion and resilience. The German government strives to ensure equivalent living conditions, including access to education throughout the country. Although NCE infrastructure is considered a service of general interest, it is a voluntary service that districts are not obliged to provide. Research shows that NCE infrastructure provision and funding vary significantly between regions and that qualitative case analyses are needed to adequately contextualise key factors for the provision of NCE infrastructure. These developments and findings raise many questions against the background of spatially differentiated socio-economic landscapes. The article analyses two peripheral regions in Germany by examining key factors for the local provision of NCE infrastructure based on content analysis of qualitative interviews. This article aims to understand how NCE infrastructure is provided in peripheral regions to discuss the effect of these dynamics on the development of equivalent living conditions in Germany. The results show that citizens in peripheral areas have found alternative ways of providing NCE infrastructure due to the lack of financial resources available from the public sector. Self-responsibilisation, civic engagement, and individual commitment provide and sustain large parts of NCE infrastructure in rural areas. These developments impede the provision of equivalent living conditions in Germany while enabling a more resilient community through civic engagement. This article, therefore, provides an important contribution to the discourse on social and regional inequality.

Keywords
cultural education; cultural governance; Germany; living conditions; non-formal cultural infrastructure; periphery; social infrastructure

Issue
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1. Introduction

In Germany, education is unevenly distributed across regions: There is still evidence that the traditional stratified patterns of participation in education have not been completely eliminated (Fobel & Kolleck, 2021, 2022). On the one hand, this is due to the social stratification of educational opportunities. On the other hand, access to educational opportunities differs between regions because social (e.g., schools, libraries) and physical (e.g., transportation) infrastructure are unevenly distributed (Fobel & Kolleck, 2022; Weishaupt, 2018). With educational infrastructure being part of the effort to provide services of general interest, the public sector is obliged to promote sufficient educational infrastructure and assess the corresponding needs. However, the German districts (*Landkreise*) possess very disparate social and economic resources. Not least, the consequences of demographic change (e.g., ageing, out-migration) and new settlement structures (e.g., suburbanisation, commuter towns) challenge the provision of necessary infrastructure and complicate the tangibility of the population. At the same time, the importance of educational infrastructure, understood as social infrastructure, for the development

of a region is undisputed. Encompassing infrastructure of all types of education, educational infrastructure contributes to the promotion of local economies, creates jobs, trains skilled workers and, last but not least, is a central component of securing democracy (Fobel & Kolleck, 2021).

In the landscape of educational infrastructure, it is especially the cultural educational infrastructure which, in the form of libraries, museums, or art schools, provides important spaces of social infrastructure, fosters community, and creates more resilient societies (Fobel & Kolleck, 2021; Klinenberg, 2019, p. 16). At the same time, non-formal cultural education (NCE) infrastructure lies at the intersection of education, youth, and cultural policy and is thus provided by different political levels as well as different funding structures, resulting in a very disparate regional provision and accessibility (Fobel & Kolleck, 2022; Kolleck et al., 2022). Peripheral regions, in particular, are often faced with the task of prioritising their expenditure to cover all areas of communal responsibility (Grohs & Reiter, 2013, p. 199). Thus, either the structures are dismantled, or responsibility is handed over to independent non- or for-profit providers. In short, NCE infrastructure has enormous potential for personal and social development, strengthens social capital, and is an important component of social infrastructure. However, there are hardly any uniform and binding regulations to ensure basic NCE infrastructure across Germany (Sievers, 2018). Against this background and using qualitative secondary interview data as well as content analysis (Mayring, 2000), this article discusses the following research questions: How is NCE infrastructure provided in peripheral regions? What are the implications of these dynamics for issues of equivalent living conditions? To answer the research questions, the article analyses two peripheral regions in Germany by examining key factors for the local provision of NCE infrastructure. The analysis is followed by a discussion of the findings with regard to equivalent living conditions. This article aims to understand how NCE infrastructure is provided in peripheral regions in order to discuss the effect of these dynamics on the development of equivalent living conditions in Germany. Despite the pertinent and far-reaching effects that are associated with cultural education and social infrastructure, NCE infrastructure may not be equally distributed across regions. This article, therefore, provides an important contribution to the discourse on social and regional inequality.

The next section will discuss the conceptual framework used in this article, introduce the administrative background (Section 2.1), and highlight the challenges of NCE infrastructure in rural regions (Section 2.2), as well as current research on the topic (Section 2.3). Section 3 presents the data and methods chosen for this analysis before the results are presented in Section 4. The last section discusses the findings and elaborates on the implication for national and international contexts.

2. Conceptual Framework: Regional Cultural Governance and the Distribution of Social Infrastructure

Eric Klinenberg (2019) developed the concept of social infrastructure to describe spaces and facilities that help to promote and enable social and public life in settlement structures. According to Klinenberg (2019, p. 16), social infrastructure is defined as public institutions "that invite people to the public realm," such as playgrounds and schools, but libraries or parks are also often overlooked and underfinanced, even though they play a major role in public resilience. This article understands the infrastructure of cultural education as a social infrastructure. Cultural education is then understood as any learning from, with, or through art and cultural objects or activities (Kolleck & Büdel, 2020). NCE would be any kind of institutionalised cultural education outside formal educational contexts, for example, in (adult) education centres, museums, or libraries. The focus of this article lies particularly on such facilities of NCE as a subgroup of social infrastructure (Klinenberg, 2019), which is referred to as NCE infrastructure. Accordingly, NCE infrastructure is understood as social infrastructure, although social infrastructure as an overall concept covers many other areas besides NCE infrastructure. For example, NCE (author reading) takes place within the NCE infrastructure (library). NCE infrastructure is again part of the educational infrastructure that comprises formal (e.g., schools) and non-formal (e.g., libraries) infrastructure in the context of education in the area. All of these infrastructures are, again, social infrastructure. By looking at NCE infrastructure, this article, therefore, focuses on a very distinct aspect of social infrastructure.

NCE infrastructure is generally open to the entire population, irrespective of age, gender, nationality, level of education, or financial resources, and often offers spaces for encounters and social exchange (Klinenberg, 2019, p. 16). For example, libraries can be used by the entire population to access books or community spaces and do not impose any economic barriers. Museums or adult education centres also often offer the opportunity to attend events free of charge or based on a donation. With these properties, NCE infrastructure meets the characteristics that Klinenberg identifies for social infrastructure. At the same time, Klinenberg's concept is linked to classical social capital theory (Putnam, 2001), as scholars agree that social capital, social networks, and the resources within and arising from them (Putnam, 2001) are of great social importance. However, Klinenberg criticises that the enabling (infra)structure, which is necessary for social capital to emerge, is not considered in capital theory. According to Klinenberg, social capital and social resilience can only be promoted if the corresponding infrastructure exists. As a consequence, there must be places where social capital can be generated, such as libraries or squares, before society can profit from its benefits. For this reason, social infrastructure is

needed. Nevertheless, Klinenberg remains rather vague about the implementation of his demand in the individual municipal (*Gemeinden*) and district budgets. A group of scientists has explicitly addressed this issue and developed a concept for ensuring the material and provisional basics of social life called *foundational economy* (Barbera et al., 2018; Russell et al., 2022). Similar to Klinenberg—albeit somewhat broader in scope—it formulates the demand for strengthening the provision of basic services and everyday (social) infrastructure. The approaches differ especially in their conclusions. While Klinenberg sees a particular responsibility for all levels of government to promote social infrastructure, the foundational economy approach aims at a transformation of politics and the development of a locally anchored and extra-political provision of innovative solutions for local economies (Rappen, 2022). These different perspectives illustrate very well the tension between emancipation and diffusion of responsibility in which NCE infrastructure currently operates and provide the framework for the discussion of the results.

Figure 1 illustrates the different analytical concepts used in this article. The concept of social infrastructure is particularly valuable to highlight the societal relevance of NCE infrastructure and to position the focus on NCE infrastructure within in broader scientific context. However, to analyse how NCE infrastructure is provided in peripheral regions from a governmental perspective, this article introduces the reader to the administrative concept of regional cultural governance. This concept already illustrates important processes and relations, but it fails to address regional specifics and challenges. Neither the concept of social infrastructure nor regional cultural governance can describe and analyse local dynamics in detail. To achieve this, the concept of the foundational economy is also integrated into the article, as this concept considers specific factors for a sustainable implementation of NCE infrastructure in peripheral regions. Against the background of the empirical context presented, it is evident that the promotion of NCE infrastructure is of great social importance. However, due to the economic situation of many municipalities, it can often only be inadequately developed. The concept of social infrastructure, combined with the foundational economy approach, directs the analytical perspective towards the possibilities of providing NCE infrastructure in peripheral regions.

2.1. Administrative Background and Regional Cultural Governance

Most decisions on NCE in Germany take place at the regional level. Unlike many formalised aspects of governance, regional governance is the result of a critique of a highly hierarchised government. Regional governance aims to build loosely institutionalised and inter-municipal cooperation and network structures, often characterised by flat hierarchies and a high level of participation by non-state actors (Fürst, 2001, p. 370). Because NCE is strongly anchored at the district level, where it is decisively shaped, regional governance plays an important role in the context of NCE infrastructure. Regional cultural governance is a collective term for all governance mechanisms, forms, and levels that are directly related to the cultural sector or link it to other fields of action on a regional level (Knoblich & Scheytt, 2009, p. 68). Ultimately, regional cultural governance covers structures of control, regulation, and the interaction between actors on a regional level (Scheytt & Knoblich, 2009, p. 34).

Governance in the field of regional NCE engages with various actors from government, business, and civil society. Nevertheless, the public sector is of particular importance, as it provides many financing and sponsorship arrangements (Winter, 2019). Certain types of NCE infrastructure may be provided within the framework of child and youth welfare services, which districts are obliged to provide. For example, NCE can take place within youth centres or youth associations, either because associations themselves are cultural in nature or because occasional cultural activities are offered. However, such services are only accessible to certain members of society, in this case to the young population, and thus do not fully comply with the concept of social infrastructure. However, expenditure on NCE infrastructure, such as large cultural institutions (e.g., museums, theatres) or

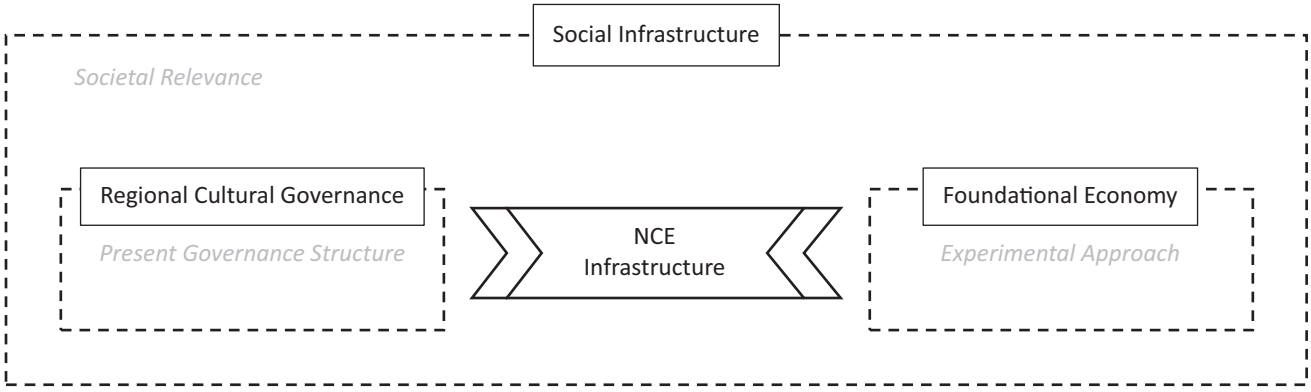

Figure 1. Conceptual framework.

measures for their consolidation (e.g., coordination or planning offices), classifies as a voluntary service offered by the public sector, irrespective of child and youth welfare, and is therefore non-mandatory. Cultural industries and the private sector also play an important role in cultural governance by promoting and facilitating NCE privately or through public-private partnerships, e.g., private theatres and cinemas (Wiesand, 2006). In particular, private institutions provide jobs in the region, which enable NCE regardless of public funding opportunities. However, especially at the regional level and in peripheral areas, it is the civil actors without whom NCE infrastructure could not be provided. For this reason, public and private NCE infrastructure often go hand in hand with volunteerism and civic engagement (Winter, 2019, p. 195).

2.2. Non-Formal Cultural Infrastructure in Peripheral Regions

Peripheral regions are prone to scarce financial resources. In many cases, they have to cope with the consequences of out-migration, especially of young and highly qualified people, and the resulting ageing of the region and human capital flight (Maleszyk, 2021). Concerning the unequal development of central and peripheral regions, the government is faced with a particular challenge to create equivalent living conditions in Germany (Götzky, 2012; Küpper et al., 2013). The promotion of equivalent living conditions has been a declared goal of the federal government for more than 30 years, aiming at an equivalent distribution of resources and reduced regional disparities (Die Bundesregierung, 2021).

Education in Germany is a responsibility of the federal states (*Bundesländer*), which in turn have designated the districts and independent cities to identify and meet needs in the field of education. While this responsibility includes the provision of NCE infrastructure, it is only classified as a voluntary service of the districts. The already scarce resources of the districts are further reduced by the austerity policy of the federal government. Hence, these very voluntary services can no longer be provided independently (Wimmer et al., 2013, p. 39), and even the implementation of compulsory services shows regional disparities (Stolzenberg, 2018, p. 63). Since the districts often cannot afford dedicated, exclusive cultural departments, areas of responsibility are commonly combined and subsumed into larger departments. Local government support for NCE infrastructure also varies greatly between regions. On the one hand, the extent of support varies, and on the other hand, the means of support varies. Depending on the region, different means of support are used. Urban regions are more likely to have financial resources to support NCE infrastructure, while rural regions are more likely to provide material support in the form of facilities or equipment (Götzky, 2012; Seckinger, 2009). In addition, voluntary services do not necessarily have to be administered by the local government and may as well be delegated to third parties. This includes private non- and for-profit providers, making NCE a market for which certain economic viability may exist. As a result, the provision of NCE infrastructure is marginalised even further within the public sector (Scheytt, 2013).

As a consequence, NCE infrastructure differs between regions (Götzky, 2012, p. 34; Küpper et al., 2013). While rather central areas tend to provide more traditional highbrow NCE infrastructure, such as theatres, museums, or concert halls, rather peripheral areas mainly facilitate lowbrow cultural education infrastructures, such as associations or small regional theatres. In peripheral regions—not least because of the low population density—demand is often not strong enough to finance the provision of larger NCE infrastructure (Otte et al., 2022, pp. 209–210; Wimmer et al., 2013, p. 30). Rather, it is frequently associations, donations, and private commitments which make smaller museums, theatres, and other NCE infrastructure possible. These association structures are usually supported by volunteers who devote their free time to providing NCE infrastructure (Le & Kolleck, 2022b, p. 334). In contrast to central NCE infrastructure, which is defined by a high degree of professionalisation (Deutscher Bundestag, 2005, p. 3), NCE in peripheral regions is characterised by voluntary and civic engagement (Götzky, 2012, p. 97; Schneider, 2014, p. 9).

2.3. Academic Discourse and Current Research

In the context of NCE infrastructure and regional differences, it is essential to understand the factors that shape the development of NCE infrastructure and how they vary between regions (Fobel & Kolleck, 2022). Cultural education research is increasingly promoted in Germany because the government considers cultural education infrastructure to be of great societal importance (Fobel & Kolleck, 2021; Kolleck et al., 2022). However, the examination of peripheral regions has often been neglected in scientific research and discussions. Nevertheless, there are relevant studies on cultural policy or innovations for the improvement of services of general interest in rural areas. Research is further complicated but also enriched by the diversity of disciplines involved (Kolleck et al., 2022). The field is often accessed from different perspectives and by different disciplines using different approaches.

Studies in spatial science tend to focus on the question of how services of general interest can be secured in rural areas in general. Researchers discuss the role of civil society in the provision of services of general interest concerning the state. Steinführer (2015) describes in her analyses how, in several rural regions, responsibilisation processes are the only way to secure services of general interest. Responsibilisation, interpreted as the process of becoming responsible, can develop externally or through the self (Steinführer, 2015). Depending

on the respective regional cultural governance structures, the public sector either explicitly seeks volunteers and establishes network structures or emancipatory bottom-up processes are responsible for ensuring that programmes and venues are created and established (Peters, 2005, p. 26). Self-responsibilisation of the population frequently occurs out of self-interest in securing or improving the quality of life, not least because voluntary and civic engagement has already developed into a central resource in peripheral areas (Le & Kolleck, 2022a; Steinführer, 2015). Moreover, social science studies indicate that cultural governance at the regional level is dependent on individuals and informal cooperation structures that, in turn, build on trust and personal relations (Le & Kolleck, 2022b). If a large part of NCE infrastructure is created through voluntary and civic engagement, on the one hand, initiators are needed to start the work or make it visible. On the other hand, studies (Götzky, 2012, p. 197) highlight that in local politics, the priority given to NCE infrastructure by the respective decision-makers is of great importance. Consequently, NCE infrastructure is often not structurally embedded in regions and local governments but instead is insecurely supported by individuals who individually assign great relevance to the issue (Götzky, 2012, p. 197).

In summary and based on these empirical results of past studies and the analytical framework, the following implications are the basis for deductive category formation: The economic situation of peripheral regions might hinder the provision of NCE infrastructure and could be the starting point for many conflicts over financial resources (Le & Kolleck, 2022b; Scheytt, 2013; Wimmer et al., 2013). Furthermore, studies show that governments may or may not support NCE infrastructure in many ways that are not always monetary but of material nature (Götzky, 2012; Seckinger, 2009). The third impulse from current research on the topic highlights that support can only be expected if the respective government values the purpose of NCE infrastructure and its relevance (Götzky, 2012, 2014). Finally, it is also a matter of supply and demand, especially in light of demographic changes, which is of particular relevance to the research question (Otte et al., 2022; Wimmer et al., 2013).

3. Data and Methods

How is NCE infrastructure provided in peripheral regions? To answer this research question, a qualitative secondary data content analysis of semi-structured interviews, according to Mayring (2000), was conducted. The data originate from the PaKKT project, which was funded from December 2019 to November 2022. The analysis in this article, however, was carried out independently and outside the PaKKT project. The implications of the challenges for the provision of NCE infrastructure for issues of equivalent living conditions are discussed in the conclusion.

3.1. Empirical Context

The data were collected in the PaKKT project in 2020 and made available for this study. The PaKKT project positions itself in the context of ensuring equal opportunities and sufficient education-related provision in rural and structurally weak regions. The PaKKT project aims at investigating the extent to which approaches to cultural education are characterised by an urban style and whether these approaches can stimulate the desired transformation and integration processes in rural areas. In particular, cultural education networks in very peripheral rural areas are examined under two aspects: On the one hand, the project systematises cultural education networks and the general conditions that promote or hinder their establishment; on the other hand, specific relationships are analysed on a habitual and milieu-specific level to assess transformation and integration potentials (Bender et al., 2019, pp. 66–67). The research design of the PaKKT project is twofold: While Sub-Project I investigates conditions for the success of social and institutional relationships in cultural education networks in rural areas, Sub-Project II reconstructs socio-cultural relationships at the level of latent structures of meaning, which are particularly relevant for a differentiated understanding of the opportunities and limits of cultural education (Bender et al., 2019, p. 70). This article uses data from Sub-Project I for secondary data analysis (for other PaKKT-related research, see Bender et al., 2022; Bender & Rennebach, 2022; Le & Kolleck, 2022a, 2022b).

3.2. Data Collection and Analysis

Of the four German municipalities in which the PaKKT Sub-Project I interviewed relevant actors of cultural education, two regions were selected for this analysis. Both municipalities are characterised by a very low population density, with less than 100 inhabitants per square metre. Migration statistics show that both regions are characterised by in-migration rather than out-migration in 2020. However, young people are significantly more likely to move away (Federal Statistical Office of Germany, 2022).

In the context of this article, 16 interviews were considered. They were conducted with voluntary and professional representatives of the local government, NCE practitioners from different disciplines, and other cooperation partners. The original data collection within the PaKKT project was based on theoretical sampling, and the interviews were transcribed according to the extended system of Dresing and Pehl (2018). The data were afterwards made available for this article. In accordance with Mayring (2000), the material was defined and characterised before the relevance to the research questions was established. Categories were formed deductively. Based on the literature presented, the categories were defined before working with the data and coding rules were established. During the coding process, anchor examples were documented until the codebook

was created. In the second step of the analysis, the data were reviewed again to revise the categories and finalise the codebook. In a final step, the material was reviewed one last time to correct any inadequacies in the codebook and to make the analysis as reliable as possible. Regarding the provision of NCE infrastructure, four subcategories emerged at the end of the analysis: insufficient resources, government support, relevance, and supply and demand.

4. The Provision of Non-Formal Cultural Infrastructure in Two Peripheral German Regions

The following sections illustrate the provision of NCE infrastructure in two peripheral German regions using the four subcategories presented. For better comprehensibility, exemplary quotations from the interviews are included, which have been translated to English as closely as possible to the German original and slightly linguistically corrected.

4.1. Insufficient Resources

A frequently mentioned theme in many of the interviews is the notion of "insufficient resources" as one obstacle to NCE in peripheral areas. Interviews in both regions show that there is a lack of financial resources as well as time resources or personnel: "There [are] a lot of things that do not come about, that don't work because there is either no interest or no money" (theatre artistic director). The theatre director's quote illustrates that not only the funding of the NCE infrastructure is a challenge, but also the interest of the population in voluntary support of cultural activities. In the interviews, it is repeatedly emphasised that more engagement would be possible if the actors had more time available for the project. Both NCE infrastructure and municipal administrative structures indicate deficiencies, although a structural deficit in particular is seen concerning administration. While NCE actors and administration are under-resourced, the primary deficiency in local government is the provision of a central facilitator for cultural affairs, as this quote from a mayor shows:

> And then we realised during the revision of the cultural development plan…that unfortunately there was a reduction in the cultural sector in the municipalities due to staff reductions and consolidation and that there were no longer any fixed contact persons for cultural providers [or] cultural actors. (Mayor)

This is partly due to the size of the municipality and the low population density. As a voluntary service, the available budget of the municipality must suffice to support the infrastructure in the region. However, it is not uncommon that the needs exceed the financial possibilities of the municipality, and priorities have to be set or reductions made: "If we don't find a decision by then, i.e., no way to continue [to finance] these sub-projects as an overall project [museum], we will either have to decide to continue with individual sub-projects and do without others" (Head of municipal School Administration and Culture).

In this specific example, the district had hoped for support from the municipalities or the federal state to ensure the funding of a museum, which remained uncertain for a long time. Overall, the interviewees frequently report austerity measures that have led to the reduction of staff or the closure of cultural infrastructure.

4.2. Government Support

In the case studies, the respective local government has the ability and the intention to provide voluntary services and thus support NCE infrastructure. Government support in the case regions, albeit sometimes insufficient, seems to be provided through monetary contributions as well as donations of material goods or (temporary) facilities, as this quote from a voluntary association member illustrates:

> I would, for example, involve a [municipality] mayor…who also supports [us] very much…. Associations that have to make ends meet with membership fees also need help from time to time, even if it is a photocopier or the duplication of programmes and [so on]. (Association 1)

Overall, while local government has limited financial options, it is still frequently approached as a potential funding source. Local authorities are very aware of this issue and refer to higher levels to obtain funding:

> Well, we alone will not be able to finance and promote any institutions to the full extent. So, there is always a need for further support from third parties, from sponsoring, from state and federal programmes, or from European funding. We are much too small as a city for that. (Mayor)

In addition to funding from local authorities, which can also be obtained through funding applications, subsidies from the state or the federal government can also be applied for. This also shows that the public sector sees itself as capable of financially supporting NCE infrastructure only to a limited extent. However, these higher-level sources of funding are rarely mentioned by NCE practitioners.

4.3. Relevance

In accordance with the literature, the analysis shows that the extent of support depends strongly on the relevance that local administrative representatives and civil actors ascribe to NCE infrastructure. Due to limited personnel, multiplex role structures, and few regulations regarding

NCE infrastructure, it is particularly significant when a local mayor or administrative personnel ascribe special relevance to NCE infrastructure:

> But because we now, let's say…attach a different relevance to culture….I don't want to exaggerate it now and act as if we have now discovered culture for ourselves, but at least we have allowed ourselves to talk about it at all. And in the end…this idea came into being, and it is now actually becoming something [a new visitor centre]. (Head of municipal School Administration and Culture)

This quote from the head of school administration and culture illustrates how the relevance of cultural education in a region facilitates the conversations where otherwise only the costs and not the benefits would have been considered. Although, in this case, the relevance of NCE to a collective has changed, it is often individuals whose strong commitment to NCE promotes the very infrastructure. NCE practitioners particularly benefit from the increasing relevance of NCE infrastructure when individual concerns are promoted and addressed by personally interested and, therefore, committed administrative staff: The establishment of a bus route to the theatre "succeeded because…people were sitting in the office who simply understood this very well" (Theatre artistic director).

These examples already illustrate the great relevance of NCE in the administrative system in general but also among individual stakeholders. As expected, the interviews confirmed that a large part of the work for NCE infrastructure is unpaid and relies on individual commitment. The provision of NCE infrastructure is dependent on local individuals: "Most of the people [active in the network] are volunteers who sometimes have other jobs, [and] do this work on the side, alongside their other jobs" (Museum network).

At the same time, however, the interviews highlight that this is engagement through civic bottom-up processes in which citizens were keen to participate in a self-determined manner in the development of their region, as this citation illustrates:

> The [city] has…sought to preserve as many of the cultural institutions as possible, and so there were also associations that…were founded [by] citizens from [the city] and from the region. And then they thought, where can we all participate, where can we maintain facilities, where is it necessary to bundle social forces and so on? (Mayor)

In addition, voluntary workers even demand that more citizens help support the local NCE infrastructure. This illustrates the high level of self-responsibilisation in the region. Even if not all people participate, those who consider it a civic duty to provide voluntary support: "And I would actually like others to take time for this, others who also do voluntary work like this…[and] that others…feel responsible" (Association 1).

Evidently, citizens themselves feel responsible for developing and maintaining NCE infrastructure, even if they might ask for support. At the same time, the interviews highlight that the promotion of NCE infrastructure on behalf of the government is only a voluntary service that can be pursued at its own discretion. Only if NCE is given a high priority will expenditure be prioritised accordingly. Thus, there is always a need for an initiator who launches a certain NCE project and meticulously pursues the related objectives. If the structures change in such a way that this person is no longer available and or there is no (equally committed) successor, then the projects also cease to exist. A member of the association reports on the importance of individuals for a project, as projects often fail when there is a change of personnel within the cooperating institutions: "Many retire…and when new ones come along, and I ask, [they say], I don't know anything, and that…I don't know anything about it and…they are not introduced to this topic at all" (Association 9).

This statement illustrates that knowledge and meaning are strongly dependent on individuals and that individual and informally regulated commitment can only be handed over to successors with considerable difficulty. It also highlights the importance of individual commitment and the relevance ascribed to the issue. Only if the relevant information is passed on to the successor and the importance of NCE is firmly anchored administratively, the respective infrastructure can be maintained. Otherwise, other issues have a higher priority, and NCE infrastructure remains neglected and marginalised.

4.4. Supply and Demand

The last sub-category thus directly ties in with another aspect of the provision of funding for NCE infrastructure in rural areas: supply and demand. The interviewed practitioners of NCE highlighted that, in addition to public funding, membership contributions, as well as tickets to events, are the main sources of financial support: "So, the museum is also heavily dependent on visitors….We also had building measures, [so that] the last year basically passed with building measures" (Head of municipal School Administration and Culture).

At the same time, some NCE practitioners mention the intention to make access to NCE infrastructure as inexpensive as possible for those interested, to enable as many people as possible to participate. However, it becomes clear in the interviews that the costs for individual events can only be covered if the participants' contributions are increased. An increase in contributions or admissions would, in turn, result in making participation more difficult and fewer people would be able to participate:

> Then we tried it, and…our participants also paid a good amount. So, it's not our fee, but for the person

> who gives the lecture, so he also gives a great lecture….That's really something really great, exciting, who's really interested in it, but of course, it's, first of all, a considerable contribution to the people from our region. (Association 9)

On the one hand, this is because, for example, the invited speakers demand their standard honorarium, and the often voluntary structures in the area cannot cover the costs themselves. On the other hand, NCE infrastructure does not seem to be very popular. Practitioners report on various cultural programmes that are not attended sufficiently by the population:

> And many here in our area [are] not [involved] at all…and don't want to be. And this offer, we have such a huge variety of offers in the whole [region] and also in [city], and it is not really taken advantage of. (Association 9)

According to the interviewees, one particular reason for this is the advertising of the events, as the rural population has to proactively search for programmes to find them since there is no central distribution for advertisement.

5. Discussion and Conclusion

This article addresses the question of how NCE infrastructure is provided in peripheral regions and of the implications for equivalent living conditions. Against the background of Klinenberg's reflections on the importance of social infrastructure for social resilience and cohesion as well as cultural regional governance in Germany, these questions are answered with the help of semi-standardised questionnaires and qualitative content analysis across two peripheral German regions.

The analysis shows, in line with other studies on cultural policy in Germany, that NCE infrastructure is tied to individuals. If NCE is not a compulsory task of the municipalities, dedicated citizens are needed who intend to shape services of general interest in their region. Of particular importance are either committed individuals who become—voluntary and unpaid—central actors in the context of NCE in the region and drive the provision of NCE infrastructure or interested and sensitised people in critical administrative positions who overcome bureaucratic hurdles and enable public support. Overall, there seems to be a high level of responsibilisation in the regions, which mainly originates from the citizens themselves. Within the two peripheral regions, there is an understanding that NCE infrastructure can be designed by the citizens themselves and that there should be volunteers. The analysis also shows that the public sector, at least at the local level, has few financial resources to contribute to the promotion of NCE infrastructure. Rather, third-party funds can be raised at higher levels of government or from foundations. Many NCE infrastructures also try to finance themselves with admission fees alone. However, participation in cultural education is still strongly influenced by socioeconomic variables. Children of parents with higher degrees, in higher secondary schools or from families with greater financial resources are more likely to participate in cultural education than their less privileged peers (Fobel & Kolleck, 2021). The problem of NCE infrastructure is, therefore, not limited to the physical provision of NCE infrastructure but also includes social barriers to participation. Consequently, any pricing of NCE infrastructure or programmes raises barriers for many people and makes it increasingly difficult to participate equally in cultural education.

Nevertheless, the frequently mentioned issue of increasing privatisation cannot be identified in the regions despite many austerity measures. Although some associations cover their costs through admission fees, and there are also small private theatres in the regions that renounce public funding, a large part of NCE infrastructure is still covered by voluntary and non-profit actors. What seems to be lacking, however, are sustainably and structurally anchored individuals who are responsible for the field of NCE infrastructure at the administrative level and guarantee support as a contact person to enable long-term provision. This raises the question of responsibility in rural regions. Although NCE infrastructure is provided locally, the financial, time, and material costs are often borne by those active in the community. While in financially advantaged and densely populated regions more funds are available to provide NCE infrastructure as voluntary services, citizens in peripheral and financially disadvantaged regions become active themselves. Klinenberg (2019) also takes up this debate and holds the state responsible for prioritising the provision of social infrastructure, just as it has done with physical infrastructure for decades. It is important to note that citizens are not explicitly obliged to volunteer by the state or the local government. Civic engagement, at least in the regions analysed, is a self-determined transfer of responsibility based on experienced necessity and thus should be seen as a coping strategy for dealing with a shrinking or insufficient supply of services of general interest (Steinführer, 2015, p. 15).

Regardless, the question arises as to what extent these engaged citizens relieve the public sector of the responsibility of providing services of general interest. This question is related to the debates about the foundational economy mentioned above. Although the foundational economy approach proposes radical changes to the system at this point, a conservative interpretation could be applied. One way to share responsibility between citizens and the local government would be to co-produce municipal services of general interest. By doing so, the full responsibility of provision is neither on the citizens nor on the local government. Rather, both the planning responsibility and the service provision lie equally with all parties (Rappen, 2022,

p. 274). In the context of NCE infrastructure, one possible co-production model is networks in which municipalities, civil society actors, and the business community work together, each contributing their own expertise and resources (Rappen, 2022, p. 290). This allows for an improved agreement on the management of resources and the diverse know-how of the different non-municipal actors to be utilised. In accordance with other research on the topic (Rappen, 2022, p. 295; Steinführer, 2015), the results of this study indicate that co-production in this sense can be sustainable if there is sufficient and reliable municipal support and the local social capital is sufficient. But what are the consequences of a heterogeneous and regionally specific development of co-production as an instrument for securing equal services of general interest? First of all, the expense of long-term and reliable support for co-production projects on the part of the local government should not be underestimated, as a lack of personnel and financial strength, in particular, are ultimately at the root of these considerations. Secondly, the unregulated development of local co-production and negotiation processes could lead to further differentiation of the quality of life in disparate regions and equal living conditions being pushed further into the background (Steinführer, 2015, p. 15). In either case, local social capital is needed both for civil society projects and for measures co-produced by municipalities, businesses, and civil society. Against this background, neither option offers an unconditional solution for peripheral regions that are subject to out-migration and ageing. However, if these projects were supported by significantly increased funding programmes from federal and state governments, which would have to be accompanied by a corresponding prioritisation of cultural education and social infrastructure, the responsibility could be shifted.

Even though this article analyses the issues of social infrastructure provision in the example of cultural education and the national context of Germany, the results are important for the international context. The relevance of cultural education for individual and societal development is recognised and discussed internationally (Winner et al., 2013). In addition, the challenge of shrinking and ageing peripheral regions, especially those outside the perimeter of larger agglomerations, is not limited to Germany but is evident in many countries around the world. Thus, a discussion on responsibility and distribution of resources is of great importance globally, especially considering the increasing tendency towards political radicalisation, particularly in rural areas (Mamonova & Franquesa, 2020). Due to the decrease in financial and social resources in rural and peripheral regions, NCE infrastructure is particularly affected. Accordingly, the role of citizens in maintaining these necessary basic structures is being discussed internationally (Freiberga et al., 2020). This article can deepen the international discussion on the role of the nation-state in the provision of services of general interest and sensitise to the challenging financial structure of individual aspects. At the same time, the contribution follows up on important reflections on the relevance of the welfare state and the responsibility and role of citizens.

What this article is unable to cover are the structures of cultural education networks as they have been explored in other studies (Le & Kolleck, 2022a). Networks represent important opportunities for co-production and have great potential in supporting NCE infrastructure. Research on the conditions for the success of these structures would consequently be of great importance for the provision of cultural education (Le & Kolleck, 2022b). Equally important would be case studies that demonstrate how co-production can be effective in financially disadvantaged regions or illustrate international best practice models. Another challenge of this research is the data protection regulations, making it impossible to include a detailed description and analysis of the regions studied.

This article shows that, at least in some peripheral areas, it is certainly possible to develop social infrastructure through civic engagement, which already promotes community in the sense of social infrastructure through the communal effort in the provision alone. Co-production in these regions could be a way of sharing the responsibility of providing NCE infrastructure between community, business, and civil society. At the same time, both the ideas of Klinenberg (2019) and this study are linked to the issue of stratified participation. Cultural education, especially in the non-formal and thus voluntary domain, is still not equally accessible across social strata. For only if NCE infrastructure is provided across regions and utilised throughout all social strata can the population benefit equally from the positive effects.

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Conflict of Interests

The author declares no conflict of interests.

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Article

The Changing Role of Student Housing as Social Infrastructure

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Abstract
The role of student housing within social infrastructure provision is arguably overlooked. This is a vital issue, as purpose-built student accommodation provides a significant stock of affordable accommodation for students in European university cities while also supporting their social integration in the urban environment. Although an increasing involvement of for-profit student home developers and providers has been diversifying the landscape of student housing across European university cities in the last decade, this change has been mainly associated with the internationalisation of students' mobility and the financialisation processes driven by private investors. Subsequently, this article expands these supply and demand side perspectives by localising student housing as social infrastructure. Using Vienna as a case study, the authors mapped purpose-built student accommodation locations and conducted qualitative interviews to analyse recent changes in the provision of student housing and to discuss its implications for the social dimension of purpose-built student accommodation. Accordingly, the respective analysis identifies different logics of student housing providers concerning expansion plans and housing quality, which, in turn, affect the function of student housing as social infrastructure. As a result, this article emphasises the need to critically reflect on the overlooked role of student housing as social infrastructure and the role of public actors as well as their policies in the financialisation of purpose-built student accommodation.

Keywords
policy-induced financialisation; purpose-built student accommodation; social infrastructure; student housing; student housing providers; Vienna

Issue
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1. Introduction

Student housing constitutes an important housing market segment for students moving into university cities to study. Students usually belong, income-wise, to a resource-limited resident group in need of immediate and temporary housing opportunities. While student housing includes diverse housing options such as private accommodation and shared flats, in this article, we focus on institutional student housing and the changing landscape of its provision. Student housing is available exclusively to students and is usually referred to as purpose-built student accommodation (PBSA; Kinton et al., 2018; Reynolds, 2020). PBSA has traditionally been provided by welfare bodies or public actors. In recent years, new actors (including private operators and investors) have become active in providing student accommodation. For-profit (FP) actors that seem to follow a market-oriented logic became active in providing basic student apartments as well as luxury serviced apartments. Recently, this has been observed even in cities that are dominated by social housing policies such as Vienna (Rischanek, 2018). There seems to be a clear shift in motivations to provide apartments to students between traditional non-profit (NP) providers and the new FP actors: from providing housing as a basic need to the provision

of an asset class for interested investors. In international academic debates on student housing, this has been reported as capital-driven development in this specific sector of the housing market, eventually resulting in higher rental prices (Glatter et al., 2014; Revington & August, 2020). For our article, we will focus on the potential implications of this shift for the role of housing as social infrastructure, which is potentially lost due to market-driven investment logic.

Debates broaching transitions of housing markets, in general, have become well-represented in academic discourses, also for the example of Vienna (for ongoing debates, see Aigner, 2020; Friesenecker & Kazepov, 2021; Gruber & Franz, 2019; Kadi et al., 2021; Kohlbacher & Reeger, 2020; Musil et al., 2022). However, discussions about eroding or missing social housing policies for institutional student housing and its implications for social infrastructure provision remain under-represented. This article will tackle the gap in discourse by extending the notion of PBSA with aspects of affordability and impacts on the social environment of students. Using student housing as a starting point for the public practice of social care allows us to think about social inclusion through finding a new home. We assume that everyday practices of students' social interactions usually take advantage of university facilities, i.e., libraries, sports facilities, or public spaces. These spaces are ideally located in proximity to university buildings and are built both for students and wider public purposes. Bearing these examples in mind, it becomes obvious that social infrastructure goes beyond facilities, its function for publicness, and questions of provisions. We claim to consider PBSA as social infrastructure where everyday practices and social life contributes to social care, even if everyday practices might take place more behind the scenes (see Latham & Layton, 2022; Layton & Latham, 2022). We aim to raise awareness of the overlooked role of PBSA as spaces of care and its effects on sustainable communities. Implications of contemporary practices of housing financialisation require even further attention in (post-)pandemic vulnerabilities (Enright & Ward, 2021).

The article will connect existing research on student housing and the financialisation of PBSA with debates on social infrastructure by asking two main research questions:

> RQ1: To what extent can PBSA be understood as social infrastructure?
>
> RQ2: How does the changing landscape of student housing provision challenge the understanding of PBSA as social infrastructure?

To answer these questions, we examine the changing landscape of PBSA provision in Vienna through the lenses of NP and FP student housing actors. In the Viennese context, the emergence of commercial student housing has been eased by policy decisions such as the termination of public subsidies. This has led to a shift from student housing as a beneficiary housing type to a highly advertised market segment. The potential consequences for students as a vulnerable group (see Berglund-Snodgrass et al., 2021) remain underresearched, though. As Vienna is renowned internationally for inclusive social housing policies (Marquardt & Glaser, 2020) and an affordable local housing market contributing to social mix (Friesenecker & Kazepov, 2021), the exemplifying case of Vienna raises general awareness of shifting outcomes in social infrastructure provision, which might cause a decline in sociality and living quality at the local level.

Our results are based on a multi-method approach. First, we built an inventory of all student rental accommodation options in Vienna (with a total of 130 accommodation facilities) through online desktop research and observations. We collected details on the location, year of construction, type of provider, and price of rooms/apartments. This data was used for mapping the student housing landscape, which will be presented in Section 3. Second, between May 2020 and February 2021, we conducted nine qualitative, problem-centred, semi-structured interviews with (a) providers and operators of student accommodation in Vienna (both FP and NP providers) and (b) representatives of urban planning in the municipality of Vienna. The interviews were guided by themed and problem-centred questions. Data saturation was achieved on the knowledge of past, current, and future transformation processes in the Viennese student housing market. We conducted the interviews in person or through online calls (due to Covid-19 measures), which lasted approximately one hour on average and were transcribed afterwards. A single-case analysis enabled us to identify various narratives and analyse thematic codes that were predefined by the interview questions. The subsequent comparative analysis combines the content of the single interviews and compares narratives and arguments from each of the actor groups. The results of the interviews are presented in Section 4.

2. Theoretical Context: Student Housing and Its Interlinkages to Social Infrastructure

Studies on European student cities with off-campus student accommodation remain underrepresented throughout the literature, although we observe ongoing processes of studentification (see Revington, 2022, for an overview on recent debates) and changes in supply and demand (for the German context, see Glatter et al., 2014; for Spain, Garmendia et al., 2012; for Eastern Europe, Kowalke & Nowak, 2020). Minimal literature has been dedicated to PBSA in the European context, though this emerging sector has recently become more discussed (e.g., Kinton et al., 2018; Revington & August, 2020; Reynolds, 2020). As we will demonstrate in the following paragraphs, there is an obvious gap in research

concerning student housing and its role as a basic need within the provision of services of general interest and social infrastructure.

2.1. Purpose-Built Student Accommodation in the Realms of Services of General Interest and Social Infrastructure

Housing has always taken a special position within the idea of the welfare state: either considered an essential part or left out (see, e.g., Esping-Andersen, 1990; Harloe, 1995; Hicks & Kenworthy, 2003; Hoekstra, 2003; Kemeny, 2001; Torgersen, 1987). From the perspective of EU legislation, the provision of affordable housing is considered a central pillar of welfare (Humer et al., 2013). Welfare services are categorised as services of general interest that comprise universal access, meaning they should be accessible, but also affordable and available (Bjørnsen et al., 2015). Therefore, social or public housing, as well as institutional affordable housing can be considered part of the welfare state.

Especially in growing European cities, the consideration of housing as part of welfare and service provisions has been underlined in recent years (Pittini et al., 2019). Increasing challenges to housing affordability and accessibility are perceived as failures of public policy. Despite neoliberal austerity policies (Aalbers, 2019), an asset-based welfare regime that promotes real estate activities as complementary welfare of self-reliance is emerging (Ronald et al., 2017). The marketisation of social policies at global and national scales and the concept of the "right to housing" still exist, as do social housing policies aimed at providing housing as a public good (Colburn, 2019). In advanced economies across the EU, welfare provisions for social housing have endured, these are based on the goal (albeit limited) of realising affordable and adequate housing for their populations.

So far, only a few authors directly refer to student housing as a particular type of social infrastructure (Inderst, 2020; Levey et al., 2020). Based on the notion that cities are social spaces, we might consider every dimension of urban life as relevant to social infrastructure, which supports, creates, and maintains social life. The understanding of social infrastructure as "facilities utilized for public purposes" (Levey et al., 2020, p. 299) remains broad but serves as an entry point to argue for student housing as social infrastructure. Latham and Layton (2022, pp. 660) expand the notion of social infrastructure even further by adding four dimensions including people as infrastructure, sociality, social care, and social life. While facilitating sociality represents the main characteristic, "social infrastructure refers to the networks of spaces, facilities, institutions, and groups that create affordances for social connection" (Latham & Layton, 2019, p. 3). Social infrastructure goes beyond facilities, its function for publicness, and questions of provisions. The risk of losing sociality in sustainable communities will be explained in the following sections.

2.2. Current Transitions in the Purpose-Built Student Accommodation Sector in the Context of Student's Diversifying Housing Demands

Student housing is an important residential market segment, traditionally providing affordable accommodation for students. Nevertheless, provision differs significantly across countries and welfare states. Depending on the national and local context, student housing provision in European university cities ranges from a combination of NP, charitable, and benevolent landlords, providing accommodation options developed within historical social-welfare ideologies, to PBSA in neoliberal and financialised housing contexts (Glatter et al., 2014; Reynolds, 2020). Throughout the last decade, the landscape of student housing providers has become increasingly diversified due to the growing involvement of commercial accommodation developers in many European countries (see Miessner, 2021; Musil, 2019; Reynolds, 2020). Even in countries with a history of social-welfare-oriented, NP housing provision (e.g., Germany, the Netherlands, and the UK), new types of student accommodation are emerging across different price segments. New actors in student housing provision usually offer various amenities under one roof and contribute to a lifestyle-oriented student environment, including a central location or accommodation that is situated near university buildings, high-standard interiors, broadband internet, and security surveillance, as well as leisure amenities (e.g., gym facilities, roof-top terraces, cleaning services, etc.). These new types of PBSA are seen as a product of changing preferences in the student sector, contrasting with traditional student accommodation.

In general, students are the sole customers of PBSA. They are characterised as a social group defined around their mutual occupation. Traditionally, students are also considered a vulnerable group, due to being in education and being not or only slightly active in the labour market. The particular vulnerability lies in their limitation of resources in the housing market: Students require accommodation at a particular time (period of study), at a specific location (proximity to higher-education institutions), and with specific facilities (e.g., broadband internet, study rooms). Further, affordability often restrains their options (see La Roche et al., 2010). However, socio-economic characteristics and the resources available to students vary greatly and the full spectrum of potential financial means should be considered (Reynolds, 2020), which is also a reason why students represent a specific target group in current housing market studies (Hubbard, 2009). The diverse subgroups of students include, for example, national and international students, as well as students from different origins (see King & Ruiz-Gelices, 2003; Schnitzer & Zempel-Gino, 2002). National students moving to another university city may utilise their cultural knowledge, local networks, and family support, especially when it comes to finding accommodation. International students usually lack social and cultural

capital, and their financial resources tend to be more limited (Fang & van Liempt, 2020, p. 2).

The driving force for the wider variety of student accommodation provisions can be found in a general increase in student numbers and the international mobility of students. Increasing demand for student accommodation in university cities seems to motivate new actors to invest in new student housing, seeing it as a promising business model. The increase in students, or "the massification of higher education" (Reynolds, 2020, p. 2), is one of the main drivers in most student cities, although its implications in cities across Europe vary. Today, studying at a university has become more fluid, in the sense that short-term international experiences are more common and have become a requirement for academic and corporate careers. Transnational mobility programmes have been integral components of EU higher education since the European university reform (the Bologna Process) was signed in 1999. In addition to the harmonisation of study programmes across the EU, the European Erasmus mobility programme has also promoted internationalisation (see King & Ruiz-Gelices, 2003).

Current housing transitions are further explained by the profit-seeking in temporary housing (Debrunner & Gerber, 2021) and the financialisation of the student housing sector (Revington & August, 2020). According to Aalbers (2016, p. 2), financialisation is defined as the increasing dominance of financial actors, markets, practices, measurements, and narratives, which leads to a transformation of economies, firms, states, and households. The financialisation of housing is related to an over-accumulation of capital in need of new avenues for profitable investment (Aalbers, 2016). Further, the transformation of student housing can be termed "assetisation" (Ward & Swyngedouw, 2018), referring to the search for new fields of investment, even within certain markets (Fiorentino et al., 2020). As such, accommodation targeting particular "social types of housing," such as student housing or senior housing, has become a "social infrastructure asset" (Inderst, 2020, p. 4). Since students often tend to be newcomers to the local housing market, they could be at risk of housing exclusion without social-centred considerations that include affordability instead of profit-making. To conclude, student accommodation represents an important basic need but is a contested housing submarket in the context of financialisation.

3. The Changing Landscape of Vienna's Student Housing Provision

Vienna has a long-established ideology of social inclusiveness through the provision of decent, affordable housing. The so-called period of the "Red Vienna," referring to its long-standing socialist city administration, is renowned as the origin of inclusive social housing policies, tenant protection, and restricted local housing market (see, e.g., Kadi, 2015). Also, for the provision of PBSA, we find traditional structures within the city. As our desktop research and interview data highlights, NP providers have historically catered to the accommodation needs of students. Private providers have only entered the market over the last decade. Properties of commercial or FP providers tend to be highly visible due to a prominent style of architecture characterised by state-of-the-art aesthetics or high-rise buildings, as well as effective advertising campaigns in the press and media (Rischanek, 2018; "Studierende wohnen teuer," 2018).

The number of students moving to Vienna has been growing continuously. In 2020, around 200,000 students studied and lived in Vienna, accounting for about 10% of the total population (Landesstatistik Wien, 2020). According to the Student Social Survey (see Unger et al., 2020), only a minority of all students in Vienna (approximately 10%) live in PBSA, reflecting a general pattern seen across Austrian university cities (Unger et al., 2020). In 2019, only 11% of all students in Austria lived in PBSA, while the majority lived in private households (of which 25% lived in shared flats, 28% in a flat with their partner, 16% in single households, and 20% with their parents or other relatives; Unger et al., 2020). Compared to other European countries, the share of students in PBSA is relatively low in Austria overall, but the number living in PBSA has been rising since 2015 (Unger et al., 2020). Research indicates that living arrangements correlate strongly with the age of students, as well as with the socio-economic situation of their parents. According to Unger et al. (2020), students tend to live in PBSA at a younger age. Furthermore, student housing in Austria is more attractive to international students: 24% of students who gained their formal education outside of Austria live in student accommodation.

3.1. Localising Purpose-Built-Student Accommodation in Vienna

The placement of student accommodation within the city correlates with university locations (see Figure 1; note, that only the main university buildings were included on the map). University departments in Vienna are primarily located in central areas of the city. Therefore, traditional PBSA is usually located in direct proximity to the inner districts of the city. This creates visibility of social infrastructure in the inner-city built environment. Nevertheless, university buildings (including offices, libraries, lecture halls, and department buildings) are also situated in peripheral locations. In the last decades, developments regarding universities were part of urban development processes, as in the case of the new campus of the Vienna University of Economics that moved to an urban development area along an extended metro line during the early 2000s.

The diffusion of university departments to new locations across the city has had and will continue to have implications for past and future locations of student accommodation. In recent years, developers have

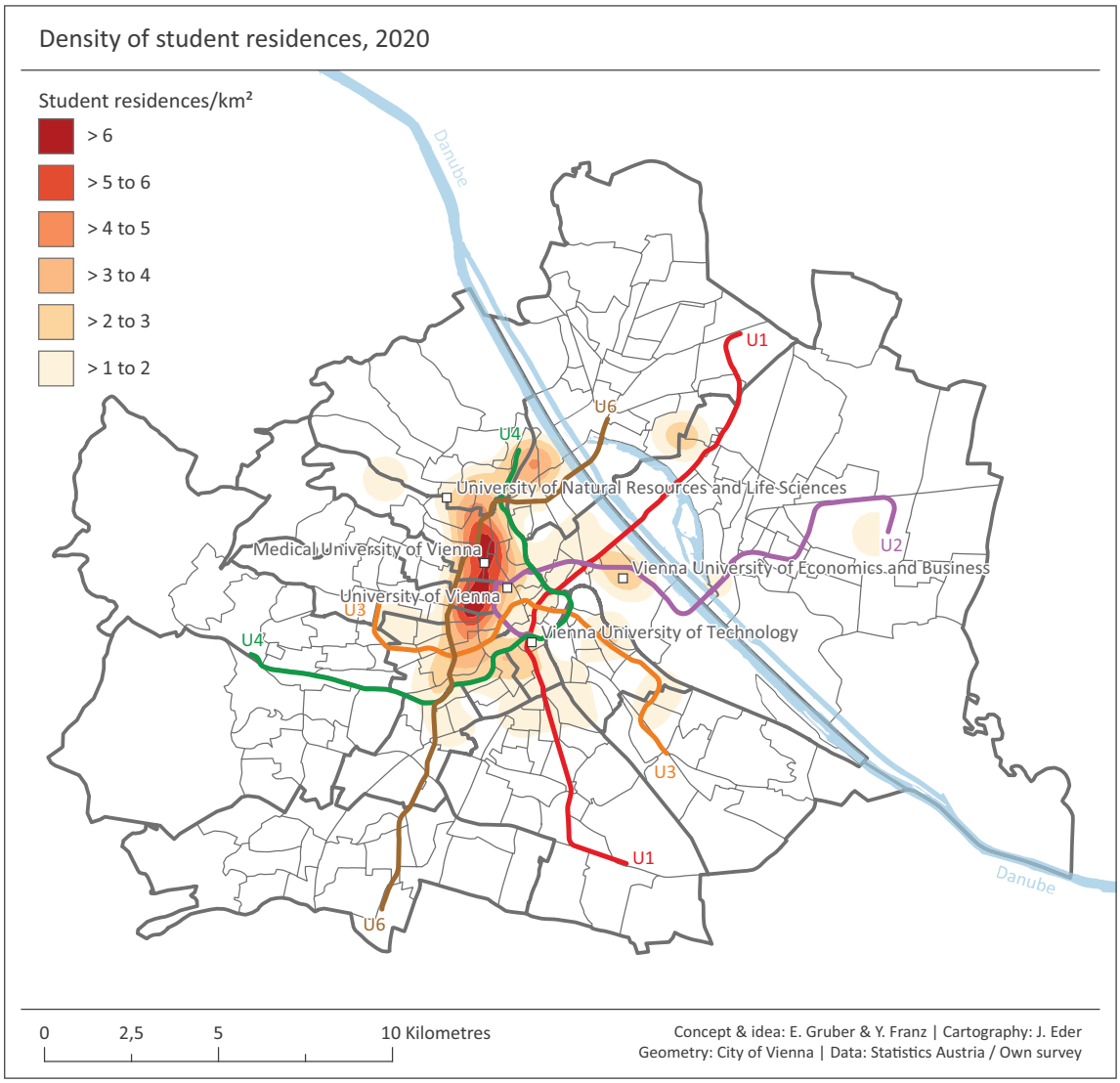

Figure 1. Localising student accommodation in Vienna: Density map (student residences per km², 2020).

realised several new-built projects outside the city centre. Some are in proximity to new university locations, for example, in Krieau, which is close to the new campus of the Vienna University of Economics and Business, or in Donaufeld, in the north-eastern part of the city, between the metro lines U1 and U6, near the Vienna University of Veterinary Medicine. New-built student housing can also be found in urban development sites without any university facilities, such as the Seestadt Aspern, at the final stop of metro line U2, or the Sonnwendviertel, along metro line U1. These areas are representative of the essential role of students in the local economy (Musil & Eder, 2013). From mapping, we can confirm that PBSA has become an important implementation tool in current urban development projects in Vienna.

3.2. Traditional and New Student Housing Providers

Our inventory includes 130 accommodation facilities in total and identifies that most student housing developers fall under the category of NP providers. Typically, these providers historically originated as charitable associations or societies. As actors within the landscape of social infrastructure provision, NP providers were traditionally able to receive public funding for construction and maintenance costs. The largest provider of student accommodation (by the number of dwellings) in Vienna is the Akademikerhilfe (Academic Aid), followed by the Gemeinnützige Studentenwohnbau AG (Non-Profit Student Housing) and the Österreichische Jungarbeiterbewegung (Austrian Young Workers' Movement). The Akademikerhilfe is the longest-standing provider of student accommodation in Vienna, founded in 1921 as a spiritual guidance and welfare institution for students, organised by a Catholic-civic community. The Österreichische Jungarbeiterbewegung, founded in 1946, was organised to house young workers and apprentices. By the 1950s and 1960s, their target group was expanded to include students. Since 2013, several new student accommodation facilities have been built

by private investors and developers. These are further maintained by FP providers, such as Milestone (originating in 2013 as a Vienna-based provider), the Fizz (since 2017 in Vienna, provided by the UK-based developer Stonehill), Linked Living (since 2015 in Vienna, provided by the Luxembourgian developer Corestate), and the Studenthotel (the Dutch development group realised their housing project in 2020). By the end of 2020, around 10 larger commercial investors were active in Vienna, with more expected to join the market soon (e.g., the US-based development group Greystar). Finally, there are those NP actors that have entered the student housing market in recent years with free-financed developments.

While NP providers have increased the availability of student dwellings throughout the past decades, the share of FP providers has expanded rapidly recently (see Figure 2). Since 2015, around 4,000 apartments in new-built student accommodation facilities have been realised, approximately 1,300 of which are run by FP providers. By the end of 2020, there were a total of around 21,000 apartments.

On average, students spend €440 per month on housing in Austria (Unger et al., 2020). Those living in PBSA report monthly costs of €362 on average in Austria (and €382 in Vienna; Unger et al., 2020). Living in a shared flat is only slightly more expensive (€380), while students in other private households (single households or with a partner) pay around €500 per month. Living costs have been rising for all types of accommodation in recent years. The highest increase was in private accommodation, but the cost of PBSA has also increased by 16%, although Vienna displayed the lowest increase in rent in comparison with other university cities (Unger et al., 2020).

According to different providers we interviewed, PBSA in general differs in price, quality, and further location and size of the buildings. However, we find general changes not only by provider type but by the year of the erection. When calculating the average of the cheapest available apartment type, a room at an NP apartment costs around €300, while at an FP PBSA it was €610 by mid-2021. On average, 160 students are hosted per accommodation facility. The largest capacity of 633 rooms can be found in a recently built FP PBSA. Smaller PBSA with less than 10 rooms also exist. Especially newly built student FP accommodation tends to include a larger number of rooms. This might be a sign of an increasing need for profit maximisation, but also of continuously increasing building-land prices. In terms of amenities (e.g., community rooms, rooftop terraces, laundry rooms, party rooms, as well as an internet connection) the differences are less obvious between NP and FP PBSA. However, the most essential differences between FP and NP providers are the room types and their design, which are often related to the year of construction. FP providers mostly only offer single or self-contained apartments and larger average room sizes. Shared rooms (or apartments with shared bathrooms or kitchens) still exist in most facilities offered by NP student accommodation providers. Newly built or newly renovated NP accommodation, however, similarly also offer only single occupancy apartments.

4. The Ideology of Student Housing as Social Infrastructure

Based on qualitative interviews, we analysed the motivations and underlying ideologies of student housing providers. We identify two main arguments which differ between FP and NP providers. The first argument includes assumptions on the future of student housing provision in Vienna in comparison to other university cities in Austria and Europe. This helps to understand

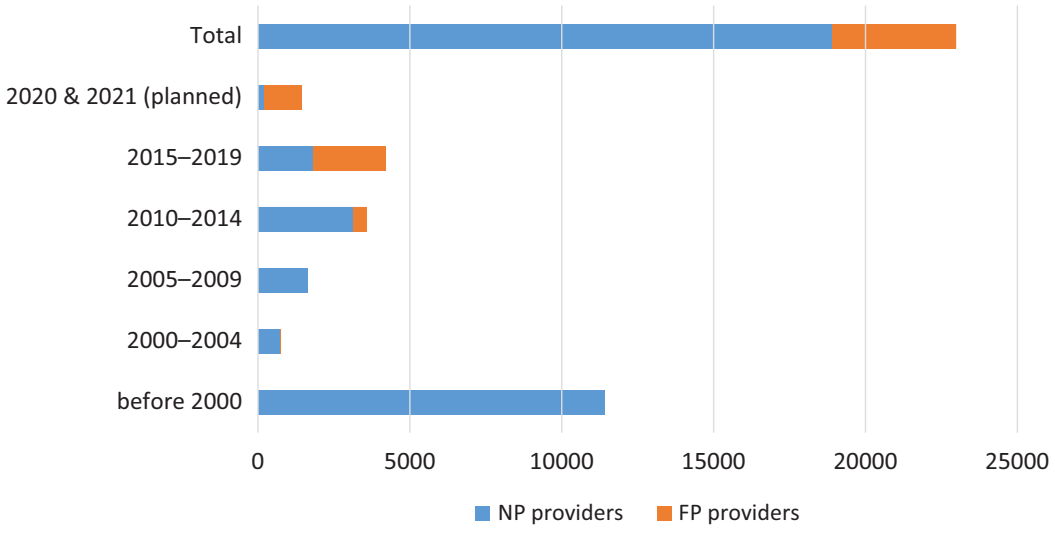

Figure 2. Student housing stock of rooms available in Vienna by provider, categorised by year of opening and in total. Source: Authors' work based on data collected via desk-top research, as of February 2021.

the reasons for expansions and future expansion plans of student housing providers. The second argument includes insights into the provision of facilities, the housing quality, and further criteria which support or hinder the understanding of student housing as social infrastructure.

4.1. Student Housing in Vienna: Recent Developments and Expansion Plans

As already observed during our data collection, we were able to follow an increased building activity of student accommodation in Vienna from 2005 onwards. In our interviews it was reported by two NP providers (NP1, NP2) that there was a shortage in student accommodation, which had developed throughout the 1990s, resulting in lengthy waiting lists for students seeking accommodation in the city. Subsidies by the national government for the renovation and erection were exclusively available for non-profit associations, but were withdrawn back then. In the direct aftermath of this decision, NP student housing providers had to close down certain locations and raise prices for accommodation (Aigner, 2011; Tempfer, 2011). FP providers have entered the Viennese student housing market since 2010 under conditions where NP PBSA existed solely and often had rather low-quality and run-down apartments (interview with FP1). Since 2015, the majority of new-built PBSA has been developed by FP providers, and further new apartments are expected over the coming years (see Figure 3). Also, NP providers have in the last years added new student accommodations. As Figure 1 in Section 3.1 shows, locations of new PBSA are increasingly detached from central university locations, which is on the one hand due to new campus and university buildings spreading over the city. On the other hand, few central locations can also be explained by rising building land prices and decreasing possibilities to realise projects. Institutional housing can further be realised in various zoning categories, which leads to the result that student housing can be constructed on building land, which is not appropriate for apartments foreseen for permanent housing.

While all interviewees from the group of FP providers mentioned the potential for expansion and even expressed plans for developing new student accommodation, all interviewees from the NP group found the market to be rather saturated. Most NP providers (NP1, NP3) reported that their current focus is rather on renovating existing locations and improving qualities and standards rather than expanding to new locations. Traditional NP student accommodation providers have been operating for decades or longer and reported on saturation in demand for student housing. Waiting lists rarely exist, and where they do, this tends only to be for specific, particularly desirable locations. NP interviewees expect the student housing market to stabilise from the recent state of expansion to a somewhat more consolidated market, with a few of the current student housing providers dropping out, for example, through mergers or sell-offs. Furthermore, there are expectations that certain providers would employ diversification strategies, thus changing their concept over time (NP2). For instance, rather than developing accommodation for students only, other temporary housing options are expected to be made available to non-student target groups. The Covid-19 pandemic might also have a bearing on this, in that the pandemic has heavily influenced the demand for student housing, with many students

Figure 3. Student accommodation under development and a high-rise building promoted as the tallest student apartment building by an FP investor in Vienna. Source: Photograph taken by Elisabeth Gruber, 2021.

moving back to their parent's homes or home locations to engage in distance learning.

FP investors not only differ from NP actors in future expansion plans, but also in their ideology of provision. NP providers in our interviews often highlighted their responsibility in providing home and shelter for students and often referred to their history, either in social housing or in institutional housing (NP1, NP3). FP providers on the other hand reported on their market entrance winding the chance for a stable demand and thus a lucrative return, often contracted by investors (FP2). While they might relate to providing "a good product" to ensure customer satisfaction, they also hinted at the logic of profit maximisation behind this objective. In contrast, NP providers (especially those with a long and traditional background) primarily built their role in student housing provision as a social commitment. They show commitment in terms of providing affordable housing, rather than materialising an investment opportunity. As such, NP providers represent important actors in social infrastructure provision. However, it remains difficult to distinguish clearly between NP and FP providers. Among our interviewees, we identified commercial providers who also had a background in NP student housing provision in countries other than Austria, and who still consider affordable student housing provision their main purpose (FP3). Furthermore, some NP providers explicitly stated their intention of increasing market share (NP2). Overall, we found a variety of concepts among student housing projects developed and operated by FP and NP providers. General visions on the contribution to public welfare and strategies on the business model differ considerably between FP and NP providers.

4.2. Understanding Student Housing as Social Infrastructure

PBSA represents a type of accommodation that mainly attracts first-semester students, especially those without knowledge of local housing markets or networks in the respective city. This we can learn from conducted surveys (Unger et al., 2020) and has also been confirmed by our interview partners. Especially NP providers have underlined their role in accommodating newcomers in the city: One NP provider reported on their responsibility for the "onboarding process" of students in their new "home city" (NP3). Another mentioned the role of PBSA as the main foundation for socialisation in the city and as a first-hand community, which underlines the role of PBSA as a facilitator for sociality (Levey et al., 2020) within social infrastructure provision (NP1). Also, the creation of a community in the student accommodation was mentioned more explicitly by NP providers, who referred to organised activities and their role as "caretakers" in the social sense (NP2).

The level of importance attributed to the "sense of community" differed among the interview partners representing FP providers or developers. For example, one FP developer underlined their disinterest in the provision of community rooms within student accommodation as those remain relatively unused and yet require constant maintenance, as students tend not to take care of these facilities or to pay attention to keeping them clean and tidy (FP2). Another FP interviewee (FP3) referred to the fact that it is more cost-efficient to refrain from providing community spaces, resulting in lower-priced apartments for students. Yet, other FP providers did mention the importance of the community aspect in the interviews, also referring to high-quality community rooms as a special amenity (FP1).

The contemporary provision of PBSA in Vienna responds to changing lifestyles and living demands of current-day students. Almost all interviewees highlighted a growing demand for more privacy, as reflected in the greater demand for single rooms. Whereas shared bathrooms and kitchens once represented the norm in most student accommodations, single apartments with their own bathrooms and cooking facilities are the preference of most students, today. Nevertheless, the variety of different types of living arrangements in the PBSA sector reflects the heterogeneity of students with their spectrum of budgets. Our interview partners confirmed that students from different backgrounds are attracted to different housing styles and that the diversified landscape of student-home providers and student-housing options usually caters to the needs of the various types of students.

Despite the great diversity of students' demands, certain aspects of student accommodation prove universally desirable, according to all interviewees. These include (a) a central location or proximity to a university, (b) a reasonable price, (c) good maintenance, and (d) a pleasing visual appearance. Interviewees defined a "good location" not only as a central site within the inner city but also as a location with highly rated public transport connections and/or outdoor recreation spaces nearby. Quality requirements for accommodation have increased across the board, as was confirmed by all interviewees. Quality was defined concerning the design and appearance of furniture, general cleanliness, and infrastructure provision, such as high-speed internet. NP actors reported that the entrance of FP providers also set new standards in quality, which made it necessary for them to catch up on certain aspects (e.g., fast internet connection, new furniture, but also advertising and marketing activities) to remain visible and in demand. Therefore, the appearance of new student home providers on the student housing market in Vienna was reported to have put pressure to improve quality standards in all PBSA. In recent years, ongoing renovation of the housing stock has been underway (see the example in Figure 4). In general, the arrival of FP providers on the student housing market was considered to have produced a more volatile market, as well as a wider variety of provisions and increased housing quality. Further, it has been reported how the market that was once pressured

Figure 4. Traditional centrally located NP student accommodation from the 1970s under renovation. Source: Photograph taken by Elisabeth Gruber, 2021.

and requested (e.g., waiting lists to receive a place in a PBSA) is now more accessible, which makes it easier for students in search of accommodation, but more competitive for the providers.

Besides higher living standards and the demand for greater privacy, all interviewees agreed that fluctuations in students living in PBSA have increased. Traditional NP providers, who were able to observe the student housing market already for a long time referred to a decrease in the average duration of the tenancy, from between four or five years a decade ago, to just two years today. This might be related to a higher number of international students who often stay in their "host" country for just one or two semesters, as well as a growing number of students that are changing university locations between their bachelor's and master's studies. Today's students are more mobile and frequently on the move, partially due to the European university reform of 1999 (the Bologna Process; see European Commission, 2021), which stimulates higher mobility during and between undergraduate and graduate studies. All student housing providers interviewed for this research reported on the increasing number of international students now in the student housing market. There were no obvious differences between FP and NP providers about this assumption, although shares of international students were reported a bit higher in FP PBSA. A high fluctuation in numbers challenges the operation of student accommodation, as our interviewees mentioned. Additional renovation and maintenance are needed in the context of a high frequency of renter turnover, as well as more extensive efforts in building up a community within any given student accommodation facility. The internationalisation of study programmes further accelerated the anyway increasing diversity on the demand side of student housing.

5. Discussion: The Changing Role of Student Housing as Social Infrastructure

This article aims to close the gap in academic literature to locate student housing in social infrastructure discourses. Using Vienna as a case study, we shed light on the ongoing financialisation process of the local student housing (sub)market which includes an increase of private FP housing developers. In our article, we have argued why institutional student housing can be defined as part of the social infrastructure of urban agglomerations. The further aim of the article was to find out to what extent current changes observed in the city of Vienna have implications for student housing as social infrastructure.

In recent years, a large amount of newly built student accommodation has been provided by FP actors. In the press and media, as well as academic debates, the new actors have been received as actors with sole market interests providing "luxury student apartments" (Rischanek, 2018; "Studierende wohnen teuer," 2018). However, the complete picture of the changing landscape in student housing is more differentiated. On the one hand, it can be argued how institutional student housing transforms from a basic need into a part of the financialised housing market, driven by international actors and their investment interests (Ward & Swyngedouw, 2018). On the other hand, the presence of FP providers has also led to a more diverse supply of student housing, which can be framed as necessary transformation in the context of increasing mobility amongst international students in higher education (King

& Ruiz-Gelices, 2003; Reynolds, 2020). There is better availability and accessibility due to the general increase of PBSA and the broad (international) marketing of available rooms. Further, the rising quality of student accommodation in the city can be rated as a positive implication for the development of social infrastructure in the city. Drawing from the Viennese case, we cannot confirm that international students are more limited in financial means compared to national students. Rather, our data hints at a range of students with very different resources and needs. Certain international students seem to demand a particular housing quality including a broader range of facilities. We conclude that especially international students benefit from a more diverse and available student housing market.

While the variety of concepts provided by the amplified range of actors can be a positive development, we see a certain risk of disregarding the social dimension of PBSA. Through ongoing privatisation and financialisation in the student housing market segment, the already overlooked social aspects of PBSA potentially are even more under threat. Our results show that price segments differ according to the type of provider, which again has implications for accessibility. FP providers depend, to a higher degree, on maximising their revenue due to the nature of their relationship with their investors. For FP providers, the quality of housing seems more integral to ultimately having a good product to sell. This aspect highlights the rationale for marketising housing as a lifestyle product and reflects practices of housing commodification (Aalbers, 2016; Fiorentino et al., 2020; Kadi, 2015). Facilities supporting spaces of everyday social interaction within and beyond the student rooms are cost intensive as they require physical space and regular maintenance. Consequently, the provision of those spaces has been reported to become rare in PBSA provided by FP student housing, putting at risk the sociality of student housing as social infrastructure (Latham & Layton, 2022) within sustainable communities.

In our analysis, we witnessed what has been termed a "predatory competition" between NP and FP providers. Some actors anticipate changes in business strategies among student housing providers (e.g., provision of temporal housing to other groups than students) in the future. Also, market exits are expected. Both aspects represent a potential threat to the provision of student accommodation in the future. Commercial FP providers, who greatly depend on investment expectations and market forces, might particularly be under threat, especially in the context of the Covid-19 pandemic. We have further recognised how institutional housing is seemingly excluded from social housing policy. This might eventually affect student housing as a sub-housing market and its role as social infrastructure. There is evidence that wider effects on sustainable communities are overlooked and threatened, as private market interest in urban development has been accelerated by cuts in public subsidies for NP operators.

6. Conclusion

This article closes the gap in academic literature regarding student housing as part of social infrastructure provision by analysing current shifts in PBSA provision in Vienna. We show that student housing goes beyond its accommodation function. It represents a central contact point that enables sociality and social connection for newly arriving students in the city (Latham & Layton, 2019). New-built PBSA in newly built urban development areas calls for a careful assessment of the fulfilment of social dimensions. Here, public actors and planners hold a particular role as it requires new forms of communication between public and private actors to secure the social dimension of student housing in social infrastructure provision. To understand the various facets and implications of student housing as social infrastructure, a profound understanding of everyday life, social interactions, and social sustainability within the wider community is needed.

Our article suggests the integration of student housing in the discourses of social infrastructure provision (Inderst, 2020) and provides a stronger position for PBSA in the realms of social infrastructure debates. This might allow a better understanding of overlooked impacts of the ongoing financialisation of student housing. It also ensures more nuanced reflections on the role of local public actors and policymaking as the loss of the social dimension within student housing might not only be triggered by global capital investment but also influenced by policy shifts (Aigner, 2020; Kadi et al., 2021). Comparative research including the perspectives of other European cities would yield further insight into the converging of processes in the context of the internationalisation of higher education as well as the financialisation of student housing. Further research is needed for the timely identification of contemporary dynamics in the supply of PBSA and its impact on social infrastructure provision. Not only Vienna, known as the "city of social housing," but other cities with an affordable student housing stock are at risk of losing their attractiveness as university cities through policy-induced commodification of student housing.

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Conflict of Interests

The authors declare no conflict of interests.

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Article

A "Motor" for the Neighbourhood? Urban Planning and the Challenges of Relocating Cultural Infrastructures

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Abstract
In the past 40 years, alternative cultural institutions have been established in many Western welfare states to respond locally to the social and urban crises that have arisen in the post-war era. Community centres and workshops for local history and youth offer new opportunities for cultural and social participation and complement the offerings at more traditional cultural infrastructures such as art museums, theatres, and opera houses. Initially borne of grassroots movements that struggled for political recognition and necessary resources in protracted disputes with municipal authorities, these facilities now play important roles in the cultural landscape of many cities. In response to calls for a "democratisation of culture" and social development programmes targeting urban geographical inequalities, these institutions provide accessible and persistent spaces for socialisation, cultural empowerment, and negotiating community concerns. These facilities are often located on brownfields and are material manifestations of socioeconomic change and urban regeneration. Using the relocation of an established socio-cultural centre to a new neighbourhood in the city of Heidelberg, Germany, as an example, we seek to understand the evolving ways political and social relations are formed, negotiated, and challenged through cultural infrastructures. By analysing newspaper coverage, policy documents, and interviews with stakeholders from urban planning, city administration, community work, and resident populations, we map and evaluate shifting planning discourses and forms of embeddedness in the processes of de- and re-localisation. We end by reflecting on more open and nuanced understandings of cultural infrastructures that could generate multiple and diverse outcomes interacting and possibly outbalancing each other.

Keywords
cultural infrastructure; embeddedness; Germany; Heidelberg; neighbourhood; relocation; urban cultural policy; urban planning

Issue
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1. Introduction: Urban Policies and Cultural Infrastructures

Since the 1960s, urban cultural policy and planning agendas have shifted significantly in terms of rationales, instruments, governance modes, and socio-spatial emphases. Cultural policies reflect political histories; urban, social, and economic challenges; cultural sector specifics; and, increasingly, global discourses (Dubois, 2015). With the growing importance of sustainable development, urban planning is increasingly oriented towards integrated, mixed-use development that prioritises culture alongside ecology, society, and economy (Soini & Birkeland, 2014). This urban policy focus is particularly prominent in the United Nations' New Urban Agenda, which was adopted at the Habitat III conference in 2016

(UNESCO, 2016). The agenda advocates integrating cultural dimensions such as urban cultural heritage, cultural diversity, and cultural practices into urban planning to meet the Sustainable Development Goals. The relevant documents express confidence that considering cultural aspects can help further equity, welfare and shared prosperity, social and economic inclusion, high-quality liveable environments, vibrant public spaces, and sustainable local development (UNESCO, 2021).

A key component of this agenda is the provision of infrastructure and the management of equitable access to it (UNESCO, 2021). This accords with the social sciences' infrastructural turn, which drove increasing research on urban planning by including social and political dimensions in the dynamics surrounding the facilitation of cities (Steele & Legacy, 2017). This shift manifests both as a renewed and expanded conceptualisation of the importance of the built environment for social and economic relations and as a visualisation of how political and cultural relations are negotiated through infrastructures (Amin, 2014). Works examining infrastructures of public health, education, and culture highlight the role of urban spaces in affording social connection, political participation, and cultural vitality in the public sphere (Latham & Layton, 2019). Built cultural infrastructures like museums, libraries, theatres, community centres, culture houses, and art spaces not only represent prominent material facilities in city centres but also contribute decisively to neighbourhoods' spatial and social formation through their physical layout and functional orientation (Drozdzewski & Webster, 2021).

Following Latham and Layton (2022, p. 659), cultural infrastructures can be characterized as social infrastructures in that they are "places that allow people to crowd together, experience culture together…[and] support social connection and sociality." These infrastructures can provide accessible and persistent spaces for socialisation, cultural empowerment, and negotiating community concerns. However, these straightforward conceptions of social infrastructures are not uncontested. Middleton and Samanani (2022, p. 778), for example, urge us to think about the "what" and "where" of infrastructures' sociality as "the social" might get too easily imagined as "a relatively generic and circumscribed domain—internally similar and externally bounded" that can be pinpointed on a map. They argue for acknowledging various meanings and effects of social infrastructures and paying close attention to their relational diversity (Latham & Layton, 2019), different contextual registers, and multiple outcomes.

In this article, we aim to understand the evolving ways political and social relations are formed, negotiated, and challenged through cultural infrastructure. We argue that evolutionary and relational perspectives on the localisation and re-localisation processes of cultural infrastructures offer important insights into the changing and differentiated forms of their local anchoring in the respective neighbourhoods. The evolutionary perspective acknowledges that infrastructural developments are path-dependent and influenced, but not determined, by prior conditions and decisions. Phases of restructuring in terms of organisation, institutionalisation, and location shape infrastructures' trajectories and result in differentiated spatial outcomes (Grabher, 2009). To scrutinise the complexity of urban cultural policy, several schemes have been proposed that systematically dissect the dynamic processes to connect cultural infrastructures and their neighbourhoods for analytical purposes (Andres & Grésillon, 2013; Klein et al., 2019). Bain and Landau (2019a) employ embeddedness to systematically trace the different dynamics involved in affixing a cultural quarter to a neighbourhood.

We build on and specify these ideas of embeddedness in two ways. First, we analyse a single cultural infrastructure rather than multi-facility cultural quarters. Considering a specific cultural institution, we argue, offers a more granular understanding of how political and social relations are formed, operated, and contested in urban cultural planning (Healey, 2006; Mould & Comunian, 2015). Second, we specify the embedding of cultural infrastructures into neighbourhoods in temporal terms. We compare the emergence and localisation of specific cultural infrastructure with its re-localisation into another neighbourhood. Dissecting the features of a single cultural infrastructure's embeddedness over time allows us to ask how much rationales of urban cultural planning and policy are site-specific and path-dependent. From a planning perspective, this can help us to reveal different meanings and multifaceted demands on infrastructures that go beyond simple and fixed functional attributions (Krisch, 2019; Middleton & Samanani, 2022).

We use the Kulturhaus Karlstorbahnhof, a sociocultural centre in the city of Heidelberg, Germany, as our case study. The Kulturhaus was established in the 1990s in a derelict railway station near the city centre after many years of tension between cultural initiatives and the city over resources, political recognition, and location. In 2015, public controversies prompted the city council to relocate the Kulturhaus to a newly developing mixed-use brownfield site in a more remote part of Heidelberg by 2022.

Section 2 outlines the specific developments and conditions of cultural urban planning and policy in Germany due to the interactions among municipal, federal, national, and supranational influences. The sociohistorical trajectories of new cultural infrastructures that have emerged in the context of a "democratisation of culture" since the 1960s are emphasised. Section 3 outlines our analytical framework, presents socioeconomic information on the city of Heidelberg that contextualises the case study, and introduces our methods. Section 4 presents our results from comparatively reviewing the evolutionary phases of embeddedness that led to the location of the Karlstorbahnhof in 1995 and 2022. We end by reflecting on more open and nuanced understandings of cultural infrastructures that could generate

multiple and diverse outcomes interacting and possibly outbalancing each other.

2. Cultural Infrastructures' Role in German Urban Planning

Germany's federal government entrusts cultural policies to individual states, which are responsible for implementation and decentralised administration. Within this system, each municipality has a certain freedom in managing and regulating cultural infrastructures and subsidising cultural activities and events. While cultural policy in socialist East Germany was organised more centrally and rigidly, those states have basically followed the West German path since 1990. Until the 1960s, the state promoted the arts, subsidising works of high culture and establishing inner-city institutions such as theatres, museums, and opera houses. There was a period of conflict and revolt against traditions in the political, social, and cultural spheres between the mid-1960s and the late 1970s. The evolving new cultural policy in Germany promoted a democratisation of culture intended to enable equal access to high culture and to establish alternative forms of "culture for all" and "culture by all" (Glaser, 2003). On the one hand, this permitted broader segments of the population into traditional cultural institutions. On the other hand, it required new cultural infrastructures to be built that would allow "Spiel-" and "Freiräume" (spaces of free play) for as many people as possible, permitting them to enact their artistic and creative potential under the identity-forming reference to the community, district, or neighbourhood (van der Will & Burns, 2015).

These efforts established new cultural infrastructures, such as community centres, youth clubs, and culture houses, in many German communities as grassroots initiatives converted train stations, warehouses, and other brownfield sites into cultural spaces (Andres & Grésillon, 2013; Hoyler & Mager, 2005). Overall, while democratising culture into "socio-culture," urban cultural policies were increasingly used as rationales for social planning relevant to the quality of life and conveying democratic values at the neighbourhood and community levels (Glaser, 2003). According to this understanding, cultural infrastructures are places "of communication and socialization where active, spontaneous or improvisatory behaviour come into their own" (Glaser, 2003, p. 188), "places that support community life...[and] allow people to live comfortably alone and alongside one another" (Latham & Layton, 2022, p. 659). These integrating tasks of urban cultural policy were further reinforced by social inclusion questions about immigrants and other minority cultures (Hirvi-Ijäs et al., 2020), which also affected national policies from the 1980s onwards (Dubois, 2015). These policies signify a shift from a conservative "high culture" elitism to the promotion of everyday culture based on a more participatory socio-culture and the increasing commodification and commercialisation of both popular and high culture.

Culture-driven approaches to economic urban regeneration surfaced in Germany, as in other countries, in the 1980s (Evans, 2004). Spatial clusters of cultural industries and amenities in cultural districts were intended to contribute to economic diversification, and job growth and innovation activities indicate a tendency towards converging economic and cultural policies. From the 1990s onwards, these developments culminated in the "creative city" concept, which has proven a widespread and enduring urban policy principle in many German cities (Kunzmann, 2004). While the social planning measures of the welfare state primarily sought to reduce inequalities at the city district and neighbourhood levels, national policies supported concepts such as cultural clusters and creative cities, which were discussed and implemented as city-wide cultural-economic drivers (Stern & Seifert, 2010). Policy documents and creative economy reports discuss the workforce, value creation, innovation potential, networks, and creativity-enhancing locales. They are often framed as benchmarks against national and international competitors, attesting to the concept's widespread success as a rationale for cultural policies at the local, national, and, increasingly, international levels (Glückler et al., 2010).

Culture, no longer a matter of a specific sector of local governance but strategically connected to other areas of urban life, has gained prominence in cities' functioning (Chapain & Sagot-Duvauroux, 2020). As German urban planning becomes increasingly holistic, coordination and collaboration between different stakeholders are emphasised in city operations. One essential trajectory for culture to adopt a more strategic role in city development is recognising cultural infrastructures' potential for sustainable development (Kagan et al., 2018). The literature now widely documents that cultural facilities are places for cultural consumption and production (Comunian, 2011), symbolic resistance to gentrification (García, 2018), or public spaces, which offer familiarity and security during cultural activities (Latham & Layton, 2019, 2022). Conceiving cultural infrastructure as social infrastructure that "helps build into urban neighbourhoods the capacity for all sorts of ways of being with others" (Latham & Layton, 2022, p. 663) suggests an integrated approach to urban planning and community development that recognises the "mediation role played in culture-led development by physical facilities, cultural institutions, cultural activities and educational and community platforms" (Ferilli et al., 2017, p. 255). Work that directly linked cultural infrastructure to community and neighbourhood development gained prominence in Germany as the prevailing top-down logic imposing a set of circumscribed urban development goals gave way to more cooperative forms of local governance at the neighbourhood level (Porter & Shaw, 2013). Stimulating local stakeholders' participation further diversified the potential services urban cultural infrastructures would

be expected to serve. Studies on German urban planning focused on bottom-up approaches to neighbourhood change that were initiated and supported by local social and artistic movements and their struggle for cultural spaces (Scharenberg & Bader, 2008). Neighbourhood regeneration often occurs through participatory governance approaches involving artists, local businesses, and residents, who now drive place-making activities (Bain & Landau, 2019b).

3. Analytical Framework, Research Area, and Methodology

3.1. Analytical Framework

We employ an analytical framework based on the concept of embeddedness, which originated in the economic and organisational sciences "to avoid both undersocialized views of economic actions, as in neoclassical economics, and oversocialized views in sociology" (Hess, 2004, p. 170). Embeddedness studies apply relational views to the spatial anchoring of different entities and networks (Grabher, 2009). From this perspective, the embeddedness of actors becomes essential for understanding the evolution of social networking (Balland et al., 2016).

Othengrafen and Reimer (2013) argue that the analytical framework of embeddedness is helpful in analysing dynamic and complex processes in spatial planning. For Bain and Landau (2019a), embeddedness proves best suited to understand the development of social and cultural infrastructures at the level of cultural districts. They contend that considering the interplay of policy reverberations and the internal governance dynamics of cultural quarters, informal urban practices, social relations inside and outside the neighbourhood, and physical characteristics and spaces of the area is key to understanding and assessing cultural quarter development. In our study, we build on these ideas by analytically dissecting a single cultural infrastructure's features of embeddedness to understand the ways political and social relations are formed, negotiated, and challenged. Table 1 presents the key features of our framework, which are not to be understood as mutually exclusive.

Moreover, our view of actors and processes is essentially evolutionary, which implies prioritising temporality by focusing the analysis on different phases of location and relocation of a particular socio-cultural centre. For this, we classify locational dynamics into temporal phases, that are characterised by specific decisions and action situations (criteria of differentiation), degrees of conflict between actors (consent/dissent between stakeholders), dominant civil society discourses, and specific network constellations of central actor groups (Mager, 2000; see Tables 2 and 3).

3.2. Research Area: Heidelberg as a City of Culture

The city of Heidelberg in Germany has a long history as a centre of culture and knowledge. Heidelberg hosts the oldest and one of the most renowned universities in present-day Germany, Heidelberg University, which was founded in 1386. During the 19th century, the university's reputation lured romanticists such as Clemens Brentano and Achim von Arnim to the city, shaping the school's image even now. Heidelberg has been referred to recently as a "pearl of knowledge" in the global network of cities (International Building Exhibition, 2018), i.e., a smaller city "with a high score on virtually all foundations, that are located very near a big agglomeration, with a good performance record" (van Winden et al., 2007, p. 540). Demographically, Heidelberg is one of the youngest cities in Germany, with an average age of 39.9 years (in 2020), mainly

Table 1. An analytical framework to assess the processes of embedding cultural infrastructures.

Key features of embeddedness	Impact on the localising processes of cultural infrastructure
Political	Decisions are embedded in political negotiation processes; cultural concerns are reflected in policy documents
Social	Processes are integrated into social network relations; different social and cultural actors engage in exchanges or cooperation across the neighbourhood, urban, and regional scales
Organisational	Processes are embedded in organised structures, such as governance connections or associations' logic
Institutional	Externally intervening governance functions, such as regulations, laws, and funding measures; the concepts and schemes of planning actors; opportunities for and limitations of resource mobilisation
Geographical	The built environment and functional connections in the spatial context function as essential assets for place-making actions, site-specific characteristics (e.g., brownfield development, built environment, cultural heritage, landscape features) and causes and effects on different scales (local, urban, regional)

due to the 38,000 students enrolled in the city's five universities (Stadt Heidelberg, 2021a). This affects various aspects of urban life, such as urban development and the availability of leisure activities. The motto of the International Building Exhibition, "*Wissen schafft Stadt*" ("Knowledge-based urbanism"), underscores the importance of the knowledge-based urban development that led to projects such as "The OTHER PARK" in the Südstadt district (Fröhlich & Gerhard, 2017). There, various green and open spaces, cultural institutions, and places of knowledge production, such as the College for Applied Sciences, the Mark Twain Center for Transatlantic Relations, the civic centre Chapel, and the Kulturhaus Karlstorbahnhof are located close together to facilitate knowledge exchange and provide opportunities to socialise (see Figure 1).

Heidelberg's cultural and creative sector is one of its economic strongholds, and it is closely linked to urban development. The European Commission ranks Heidelberg as the third cultural and creative city among all European cities with 50,000 to 250,000 inhabitants, after Lund in Sweden and Weimar in Germany (European Commission, 2019). Heidelberg scores highly in "cultural vibrancy," "creative economy," and "enabling environment" and was awarded the title of UNESCO City of Literature, in 2014. Today, it is a vibrant city with a population of about 160,000, housing high cultural amenities like the municipal theatre, the German-American Institute (DAI), and museums of science and regional history, as well as socio-cultural centres such as the Kulturhaus Karlstorbahnhof, municipal cinemas, and privately-run venues and clubs. To maintain the population's satisfaction with the city's cultural offerings, various institutes, associations, and cultural infrastructures of music, visual arts, theatre, film, and culture regularly receive funding (Stadt Heidelberg, 2021b, p. 11). These aspects are also reflected in the municipal guidelines for sustainable urban development, which aim to support cultural diversity, promote meeting areas, create free space for many cultural forms of expression, strengthen cultural life in the city's neighbourhoods, and improve access to cultural life in general (Stadt Heidelberg, 2018).

With the cities of Mannheim and Ludwigshafen am Rhein, Heidelberg represents a major urban core

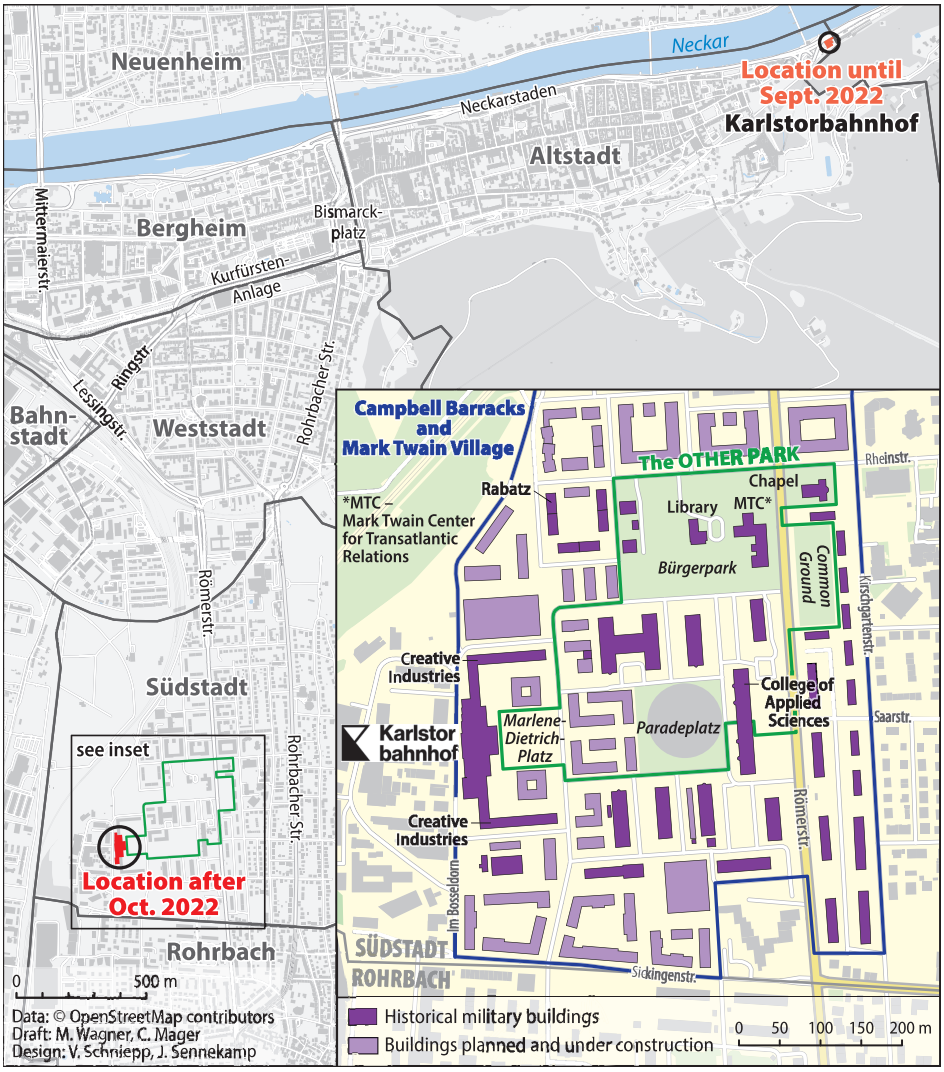


Figure 1. Old and new locations of the Kulturhaus Karlstorbahnhof in Heidelberg.

of the polycentric metropolitan Rhein-Neckar region. The Kulturhaus Karlstorbahnhof has been located in the Old Town since 1995; in 2022, it was relocated to a brownfield area currently under development in the Südstadt district. The area's history dates to the 1930s, when barracks for the German Wehrmacht were erected on the site. After World War II, American forces adopted the military facilities and converted them into NATO headquarters. The construction of residential buildings complemented the complex known as Campbell Barracks and Mark Twain Village. After the American forces withdrew in 2013, the city of Heidelberg acquired the site in 2016 and has since been developing it into a mixed-use urban neighbourhood. The 41-ha neighbourhood will ultimately include, in addition to the aforementioned The OTHER PARK, some 1,400 residential units, a shopping centre, room for local businesses and administration, and a centre for the cultural and creative industries (Fröhlich & Gerhard, 2017; "Wie soll es mit dem Karlstorbahnhof weitergehen?," 2014; see Figure 1).

3.3. Methodology

We triangulated the following methods in our research: (a) expert interviews with various stakeholders involved in the relocation process (Flick, 2021), (b) policy document analysis (Bowen, 2009), and (c) site visits to the old and new Karlstorbahnhof locations (Tabacková, 2021). This integration allowed for additional insights and contributed to the credibility of the results. We started by conducting 17 semi-structured interviews with administrative bureaucrats, planners, cultural stakeholders, and residents of the new neighbourhood. The interviews offered knowledge about, in particular, the integration of the relocation processes with social networks (social embeddedness) and organisational structures (organisational embeddedness).

In the second methodological step, documents were analysed through "skimming (superficial examination), reading (thorough examination), and interpreting" (Bowen, 2009, p. 32). We aimed to trace the political and planning negotiation processes of the location and relocation discussions (Atkinson & Coffey, 2004) and to "contextualise data collected during interviews" (Bowen, 2009, p. 30) based on municipal publications (e.g., the city gazette *Stadtblatt*), municipal council meeting minutes, and policy documents such as strategy and guideline papers for long-term cultural development. Additionally, we analysed newspaper reports between 1990 and 2000 and between 2014 and 2021, which allowed us to trace the course of events and the significance of various actors. We used articles from the local daily newspapers *Rhein-Neckar-Zeitung* and *Mannheimer Morgen* and additional material from the monthly culture magazine *meier* (published until 2012). Document analysis allowed us to obtain information about political decision-making (political embeddedness), as well as institutional and organisational control mechanisms (institutional and organisational embeddedness).

Several site visits to the old location in the Old Town and the new location on the brownfield in the Südstadt district were conducted. As, at the time of writing, the new neighbourhood was still under construction, the newly planned built infrastructures were compared with the previous historic structures (military facilities) and mapped using photo documentation and paper and pencil sketches (Lawrenz et al., 2003). We focused on the area of The OTHER PARK, which is directly adjacent to the new location of the Karlstorbahnhof. We also scrutinised the Alte Kutschenhalle, the building into which the Karlstorbahnhof will move, to trace its spatial embeddedness in the emerging neighbourhood via explorative analysis. Thus, both the atmosphere of the place (the *genius loci*) and the overall images of the neighbourhoods were analysed during the site visit (Tabacková, 2021). The atmosphere of the places was captured by means of handwritten notes and photo documentation (see Figures 2 and 3). In conjunction with the insights gained from the semi-structured interviews and the policy document analysis, the location information was processed into a map (Suchan & Brewer, 2000; see Figure 1). Thus, the site visits particularly served to capture the spatial significance of the built infrastructure for the relocation process (geographical embeddedness).

4. Empirical Results

We present our results divided into the Kulturhaus's two time periods: from when it was established at the original location to 1995 (Mager, 2000) and when the Kulturhaus's relocation was planned, from 2010 to 2022. We use an inductively obtained phase classification that is informed by decisive steps of the planning processes and characterised by distinct degrees of embeddedness. In each case, we identify the prevailing issues in the policy discourses, the dominant levels of spatial governance and the affected stakeholders and their network connections (see Tables 2 and 3).

4.1. Location of the Karlstorbahnhof, 1970s to 1995

4.1.1. Initial Phase: Grassroots Initiatives Looking for Space

The Kulturhaus Karlstorbahnhof had a bumpy start in the 1970s. At the time, the municipal cinema and the Collegium Academicum, a self-governing student initiative, had requested self-governed spaces for their cultural work. Like the contemporary social movements, these initiatives recognised life–world–local issues, such as urban planning and the commercialisation of culture, as motivation for their work (see Table 2, Dominant discourse). After the Deutsche Bundesbahn shuttered the Karlstorbahnhof station building at the eastern end of

Figure 2. Kulturhaus Karlstorbahnhof at its old location (1995–2022) at the eastern end of Heidelberg's Old Town. Source: Courtesy of Christoph Mager.

Heidelberg's Old Town due to rationalisation measures, the infrastructure was proposed for the first time as a possible location for cultural associations' initiatives. The new Green Party, which had been founded at the federal level shortly before, politically supported this idea (see Table 2, Embeddedness). The main actors in this initial phase were grassroots movements with rather limited civic organisation and political interest representation (see Table 2, Network).

4.1.2. Negotiation Phase: Negotiation Between Grassroots Actors, Politics, and Bureaucrats

With the Green Party's entry into the city council, demands for alternative cultural spaces gained a formal voice in local politics. Although these demands lacked majority support, the issue became embedded in formal politics, and the planning administration began to seek suitable spaces. The decisive turning point in the discussion came in 1990 with the changing political majority in the city council and the election of a new major from the Social Democratic Party who had supported the idea of a cultural centre during the election campaign. New institutional structures have been established as a result, including a newly created post to mediate between administrative and civic interests and develop a utilisation plan for the Karlstorbahnhof building to become a socio-cultural centre (see Table 2, Embeddedness). However, conflict arose when it became clear that the planned Kulturhaus would not be able to accommodate

Figure 3. Kulturhaus Karlstorbahnhof (in the centre of the photo) at its new location in Heidelberg's Südstadt. Source: Courtesy of Svenja Lier.

all of the interested cultural groups. During the negotiation phase, cultural actors succeeded in increasingly embedding their demands for a cultural centre at the local and federal levels and engaging the municipal administration in addressing their concerns (see Table 2, Network).

4.1.3. Decision Phase: Political Decision on Location

Based on a planning concept prepared by the municipal administration, the city council narrowly agreed to convert the former train station into a socio-cultural centre in 1995. The main actors in the decision-making phase were the political players, who, depending on their party, held different views on the Karlstorbahnhof project (see Table 2, Network, Embeddedness). Voices from the municipal council show that, in addition to concerns about the political radicalisation of cultural work, there were worries about cutbacks at other cultural institutions and the financial burden on the municipal budget (see Table 2, Dominant discourse; "Stimmen aus dem Gemeinderat," 1994, p. 2):

> Contrary to a widespread claim, the Karlstorbahnhof is not to become primarily a cultural institution, but rather a "political" youth centre….Both in terms of its objectives and its financial conditions, the Karlstorbahnhof is a big mistake, a disadvantage even for the cultural life of the city, since its high costs will prevent other cultural activities in the future. (Council member, CDU [Conservative Party])

There were sympathetic voices at the same time, those who saw the new cultural institution's potential to aid the future development of the city ("Stimmen aus dem Gemeinderat," 1994, p. 2):

> When the project…is finished…the cultural scene in Heidelberg will, of course, change, but not as seriously as some like to paint it black on the wall. Finally, there will be a permanent place where events of all kinds can take place from…cultural groups for whom there has been far too little space to perform in front of their audience. (Council members, SPD [Social Democratic Party])

> Anyone who is in favour of the Karlstorbahnhof is therefore not automatically against the theatre or other traditional cultural institutions. (Council member, FDP [Liberal Party])

4.1.4. Infrastructure Phase: Reconstruction of Building and Opening of Kulturhaus

After the city council decision in 1994, the city of Heidelberg and the Karlstorbahnhof Holding, an association of more than 50 organisations, initiatives, and individual actors, signed an agreement (see Table 2, Dissent/consent between stakeholders). The agreement governed the reconstruction of the Karlstorbahnhof, which was completed in December 1995, and its operation. The renovation and technical equipment were financed with funds from the city and federal state subsidies, supplemented by personal contributions from association members and students. The Karlstorbahnhof housed various venues, a café, a cinema, an amateur theatre, seminar rooms, and offices for various cultural associations and civil society organisations. These processes embedded the Karlstorbahnhof socially, organisationally, and institutionally on the edge of Heidelberg's Old Town (see Table 2, Embeddedness).

4.1.5. Networking Phase: Institutionalisation of Cultural Work

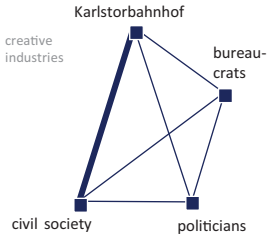
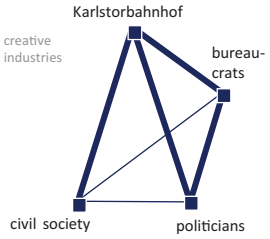
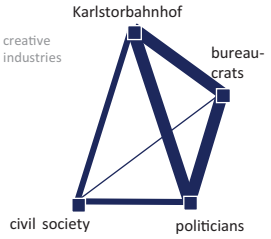
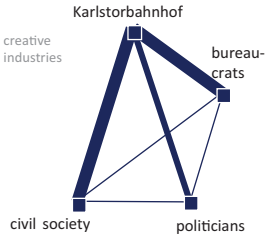
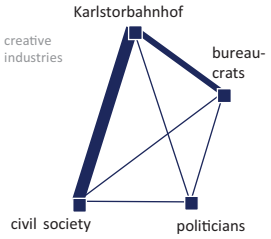
The employment of full-time staff after the Karlstorbahnhof opened marked the beginning of the professionalisation of cultural work, especially in the areas of programme planning, administration, and the coordination and supervision of the groups and projects in the house. In addition to securing basic financial support from the city, the cultural management of the Karlstorbahnhof had to acquire additional public- and private-sector sponsoring, fundraise, and execute advertising measures (see Table 2, Embeddedness). Since its inception, the Kulturhaus attracted around 100,000 visitors and participants per year to its performances, courses, workshops, and public discussion events, establishing itself as a central part of the city's social and cultural landscapes through extended networking with other cultural actors and the public (see Table 2, Dominant discourse). As a venue for major concerts and various festivals with regional and international characters, the Kulturhaus attracted audiences from beyond the city limits over the years (see Table 2, Level of scale).

4.2. Relocation of the Karlstorbahnhof, From 2010 Onwards

4.2.1. Initial Phase: Building Deficiency

The impetus to consider relocating the Karlstorbahnhof came from an EU administrative regulation in 2013. New fire regulations for buildings limited the capacity utilisation of the Kulturhaus so severely that it could no longer be operated profitably, and larger events had to be moved to other venues in the city (see Table 3, Dominant discourse). The initial considerations for the reconstruction and expansion of the building resulted in an architectural competition. The winning design envisaged lowering the existing hall, thus increasing the room capacity to adhere to the new fire regulations ("Wie soll es mit dem Karlstorbahnhof weitergehen?," 2014).

Table 2. Characteristics of the location phases of the Karlstorbahnhof.

Location of the Karlstorbahnhof 1970s until 1995	Initial phase	Negotiation phase	Decision phase	Infrastructure phase	Networking phase
Criterion of differentiation	grassroots initiatives looking for spaces	negotiation between grassroots actors, politicians and bureaucrats	political decision on location	reconstruction of building and opening of Kulturhaus	institutionalization of cultural work
Time period	1970s/1980s	until 1993	1993	1993–1995	1995 onwards
Embeddedness					
political	+	+++	+++		+
social	++	++	+	++	+++
organizational	+	++	++	+++	++
institutional		+	+	++	++
geographical	+	+	+	+	++
Consent/dissent between stakeholders	consent	dissent	dissent	consent	consent
Level of scale	urban	urban	urban	site	urban/regional
Dominant discourse	space requirements for cultural work	alternative culture vs. high culture	cultural expression vs. radical politics	creating sustainable cultural infrastructures	cultural networking in and beyond the city
Network					

4.2.2. Negotiation Phase: Identification of Competing Designs and Locations

With the departure of the US military from Heidelberg, brownfield sites became available for urban development measures. Instead of rebuilding the Kulturhaus, it became possible to speculate about relocating it. The corresponding negotiation and decision phases are difficult to distinguish as decisions were revised and extended several times, resulting in new negotiations being initiated (see Table 3, Dominant discourse). During the first negotiation phase between 2010 and 2015, different opinions were voiced in the city council, especially in the context of the 2014 local council elections. Although all parties recognise and appreciate the importance of the Kulturhaus in their statements, the development of the new neighbourhood and the consequences for the old location are seen as important decision-making criteria, in addition to financial considerations:

> We support a further development of the Karlstorbahnhof…as a driver of neighbourhood development in the new parts of Südstadt [rather than opting for] a purely technical patch-up job on a building that is too small. (Council Member, Die Grünen [Green Party]; Gonser, 2014, p. 2)

> A major reconstruction for 11 million euros is currently too expensive for the city alone. However, if the federal state provides support, the chances increase. Whether a relocation to the conversion areas is realistic can only be decided after the advanced planning for this area. (Council member, FDP; "Wie soll es mit dem Karlstorbahnhof weitergehen?," 2014, p. 7)

> For reasons of cultural diversity, it is important to us to preserve and keep the Karlstorbahnhof where it is now. Further alternative and commercial-free offers, especially for youth and young adults, must be created. (Council member, Die Linke [Left Party]; "Wie soll es mit dem Karlstorbahnhof weitergehen?," 2014, p. 7)

Citizens' initiatives also support the call for the Kulturhaus to remain at least partially at the old location, citing the importance of the historic location, its greater accessibility, and the danger of culturally eroding Heidelberg's Old Town (see Table 3, Network).

However, in 2015, the city council decided to relocate the Karlstorbahnhof to the Südstadt district. In addition to office communities, educational institutions, and cultural actors, municipal bureaucrats entered the discussion. It became apparent that the new neighbourhood should be characterised by mixed and sustainable use. Alongside housing for different income levels, opportunities for local supply, green and open spaces, social meeting places, and cultural offerings, the new Karlstorbahnhof was envisioned as the core of cultural creative industry development in the neighbourhood. The policies developed during the negotiation phase were increasingly embedded politically as decisions that would support the Kulturhaus's success with a reliable planning perspective were expected. The managing director of the Karlstorbahnhof explains: "The Karlstorbahnhof did not say: 'We have to move,' but 'we have to do what is good for us'" (Interview No. 10, cultural stakeholder).

For some cultural actors, however, these decisions went too far. They believed that the conditions of the old location were insufficiently considered (see Table 3, Consent/dissent between stakeholders). However, the activation of political and social support was less successful than planned, not least because, from the perspective of urban planning, the geographical context at the new location seemed to favour relocation. The subsequent discussions about brownfield development and relocating the Karlstorbahnhof were characterised by attempts to keep at least parts of the Kulturhaus in the Old Town.

4.2.3. Decision Phase: Political Decision on Design and Location

The most important decisions regarding the relocation of the Kulturhaus were made between 2015 and 2019. At a municipal council meeting in July 2015, the first decision to relocate the Karlstorbahnhof was taken with only two abstentions. The municipal council resolution emphasised the close link between the new district and the neighbourhood even at that stage (see Table 3, Dominant discourse):

> The starting point for the profiling of the new Karlstorbahnhof is the anchoring of the Kulturhaus in the Südstadt district and the central function of the socio-cultural centre in the context of the creative and cultural industries. The relocation of the Karlstorbahnhof is of central importance for the formation of a new cultural identity for the Campbell Barracks conversion site and corresponds with the wish of the Südstadt civic association, resulting from citizen participation, that a cultural institution with relevance for the entire city be established on the site in the course of the conversion. (Heidelberg Municipal Council, 2015)

This assessment was supported by planning bureaucrats who envisioned the Karlstorbahnhof "as a powerful development impulse for the Südstadt district" (Interview No. 6, municipal bureaucrat). Progress in the planning phase entailed adjustments to the projected costs. This provoked further political action in 2017 and 2019 that resulted in decisions to relocate the Kulturhaus and cover the increased costs by applying for further state subsidies and drawing from the municipal budget (see Table 3, Network). After these final decisions were made, the opponents of complete relocation focused

on reusing the old Karlstorbahnhof appropriately. At the time of writing, the discussion about reusing the old site has not been concluded.

4.2.4. Infrastructure Phase: Reconstruction of Brownfield Site and Relocation

In 2019, the reconstruction of the halls began; these have accommodated the new Karlstorbahnhof since the summer of 2022. In addition to gutting the new building, a foyer was built in front (see Figure 3). The municipal budget and subsidies from the federal state covered these costs. During reconstruction, the Karlstorbahnhof organised various events with its future neighbours in the Südstadt district to increase awareness of the relocation (see Table 3, Network). The city-wide campaign "*Ab in den Süden*" ("Off to the south") was launched to raise funds for individual furnishings and crowdfund expenses that were not financed by the city. In addition to its institutional and organisational features, the social and geographical embeddedness of the Karlstorbahnhof in the new neighbourhood became apparent during this phase, creating a smooth transition to the current networking phase (see Table 3, Embeddedness).

4.2.5. Networking Phase: Embedding the Kulturhaus in the Neighbourhood

Unlike the previous phases, the networking phase of relocation is incomplete. Various expectations and worries have been expressed by different stakeholders in the Kulturhaus's new neighbourhood. For the urban development office, for example, the Kulturhaus offers many opportunities as the heart of a lively neighbourhood (see Table 3, Embeddedness):

> We believe that it takes a lot to make such a strong place successful. We think that this is an important design and development impulse….[But] we don't just want this to be a singular institution, we want to support it so that it becomes a motor for the complete development of the Südstadt district. We want to make use of the impetus generated by a cultural and creative industries nucleus. We want the impulse to become relevant for the overall development….This includes who is in the neighbourhood, so that it does not interfere, but enrich [it]. This includes which public space with which use will be able to develop appropriately. This includes where the public can participate and where private spaces are necessary. (Interview No. 6, municipal bureaucrat)

Others expect the Karlstorbahnhof to shape the neighbourhood as a cultural quarter:

> It is a chance…to appropriate these spaces, to say, ok we are now a cultural quarter, there will be many cultural actors, creative people, a colourful audience and the hope that this will then also shape this district….And it's also a goal to play the squares…in front of the Karlstorbahnhof, but also the other places that arise around The OTHER PARK, other activities with Chapel, that new connections arise. (Interview No. 3, municipal bureaucrat)

Local residents often feel positively towards the cultural centre (Interviews Nos. 7, 8, 11, and 12). They express delight at the revitalisation of the neighbourhood and the cultural offerings within walking distance. However, there are some concerns about the evening noise and traffic pollution of having the venue in the immediate neighbourhood. In addition, individual voices are being raised that see established cultural structures being endangered by the move:

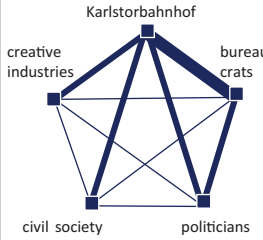
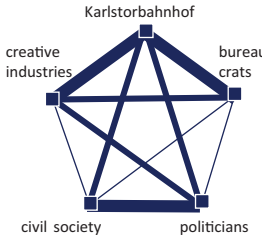
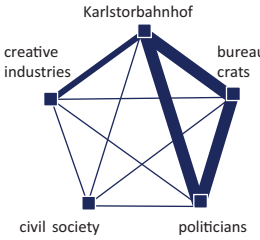
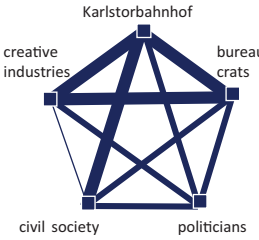
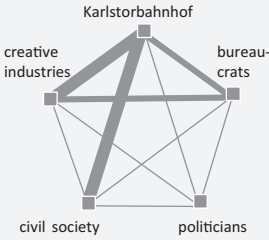
> I could imagine a negative scenario, that everything that takes place there is claimed by the Karlstorbahnhof. That it is too strongly dominated, that the competition is too fierce….Some build up a cultural scene and then the scene of the Karlstorbahnhof is used to maintain the legitimacy of what is happening there …. And that the visibility and the autonomy of the scene, which also arises in the context of the alternative housing projects, is pushed back a bit or gets into trouble. (Interview No. 2, former resident)

This perspective is not shared by others who see the Karlstorbahnhof as a central cultural institution with a "lighthouse character" but expect more cooperation between the various social and cultural offerings based on a complementary division of labour (Interview No. 13, member of the civic district association). However, residents also have concrete expectations of the Kulturhaus in terms of embedding itself in the neighbourhood. As one resident puts it, "There is a new player coming into the district—I already say 'our district'—I think, it would be the role of the Karlstorbahnhof to approach us now" (Interview No. 12; see Table 3, Network). The Karlstorbahnhof has already taken its first steps in this direction. In 2021, the Kulturhaus released a series of neighbourhood podcasts in which its new neighbours in Südstadt are introduced, and possible future connections are discussed. The managing director of the Karlstorbahnhof reports that a community work position will be established to build and coordinate networks within the neighbourhood. In addition, the operation and event times of the Kulturhaus will be adapted to neighbourhood users, who will also have access during the day (Interview No. 10, cultural stakeholder).

4.3. Summary

The founding of the Kulturhaus Karlstorbahnhof was driven by cultural actors' desire for sustainable open spaces. The socio-cultural centre could only be

Table 3. Characteristics of the relocation phases of the Karlstorbahnhof.

Re-Location of the Karlstorbahnhof 2010 until 2022	Initial phase	Negotiation phase	Decision phase	Infrastructure phase	Networking phase
Criterion of differentiation	building deficiency	identification of competing designs and locations	political decision on design and location	reconstruction of brownfield site and relocation	embedding the Kulturhaus Karlstorbahnhof in the neighbourhood
Time period	2010	2010–2019	2015–2019	2019–2022	2022 onwards
Embeddedness					
political		+++	+++		+
social		++	++	+	+++
organizational		+	+	++	+++
institutional	+++	++	++	++	+
geographical	+	+++	+++	+++	+++
Consent/dissent between stakeholders	dissent	dissent	consent	consent	
Level of scale	urban	urban	urban	neighbourhood	neighbourhood/ urban/regional
Dominant discourse	fire regulations and economic efficiency	socio-cultural motor for the new neighbourhood vs. desolation of the Old Town	nucleus for the creative industries and social infrastructure for the neighbourhood	Kulturhaus as integral part of sustainable neighbourhood development	
Network					

established after fundamental discussions about its necessity in a traditional, culturally rather well-endowed university city. The discourses were strongly influenced by political discussions on the urban and cultural crises of the 1970s, questions of municipal budgeting, and planning uncertainties. In phases of evolutionary development, cultural and political stakeholders managed to counter these uncertainties by cultural lobbying on different spatial scales and the reorganisation of civil society networks and the municipal bureaucracy. Questions about the economic effects of the planned cultural urban development and the significance of the socio-cultural centre for a neighbourhood were notably absent from these discussions. The focus was on the creation of urgently needed spaces for many cultural and political associations in the city that had previously worked without permanent homes. Furthermore, the Kulturhaus complemented the more traditional cultural offerings in the city, provided rooms and a café for social exchange, and offered low-threshold counselling and support services for residents.

The relocation of the same Kulturhaus 25 years after its establishment was discussed more in socioeconomic than political-cultural terms. The Karlstorbahnhof, firmly embedded in the urban and regional cultural landscape by processes of institutionalisation, professionalisation, and marketisation of its work, no longer needed to strive for recognition, basic funding, or space. Initially, regulatory constraints on visitor capacity and the availability of a brownfield site made relocation attractive to both the Kulturhaus and the new neighbourhood that was developing. During the phases leading to the re-localisation, institutional and geographical forms of embeddedness played a more significant role than social and organisational links. Since the first considerations of relocation, bureaucrats from different administrative bodies were involved in interdepartmental planning processes and provided expert opinions to support political decisions. In addition, new stakeholders from the cultural and creative industries emerged and were able to take an influential role in decision-making due to the strong orientation of urban policy towards concepts such as the "creative city." The stronger geographical embedding is a result of, on the one hand, the Kulturhaus's firmly established role as an important venue and network hub in the city's cultural landscape and, on the other hand, its expected role as a part of the local neighbourhood's social infrastructure.

5. Conclusion: A "Motor" for the Neighbourhood?

From a neighbourhood planning perspective, simple but pivotal questions remain: Where should infrastructure be localised? What sort of infrastructure should it be, and on the basis of which social, cultural, and economic policies should it be established? Using the example of the Kulturhaus Karlstorbahnhof, a socio-cultural centre in the city of Heidelberg, Germany, we aimed to understand the changing ways these questions have been approached. Following recent studies emphasising a holistic view of urban cultural planning (Bain & Landau, 2019b; Klein et al., 2019), we employed notions of embeddedness of actors, discourses, and buildings to dissect the dynamic processes to connect cultural infrastructures and their neighbourhoods. Unlike existing analyses, which mainly focus on comparing different infrastructures in various urban contexts (Andres & Grésillon, 2013; Bain & Landau, 2019a), we focused on the trajectories and changing planning rationales involved in embedding a single cultural centre into different neighbourhoods. In this way, we sought to make current work on the embeddedness of cultural quarters in neighbourhoods more specific in two ways. Firstly, this represents a shift in scale from the quarter level to a single cultural infrastructure. It engenders the possibility of disentangling the complex formations of embeddedness in more detail and assessing the relational dynamics of smaller instances and informal processes (Mould & Comunian, 2015). Secondly, by comparing the processes of embedding the Kulturhaus during two different periods of localisation and re-localisation, we not only showed increasingly complex urban planning networks and shifting discourses over time but also how and to what degree these networks and discourses are path-dependent and temporally embedded in greater negotiation processes. This perspective allows for heightened sensitivity to past but still influential varieties of embeddedness and infrastructural localisation, which can help to assess and navigate the relational complexity of planning at the neighbourhood level.

By examining the interplay of political, social, organisational, institutional, and geographical dimensions of embeddedness in subsequent temporal phases, we have shown the extent to which rationales of infrastructural planning and policy endure and change over time. This is evident both when comparing Karlstorbahnhof's location and relocation processes and when attending to these two processes in more detail. Through dissecting embeddedness dynamics with special emphasis on network constellations of different planning actors, we have revealed how the infrastructural significance of the Kulturhaus has changed and expanded in the course of relocation. Based on considerations of the 1970s and 1980s, the founding as a socio-cultural centre followed particular planning rationales, which were to provide spaces for social communication, cultural self-expression, and political-democratic improvisation on the city scale. These notions of cultural infrastructure as social infrastructure played a specific but limited role in embedding the Kulturhaus, as they were not fully integrated into strategic neighbourhood planning. During the relocation phases, the position of the socio-cultural centre was increasingly discussed in the context of its integration into broader planning strategies. The relocation occurred in the context of multi-actor and multi-level planning discourses on the impact of creative

industries as well as the rise of sustainable, mixed-use neighbourhood designs in urban planning. As a result, different and partly contradictory expectations are linked to the infrastructure: social meeting place for the neighbourhood, provider of do-it-yourself courses, magnet for socially diverse new residents, source of high-quality cultural programmes for the entire city and region, multifunctional node in a beaded necklace of knowledge-related cultural institutions, and incubator for a lively creative industry, to name a few. This suggests that infrastructures such as socio-cultural centres cannot be understood as facilitating fixed or clear-cut "cultural" or "social" functions, but that a more open and nuanced interpretation is required to recognise multiple and sometimes conflicting demands and outcomes (Middleton & Samanani, 2022).

Based on the results of our study, we argue for an evolutionary and multifaceted perspective on infrastructures in urban planning that attends to more-than-cultural, more-than-social, and more-than-economic dynamics of neighbourhoods. As one of our interviewees from the municipal administration put it with regard to the future of the Kulturhaus: "We don't just want this to be a singular institution, we want to support it so that it becomes a motor for the complete development of the Südstadt district" (Interview No. 6). The metaphor only makes sense if this cultural motor is conceived of as a multifunctional engine with different drivetrains that need to be regularly maintained, checked, fine-tuned, and balanced to sustainably fulfil the expectations placed on it.

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Conflict of Interests

The authors declare no conflict of interests.

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Wie soll es mit dem Karlstorbahnhof weitergehen? [What is the future of the Karlstorbahnhof?]. (2014, May 19). *Rhein-Neckar-Zeitung*, 7.

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Article

Constructing Common Meeting Places: A Strategy for Mitigating the Social Isolation of Disadvantaged Neighbourhoods?

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Abstract
Community planning has undergone changes in direction over time, from a traditional neighbourhood approach seeking to ensure well-functioning local communities to a newer focus on the feasibility of neighbourhood-based urban renewal for combating segregation. The latter initially concentrated on the internal social relations of disadvantaged neighbourhoods, but nowadays the focus for interventions is changing towards opening up such neighbourhoods to improve their external relations with more affluent surrounding districts. This article unfolds the visions related to a new urban planning strategy for constructing common meeting places inside disadvantaged neighbourhoods, which seem closely related to the political discourses about the need for opening these neighbourhoods up. Specifically, the article scrutinises the visions for two meeting places currently being constructed in two Danish neighbourhoods characterised as disadvantaged, and it examines which problems these meeting places seek to solve and how they are intended to provide for publicness. The study reveals that, despite being part of the same strategic funding programme and having similar problem framings, it is claimed that the two future meeting places will provide for publicness in distinct and context-specific ways. Furthermore, we show that the way problem representations entangled in specific political discourses are being manifested in specific local planning strategies may have contingent, yet potentially pervasive social and physical consequences for local neighbourhoods.

Keywords
Denmark; meeting places; neighbourhood planning; policy analysis; problem representation; public space; publicness; social encounters; social housing; urban renewal

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1. Introduction

The longstanding idea of planning for local communities on the neighbourhood scale is an integral component of Nordic welfare planning and policy (Mumford, 1954). This tradition builds on an understanding of neighbourhoods fulfilling a universal human need and as self-sustaining social units ensuring social integration and cohesion. The phenomenon of urban segregation, especially of neighbourhoods, was already being recognised a hundred years ago when the Chicago School of Sociology described diversified neighbourhoods as a natural process of urban development (Jørgensen, 2010; Saunders, 1986). However, the unequal distribution of local resources also caused a recognition that well-functioning neighbourhoods needed to be planned for. In neighbourhood planning and practice, key meeting places, such as public schools, were highlighted for their social potential as generators of communities. Thus, traditional neighbourhood planning was centred around the local community, its internal relations, and community life (Kallus & Law-Yone, 2000).

Even though many scholars have questioned the relevance of conceiving contemporary communities and social relations as neighbourhood-based (e.g., Giddens, 1990; Wellman, 1979), the idea of the social potential of the neighbourhood is still strong in current urban policies and planning (Madden, 2014; Shirazi & Keivani, 2017). The increased awareness that segregation has unfavourable social consequences for citizens in disadvantaged neighbourhoods has resulted in urban renewal programmes with a strong focus on neighbourhood-based initiatives for mitigating the social consequences of segregation, especially in the context of disadvantaged neighbourhoods. The initial focus of such programmes was on renovating buildings, but it was soon extended to improvements to residents' internal social networks and their wider social integration (Christensen, 2013). In Denmark, this resulted in combined refurbishment and social projects that created improvements to the physical environment of neighbourhoods, though showing only limited social improvements for individual residents. Even after several decades of urban renewal initiatives, many residents in disadvantaged neighbourhoods experience worse life chances than citizens with comparable socio-economic profiles who live elsewhere (Andersson & Musterd, 2010; Bothe & Skytt-Larsen, 2019; Galster, 2019).

Over time, belief in the social potential of neighbourhoods has gradually faded in urban policies, and the assessment that there are too few internal resources to call upon in disadvantaged neighbourhoods has influenced political discourses. Also, the increasing awareness of segregation and its impacts on urban systems has directed attention towards the potential problems that go along with the physical isolation of disadvantaged neighbourhoods. Thus, initiatives to infuse social resources into disadvantaged neighbourhoods, for instance, by attracting more resourceful residents, have been added to the agenda (Christensen, 2013; Hedman & Galster, 2013). Consequently, urban strategies to open up and improve the connectivity of such neighbourhoods with the rest of the city by means of physical transformation have been resorted to. By constructing new connecting routes, a process aimed at linking physically segregated neighbourhoods with the rest of the city has started. This has been labelled the "everyday-route strategy" (Stender & Bech-Danielsen, 2019). However, current practices of funding bodies also seem to reflect Klinenberg's (2018) argument that physical space and the conditions that make up communal life require investment just as much as infrastructure. One example is the funding programme Common Space, financed by two philanthropic urban-development organisations that are prominent in Denmark, Realdania and the Danish Foundation for Culture and Sports (see Realdania, n.d.). This programme was launched in 2018 as a funding opportunity for municipalities and housing associations to establish new meeting places in disadvantaged neighbourhoods and thus "open up disadvantaged neighbourhoods, or neighbourhoods in danger of becoming disadvantaged, to the rest of the city" (Realdania, n.d.). By constructing attractive common functional spaces in disadvantaged neighbourhoods, the Common Space programme seems to reflect the ideas of "the destination strategy" (Stender & Bech-Danielsen, 2019), another opening-up strategy, which aims to attract citizens with different socio-economic profiles to visit disadvantaged neighbourhoods and spend time there. The political discourse on opening up and associated everyday-route-and-destination strategies have not yet been subject to much analysis or critical reflection. An exception is Stender and Bech-Danielsen (2019) who argue that the application of such strategies is highly dependent on the urban context and that social isolation may remain even when physical boundaries are removed.

Accordingly, this article attempts to address this gap in research by scrutinising the implementation of the new Danish common meeting-place strategy and its potential political and social implications. Applying a critical policy analysis approach (Bacchi, 2012), this article explores visions that unfold in the process of implementing two meeting places in two Danish neighbourhoods classified as disadvantaged. Here we emphasise the visions of proposed plans and design briefs, as well as those of different stakeholders, and examine their articulations about how the meeting places are meant to enhance public life and publicness in their specific neighbourhoods. By means of field studies, stakeholder interviews, and key document analysis, the article thus explores what is at stake when Danish municipalities, housing associations, funding bodies, and other stakeholders plan and provide common meeting places. The meeting places we examine have not yet been constructed, but they will enter into use within the coming years. The article, therefore, focuses on the results of the first phases of what will be a longitudinal study.

The article starts by presenting an analytical framework for understanding the shifting problems of urban public policy and the character of contemporary public space and publicness. After describing our methods and empirical materials, the analytical section provides a brief historical outline of shifting political discourses and urban renewal efforts in Denmark. It then unfolds the problem representations of two planned common meeting places by studying the visions of stakeholders, planning documents and design briefs, and scrutinising how these two future meeting places are intended to bring about distinct types of public places providing specific types of publicness. The final section discusses if and how the problem representations mirror the visions of the publicness of the new meeting places discursively as well as materially. It also assesses the degree to which the common meeting place strategy and its implementation can be said to reflect the political discourse and related problem representations on the need to open up disadvantaged neighbourhoods.

2. Analytical Framework

The analytical framework for the study is based on a combination of Bacchi's approach to critical policy analysis and theories of public space and publicness.

2.1. Critical Policy Analysis

Bacchi (2012) argues that there exists in society an underlying assumption that policies contribute to societal improvements. However, this entails an understanding of society as shaped by certain societal problems that needs "fixing," although most political discourses do not clearly state the problems they purport to address. Thus, Bacchi (2012) argues for a need to scrutinise critically taken-for-granted problem assumptions and recommends a critical policy analysis reviewing the underlying rationales or problematisations behind a given policy. Drawing on Foucault, she argues that statements of what a certain policy will contribute to change are also an indication of how the problem is constituted. Therefore, policy proposals can be conceived as prescriptive texts relying on certain problematisations that set out practice.

To identify such problematisations, research should focus on the implications of specific policies and study how the practices they involve represent complex relational phenomena as problems (Bacchi, 2012). By standing back from taken-for-granted concepts and instead determining how they come to enter practice through heterogeneous relations, it will be possible to gain access to "the system of limits and exclusions we practice without realizing it" (Simon, 1971, as cited in Bacchi, 2012, p. 4). The study of problem representations gives access to the spaces within which objects emerge as relevant, making it possible to study the strategic relations involved in their appearance. Examining political discourse in this way calls into question the presumed fixity of the thing *thought*. In this way, the constitution of problems is recognised as a powerful and yet contingent way of producing *the real*. Rationales are thus not simply mental ideas: They emerge in practices and refer to the constituted problems in specific localities (Bacchi, 2012).

2.2. Public Space and Publicness

The public is a core concept in the social sciences concerned with defining what is of common interest to the members of a society. However, it is a quite ambiguous concept, as it is understood from distinct but interwoven approaches (Latham & Layton, 2019). At an overall philosophical level, the concept implies whatever is of concern to a community, stressing, for instance, how aspects of equitable and participatory decision-making in the public sphere matter to the communality that is achieved (Sennett, 2010). In urban sociology, the concept is often used to describe how sociality takes place, that is, how people encounter each other and contribute to public urban life (Goffmann, 1971).

As interactions and meetings among citizens with various socio-demographic backgrounds are seen as important for alleviating the effects of segregation, as well as producing meaningful social relations that are important to the citizens' development, research has mainly been concerned about the social consequences of too little interaction. Without such meetings, it is claimed, social cohesion will deteriorate, and xenophobia, distrust, and stigmatisation will grow (Mitchell, 1995; Valentine, 2008; Young, 1990). Meetings of strangers are thus considered key to facilitating feelings of togetherness and citizenship that are beneficial to all groups in society (Hajer & Reijndorp, 2001; Sennett, 2010). Although such meetings are also recognised to be dissonant and full of conflicts, such aspects are seen as unavoidable and as forming part of the social learning in becoming a citizen capable of dealing with diversity (Sennett, 2010; Valentine, 2008). The anticipated productive aspects of social meetings have been described as the "contact hypothesis" (Allport, 1950) and as the "ideal of social surplus" (Latham & Layton, 2019). Thus, underlining the importance and productiveness of meetings of strangers can be understood as an ideal of democracy in that it positions all citizens as equals (Madanipour, 1999). However, life chances and welfare facilities may be unequally distributed, especially for citizens of disadvantaged housing areas (Bothe & Skytt-Larsen, 2019), and social meetings may therefore have divergent outcomes for different citizens.

The idea of the public also encompasses the material aspects of the public space, a key concept in understanding the rationales behind constructing common meeting places (Hajer & Reijndorp, 2001; Sennett, 2010). Public spaces are assumed to be fundamental to the collective social life of cities because an acquaintance of common spaces could engender meaningful encounters and increased tolerance among citizens (Fraser, 1990; Young, 1990). Thus, in this understanding, public spaces are important for alleviating the effects of segregation and ensuring the long-term sustainability of the wider community (Mitchell, 1995; Valentine, 2008). Latham and Layton (2019) suggest four aspects that define the degree of publicness of public spaces and of their success as meeting places. The first aspect is *accessibility*. According to Latham and Layton, the publicness of a public space is determined by its accessibility for a diverse group of people across society. The next aspect is the *abundance* of the public space which concerns its location and functionality. This aspect is not fulfilled if a public space is hidden away and located far away from everyday routes or if it only conveys one sense of functionality. The aspect of *diversity* extends the scale of the single public space and relates to the concept of social infrastructure. It encompasses all the characteristics of urban life where people seek out a range of activities and thus require diverse facilities and spaces. Therefore, regarding single public spaces, each needs to be distinctive and offer facilities in specific ways to become an attractive

meeting place. Finally, public spaces need to be *responsive* to local needs in order to sustain publicness. Public spaces that are programmed too narrowly or are based on volatile trends are likely to be less successful. Thus, Latham and Layton (2019) argue that it is important for public spaces to ensure opportunities for renewal and to create a balance between looseness and prescription of the design and of the multifunctionality and specificity of located functions.

3. Methods and Material

In the analysis, we review the shifting political discourse on the potential role of common meeting places in disadvantaged housing areas that has occurred in Danish planning practices for urban renewal over the last 30 years. Also, we unfold the problem representations that emerge when implementing common meeting places in two specific Danish neighbourhoods. Using a combination of critical policy analysis with theories of public space and publicness, we scrutinise the visions for common meeting places and explore their embedded rationale, i.e., which problems they are thought to solve, and how they are intended to provide for publicness as articulated in stakeholder interviews, key planning documents, and design briefs. Here, we first reveal the background to the establishment of a new common meeting place and identify the problems the meeting place is assumed to respond to. Secondly, we make a contextual description of the meeting place's location and identify its recreational functions and facilities before assessing its degree of publicness according to the parameters suggested by Latham and Layton (2019). Lastly, we compare the two visions in terms of the problem they seek to solve, the type of publicness they aim to provide for, and how the implementation of these common meeting places relates to prior activities in the local area.

The empirical material is based on a case study of two future Danish meeting places, the Garden and the Lanterna, both funded by the Common Space programme (Realdania, n.d.). The Garden will be constructed in a square in the middle of a disadvantaged neighbourhood in the Danish capital, Copenhagen, and will consist of the physical and functional transformation of an existing central plaza. The Lanterna will be located in an urban district with several social housing units in the eastern part of Denmark's fourth largest city, Aalborg, and will be constructed as an activity house in an extension to an already existing local community centre.

To review the overall political discourse embedded in Danish urban renewal efforts, we used a combination of scientific articles describing the policies and policy statements issued by funding bodies and municipal planning authorities. These were analysed to identify how shared themes of investments in the physical environment over time have developed and been differentiated, and how such efforts have been guided by shifting discourses of the social consequences of physical segregation—on the individual, local communal, and societal levels—which also frame the recent opening-up policy proposal.

To review the problem representations and the potential physical and social implications of visions of the two specific common meeting places, data were collected by means of field trips, stakeholder interviews, and consulting key project and planning documents. During field studies in the summer of 2021, the existing urban infrastructure, recreational facilities, and surrounding contexts were mapped to acquire an initial understanding of the location and physical context of the planned common meeting place. During autumn 2021, 11 interviews were conducted. In Aalborg East, we carried out interviews with the chief development officer (CDO) of Himmerland Housing Association, a social housing worker from Alabu Housing Association, two municipal project managers from the Department of Health and Culture and the Department of Urban and Spatial Planning, the director of the local community centre, and a project manager from the local urban renewal office. In Copenhagen, we conducted interviews with the director of the board of the Folehaven social housing association, a social housing worker, a project manager from the local urban renewal department, and two project managers from the municipality's Technical and Environmental Administration. These interviews form the basis for understanding the two sites' histories, processes of urban renewal, and especially problem framings, as well as aspects of public involvement. Also, the interviews were important in gaining access to unpublished documents of design programmes and design briefs, which together with the contextual description were used to analyse the degree of publicness, using Latham and Layton's (2019) parameters of abundance, diversity, accessibility, and responsiveness.

4. Analysis and Empirical Findings

In the following, we start by briefly situating the current Danish urban renewal policy in its historical context. Secondly, the visions of each of the two common meeting places are analysed. Thirdly, the visions are compared in terms of the problems they seek to solve, the type of publicness they aim at, and how they relate to prior activities in the local area.

4.1. Historical Overview of Danish Urban Renewal Policies

The Danish *opening-up* strategies form part of a tradition of community planning that is fundamental to welfare policies. Traditional neighbourhood planning was the dominant approach, but with the increase in segregation and polarisation, community planning has been directed towards mitigating the emerging problems of disadvantaged neighbourhoods. This relates especially to urban renewal initiatives, which in Denmark have undergone a gradual reorientation over the last 30 years.

The various urban renewal interventions in Denmark can be grouped into distinct categories (Bech-Danielsen & Christensen, 2017). Although seldomly clearly stated, the strategic interventions and policies in these periods seem to have been guided by shifting discourses of the social consequences of physical segregation. The initial focus on segregation started in the 1980s, when urban renewal policies focused mainly on renovating buildings. Throughout the 1990s, discourses about complex challenges in disadvantaged neighbourhoods took over, leading to an entangled range of social initiatives targeting various social improvements as well as physical refurbishment. This social housing approach targeted both individuals and community life and focused on internal neighbourhood relations. By the turn of the millennium, the discourse had shifted, and the perceived segregation-related challenges of neighbourhoods were now framed as "ghetto problems" (Nielsen, 2019) and underpinned by national policies. Efforts at urban renewal targeting a combination of physical refurbishment and social improvements continued. However, initiatives to infuse social resources by attracting new residents with more affluent socio-economic profiles were also deployed. This came with a deliberate focus on renovating outdoor spaces to enhance the perceived safety of housing areas (Bech-Danielsen & Christensen, 2017; Kjeldsen et al., 2019).

Thus, with the shift in political discourse towards segregation as ghettoisation, belief in the neighbourhood's social potential and internal resources seems to have faded. Instead, efforts to improve the external relations of disadvantaged neighbourhoods increased in number. This indicates a novel belief that making disadvantaged social housing areas more accessible and improving their connections with the rest of the urban district would open up the neighbourhood and foster the necessary interactions between their residents and other citizens (Copenhagen Municipality, 2005). This political discourse of opening up can be observed in many recent renewal projects, with their focus on improving connectivity and accessibility by means of new routes and paths that connect disadvantaged areas with the wider urban system (Stender & Bech-Danielsen, 2019). To enhance the attractiveness and safety of disadvantaged neighbourhoods, their physical environments, especially their outdoor spaces, have become subject to "architectural boosts" and interventions for "beautification" (Realdania, 2004). These interventions seem to have a dual purpose. First, they support the perceived safety of the neighbourhood so that other citizens are not discouraged from passing through it. Second, they are used as a way of creating spaces within disadvantaged neighbourhoods that are attractive for use by more resourceful citizens who are not residents, or not yet. Furthermore, however, these inventions may also represent a shift away from believing in the social potential of the neighbourhood for combatting segregation to a belief in the social potential of traditional public spaces. The common meeting place strategy scrutinised in this article forms part of such opening up discourses, which prioritise investments in the physical environment (Realdania, n.d.).

4.2. The Vision of the Lanterna: A New Attractive Activity House

In the urban district of Aalborg East, a common meeting place called the Lanterna will be finalised by 2023. Aalborg East has about 20,000 residents living mainly in social housing. A large private housing association, the Himmerland Housing Association, owns about 80% of the social housing in the district, the remaining 20% being owned by two smaller associations. During the past 15 years, this district has undertaken a series of urban renewal processes that have changed its physical appearance and the socio-economic composition of its residents (Danmarks Almene Boliger, 2019). The main focal points for these urban renewal projects were public health and physical activity. In 2012, a health centre was built in the district, and, in 2023, the district will acquire a new university hospital. Furthermore, the physical changes implied not only changing the buildings and housing types, but also establishing recreational facilities and improving the infrastructure for pedestrians and cyclists to overcome the barrier of a major road in the area. In an interview, the CDO of the Himmerland Housing Association explained that the association's board have had a vision of building an indoor culture and sports arena for its residents for many years. However, through discussions with the funding body Realdania, the board learned about the upcoming Common Space programme. Thus, they decided to latch their ideas related to creation of the culture and sports arena on to the district's ongoing and already financed renewal processes. Consequently, in 2017, the project of establishing a new meeting place was born. When the project was selected to receive funding in 2018, a steering group was formed consisting of the CEO and CDO of the Himmerland Housing Association, representatives from the funding bodies of Realdania and the Danish Foundation for Culture and Sports Facilities, and project managers from the Municipal Departments of Family and Employment, Health and Culture, and Urban and Spatial Planning. This steering group has managed the project since its inception and has been the main decision-making body responsible for driving the project forward, including delivering input to the urban design studio.

As shown in Figure 1, the Lanterna will be located in the midst of four departments of social housing, three of which are owned by the Himmerland Housing Association, and at the intersection of two main pedestrian and bike routes. These routes connect enclaves of both social apartment housing and private detached housing and enable access for many different social groups across the urban district of Aalborg East. Also, the westward route is connected to urban areas beyond Aalborg East. The meeting place will be located near

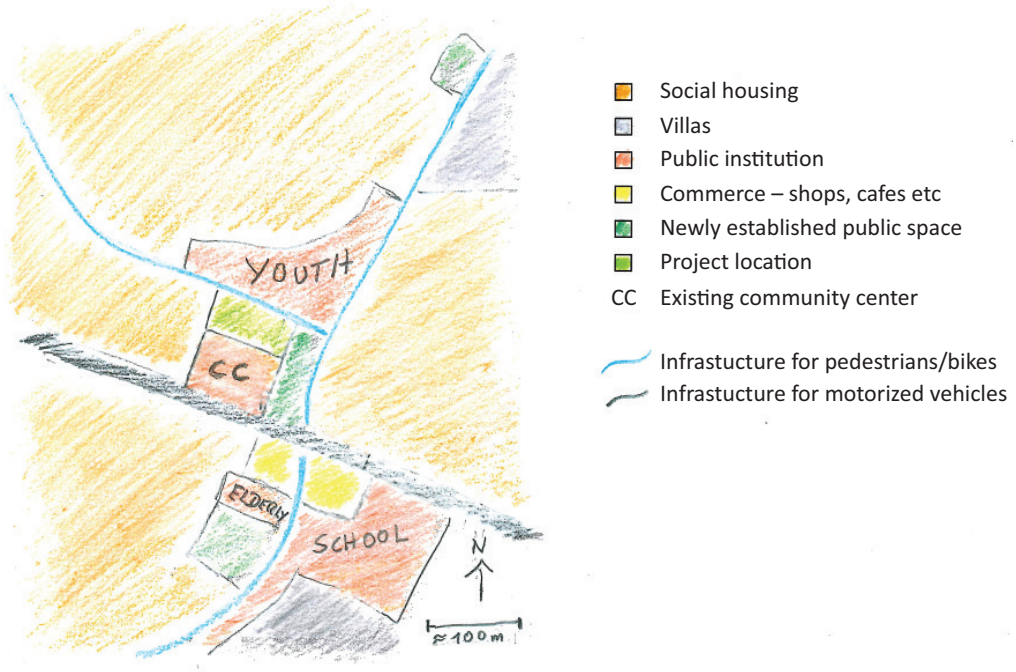

Figure 1. The Lanterna: The project's location in the district of Aalborg East.

existing recreational facilities and a public youth club and will be well connected to previous physical and social interventions. Thus, in line with Latham and Layton's (2019) arguments on the importance of accessibility and the abundance of successful social infrastructure, the Lanterna will become an easily accessible location for a variety of people from different socio-economic and demographic backgrounds, including from outside social housing.

Interviews with representatives from the steering group revealed that their vision of the meeting place is to create an attractive destination that can improve the district's reputation. The Lanterna will be built as an extension to the existing local community centre but will host other facilities and events in order to attract new users and visitors from the wider urban area. This was stressed by the project manager from the Municipal Department of Urban and Spatial Planning (interview, September 28, 2021), who stated:

> In the last decade, the district has gone through a series of urban renewal processes that have changed both its socio-economic profile and physical appearance. However, citizens from other parts of the city still believe that Aalborg East is a "ghetto." They don't want to come here. The attraction of the Lanterna will hopefully change this, making them realise that Aalborg East has become a nice district with a lot to offer.

Likewise, the design brief (see Figure 2) presents an architectural vision of an "inviting space [in which]…people will encounter each other through various activities in a series of transparent and light glasshouses" (LINK Arkitektur, 2022). The meeting place will thus have an architectural style that is quite different from the red brick building of the existing neighbouring community centre.

The prime aim of the steering group has been to attract an already acknowledged partner engaged in dance or gymnastics to occupy the building and act as the Lanterna's main attraction. Accordingly, the CDO of the Himmerland Housing Association explained that the steering committee decided on a process in which the financial and governing structures of the new meeting place should be settled before informing and involving the residents. However, as the process of finding the right external partner has been long and challenging, there have been no public consultations on the establishment of the Lanterna up to the time of writing (June 2022).

4.3. The Vision of the Garden: Renewal of a Well-Visited Central Public Plaza

In the Danish capital, Copenhagen, a common meeting place called the Garden will be located in the disadvantaged neighbourhood of Folehaven. The Garden will be inaugurated at the beginning of 2024. The project was initiated by the Municipality of Copenhagen and run by the municipal urban renewal department, hosted in the neighbourhood. Folehaven is home to approximately 2,000 residents living in social housing apartments. In 2011, the Danish police classified the neighbourhood as one of the most insecure in Copenhagen, with high levels of unemployment and criminality, low

Figure 2. Plan and design of the Lanterna. Note: The lower left-hand corner illustrates the vision of an open, transparent, and inviting design. Source: Authors' work based on LINK Arkitektur (2022).

incomes, and low educational levels (Dansk Politi, 2016). Since then, there has been a strong focus on social housing work in the neighbourhood and on establishing a local urban renewal programme. The prime focus of these welfare policies has been on social work, especially directed towards young people, criminality, safety, and employment. However, according to a social housing worker from the local urban renewal department (interview, September 16, 2021):

> Folehaven still struggles with many socio-economically disadvantaged inhabitants, who have very few relations to the rest of the city. You are not proud to say you live here—Then people will wrinkle up their noses. Folehaven is an area that is non-grata in the minds of the normal Copenhagener.

Folehaven functions as a self-sufficient neighbourhood with central everyday facilities such as a public school, library, and supermarket. The neighbourhood is surrounded by two major roads, one of them crossed by a pedestrian bridge (Figure 3). The director of the board of the social housing association (interview, September 16, 2021) stressed the problem of the surrounding roads, stating: "These roads are a huge problem. They isolate us from the rest of the city. Also, 60,000 cars pass by every day, leaving our inhabitants with a lot of noise and pollution." This physical isolation is also acknowledged by the municipality as problematic. Thus, there is a plan to establish a regional biking route to pass through the neighbourhood (Copenhagen Municipality, 2019).

The new meeting place will be located in the middle of the Folehaven social housing estate at a central plaza presently hosting a playground, a skating ramp, and a football field. The plaza is surrounded by a public school and library, a nursing home for the elderly, and a church (Figure 3). Throughout the last decade, the plaza has undergone smaller changes, including the establishment

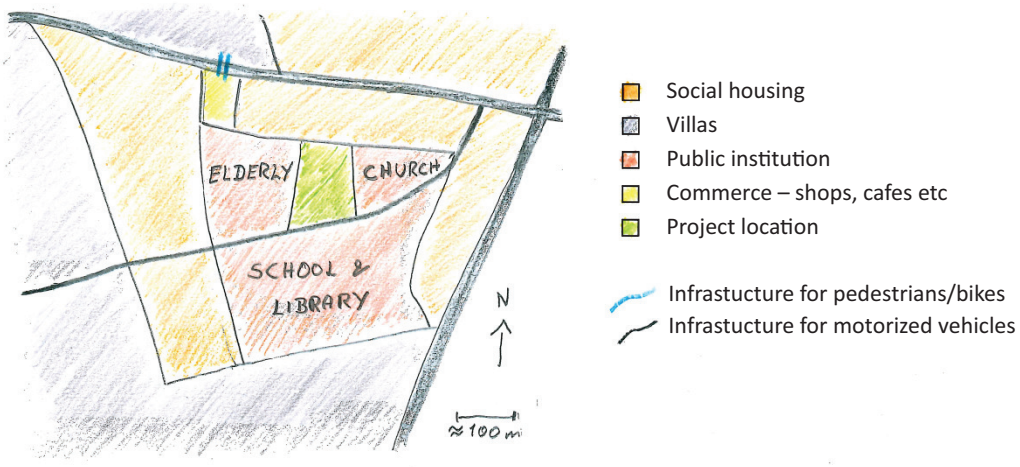

Figure 3. The Garden: The project's location in the neighbourhood of Folehaven.

of a walking and cycle path, and replacing a tall fence between the church and the plaza with a lower one that is partially open and transparent. The project of establishing the Garden is governed by a steering group with representatives from the local urban renewal department, the social housing association of Folehaven, and project managers from the municipality's Technical and Environmental Administration. However, to ensure local engagement a committee has been formed consisting of representatives from the Folehaven's housing association, local residents, residents from the neighbouring enclave of villas, privately owned apartments, and other social housing associations, the local department for social housing work, the library, and the church. Over the last couple of years, this committee and other residents have participated in workshops, community events, and public consultations together with the steering group and the urban design studio to plan and design the new meeting place collectively.

The location of the Garden at the central plaza and the strong involvement of residents and local stakeholders indicate a focus on the local inhabitants as the plaza's prime users. However, as the plaza is surrounded by public institutions, it also serves residents from the neighbouring enclaves of villas, social housing, and privately owned apartments (Figure 3). Therefore, the opportunity to attract people with varied demographic and socioeconomic backgrounds is high, suggesting a meeting place with strong abundance and accessibility (Latham & Layton, 2019). In combination with improvements to the meeting place through the transformation of the existing plaza, future public investments in everyday routes for active transport may enhance accessibility to and from the urban district (Copenhagen Municipality, 2019).

As shown in Figure 4, the Garden's design brief presents a vision of a new green meeting place with several functions. The plan is to provide different zones for various activities in order to facilitate meetings between different people with diverse needs, while also aiming to be responsive to the changing needs of various visitors (Copenhagen Municipality & 1:1 Landskab, 2021). This indicates an urge for high abundance and some

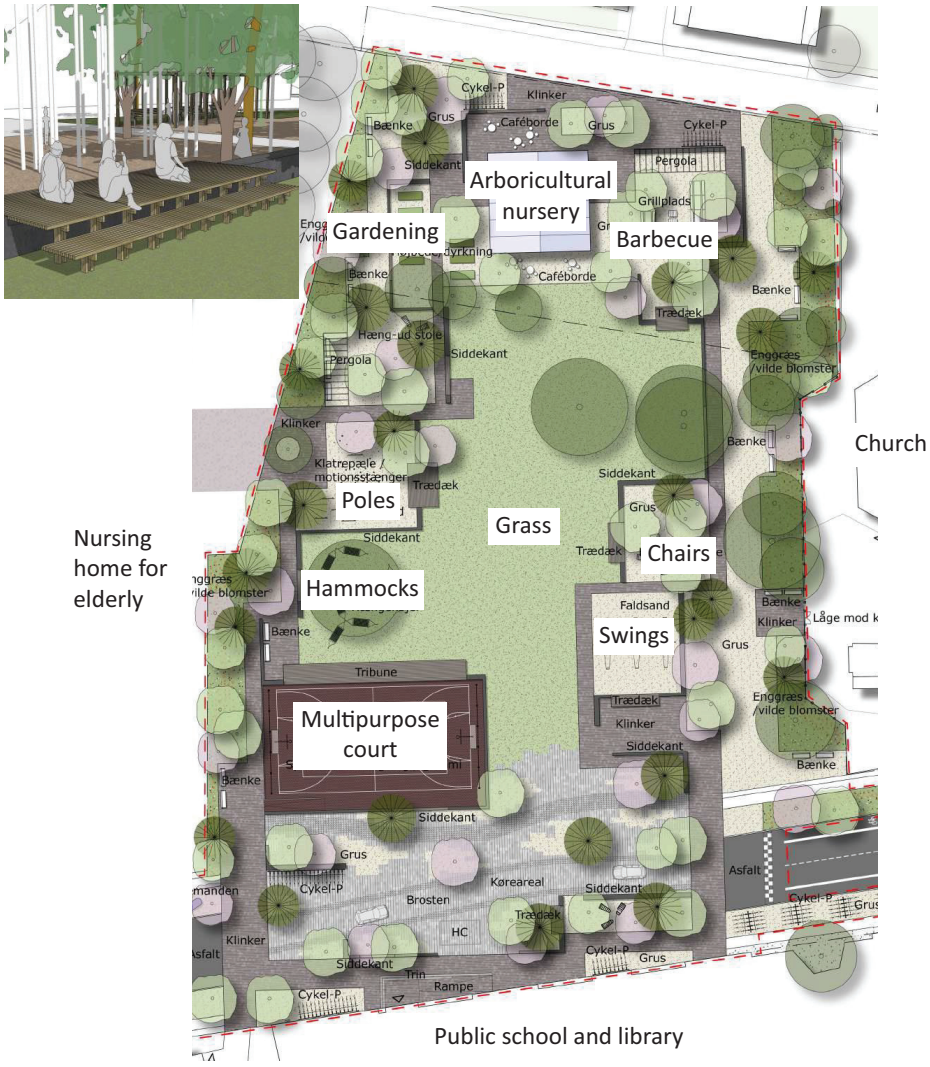

Figure 4. Plan and design of the Garden. Note: The upper left corner illustrates the vision of facilities for seating between activity zones. Source: Authors' work based on Copenhagen Municipality and 1:1 Landskab (2021).

responsiveness in the design of functions. The design brief focuses on including facilities for people to take a seat between the zones, which, according to the design brief, offers possibilities for watching at a distance and potentially urging people to engage in activities with strangers. The project manager from the local urban renewal department explained that a central idea is to encourage the surrounding school, library, and church to make use of the new meeting place for inclusive activities. Furthermore, the plan includes an arboricultural nursery with an accompanying orangery to be run by a social enterprise, which is currently in the process of being established and supported by the local social housing workers. This idea reflects the history of the intense social housing work in the area. However, the project managers from the municipality's Technical and Environmental Administration (interview, September 14, 2021) also describe the greenhouse as "a unique activity [and] as a means to attract visitors from other parts of city.''

4.4. Visions With Shared Problem Framings but Distinct Understandings of Publicness

The problem framing embedded in the visions of the two cases has a common base in the idea of social housing having a bad reputation, and thus being somewhat isolated from the rest of the city. In the case of the Lanterna, the bad reputation was presented as a problem mostly related to other citizens who were perceived as not visiting the area due to its lack of attractions. In the case of the Garden, its bad reputation was mostly seen as a problem to be solved for the sake of the residents, who, to some degree, were perceived as socially and physically isolated. Our analysis also revealed quite distinct visions of the two future meeting places. The vision of the Lanterna is to construct an architecturally attractive space in which a diversity of people will encounter each other. The vision of the Garden is to establish an attractive communal place for residents that is also an attractive destination for visitors.

In the case of the Lanterna, there is a clear vision to make the meeting place flexible and thus represents at present a responsive type of public space. By contrast, the design brief for the Garden affords a variety of functions and activities, and thus represents a type of public space with high abundance (Latham & Layton, 2019). Its users are therefore envisaged as being invited in by inclusive activities hosted by the local institutions. In the case of the Lanterna, there is a clear vision of diversity that aims to make the Lanterna a unique and attractive meeting place for citizens beyond the scale of the neighbourhood in a way that compares it with other social infrastructures of the wide city district. The Garden is partly envisaged as a unique place by means of the arboricultural nursery, but it is mostly aimed at being attractive to the local population.

As DeVerteuil explains (2000), the reasoning behind the localising of public spaces is the key to urban planning. The localisation of the common meeting places in this study can, to a considerable extent, be understood as path-dependent processes, in which prior planning processes and decisions regarding earlier urban renewal interventions have significant impacts. In recent decades, the district of Aalborg East has undergone several rounds of urban renewal that have focused on improving the quality of the built environment and its connectivity to the rest of the city in combination with social initiatives. The new meeting place, the Lanterna, is located in connection to these previous initiatives. In contrast, the Garden involves the transformation of an existing meeting place located in the middle of the social housing estate in the neighbourhood. This reflects close connections to the area's ongoing urban renewal programme and social housing work, which focuses on enhancing internal neighbourhood relations and empowering local residents.

The distinct visions determine whose voices are considered relevant to include when implementing the meeting place. The Garden project emphasises the involvement of potential local users, including public consultation meetings for any residents who are interested, and for specific groups. Also, a group that includes residents is following the planning process. The vision for the Garden set out in existing social housing work in the neighbourhood will involve the present users of the existing plaza, many of whom are residents. This implies that existing conflicts among user groups are addressed in the process. For instance, staff from the urban renewal office have attempted to include young residents in the planning process, as they do not feel welcome in the existing plaza. Conversely, the Lanterna project has an emphasis on facilitating good relations with external users in the initial phases of the project and will include residents in a later phase. Its design brief envisages open programming, which only prescribes the functioning of the site and does not address different social groups, whether residents or visitors. However, in the future, the actors involved may be changed, and other strategic relations may emerge.

5. Discussion and Concluding Remarks

The article has analysed emerging visions for implementing particular common meeting places and revealed the problems to which they are thought to be a solution, as well as which type of publicness they are thought to provide for. The study identified similar problem framings in the two examples but revealed different foci in the reasoning for why the housing areas' bad reputation was a problem and for whom. The visions in the two examples both fulfil the parameters of accessibility, abundance, responsiveness, and diversity, which Latham and Layton (2019) stress for achieving publicness in social infrastructure. Both meeting places will be located close to pedestrian-friendly infrastructure, making them easily accessible for a large and diverse group of people.

When constructed, the meeting places will provide new functionalities and recreational activities in their respective districts. In the case of the Garden, a great abundance of planned activities is presented, whereas the Lanterna project takes the provision of existing public meeting places in the district into account in order to ensure diversity.

The overall aim of this article has been to unfold the rationale of the common meeting place strategy in order to be able to reveal what is at stake when Danish municipalities, housing associations, funding bodies, and other stakeholders plan and provide for common meeting places. In this final section, we discuss the implications of the common meeting place strategy and its implementation. First, we discuss the potential political effects of the common meeting place strategy by focusing on the degree to which it relates to the "opening up" political discourse, and hence can be said to indicate a reorientation of urban welfare planning and policies. Second, we discuss the potential social consequences of the new meeting places, including their potential for increasing social encounters among citizens from different socio-economic backgrounds, and how socially just the vision of opening up disadvantaged housing areas appears to be.

In neighbourhood planning, the opening-up discourse has recently become dominant (Bech-Danielsen & Christensen, 2017; Kjeldsen et al., 2019; Nielsen, 2019). The discourse assumes that there are too few possibilities for interaction and interconnectedness between the residents of disadvantaged housing estates and other citizens, causing worse life chances for the former. Hence, the relevant solution to this problem is to interweave and open up the disadvantaged housing areas with the rest of the city by building destinations and enhancing the areas' physical connectivity. Whereas the idea of a local, central meeting place is derived from the earlier versions of neighbourhood planning, the idea still influences urban renewal programmes. This is also reflected in our two examples, but in separate ways that reveal a different balance between a traditional urban renewal approach, and the more recent "opening-up" political discourse.

The vision of the Garden focuses less on its assets as a destination and more on its benefits for the local neighbourhood. It envisions a common plaza that, with a great diversity of functions and activities, is striving to be both a local place for local residents and a destination for citizens from the wider urban district. In this way, the aim is to mitigate the social and physical isolation of the local inhabitants, many of whom already use the everyday facilities that surround the plaza. The vision has integrated the destination element in the form of a social-economic arboricultural nursery, which is also intended to employ some of the most disadvantaged residents. This underlines the fact that the strong focus on neighbourhood-based empowerment and capacity-building still dominates the district's urban renewal politics, whereas politics targeting the area's physical isolation is governed on the municipal scale. This may be interpreted as an example of traditional community planning, which includes a strong focus on social housing work in the district. However, as other urban renewal efforts beyond the common meeting place strategy are simultaneously improving the connectivity of the neighbourhood, the everyday route strategy is operating in tandem with it.

The vision for the Lanterna, conversely, shows that the district of Aalborg East has a longer history of physical urban renewal processes. Previously, the everyday-route strategy has been implemented which has greatly improved the area's connectivity. Thus, the new meeting place will be located at the crossing of two main pedestrian and bike routes, both upgraded. The project is largely influenced by the destination strategy. Its vision seeks to create a meeting place on a larger scale that, with aesthetic architecture and the attraction of an already well-recognised partner to host the meeting place, could be capable of attracting visitors from all over the city of Aalborg. This can be interpreted as a focus shift away from neighbourhood-based community life to a wider focus on urban life in the urban renewal politics of this district.

Our study stresses that the implementation of a particular urban welfare strategy is a path-dependent process, in which previous urban renewal interventions for improving the physical and architectural structures influence the provisioning of the meeting place's publicness and the degree to which its residents are in focus and involved in its planning. Even though both projects were launched in the Common Space programme, different visions have emerged, and the meeting places are likely to be constructed in very different ways. Thus, our two examples show that the common meeting place strategy can to some degree be conceived as a reorientation when the destination strategy dominates. However, when the local community is the focus of the planning process, it mostly resembles traditional neighbourhood planning.

The new meeting places have not yet been constructed, and their precise design may still be altered. Hence, we can only vaguely assess their specific social implications. The vision of potential users of the Lanterna is citizens in general, with some focus on users from outside the local neighbourhood. In contrast, the Garden is presented as a meeting place that privileges the residents. Also, those who are involved and given a voice in the planning process underline the differentiated foci of future users of the two projects.

We have shown that the strategy for constructing a common meeting place relies on a problem framing of disadvantaged neighbourhoods as areas with bad reputations or even "ghettos." Thus, constructing common meeting places might appear to be a taken-for-granted solution capable of attracting external visitors and infusing social resources into a disadvantaged neighbourhood, one that can eventually foster social meetings

and interconnectedness between residents and citizens with more affluent socio-economic profiles. Such anticipated productive aspects of social meetings might reflect a strong belief in the contact hypothesis (Allport, 1950). However, as this implies an idealistic understanding of society as equal, we argue that there is a risk that the common meeting place strategy will result in external users just visiting these meeting places without making meaningful contact with the residents, thereby leaving them with unchanged life chances. Therefore, as Stender and Bech-Danielsen (2019) argue, it is important that future common meeting places are also beneficial to their residents.

As these two meeting places have not yet been established, this article has only scrutinised the visions behind them. Therefore, a need remains to assess their future implementation and outcomes critically to conclude whether a belief in the contact hypothesis is enough to create the politically stated much-needed social surplus to mitigate the social isolation of disadvantaged neighbourhoods. Will the new common meeting places both turn into destinations for external visitors and become places for the residents? Will they provide for meetings among diverse social groups, and will such meetings contribute to a social surplus? These questions must be key in future research and will guide our longitudinal studies following the implementation phase of the meeting places and beyond. At present, it is difficult to determine whether the Common Space funding programme has a far-reaching political effect or whether the two projects indicate a reorientation of urban welfare policies, so a need remains for more studies of the potential impacts. However, when such strategies and programmes are woven into political discourses about the need to open up disadvantaged neighbourhoods, they will have potentially pervasive social consequences that are strongly indicated by the analyses presented here.

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Conflict of Interests

The authors declare no conflict of interests.

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Article

Shared Housing as Public Space? The Ambiguous Borders of Social Infrastructure

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Abstract
The Folkhem era in Sweden set high architectural standards for social infrastructures dispersedly located in cities. Over the past two decades, however, Swedish planning, when it comes to the localization of social infrastructure, has been increasingly characterized by privatized social infrastructures added to housing. Methodologically, this article draws on a compilation of architectural designs of shared housing that includes social infrastructure, 12 interviews with developers, and 22 interviews with residents. The article argues, first, that two historical approaches can be identified: one in which porous borders support urban social life in and around the housing complex and another where distinct boundaries form an edge where things end. Secondly, the article argues that in recent shared housing complexes, the infrastructures of fitness, health care, and privatized services—previously available solely in the public realm—have moved physically and mentally closer to the individual, largely replacing residents' everyday use of public space. The article concludes that in recent shared housing complexes, ambiguous borders are formed. Ambiguous borders allow a flow of goods and people, but the flow is based on the needs and preferences of residents only. Overall, such privatization counteracts the development of urban social life while adding to housing inequality, as this form of housing is primarily accessible only to the relatively wealthy. Furthermore, there is a risk that urban planning may favour such privatization to avoid maintenance costs, even though the aim of planning for general public accessibility to social infrastructure is thereby shifted towards planning primarily for specific groups.

Keywords
borders; boundaries; housing; shared housing; social infrastructure; Sweden

Issue
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1. Introduction

A substantial amount of research has theorized social infrastructures and how shared public spaces can counteract "inequality, polarization and the decline of civic life" (Klinenberg, 2018), how "eyes on the street" support safety in cities (Jacobs, 1961), and how the design of public places supports a shared "life between buildings" (Gehl, 1971). Social infrastructure comprises publicly accessible places and includes a varied typology of public institutions, commercial centres, places of worship, transport infrastructure, and public places such as squares, parks, and pavements (Klinenberg, 2018; Latham & Layton, 2019). Housing, however, has been almost entirely overlooked in social infrastructure studies. This lack of attention may seem self-evident since social infrastructure forms the "background structures and systems that allow social, economic, cultural and political life to happen" (Latham & Layton, 2019). Nevertheless, housing complexes can include several of the architectural typologies, organizations, and institutions identified as social infrastructure. A place of worship or a corner store can be located in multistorey housing. Larger housing complexes may include a community centre and shared outdoor spaces for recreation and urban gardening.

In Sweden, planning for social infrastructure—schools, health centres, and nurseries, as well as parks and playgrounds—has been central to urban planning since the Folkhem (people's home) era. Between the 1940s and the 1970s, and especially up until the 1960s, the Folkhem design approach of simplicity, honesty and purposefulness, coupled with an assertion by developers that "only the best is good enough for the people," resulted in high-quality residential architecture and urban design (Nylander, 2013). Urban planning and design became a tool for providing social infrastructure to the Swedish population during a period of increasing socio-economic equality. High architectural standards were set for libraries, community centres, sports arenas, schools, nurseries, and health centres, all of which were located so as to be accessible for all residents (Eriksson, 2001). Over the past three decades, however, Swedish cities have been increasingly characterized by privatized social infrastructures. Since the 1990s, Sweden has seen the deregulation and privatisation of such social infrastructures as schools and care services, as well as sports arenas and pharmacies, all of which were previously provided and organized by national and local governments (Hedin et al., 2012).

The relationship between urban planning and social infrastructure in Sweden must be understood in relation to the Swedish welfare regime. During the Folkhem era, the ruling Social Democratic party developed a welfare regime that benefitted both the working class and the white-collar middle class (Esping-Andersen, 1990). According to Esping-Andersen (1990), this explains the extraordinarily high costs of Swedish welfare, which provides population-wide free or heavily subsidized social infrastructure in the areas of education (*skola*), health care (*vård*), and the care of children and the elderly (*omsorg*). The provision of welfare and welfare institutions in the areas of education and health care, which was organized by national and local governments, coupled with the responsibility of municipalities to provide affordable housing and recreational areas, all meant that urban planning had to cover a broad range of social infrastructure. Additionally, Swedish municipalities have a planning monopoly, which during the Folkhem era put the municipalities in a position to plan the entirety of social infrastructure—everything from playgrounds and pavements to schools and hospitals—within a planning paradigm of "normative rationality" (DeVerteuil, 2000). As mentioned, however, recent decades have seen a privatisation and marketisation of education, health services, and care service. This development has occurred in parallel with an increasingly social and geographic polarisation of Swedish cities (Grundström & Molina, 2016; Hedin et al., 2012). The privatised forms of social infrastructure compete in their respective markets. From a perspective of localising social infrastructure, the result is that private schools and private health care centres are located in areas that are deemed attractive. Pharmacies are often located in well-to-do downtown areas while vulnerable areas experience a retraction of welfare institutions (Urban, 2016). In addition, housing has entered onto the scene as a new actor providing social infrastructure.

Housing segregation in Sweden's three largest metropolitan areas, Stockholm, Gothenburg, and Malmö, is considered a concern with a large societal impact and a driver of inequalities at large (Hedin et al., 2012). On the one hand, research points towards increased precarity: a decrease in housing standards and in the size of newly constructed dwellings (Grundström, 2021b), a displacement of vulnerable groups due to renoviction (Baeten et al., 2016), a lack of affordable housing and an emerging housing precariat (Listerborn, 2018). On the other hand, research shows an increase in housing wealth among privileged groups (Christophers & O'Sullivan, 2018) and a housing sector engaged in constructing dwellings for middle-income and wealthier groups. In this context of housing segregation and inequality (Dorling, 2014), shared forms of housing are marketed and sold based on their incorporation of residents-only infrastructures, such as private lounges, spas, gyms, cinemas, billiard rooms, restaurants, winter gardens, or gardens with places to play tennis or boules. Health care is provided in the home, residents may avail themselves of cleaning, and catering and childcare services are provided by hired staff. Outside the realm of shared housing, private housing associations (*bostadsrättsföreningar*) have also begun adding these more exclusive spaces. As the cost of housing has increased, dwelling size has decreased, which has led to a demand for social infrastructure that adds value to housing, as explained by a realtor in Stockholm (Nordlander, 2019). Housing is thus helping to reformulate which spaces form part of the public realm and which ones are private—which spaces are part of urban planning and which spaces are part of housing design in the private market.

The incorporation of social infrastructure into housing has its longest historical trajectory in shared forms of housing, such as co-housing. Co-housing has primarily been conceived of as a form of housing based on togetherness and sharing reproductive work (Hayden, 1981; Lang et al., 2020). Furthermore, co-housing has been considered a form of housing that supports de-growth and social sustainability (Kries et al., 2017; Vestbro, 2010). In recent years, however, new forms of shared housing have also come to include both very exclusive dwellings (Grundström, 2021a; Westholm, 2019) as well as precarious housing (Bergan et al., 2020). Recent forms of shared housing include social infrastructures such as a cinema, wine cellars, meeting rooms, a restaurant, a spa, swimming pools, a gym, tennis courts, and boules and barbecue areas. Residents can work remotely and receive medical and health care in their homes, while goods and other services, such as cleaning services, can be provided on-site. The incorporation of social infrastructure into housing raises questions about how "boundaries and borders" (Sennett, 2018) in cities are reformulated

and shaped, and the potential consequences this has for urban planning and inequalities in cities. How has the design and planning of shared housing evolved historically? To what extent has shared housing been built and lived behind "distinct boundaries" (Sennett, 2018) or through open, "porous borders" (Fainstein, 2010; Sennett, 2018)? How does the incorporation of social infrastructure influence the daily practices of residents and accessibility of the general public? Who has access to which places, to which services—to which social infrastructure? Despite increasing socio-economic differences and the inclusion of social infrastructure in housing, few studies have analysed precisely which types of previously public spaces are being moved from the public realm into housing. And few studies, if any, have analysed the potential consequences of urban planning and housing inequality. The first aim of this article is to analyse which types of social infrastructure have historically been included in shared housing. The second aim is to analyse how social infrastructures in housing influence residents' daily practices and what the consequences may be for future urban planning. The article argues, first, that two historical approaches in incorporating social infrastructure into shared housing can be identified: one in which "porous borders" (Fainstein, 2010) support urban social life and another where "distinct boundaries" (Sennett, 2018) form around the housing complex. Secondly, based on two current cases, the article argues that social infrastructure for everyday social interaction, fitness, health care, and privatised services—previously available solely in the public realm—has moved physically and mentally closer to the individual. Residents lounge with the like-minded, they tend to prefer spontaneity over commitment, and their daily interactions take place primarily within the housing complex. Even though the inclusion of social infrastructure in housing supports co-presence, friendship, care, and collective experiences, this introverted way of life means that civic engagement in the city outside is reduced. The article concludes that social infrastructure in shared housing to a large extent replaces residents' everyday use of public space. *Ambiguous borders* are formed that seemingly allow a flow of goods and people, but the flow is based on the needs and preferences of residents only.

Thus, the boundaries, borders, and scalar implications of investments in social infrastructure need to be analysed as welfare regimes change and the relationship between the private and public realms is reformulated. The inclusion of social infrastructure in recent forms of shared housing risks contributing to housing inequality, as it is primarily the relatively wealthy who can access this form of housing, even as social infrastructure in vulnerable areas is decreasing due to austerity policies. There is also a risk of urban planning tending to favour privatisation and incorporation of social infrastructure into housing in order to avoid costs for maintenance, even though doing so shifts the aim of planning for a general public towards planning primarily for specific groups.

2. The Boundaries and Borders of Social Infrastructures in Shared Housing

Access to social and technical infrastructure has been an issue of global concern for decades. Organizations such as UN-Habitat and the World Bank have raised the question of access to infrastructure for the poor. Although infrastructure may be physically located close to where urban poor groups live, it is rarely accessible to the poor, as access is not free of charge (Grundström, 2009; UN-Habitat, 2020). The meaning of infrastructure as a key issue in theoretical work was pinpointed by Graham and Marvin (2001) in their work on "splintering urbanism.'' Their analysis of infrastructure, and in particular private systems for infrastructure provision—including electricity, water, and telecommunication systems, but also streets and highways as well as skywalks and plazas—shows that infrastructure segregates as much as it connects. Graham and Marvin identify infrastructure primarily as digital and material connections, but also raise social implications of use and access. The field of infrastructure studies has since come to include a broad range of issues. In particular, Klinenberg (2018) has focused on social infrastructure, broadening its meaning to include not solely the provision of welfare services like education and health care, but also public spaces and institutions.

Social infrastructure is capaciously defined by Klinenberg (2018) as public institutions, public places, community organizations, and commercial establishments. This definition includes both physical and social spaces and both public and private institutions. Libraries, sidewalks, nurseries, and corner stores are all included if they support "urban social life" and "socializing between different socio-economic groups" (Klinenberg, 2018). According to Layton and Latham (2021), social infrastructures are "the in-between structures and systems that afford and support action" and collective experience. Theorising infrastructure draws attention to the facilitation of activity: how facilities are provided and how spaces are practised (Layton & Latham, 2021). Investigations of social infrastructure provide an argument *for* the importance and affordances of public space. Social infrastructure affords social connections, supports urban social life, and contributes to people's well-being as well as their mental and physical health (Klinenberg, 2018). Social infrastructure in the form of neighbourhood houses supports the social capacity of newcomers to Canada (Lauer & Chung Yan, 2022), community organizations support connections that combat loneliness among groups of ageing adults in the US (Fried, 2020), and a park in London can support several modalities of sociality, from co-presence to civic engagement (Layton & Latham, 2021). The positive connotations and concerns related to social infrastructure have resonated with scholars in architecture, urban planning, and urban design. Concepts such as "functions," "affordances," and the "facilitation of activity" that have been

used to analyse social infrastructure (Latham & Layton, 2019) are also key in the work of architects and planners who argue for the importance of "cities for people" and "liveliness" in cities (Carmona et al., 2010; Gehl, 2010; Jacobs, 1961).

Despite such arguments for the positive connotations of social infrastructure, several authors have pointed to the challenges of social infrastructure, both in its "built" and in its "lived" form (Lefebvre, 1974/2007; Sennett, 2018). Concerns have been raised about treating the forms of sociality valued by some as "universally valued" and have suggested that empowering forms of infrastructure at the local scale may "simultaneously constrain its transformative potential" in other scales (Middleton & Samanani, 2022, p. 4). Civic stewardship groups in New York City differed in their ability to create a more sustainable city, depending upon the degree of group connectivity and the scale at which the groups worked (Campbell et al., 2022). A study of a Dutch library showed that co-presence and co-mingling were the dominant types of socializing even in an exemplary public space such as a library (van Melik & Merry, 2021). The authors conclude that "the actual-taking place of meaningful encounters is difficult to arrange (or to 'infrastructure')" (van Melik & Merry, 2021, p. 17). In urban planning, the importance of supporting urban social life and allowing people to meet with differences has also been raised by scholars who have lamented inequality, segregation, zoning, and division in cities. Fainstein (2010, p. 174) suggests that public space should be "widely accessible and varied" and "borders between districts should be porous." In a similar vein, Sennett (2011), identifies a distinction between boundaries and borders. Sennett argues that distinct boundaries "establish closure through inactivity, while the-edge-as-border is a more open condition" which leads to more events and more liveliness (Sennett, 2011, p. 265).

Boundaries versus borders, or porosity versus closure, are key in defining accessibility to social infrastructure. While the boundary is "an edge where things end," the border is "an edge where different groups interact" (Sennett, 2018, p. 220). Nevertheless, a black-and-white distinction between the boundary and the border is too crude. Rather, the function of a border can be understood as similar to that of a cell membrane, which selectively lets matter flow in and out. Such urban membranes can be made of bricks and mortar, of solid walls, and of the social spaces that form around them (Sennett, 2018). Boundaries, borders, and porosity can be analysed on an urban or a neighbourhood level, but also at the level of the relationship between buildings and the streetscape, according to Sennett, who argues that "making buildings more porous…could make buildings more truly urban" (Sennett, 2011, p. 266). This would include housing, which, through the inclusion of social infrastructures, can be made truly urban and can be part of the urban fabric and urban social life. The social infrastructure in the form of stores, pizzerias, nurseries, and small offices has been shown to support a social street life (Gehl, 1971; Jacobs, 1961). Furthermore, feminist critique has shown that for many women, housing is a place of work embedded in and dependent on an open relation to urban social life (Hayden, 1981; Sangregorio, 1994). Borders as membranes include both the built and the lived space, or as Sennett (2018) defines it, the "*ville* and the *cité*." Thus, the relationship between housing and social infrastructure is an issue not solely of built form and typology, but also of sociality, including how residents live their daily lives, the routines that shape their every day and their social interactions, and their spatial practices. According to Lefebvre (1974/2007), spatial practice is part of constructing hierarchies in society, and captures the relation between physical and social space—the built and the lived—in the daily lives of residents. In a similar vein, Sennett (2018) argues that both the *ville* (the built) and the *cité* (the lived) form the ethics of building and dwelling in cities.

This framework will assist the following analysis of which architectural typologies of social infrastructure are included in shared housing, how daily life is practised, and how boundaries and borders form in shared housing.

3. Methods

Geographically, the research is focused on the metropolitan regions of Stockholm and Malmö. The selection strategy was information-oriented (Flyvbjerg, 2006). Stockholm and Malmö represent the wealthiest and poorest of the metropolitan regions and both cities have a substantial housing deficit. Furthermore, they have a high percentage of one-person households. This is important, since the rise in one-person households, i.e., "singletons," is changing how people are housed in cities and which spaces and resources they share. Singleton populations have soared in all the metropolitan regions of Europe, North America, and Australia (Klinenberg, 2012). Sweden has one of the largest singleton populations: 54% of households in Malmö and 55% in Stockholm are singletons (Statistics Sweden, 2021). Shared housing was selected for analysis since it is the most information-rich housing form, as well as the one with the longest history of including a variety of social infrastructures. The three existing types of shared forms of housing (Grundström, 2021b)—co-housing, co-living, and residential hotels—are built in both Malmö and Stockholm.

In the first phase of the investigation, information about the three architectural types of shared housing was compiled. Statistics that show exactly how many individuals live in shared housing are limited. However, using government-gathered statistics from Statistics Sweden on "household type," along with the Income and Wealth Register, the Population Register, and the Property Register, made it possible to isolate the number of households made up of individuals living with individuals other than their spouse/registered partner and/or

children (Statistics Sweden, 2021). In total, 1,003,563 individuals in Sweden currently share housing with people other than their family members, which amounts to almost 10% of the total population. The compilation of the three types of shared housing was based on previous research, presentations of shared housing from the national co-housing network, web pages about shared housing, and information from the Swedish National Board of Housing and Planning (Boverket). In addition, 12 interviews with 15 operators and developers of shared housing were conducted. Interviewees were project leaders and founders and co-founders of shared housing. They were selected based on their engagement and digital visibility as actors involved in shared housing. The interviews lasted between 40 and 80 minutes and were structured around themes that included the interviewee's model of shared housing, the social aspects and physical design of shared housing, the target groups the interviewee had identified, and what these groups shared. The interviews were conducted during the spring of 2021, and due to restrictions imposed by the Covid-19 pandemic, all interviews were conducted via Zoom or Microsoft Teams.

During the second phase of the investigation, 22 residents of shared housing were interviewed. Since age and housing type were strongly related, one housing case developed for seniors and one developed for younger residents were selected. For the senior case, four women and six men living at the Bovieran complex in the Malmö region were interviewed. Bovieran, which translates to "riviera living," aims to mimic Southern Europe in a Swedish climate. It includes fully equipped two- and three-room apartments plus a winter garden, boules court, and community space, and it is aimed at residents aged 55 and up. All of the interviews at Bovieran were carried out on-site. The second case was co-living housing, i.e., shared housing developed for younger residents. Co-living complexes include bedrooms for one or two residents plus shared spaces for eating and relaxing, gym and yoga, and co-working and socializing. In all, 12 interviews with co-livers in Stockholm and the Malmö region were conducted. Nine of the interviews were conducted with current residents and three with residents who had moved out. Among the co-livers interviewed, six were women and six were men. In each case, the selection of interviewees was based on an initial interview with a contact person, followed by snowballing and balancing numbers of women and men. The interviews lasted between 30 and 70 minutes and were structured around themes that included how residents socialized inside and outside their shared housing, what made people fit in or not, which types of social infrastructure residents shared and what they did not want to share, regulations residents had to follow, and whether residents experienced changes in their daily habits after moving in. The interviews were conducted during 2021, and due to restrictions imposed by the Covid-19 pandemic, the majority of the co-living interviews were conducted via Zoom or Microsoft Teams. For a limited period, it was possible to conduct interviews on-site; therefore, a total of five co-living interviews were carried out on-site. When interviewed on-site, residents offered to show their shared spaces as well as their private rooms or apartments. All interviews were anonymised, and the names of the two co-living complexes investigated have not been revealed in order to preserve anonymity.

All interviews with developers and residents were transcribed in full and then both deductively and inductively coded. In addition, to reflect on the interviews, notes from interviews and discussions with residents as they showed us around were compiled, and policy documents and web pages about shared housing were reviewed.

4. The Architecture and Planning of Social Infrastructure in Shared Housing

Adding social infrastructure to housing has a long history in architecture, urban planning, and design. Two historical approaches can be identified. One approach involves combining social infrastructure and housing with the aim of bringing urban social life and private dwellings closer together through porous borders. The other involves privatizing social infrastructure for the sole use of residents by drawing clear boundaries between the housing complex and the city outside. Both approaches are clearly discernible in Swedish shared housing.

Co-housing sprang out of ideas developed by Charles Fourier in the early 19th century. Fourier's *phalanstère*, or "social palace," elaborated in 1808 (Helm, 1983), was the first architectural housing design that included what Klinenberg (2018) terms social infrastructure. Fourier proposed large building complexes where communities consisting of a mix of professions and social classes would live and work together according to the principles of collective property, social interaction, and sexual freedom. The *phalanstère* was a utopian architectural design for an entire community that included all forms of social and technical infrastructure, from libraries to nurseries, schools, walking galleries, and governmental offices, all under one roof. Fourier's concept was never built in its entirety, but evolutions of the concept formed the basis for various later combinations of housing and social infrastructure. These include housing in support of workers, housing in the housekeeping and cooperative movements (Kries et al., 2017), and feminist home design and community planning (Hayden, 1982). One of the internationally best-known examples of a combination of social infrastructure and housing is Unité d'Habitation by Le Corbusier. Built in Marseille, France, between 1947 and 1952, it included apartments, shops, restaurants, a nursery, and a health centre combined with indoor streets. The *phalanstère* as well as the *unité d'habitation* are examples of setting a distinct boundary (Sennett, 2018) outside the housing complex while porous borders were thought to be formed within.

One of the earliest shared housing complexes in Sweden was the so-called "Markeliushus," a *kollektivhus* (collective house) that was designed and built in Stockholm in 1932–1935. The Swedish *kollektivhus* of the early 20th century was developed by leading pioneers of the modern movement who argued that housing would contribute to a new, modern, rational, and democratic citizenry. The overarching principle for the new society was the collective—hence the name *kollektivhus*. Women and men would work outside of the home and participate in political meetings and debates, while sports and leisure facilities in dispersed locations would contribute to a healthy population (Vestbro, 2010). Housing needed to be organized and designed to support this new collective organization of society (Hirdman, 2000). In addition to the 50 apartments of the Markeliushus, the entire ground floor of the six-storey building comprised primarily "social infrastructure," including a nursery, a grocery shop, and a restaurant. Even though the Markeliushus was run by a housing association and served its residents, the ground floor was publicly accessible and would have supported "social activity generated by street-level commerce" (Klinenberg, 2018, p. 76). People going to the restaurant and picking up their children from the nursery would contribute to the social "life between buildings" (Gehl, 1971). The addition of social infrastructure to housing complexes is also an approach that supports a "porous" border (Fainstein, 2010) between urban public life and private homes. The ground floor of the Markeliushus constituted a border as a membrane (Sennett, 2018); residents, employees, and citizens could all flow in and out of these spaces.

During the 1960s and 1970s, the focus of shared housing shifted towards *co-housing* and the sharing of reproductive and maintenance work. A system in which housework was done collaboratively and by both women and men could help reduce time spent on housework and shape a society based on gender equality. According to Sangregorio (1994, p. 73) the fundamental ideas were to "save material resources and liberate human resources." The overall design of co-housing included fully equipped apartments and was built on the idea of "more for less" (Kärnekull, 1991). If 40 households gave up 10% of their square footage, residents could instead have a library, TV room, dining room, sauna, laundry room, table tennis room, and workshops. The kitchens, designed to cater to communal cooking, were the hearts of these housing complexes, and residents jointly prepared and shared meals during the week. Shared housing became less publicly accessible during this period. Although the struggle for gender equality was a political goal of broad societal concern, the design of co-housing focused on residents rather than communities and thus contributed less to "urban social life" (Klinenberg, 2018). Libraries, saunas and urban gardens were accessible solely by residents, thus constructing more distinct "boundaries" (Sennett, 2018) towards the urban environment. Even though some co-housing complexes may invite non-residents to take part in activities such as cooking or sharing meals (Westholm, 2019), co-housing is generally focused on residents only.

The newest shared housing complexes seek to fulfil a rising demand for comfortable housing with services included for professionals who travel extensively or for retirees who enjoy leisure and lounging. Several initiatives have been launched, including exclusive *residential hotels* (Grundström, 2021a), complexes such as Bovieran for people aged 55 and up, and co-living hubs for international knowledge economy workers "who can work anywhere as long as they have a laptop" (Müller, 2016, as cited in Bergan et al., 2020, p. 1208). Here, the focus is no longer on the "collective" or the "collaborating community," but rather on the "creative class" (Florida, 2001). Sweden's first *residential hotel*, Victoria Park, was inaugurated in 2009 and included a staffed reception area, a lounge, a billiard room, a cinema, wine cellars, meeting rooms, a restaurant, a spa, swimming pools, a gym, tennis courts, and boules and barbecue areas (Grundström, 2021a; Victoria Park, 2007). Based on this first example, two forms of social infrastructure have also spread into less exclusive housing types, including the Bovieran complex and co-living housing. The first are places to socialise. At Bovieran, social spaces include a winter garden with seating and a place to play boules; co-living spaces may include a shared living room for hanging out or watching movies. The second is fitness facilities such as gyms and yoga studios, accompanied by services to support well-being and health. In addition, digitalisation has blurred the notion of which activities are part of the use of a dwelling and which belong to the public realm. Goods or services, such as cleaning or health care services, are ordered online and brought to the home or carried out within the private sphere of the housing complex. Yet another consequence of digitalization is that increasing numbers of people work from home. Overall, these new forms of shared housing are primarily geared towards residents, supporting a form of "club goods" (Manzi & Smith-Bowers, 2004). While there may be a need for social infrastructure for vulnerable groups, as Klinenberg (2018) exemplifies using the case of U.S. barbershops, the majority of residents in the Swedish examples discussed here are not socio-economically vulnerable. Rather, the main consequence of this housing is the privatization of social infrastructure—access to health care services and to public places such as gyms, parks, and places to socialise—that previously contributed to urban social life.

In sum, the historical trajectories show that despite the existence of co-housing in support of "urban social life" (Klinenberg, 2018; Westholm, 2019), both "distinct boundaries" and open, "porous borders" (Fainstein, 2010; Sennett, 2018) have existed as social infrastructures have been added to shared housing complexes. Importantly, the historical examples identified above had little or no bearing on the planning ideologies of their

respective eras. Shared housing has been built as part of urban blocks in historical inner cities, as freestanding slabs in modernist areas, and as complexes in the urban periphery or in the countryside (Vestbro, 2010; Westholm, 2019). In the most recent forms of shared housing, the "built" and the "lived" are practised in complex and contradictory ways.

5. Dwelling and Practicing Social Infrastructure in Shared Housing

The tendency towards more enclosed shared housing complexes, such as Bovieran and the co-living complexes, poses challenges and represents a counter-development to the role of social infrastructure in fighting "inequality, polarization and the decline of civic life" (Klinenberg, 2018). Although differences exist between Bovieran and co-living residents, the two groups also hold several practices in common.

First, there is a tendency towards socializing or *lounging with the like-minded*, partly due to the fact that these are rather specific forms of housing that most residents actively choose to live in. Residents' perceptions of how similar or different they are in relation to other residents vary, but they tend to mention certain similarities. Anne-Marie, a Bovieran resident in her mid-70s, acknowledged that such similarities exist, saying: "People are fairly similar here and it is possible that it is a certain type of people who are attracted to this. It is people who are very active." Another Bovieran resident, Nils, who was in his mid-80s, added: "And, you are the same age or the same generation, and you have a social exchange of things." Bovieran residents are elderly and some receive medical and health care in their private homes. Pernilla, a resident in her mid-80s, explained that many of the residents would "live [t]here until the very end." One consequence of this awareness of illness and old age is that residents check in on each other and make sure that everyone is fine. Anna, a co-liver in her 30s, thought that co-living was a "very active choice and it [was] definitely people that value[d] social interaction a lot." This goes for both Swedish as well as international co-livers. Anders, a co-liver in his mid-20s, thought that there were differences between people in his co-living complex, but there were also "groups of almost modern hippies. A lot of raves, a bit spiritual…when it started it was sort of for people in the tech industry and for start-ups." Bovieran and the co-living complexes thus appear to be forms of housing primarily for social, extroverted people who also are very active in organizing activities. Bovieran has groups for cooking, gardening, exercise, and boules as well as a group that organizes parties and activities for well-being. Co-living residents organise social activities such as watching TV together (sports, series, or shows), having coffee in the shared living room, cooking together, going out to dinner or a museum, or going for a walk or a run. The similarities that residents experience and the activities organised among them support several modalities of sociality found in urban places: "co-presence, sociability and friendship, and, care and friendship" (Layton & Latham, 2021). But simultaneously, and in contrast to the city and its value as a place where to meet difference (Fainstein, 2010), these communities lead to less opportunity on a neighbourhood or urban level to "foster contacts, mutual support and collaborations among friends and neighbours" (Klinenberg, 2018, p. 18). Certainly, cohesion, care and friendship develop between residents, but these do not support the development of urban social life to any great extent.

Secondly, residents' *social life is centred around their daily interactions within the housing complex* itself. Residents spend a substantial amount of time in their homes at Bovieran because most residents are retired, and in co-living complexes, because many residents work remotely, either full-time or for long periods. Furthermore, they live in housing designed for people to meet in as part of their daily lives. This apparently leads to more social interaction among residents and less interaction with non-residents. Anna explained that she mainly socialised at home, with other co-livers, saying: "I mean, I feel like I'm very bad in keeping my relationships outside the house…it is very easy because, like, you have a lot of people that you like, you get along with and you live with them." Margareta, who was in her late 60s and lived in Bovieran, explained that she had no lack of friends outside Bovieran, but said that at Bovieran, "there are so many people to talk to and it's really very nice." Anders explained: "There have been occasions when I have been invited to visit someone [outside of the co-living complex]. And then it turns out that there is something going on here, and then I feel more like being here with the people I live with." He went on to say that this sounded very harsh, and he did invite his outside friends to visit, but even so, one became very close to the other residents. Ingrid, a Bovieran resident in her mid-70s, explained that the architectural design made it easy to meet other residents and start a conversation if one wished to do so, saying: "In this place, you meet people to talk to just by going to the post box to pick up your mail." The design of these housing complexes affords socialising in the lounge, in the winter garden with its clusters of seating, at the gym, or in the shared kitchen where people can choose to cook together. Both forms of housing also support residents' health and well-being. In addition to its winter garden, Bovieran also includes spaces for boules, a gym and a sauna, and the co-living complexes include a gym and yoga studio. These are all "places to gather" (Klinenberg, 2018), but they are solely for residents, who actively arrange activities and spend most of their time in their home environment. Klinenberg (2018) gives the example of the library and the urban park as examples of social infrastructure that offers a wide range of activities for diverse groups of people. Places such as winter gardens, gyms, and yoga studios support the health and well-being of residents, but they could play a more inclusive role as places where

non-residents could also meet and interact if they were made publicly accessible rather than privatised. These housing complexes do not have a design based on porosity (Fainstein, 2010) which would "make buildings more urban" (Sennett, 2011, p. 266), and supportive of events and liveliness.

Third, residents tend to *prefer spontaneity* over commitment. Social infrastructure in both physical and digital forms is close at hand. Most residents mention the importance of not needing to sign up or plan for activities in advance. In contrast to the mandatory tasks in *kollektivhus* housing, the Bovieran and co-living housing forms are based on choice, voluntary participation, and casual day-to-day socialisation. Groups that cater to residents' interests and well-being organise social activities that residents can join without signing up in advance or on just a few minutes' notice. Ingrid, a Bovieran resident in her mid-70s, stressed the importance of not being forced to participate in any of the activities organized by residents, such as going on a group walk, cooking dinner together, playing boules, or watching a sports game on the big-screen TV in the winter garden. She said: "It's important that you don't feel forced to do things, everything is voluntary. All the time. There will be more of the fun stuff when you are not compelled to do things. It is important that it is voluntary." Residents of Bovieran felt relieved that they no longer had a large house and garden to care for and argued that they wanted to use their newfound freedom to choose which activities to join. Co-livers argued that they were busy and needed to be able to make decisions quickly both at work and during their leisure time, since "something [might] come up." One aspect of social life in Sweden is that plans tend to be made well in advance. Anna complained that she might be invited to visit friends "a month in advance" and that it made her feel bad to have to commit to something instead of being able to join spontaneous activities in the co-living complex. She said: "And the thing is, there are a lot of things that are happening spontaneously. And you can do all of this with no effort. Basically, you will get out of your room and you join whatever is happening." Digital platforms are used to share information about activities that come up. Anna explained: "You check on Slack if there are events, if people are going somewhere, and then you decide what to do." Klinenberg (2018) critiques the community-building vision of social media, arguing that social media platforms cannot substitute for social infrastructure, nor can social media provide a safety net or a gathering place. In co-living and Bovieran, however, social media and gathering places overlap and form a strong connection to the housing complex as well as to social interaction without much effort. This contrasts with previous notions of shared housing, such as the Swedish *kollektivhus*, which were built on porous borders that made buildings urban. The combination of shared housing and remote work, or retirement, adds another dimension to daily life. But in these cases, social media and the design of the housing complexes overlap and add to an introverted and rather enclosed community.

In sum, the daily practices (Lefebvre, 1974/2007) of these two resident groups form in close proximity to their dwelling complex. Residents interact with others who are similar to themselves, and their daily life plays out in the home or in the social infrastructures for lounging, fitness, socialising, and co-working that are physical and digitally close at hand. In these recent, introverted forms of shared housing, encounters with other people from different socio-economic circumstances are reduced. The city is still out there, but socializing happens close to home.

6. Shared Housing as Public Space? The Ambiguous Borders of Social Infrastructure

This article traces the historical trajectory of shared housing and identifies how shared housing in Sweden has increasingly become more introverted as the originally porous borders between private dwellings and social infrastructure (Helm, 1983; Kries et al., 2017) have shifted towards a more introverted sociality. The shared housing complexes analysed in this investigation comprise a complex network of social infrastructure, the materiality of which includes, e.g., a winter garden, a lounge, a billiard room, a cinema, wine cellars, meeting rooms, a restaurant, a spa, swimming pools, co-working spaces, a gym, tennis courts, boules, and barbecue areas and a staffed reception area. The institutions and organisations offering and managing social infrastructure include private housing associations, restaurant owners, and a wide range of businesses offering services—ranging from cleaning and dog-walking to childcare and in-home eldercare—of which some are privately operated and others are tax-funded and operated by local authorities. What is evident within this complexity is the recent inclusion, within shared housing, of varied forms of social infrastructure previously found solely in the public realm, where they were accessible to all.

Shared housing, such as Bovieran, co-living complexes, and other similar forms, have a material demarcation, a distinct wall, against the city outside. Characteristically, a single entrance leads into the housing complex where all the social infrastructures that the residents share are located. The city's public space is thus in a sense incorporated into the housing complex, in proximity to the dwellings. The shared space does not remain public, as public accessibility does not exist. But for the residents, the social infrastructure functions to a certain extent as a replacement for public space in their everyday life. This incorporation of public space in the housing complexes, and the demarcation against the city outside, may seem like a shift towards a "distinct boundary" from a "porous border" (Sennett, 2018), as seen in previous forms of co-housing. However, with respect to the flows of goods, people, and services that move in

and out of today's shared housing complexes, what is evolving is an *ambiguous border*.

Ambiguous borders function primarily in a one-way direction, and for the benefit of a specific group of residents. According to Sennett (2018), the "porous border" can be understood as a "membrane" that allows the flow of people and goods in both directions. The *ambiguous border* seemingly allows a flow of goods and people, but the flow is based on the needs and preferences of residents only. The *ambiguous border* supports activities that were previously carried out in other parts of the city or in the public realm. Instead of leaving the housing complex, residents can work remotely, receive in-home health and medical care, chat with neighbours, provide a meeting place for customers or for work, give large dinner parties or play boule with relatives and friends, and receive delivery of services and goods at home. People and goods from the outside enter through the *ambiguous border* to share in the community within or to offer their services. The inclusion of social infrastructure through *ambiguous borders* supports a variety of modes of sociality, from "co-presence, sociability and friendship, care and kinship to kinesthetic practices and collective experiences" as identified in public places by Layton and Latham (2021, p. 12). Missing are the "carnivalesque" and the "civic engagement" modes of sociality which are key to the public, urban social life.

The tendency to live and socialise with others like oneself is a clear sign of segregation. This tendency is apparent not only in shared housing but also at the urban level, as polarisation and socio-economic differences have increased in Sweden since the 1990s (Christophers & O'Sullivan, 2018; Grundström & Molina, 2016; Hedin, et al., 2012). At present, the amount of shared housing with social infrastructure is still limited and future development uncertain, but there is undoubtedly growing interest from developers and the private sector in marketing and selling housing with social infrastructure included (Nordlander, 2019; Westholm, 2019). It should be noted that rooftop terraces, saunas, and gyms, along with other services, may be included not only in shared housing but also in other types of privately owned housing complexes. This form of investment in and provision of social infrastructure in housing suggests yet another dimension to issues of housing inequality. Even as a concentration of assets (Dorling, 2014) is taking place for residents in shared housing, a simultaneous polarisation process risks deepening socio-economic vulnerability by decreasing housing standards (Grundström, 2021b) and access to social infrastructure (Urban, 2016) in poorer neighbourhoods.

From a planning perspective, the *ambiguous borders* of shared housing show how important it is for urban planning and design to identify boundaries and borders and at what scales they exist. Localising social infrastructure has been, and still is, central to urban planning and design. When shared housing and privately owned housing associations add social infrastructure to their dwellings, those decisions are made by private entities, meaning that public urban planning has little or no influence on such localisation of social infrastructure. This raises issues of public accessibility. How will future urban planning take the localisation of social infrastructure into account when certain groups—the middle and upper-middle classes—can provide such infrastructure for themselves through housing? Furthermore, digitalisation and the experiences of the Covid-19 pandemic have led to increased numbers of people working from home. This rise in remote working has gone hand in hand with soaring numbers of singletons in the metropolitan regions of advanced economies (Klinenberg, 2012). What kind of demand will there be for co-working spaces, leisure and fitness centres, daycare, and cleaning services in future housing? And what will be the response from developers? Politicians in local government may favour privatising certain social infrastructures in order to reduce maintenance costs. There is a risk that the combination of housing and social infrastructure, although it could contribute to making buildings more urban through porous borders, will instead have a stratifying effect on segregation and add to housing inequality. There is also a risk that it will shift the aim of planning for general public accessibility towards planning primarily for specific groups.

How and where we live in cities matters, and that includes which social infrastructure we share. Our cities have room for shared housing and counter-communities that focus on residents' well-being and on support for small groups of residents. It is correct that shared housing has been, and still is, based on de-growth and sharing reproductive work, which is much needed in many communities. But at the same time, the number of enclosed housing complexes is increasing, and *ambiguous borders* continue to evolve. In this context, the role of urban planning to support public accessibility and the fair distribution of social infrastructure is crucial for urban social life and for our cities to become more equal and just.

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Conflict of Interests

The author declares no conflict of interests.

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Article

Seeing Streetscapes as Social Infrastructure: A Paradigmatic Case Study of Hornsbergs Strand, Stockholm

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Abstract
Urban streets are an integral part of the public realm. Streets are commonly planned following normative design principles focused on the connectivity of road networks and urban morphology. Beyond their function as mobility infrastructure, streetscapes' aesthetic, social, and cultural qualities also have an important impact on the experience of the overall urban environment and human well-being. This study explores how urban design and planning can facilitate the design, management, and use of streetscapes that consider their role as social infrastructure. A paradigmatic case study of Hornsbergs Strand in the City of Stockholm is performed, incorporating spatial and temporal aspects. The case study area is chosen because it is both an attractive and "overcrowded" public space frequently discussed in the Swedish media. Data sources for the study include reviews of public documents such as Stockholm's city planning strategies, local media reports, a report from a resident workgroup, as well as walk-through observations and semi-structured expert interviews. The results highlight the potential of urban design strategies to develop streetscapes as social infrastructure through both permanent design measures and temporary design interventions. The tendency of the change in people's perception and attitude toward the place over time illustrates that design interventions are a continual process. The implications for public policy, urban development and investment in social infrastructure employing place strategies and design interventions are discussed.

Keywords
physical activities; place value; public space; social interaction; streetscape; Sweden; temporal design intervention; well-being

Issue
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1. Introduction

Urban streets are an integral component of neighbourhoods where people spend time every day (Dover & Massengale, 2013; Mehta, 2013). As cities continue to evolve, the design of streets also changes to blend in social ideas to better address broader social issues such as personal well-being, social cohesion, and mobility justice (Hanson, 2000; Jacobs, 1961; Prytherch, 2021; Tonkiss, 2014). The Covid-19 pandemic has accelerated ongoing urban trends including re-designing streets for improved walkability, bikeability, and ultimately social and health outcomes (Honey-Rosés, et al., 2020; Mehta, 2020). Building wider, safer, and better-connected bike lanes and sidewalks are prevailing strategies taken in many cities, such as Milan (Salmoirago, 2020), Paris (Dragonetti, 2020), Boston (City of Boston, 2021), and many more. Urban densification, remote-working lifestyle, and smart mobility are major trends in current urban development strategies worldwide, which can lead to less access to public spaces for collective civic life. Therefore, there is a broad need to better understand the theoretical and practical account of such developmental trends' impact on urban streets and specifically on the potential of streetscapes to deliver greater social and health values beyond the transport function.

There is a growing body of urban design and planning studies that recognise the social and health values of streets (Carmona, 2019; Jacobs, 2020; Mehta, 2013; Whyte, 1980), citing their economic, cultural, and environmental values (Barry et al., 2002; Smith et al., 2017; Tiwari, et al., 2011; UN-Habitat, 2013). The social and health values delivered through civic life in the streets are often interlinked. For example, regularly walking in local neighbourhoods offers people opportunities to see and meet neighbours and acquaintances and build social connections, meanwhile, the walking exercise keeps people physically active and provides mental comfort (Roe & Aspinall, 2011; Tschentscher et al., 2013). A common but more subtle quality of these values that can be provided by streets is the opportunity for social interactions, both in the passive form (e.g., seeing and being seen in public spaces) and/or in the active form (e.g., meeting people, having conversations, participating in activities). Considering these values, it is possible to reconceptualise streets as part of "social infrastructure" (Klinenberg, 2018). Latham and Layton (2019) elaborate that "an infrastructure approach to public life" helps to highlight the materiality of public spaces and their affordances for socialising and connections. More importantly, social infrastructure is a tangible concept that stresses the processes behind making places, including policy, investment, design, management, maintenance, and more, which facilitate shared use and collective experience (Latham & Layton, 2019).

The present study employs a paradigmatic case study (Pavlich, 2010) to investigate the linkage between urban design and planning and the quality of social infrastructure to build social capital. The streetscapes of Hornsbergs Strand (HBS), the main street in a popular inner-city neighbourhood in the City of Stockholm, are studied. Stockholm is known as one of the fastest-growing capital regions in Europe undergoing densification (Bastian & Börjesson, 2018). The street studied is situated between public and private realms at the waterfront within a new housing development scheme, making the context of the study interesting and emblematic of other urban development seen globally. The overall aim of the study is to improve the understanding of how urban design plays a role in enabling streetscapes to perform as social infrastructure and directly impact the levels of social interactions and overall well-being. The study explores key questions such as (a) what physical design components contribute to the quality of the streetscapes, (b) what aspects of urban design affect the management of the streetscapes, and (c) how different social groups (local and non-local residents) use and experience the streetscapes. Using mixed methods, including literature review (Hart, 2018), walk-through observations (Mehta, 2019), and expert interviews (Bogner et al., 2009), the study focuses on how changes in design, management, and use of the streetscapes, both spatial and temporal, can contribute to the social and health values of streetscapes as well as the quality of overall neighbourhood environment.

2. Theoretical Framework: The Conceptual Connection Between Social Infrastructure, Social Capital, Streetscapes, and Their Urban Design Components

2.1. Social Infrastructure, Social Capital, and Streetscapes

As sociologist Eric Klinenberg (2015, 2018) articulates, social infrastructure is closely connected to, but distinct from, the concept of social capital (Putnam, 2000, p. 19), which refers to "connections among individuals—social networks and the norms of reciprocity and trustworthiness that arise from them." Klinenberg (2018) draws from the concept of social capital, but further emphasises that social infrastructure is what conditions social capital to grow. This view is essentially in line with Putnam's (1993, 2000) stand on social capital as a geographic concept, where the relationships of people are shaped by the places in which they live. Hence, it can be said that both social infrastructure and social capital share an environmental approach to social relationships. Latham and Layton (2019) discuss that the idea of social infrastructure builds upon extensive work on infrastructure across social sciences, in part what can be imagined as infrastructure. Stressing the structure and system, which is required for a society to function socially, economically, culturally, and politically, social infrastructure can be best understood as a useful concept that emphasises places that are open to the public and facilitate activities to build connections between people. Furthermore, people who facilitate the processes are also part of the social infrastructure (Latham & Layton, 2019; Prytherch, 2021; Simone, 2004). The development of bonding social capital and bridging social capital (Putnam, 2000) is believed to be positively associated with society's prosperity and community well-being (Kawachi et al., 2008; Spokane et al., 2007) and negatively associated with urban melancholy such as loneliness and social isolation (Coll-Planas et al., 2017; Nyqvist et al., 2016). Bonding social capital is often characterised by "within," "get-by," "strong ties," and more negative results (e.g., exclusion) whereas bridging social capital is associated with "between," "get-ahead," "weak ties," and more positive outcomes (Claridge, 2018). Both forms of social capital are needed in various contexts. Access to social resources to support individuals and groups to uplift their experienced social-economic or health-related hardships lies at the core of all forms of social capital. Social infrastructure impacts the potential growth of social capital and is thus consequential for human well-being.

Examples of social infrastructure are not limited to libraries, parks, sidewalks, gyms, local groceries, and community places. In fact, traditional infrastructure such as bridges, streets, and tunnels can well be social

infrastructure if they were designed, managed, and used to facilitate activities that are social in nature. The core of social infrastructure is whether an environment affords the qualities for social interactions. Klinenberg (2016) has reported that neighbourhood sidewalks matter as much as residential density, commercial activity, and other well-maintained public spaces to social interactions, perceived social support, and even chance of survival. He found that neighbourhoods with depleted social infrastructure suffered the highest mortality rate during the Chicago heat wave in 1995 (Klinenberg, 2016). The New York metro system is another example Klinenberg (2018) discusses as one of the largest social infrastructures in which different people encounter each other in public space and learn to work out their differences and collective life together. Latham and Layton (2019) argue that social infrastructure is multi-layered, complex, and taken for granted using the example of libraries. The social infrastructure consists of properties such as existing in established networks and relationships, being durable over time, requiring learning, embodying standards, becoming visible upon breakdown, and being able to be changed incrementally (Latham & Layton, 2019). Understanding and acknowledging these properties is crucial for making social infrastructure function. This is certainly also the case for sidewalks and metro systems.

This study on streetscapes builds upon current knowledge by capturing how urban design can help contribute to developing the concept of social infrastructure. Streetscape (street + -scape) is known as the view of a street and the work of art depicting the view of a street (Streetscape, n.d.). In this sense, the term streetscape emphasises the design both in terms of the physical components and the processes that shape the street. The Victoria Transport Policy Institute (2018) refers to "streetscape" as the design and conditions of roadways that impact street users and residents contributing to the shaping of a community's aesthetic quality, identity, economic activity, health, and social cohesion. In that definition, streetscapes emphasise the landscaping and design efforts of the streets, recognising that streets are more than urban structures used for transport. Streetscapes essentially afford public spaces where people meet and interact with each other and, in turn, many benefits may derive from the use of public spaces. For this reason, it is necessary to understand what aspects of urban design enable streetscapes to deliver those affordances.

2.2. Urban Design Components That Condition the Quality of Streetscapes

Urban design is a collaborative and multidisciplinary process that shapes the physical environmental setting for activities and behaviours. It has multiple dimensions, such as morphological, visual, social, temporal, and perceptual (Carmona, 2021; Ewing & Handy, 2009). Urban design theories and practices not only address each of these dimensions but also the interactions between them. It involves meeting the different interests of various stakeholders who participate in the processes of making environments and places. At an aggregate level, it can be said that urban design considers the relationships between design, management, and use of an environment. Applying environmental psychology theories, urban design literature recognises that many factors within an environmental setting may affect people's perceptions, attitudes, preferences, and decisions to use an environment.

Taking public space studies as an example, physical characteristics that are known as important for the users of public space encompass accessibility, connectivity, diversity (land use, activities, and people), safety, and permeability (Gehl, 2013; Mehta, 2013; Pafka & Dovey, 2017; Townshend & Madanipour, 2008). Streets designed with lower traffic flow and speed limit, good walking paths, the presence of nature, seating furniture, shops, and public open space are found to support higher levels of social interactions and a sense of community (Francis et al., 2012; Mehta, 2019). De Vries et al. (2013) report that the physical and visual experience of the streetscape greenery influences the physical activities in public spaces and further affects stress, mental well-being, and perceived overall health. Amin (2013) and Jacobs (1961) emphasise that shared use of spaces builds pragmatic interactions and practical relationships between people, which in turn forms the basis of a sense of trust that is fundamental to social capital. Mehta (2009) extensively discusses the importance of the sense of enclosure of streets for street users. He stresses that "the proportion of the height of buildings, walls, trees, and other vertical edge elements to the street space is critical in creating a sense of enclosure" (Mehta, 2009, p. 41), according to some scholars (e.g., Alexander et al., 1977; Cullen, 2013), whereas others (e.g., Gehl, 2013; Whyte, 1980) suggest ground floor frontage and activities in the streets are more influential. Based on three case studies in the metropolitan area of Boston, Mehta (2009) has further examined detailed physical, land-use, and management characteristics of neighbourhood main streets that support social interactions. These characteristics include seating (fixed or removable), the width of sidewalks, articulated building facades at street level, tree cover, canopies, awnings and overhangs, street furniture, stores with good permeability, personalised street frontage, and community gathering places that allow neighbours, friends, and strangers to meet and connect. Mehta (2009) stresses that the seating close to businesses, especially food stores, not only makes people stay longer in the streets but is also an important characteristic for generating liveliness of the street.

3. Methods

3.1. Study Area

The present study examines the street section between the intersection of Mariedalsvägen and HBS and the first

section of the east side of the street of Kristinebergs Strand (marked in yellow in Figure 1). The street of HBS is a part of the 9-km-long waterfront walking passage of the island of Kungsholmen, which is a part of the Kungsholmen district of Stockholm City. This choice considers that the street studied has been part of the 53,001-unit New Hornsberg programme since 2007 (Holst & Pemer, 2014). The housing scheme is also known as a part of the urban expansion programme Northwest Kungsholmen 2002 (Holst & Pemer, 2014). Although only low-rise residential complexes were originally proposed, high-rises have been built in reality and the density of the area has consequently increased.

The New Hornsberg area is considered a popular inner-city neighbourhood primarily for its location and networks of public spaces (Hemnet, 2020). The area is built on the waterfront and a part of the core urban area, which can be reached by multiple public transportation modes, including subway, bus, and ferry (only during the summer season). A city park, Hornsbergs Strandspark, is at the centre of the site, adding to the network of local parks and playgrounds. Other amenities within walking distance are connected to the street studied, such as a tennis hall, sports fields, a large supermarket, several coffee shops, restaurants, barbershops, beauty salons, pharmacies, gyms, etc. Furthermore, the area is one of the most popular outdoor public bath areas in the inner-city area (Sessler, 2021). This is an advantageous environmental characteristic for the context of the study because the public bath is suggested to be the prime site for observing social interactions, social cohesion, and conflict (Wiltse, 2007). Overall, the physical and social contexts of the study area satisfy the research strategy of scrutinising a paradigmatic case study (Pavlich, 2010), placing a case alongside a phenomenon and charting the elements of the case to elucidate the phenomenon to which it belongs.

3.2. Data Collection

The data collection is comprised of a literature review (Hart, 2018), walk-through observations (Mehta, 2009), and two semi-structured expert interviews (Bogner et al., 2009). They were performed iteratively from April to September 2021. The choice of public documents for review considers both top-down planning and bottom-up perspectives. The top-down planning documents reviewed consist of the area development literature by the city planning office (Holst & Pemer, 2014), the guideline document of the city's parks and natural areas by the Stockholm City Management Office (City Manager's Office, 2017), the programme design and management of Living Stockholm (Traffic Office, 2017, 2021), the landscape design of the summer street HBS by

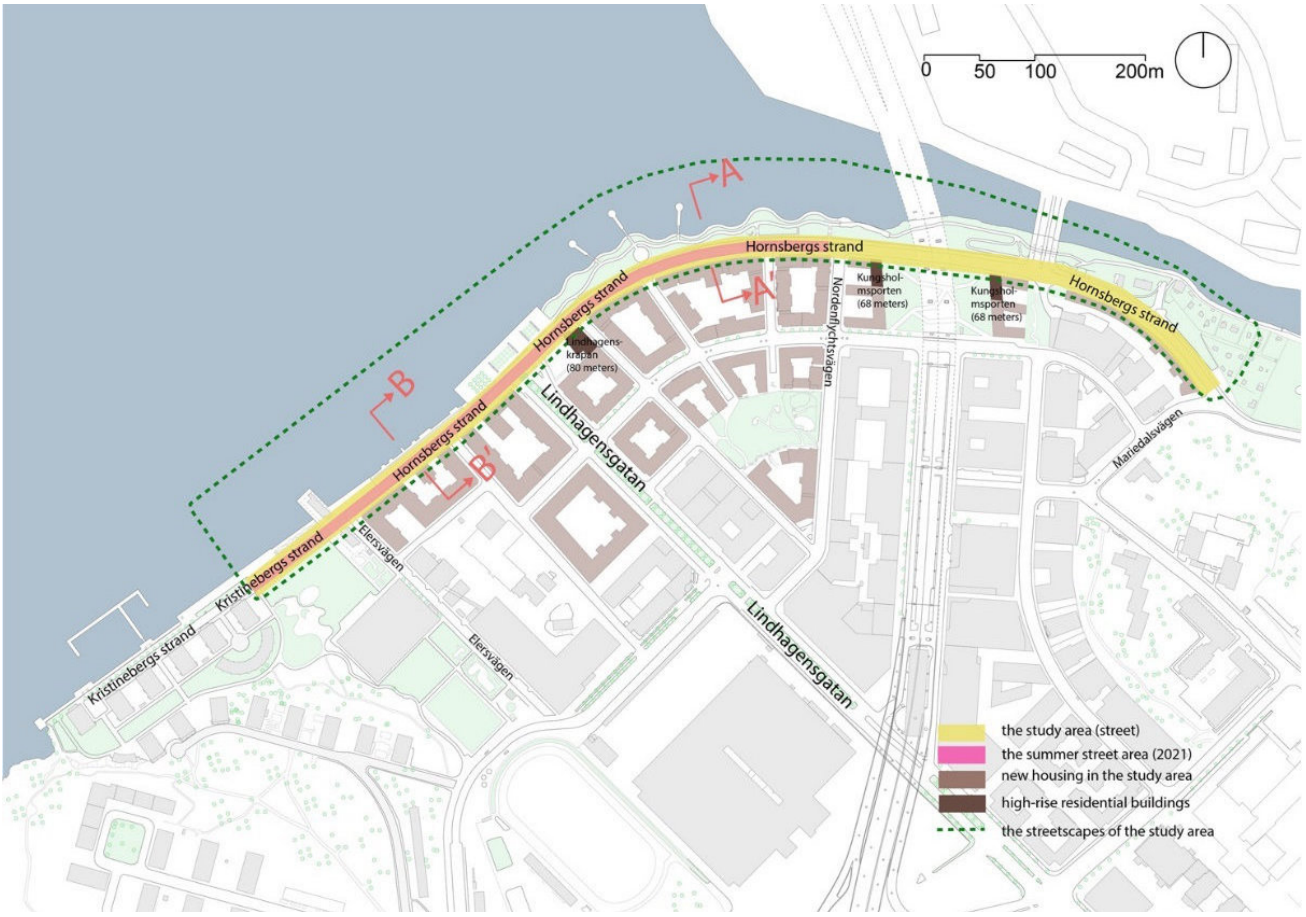

Figure 1. The case study area: HBS, Stockholm. Source: Author's and Gaudy Orejuela's work.

the architecture office, as well as Stockholm City's urban development strategies—Vision 2040 (City of Stockholm, 2020), Stockholm's Comprehensive Plan 1999 (City Planning Office, 2000), the City Traffic Administration's Urban Mobility Strategy (Firth, 2012), and its complementing document Strategies for Public Space (Traffic Office, 2018). Bottom-up "voices" includes the reports about the Hornsberg neighbourhood in the local newspaper and Swedish media (e.g., Brandt, 2021; Jonsson, 2019; Sessler, 2021), and the survey from the local community (Samverkansgruppen, 2021). These legitimate documents are considered important as they represent how the case study is situated at the local and city level.

Inspired by ethnographic studies, the walk-through observations were conducted in a participating/street user manner (Mehta, 2009; Spradley, 2016), aiming to empirically record the physical environments, social activities, and behaviours that take place in the study street. A series of 25 unstructured walk-through observations were made at a slow pace during May–September. Stops are made in each street section for about three to five minutes and each walk took about 20–45 minutes. In total, five walks were taken between 10:00 and 12:30, fourteen during 14:30–18:30, and six from 20:00 to 22:00. Photographs and field notes were used during the walks to capture the locations, physical environments (i.e., street frontage, the width of the sidewalk, traffic flow and speed, seating, street trees and other street furniture, etc.) and the activities and behaviours taken place at the site.

Two semi-structured expert interviews were conducted in person and followed up via email. Interview 1 was with the project manager of the Living Stockholm Programme on July 6th, 2021, and Interview 2 was done the following day and with the architect who was part of the design team for the summer street HBS/Living Stockholm. The interviews are qualitative, complementary to other data sources, and considered as "crystallisation points" to understand "the practical insider knowledge" (Bogner et al., 2009) on the design, management, and use of the case study. The interviews aim to gain insight into the overall vision of the design interventions of the HBS streetscapes and the roles and responsibilities of different stakeholders. Interviewee 1 (project manager) was asked specific questions concerning the criteria for choosing locations for implementing summer streets and the conditions of the street HBS. Interviewee 2 (architect) was asked about design challenges, feedback, and for whom the summer street was designed. Each interview was about 60–90 minutes long, and recorded and transcribed. Both interviewees provided the documents mentioned in the interviews through follow-up email communications.

3.3. Analysis

As the research focuses on the design, management and use of the streetscapes, reflexive thematic analysis was performed on the collected empirical data (Braun & Clarke, 2019). First, by incorporating the characteristics of environments that are known to benefit the users of public spaces (see Section 2), five themes are initially generated: (a) frontage and ground floor, (b) street, (c) landscape (vegetation and urban furniture), (d) programming, and (e) user experience. Next, different data sources were triangulated and synthesised (Guion et al., 2011) such that consistency and inconsistency across different data sources were fully engaged, acknowledged, and reflected to derive the themes. As a result, the initially generated themes are confirmed, corresponding to the research questions. The first three themes address the physical design of the streetscapes; the fourth communicates project management aspects of both top-down planning and bottom-up initiatives; the fifth incorporates local and non-local residents' perspectives. Each thematic analysis reflects both permanent and temporary design measures.

4. Results

4.1. Frontage and Ground Floor

The eight housing blocks within the streetscapes of the study area were developed after the 2000s. They use a unified modern Scandinavian style, reflecting the so-called "rock city" (*stenstaden* in Swedish) style that prevails in nearby inner-city districts such as Norrmalm and Östermalm (Holst & Pemer, 2014). The residential buildings along the street studied are six to eight stories high and have balconies facing the street and waterside, except for the two high-rises: the rental family housing Lindhagenskrapan (80 m) and the rental housing Kungsholmsporten (68 m).

According to the New Hornsberg programme, there are 350,000 m^2 planned commercial premises on the ground floor (street level) for the use of businesses and services (e.g., cafés & restaurants, stores, gyms, and other services). They are mostly located along the street section west of the high-rise apartment Kungsholmsporten. Kungsholmsporten and the residential building east of it do not have ground-floor commercial spaces. The ground floor spaces within the residential buildings west of Lindhagensgatan Street are 6 m high, making a two-floor space possible for the businesses compared to average one-floor (3.3 m high) ground-floor spaces in the residential buildings that are located east of Lindhagensgatan Street. This means that the ground-floor spaces located west of Lindhagensgatan are physically conditioned to accommodate a higher intensity of use, at least they can allow a two-floor business space to be built within the given space. Furthermore, the frontage of the ground-floor spaces is made of glass windows and doors, resulting in good permeability. As observed, currently, 14 out of 22 businesses on the ground floor in the study area, between street sections HBS–Nordenflychtsvägen and HBS–Elersvägen are

restaurants (most of which are franchises). Each ground-floor space has a personalised storefront, which together form a diverse collection of businesses along the street.

The relatively high density of restaurants and cafés on the ground floor and their proximity to HBS street create an attractive atmosphere for residents and visitors. "The street is close to water, parks and restaurants, and easily accessible by public transportation…the vibes here make the visit to HBS during summer almost feel like being abroad," said Interviewee 1 (project manager). She explained that the pre-existing environmental conditions were desirable for locating the summer street programme. Interviewee 2 (architect) shared that there were multiple rounds of design adjustment concerning the ground floor since the businesses there may change from time to time and the design of the summer street needs to respond accordingly.

4.2. Street

The street section examined in the study is approximately 1,000 m long, 16–18 m wide, with an east–west orientation on flat terrain. The street is at the interface between the built (residence) and natural (water) environment, connecting to a variety of public spaces within the neighbourhood. An 8-m-wide bi-directional vehicle lane with a speed limit of 40 km/h is designed permanently. On the north side of the vehicle lane towards the water, there are a 3.4-m-wide bi-directional bike lane and a 2.5-m-wide sidewalk (up to Lindhagensgatan). On the south side of the vehicle lane, close to the residential, the sidewalk is 4 m wide. The eastern part of HBS street (up to Lindhagansgatan) has no sidewalk along the waterside. Instead, a waterfront park is connected to the north side of HBS street next to the bike lane (see Appendix 1 and 2 in the Supplementary File). Street parking is permitted only on the residential side of the street. Importantly, there is no public transportation (e.g., buses, trams) running through the HBS street, though bus/subway stations are near the street. During summer, a ferry line is open and connected to the Hornsbergs Strandpark and the street.

These permanent conditions of the transportation aspect of the streetscapes in turn satisfy the criteria of the summer street design intervention. The criteria for locating the summer street consist of no heavy traffic, trams, trains, or buses in the street; can be conveniently accessed by public transportation; possible to remove street parking; and in proximity to restaurants and commercial establishments. Interviewee 1 (project manager) further stated, "the streets must allow for rerouting car traffic, reducing the speed limit and removing parking lots to achieve pedestrian-friendliness." Interviewee 2 (architect) shared, "the summer street design measures of HBS focused on reducing car traffic in the street to help create a sense of safety and equal opportunities for different street users, such as pedestrians, cyclists, runners, etc." This suggests that the temporal design interventions in general deprioritise motor traffic and address mobility justice.

Design challenges of the summer street HBS are faced due to the specific characteristics of the site. As pointed out by Interviewee 1, "the street is one of the longest streets in the inner-city area without the presence of public transportation and therefore it is attractive to car users." To tackle this, the design team used the principle of breaking the long street into multiple sections, according to Interviewee 2. The output of this measure is a decrease in car flow and speed, which is beneficial for social interactions among pedestrians and street users. As the street is a part of the road network of the neighbourhood and city, the car traffic cannot be completely closed, said Interviewee 2. To address this, a 3.5-m-wide passage was carefully shaped by streetscaping using vegetation and street furniture, taking into account street safety and emergency conditions.

4.3. Landscape

One unique physical characteristic of the streetscapes in the present study is that the street is located along the water body—Ulvsundasjön Lake and Karlberg Canal. The location affords a perfect horizontal view of open water and sunset. Several parks including Hornsbergs Strandspark, KristinebergsS, Brovaktarpark, playgrounds, and an outdoor gym are connected through the street and are part of the streetscapes. These public spaces afford a variety of activities such as walking, picnicking, playing, fishing, sunset viewing, swimming, sunbathing, relaxing, etc. Streetlamps are designed on both sides of the street: taller lamps along the residential side, and lower lamps on the waterside. According to the design proposal, trees were to be placed on the north side of the street, on the bank (Holst & Pemer, 2014, p. 99). They, however, do not exist in the current condition of the street. Other permanent street furniture, such as benches, objects that distribute traffic flow and provide seating (Figure 2), and recycling bins are placed in the street on the waterside and a public toilet is located inside the Hornsbergs Standspark, which directly connects to the street.

The summer street intervention of HBS is an ongoing design-feedback process, meaning that the specific design measures are constantly evolving. HBS street has been chosen as one of the five permanent summer streets under the programme Living Stockholm since 2017. The exact street area adopted as the summer street may vary from year to year (Traffic Office, 2021). In general, a large section (about 800 m) of HBS is used as the summer street area. In 2021, the summer street extended westward including one section of Kristinebergs Strand Street to decrease street parking and improve the safety of activities taking place within the streetscapes. During the summer street period, increased flowers and trees, street furniture, and speed-reducing and car-traffic-blocking objects are added to the street to create more public spaces for civic

Figure 2. Street furniture (permanent): On the left, people sit and lean towards the street furniture placed in between the bike lane and the walking passage, and, on the right, people sit on the waterfront deck beside the pedestrian lane.

life. Taking the summer season of the year 2021 as an example, 57 sets of trees and flowers, three picnic table sets, 20 benches, three pop-up parklets, 11 speed bumps, 18 traffic blocks, and 5 recycling bins, etc., were added to re-purpose the street. Interviewee 2 (architect) also shared that the flowers used in the summer street were consistent with the city's yearly flower programme; the trees were specifically chosen for the site. Pine trees were used in HSB as they were resistant to wind and sun exposure and require less water. Furthermore, as outdoor food service is permitted by the city, a considerable portion of the sidewalks and the street (the vehicle lane) is used for outdoor food services (see Figure 3). The city provides a design toolbox for the local shop owners to set up their outdoor service areas. Interviewee 1 (project manager) said that safety, accessibility, and comfort were the design principles for the outdoor catering space. She mentioned that they also put picnic table sets in the street so that people could bring their own food to the site and did not have to go to the local restaurants. This reflects a social sustainability intention towards the design of the streetscapes.

Trade-offs or conflicting interests in the use of streetscapes among different user groups are faced as a by-result of the temporary interventions at HBS. For instance, on the one hand, the use of vegetation and street furniture as traffic blocks and speed reducers creates a safer and nicer environment for street users to meet, encounter, and have conversations. On the other hand, placing street furniture in the street may attract people to gather. This could make it more time-consuming for the residents who need to use the street to park their cars in the garage, said Interviewee 2 (architect). This phenomenon is not shown in other seasons on the same street.

4.4. Programming

The HBS street is spatially planned as one of the major local streets for transport mobility incorporating the Northwest Kungsholmen urban expansion programme and the housing programme New Hornsberg housing programme. According to the Master Plan of Stockholm 1999 (City Planning Office, 2000), the Hornsberg area is one of the five industrial-and-harbour areas within the city of Stockholm that are planned to build housing, offices, and amenities. This implies that the street studied has a dual nature of being both vital transport infrastructure and social infrastructure that is open for public and shared use at the neighbourhood and city levels.

The summer street intervention is a part of the Living Stockholm initiative that is led by the city's transportation office. Consistent with Stockholm's development plans, including the Attractive Public Space Strategy (Traffic Office, 2018), Urban Mobility Strategy (Firth, 2012), Greener Stockholm (City Manager's Office, 2017), and Vision 2040 (City of Stockholm, 2020), the programme was started in 2015 aiming to improve joyful, attractive, and safe public space for the city's residents and visitors. The Living Stockholm programme experiments with different design interventions in both inner-city areas and city peripheries. The programme grows from two summer streets to 34 summer places (Traffic Office, 2021). Furthermore, the summer street programme focuses on cross-sectoral collaborations, including stakeholders such as the culture administration board, district administration boards, property owners, businesses, schools, citizens, and more. Summer street usually lasts around three months (mid-May to late August) each year, though the duration of the summer street period may change according to the city's decision. In 2021, for instance, it was extended to support the recovery of the city in the pandemic context.

In addition to top-down permanent and temporary programmes planned and implemented in the streetscapes of HBS, some bottom-up initiatives are also emerging especially during summer since more public spaces are reclaimed. These include street performances (singing and dancing), student graduation ceremonies, pop-up bike repair services, etc. These outcomes

Figure 3. The outdoor catering service in the summer street HBS: (a) Street section A, (b), (c), and (d) examples of the outdoor catering space in the street.

of the summer street are envisioned in the programming. "Good city environment stimulates entrepreneurship that we value very much in our society," said Interviewee 1 (project manager). "The summer street may have increased the attractiveness of the area as it becomes a vibrant place for people both who live in the area and other neighbourhoods to visit and gather," said Interviewee 2 (architect). However, in reality, the tension in the use of the streetscapes during summer emerges. Issues like loud music at night and littering in the street create friction between the visitors and the residents. In response, the city and police provision increased street maintenance and security resources to support programme management. Overall, the programming of Living Stockholm is essentially a tool to experiment with opportunities to improve the city environment. This consists of leadership, collaborations, design interventions (permanent and temporary), management, and marketing.

4.5. Residents and Visitors

The attractiveness of HBS is evident due to its popularity (Sessler, 2021). Increased opportunities for social interactions and public life are visibly supported by the design of the streetscapes through both permanent and temporary measures (see Figure 4). Those inviting environments within the streetscapes conditioned by permanent design, such as waterfront, public baths, parks, walking/cycling passages, sidewalks, and ground floor spaces are complemented by the temporal summer street intervention. The measures of slowing down traffic, adding seating and activity furniture, and increasing vegetation in the street may have effectively attracted more residents and visitors to the site during the summer season than in other seasons. As mentioned in Section 4.4, this in turn gives rise to the ongoing debate regarding the tension in the use of such public space through the expression of "overcrowding" pronounced in the media (e.g., Jonsson, 2019).

The perception, attitude, and use of the streetscapes of HBS by different street user groups seem to be a gradually changing process. "It took a while for people to realise that the summer street has changed the car traffic route or removed some of the parking lots…people finally realised it," explained Interviewee 2 (architect). Interviewee 1 (project manager) also mentioned their efforts to continue to inform the street users about the summer street/Living Stockholm. A survey (Samverkansgruppen, 2021) carried out by the local

Figure 4. A snapshot of HBS during summer: (a) (Sun)bathing, (b) overloaded recycling bins, (c) jet ski on the water, (d) the parklet in the street, (e) people having conversations in the street, and (f) the eastern part of the waterfront park. Sources: (a) Kadhammar (2020), (b) Zimmerman (2020), (c) Sällström (2019), (d) and (e) author's photos, and (f) Lindman and Johansson (2014).

collective workgroup reports that 90% of residents have had a positive experience of the area and 79% of the residents are more positive towards the summer street programme, especially during the period of July–August than that of May–June. The majority of the residents appreciate the city's efforts in the summer street programme, including the spatial extension of the summer street, the installation of speed bumps, and the application of geo-fencing for e-scooters (Samverkansgruppen, 2021). However, objections to the decrease of street parking lots, concerns about loud music, littering, drug use, jet-skis on the water and other disturbing behaviours remain among the residents. This suggests that the design interventions are of value for the residents in general and the core of the friction between the residents and the visitors lies in the seasonal use of the public spaces provided within the streetscapes.

5. Discussion

The study looks at how the design, management, and use of streetscapes deliver social and health benefits by facilitating increased social interactions and civic life. The case study of HBS highlights the potential of urban design and planning to unlock streetscapes' potential to serve as social infrastructure, through both spatial and temporal design interventions. The temporal design intervention to reclaim public space through the experiment of the summer street has played a crucial role in making the value of streetscapes more tangible. The results corroborate findings from previous studies on streetscapes' contribution to the overall environmental quality of neighbourhoods including aesthetics, identity, economic activity, social cohesion, health, and well-being, beyond transport mobility (e.g., Mehta, 2009; Prytherch, 2021; Spokane et al., 2007).

Notably, the physical characteristics of the streetscapes of HBS are purposefully designed to afford social interactions and social connections among people. These characteristics, conditioned by permanent design, consist of a highly integrated street network at the neighbourhood and city level (highly accessible), well-designed sidewalks and bike lanes, clear street signage, interlinked natural and built environments, well-connected to a variety of public spaces (e.g., parks, promenade passages, public bath, sports field, cafés and restaurants, stores, etc.) and public transport, street-facing balconies, diverse ground floor businesses and services, etc. The temporary design that was carried out through the summer street programme, such as reducing car traffic, reducing the speed limit, removing street parking lots, and installing vegetation and street furniture provides support for different social groups to have equal access to the street (Koch & Latham, 2012). The use of trees and flowers not only effectively blocks or slows down the traffic and improves road safety, but also embodies care in streetscaping. The added street furniture and "greens" signal and invite people to use and stay in the street for longer periods and sit, lean on, rest, or just stand next to them (Mehta, 2009).

Some differences are seen in the current case study compared to the American case studies (Mehta, 2009). First, the outdoor seating as part of the stores was not used by the street users unless they were store customers. This implies that there may be a sense of control in terms of the boundary street users draw between the public and private realms within the streetscapes. Second, the objects close to the waterside were more used by the street users than those next to the stores. Importantly, the interactions between permanent and temporary design are beneficial for the improvement of the overall neighbourhood environment, but the relationship between those measures needs to be carefully thought through in the site-specific context. This is to say that both measures are needed, and one cannot be replaced by the other.

In the case of HBS, the temporary design interventions have complemented the permanent design of the streetscapes and made the area more attractive according to the media report (e.g., Hemnet, 2020), the interviewees, and the resident's survey report (Samverkansgruppen, 2021). Some unintended consequences of such attractive urban environments may occur, i.e., friction between visitors and residents. This is not a unique problem, but rather a common urban phenomenon (for other contexts, see, e.g., Loukaitou-Sideris & Ehrenfeucht, 2011). The nature of this urban phenomenon often lies in the use of the public space, especially the perception, attitude, preference, awareness, and behaviour of various social groups. The study showcases that temporary design interventions are particularly valuable. It demonstrates pathways to activate public social life by enabling streetscapes to serve as social infrastructure. It also highlights trade-offs in decision-making and the role of individuals and organisations. There is a tendency that changes in design, perceptions, attitudes, and use of place take time to process and establish themselves, such as the public opinion reflected in media reports (e.g., Brandt, 2021). Through design feedback and evaluations, the summer street programme can improve its design measures, scale, and impact continuously.

As the research was carried out during the period of the Covid-19 pandemic, there are some limitations to the study. First, the universal social distancing rule may influence the levels of how people perceive themselves, others, and the environment, especially when considering different social groups, e.g., younger and older adults. This might have affected the observation data. Second, the study used observed social interactions as a proxy of well-being excluding subjective measures. Future studies therefore could involve subjective data (e.g., interviews, surveys) in a post-pandemic context to further investigate the impact of streetscapes on social interactions and well-being. Third, the expert interview chose to focus on the project/programme management and design aspects. Further interview data involving stakeholders, such as street security and maintenance officers, housing association board members, ground floor business owners, etc., may enrich the empirical data. Comparative case studies of different cities could also further scrutinise the role of urban design in enabling streetscapes as social infrastructure in other social, cultural, and economic contexts. Nevertheless, the methodological approach of the study makes the findings relevant and holds explanatory power for understanding the significance of streetscapes in attractive urban environments and the role of urban design in enabling streetscapes to serve as social infrastructure.

6. Conclusion

The present study has analysed the impact of urban design measures on the social and health values of streetscapes at the neighbourhood level. By reclaiming public space and turning local car-centred streets into pedestrian-friendly streets, the potential of streetscapes to perform as social infrastructure is demonstrated. Public policy, urban development, and investment should adopt urban design strategies for streetscapes. This should take into account their potential for being social infrastructure as an effective pathway to promote well-being. The temporal urban design interventions discussed in the study are viable tools for improving the quality of streetscapes and the overall urban environment. They are also effective means to engage public participation and citizen dialogue. These benefits should be considered to promote investment in permanent and temporary design interventions for streetscapes. The context of the case study presented, specifically its location in an urban beach/waterfront area and mixed land use within a new housing development, makes its lessons emblematic and relatable to urban development projects in other similar contexts. It is recommended to further test the tools demonstrated in the case study in other places in Sweden and internationally to help advance the theory of social infrastructure and improve practices that enable social infrastructure.

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Conflict of Interests

The author declares no conflict of interests.

Supplementary Material

Supplementary material for this article is available online in the format provided by the author (unedited).

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Article

"Ageing in Place" and Urban Regeneration: Analysing the Role of Social Infrastructure

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Abstract
This article explores the potential impact of future urban regeneration for older people "ageing in place" in an inner-city neighbourhood, Collyhurst, Manchester, UK. Collyhurst has been reshaped by de-industrialisation, demolition of housing, disinvestment in local services, and the closure of local amenities. The neighbourhood has been earmarked for significant urban regeneration including building extensive housing, as well as social infrastructure to cater for existing residents and attract a new population. The analysis focuses on data derived from interviews and focus groups with the neighbourhood's existing residents as well as regeneration stakeholders. Drawing on Latham and Layton's (2019) "infrastructural approach," the analysis explores the changing dynamics of neighbourhoods and meanings of place for older people living in localities undergoing redevelopment with spatially differentiated socio-economic landscapes. The article argues that social infrastructure must be understood as a foundational component of urban regeneration planning, ensuring new spaces foster social connections for all generations and support older residents' sense of local identity, belonging and inclusion amidst dramatic material transformation. Social infrastructure provides an important lens through which to analyse the impact of urban regeneration processes, shedding light both on the *functional* and *affective* dimensions of ageing in place. In neighbourhoods undergoing redevelopment, both dimensions are vital to consider, in order to understand how best to support older people's ability to age in place.

Keywords
ageing in place; housing; older people; social infrastructure; urban regeneration

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1. Introduction

Housing-led regeneration has been a mainstay of urban policy in the UK for over 50 years, addressing widening inequalities in many post-industrial neighbourhoods (Lewis, 2017). However, the role of social infrastructure within these development programmes has only recently become a significant strategic focus (Greater Manchester Spatial Framework, 2019). This article draws on Klinenberg's (2018, p. 5) understanding of *social infrastructure* as "the physical places and organisations that shape the way people interact." These sites matter as they are where strangers can meet and mix with others with whom they share their neighbourhoods (Klinenberg, 2018). The analysis also uses what Latham and Layton's (2019) term an "infrastructural approach," as a lens to examine the changing meaning of place for older people living in a neighbourhood awaiting redevelopment. Thinking "infrastructurally," it is argued, helps us to "consider the kinds and qualities of facilities that

allow social life to happen, the kind of sociality that is afforded by them, and how this can be recognised as a public life" (Latham & Layton, 2019, p. 4).

This article explores the impact of urban regeneration on older people living in an inner-city neighbourhood called Collyhurst, in Manchester, UK. The neighbourhood has undergone successive waves of de-industrialisation, housing demolition, and population decline. Most recently it has become the subject of plans for large-scale redevelopment. In 2018 Manchester City Council announced its most ambitious residential-led development to date in Collyhurst and the surrounding neighbourhoods, delivering up to 15,000 homes over a 15–20 year period, equivalent to a new town being built in the city (Greater Manchester Combined Authority, 2019; Greater Manchester Spatial Framework, 2019). The City Council is working in partnership with a Hong Kong-based housing developer, the Far East Consortium, with a commitment to include what has been termed "age-friendly" principles in the new development. The discussion focuses on residents and regeneration stakeholder's responses to the planned regeneration, focusing specifically on exploring the social consequences of changes to social infrastructure.

The analysis in this article also focuses on policies designed to promote "ageing in place," defined as supporting older people to remain living in the community, with some level of independence, rather than in residential care (Wiles et al., 2012). Ageing in place policies have been supported by extensive academic literature on the preference of older people to stay in their homes and/or neighbourhoods as they age (Means, 2007). This has, in turn, been linked to the idea that people may have increased feelings of attachment to home and neighbourhood, leading to improved wellbeing and social connectedness (Wiles et al., 2012). However, to date, there has been limited research exploring the experiences of people ageing in places affected by the type of environmental pressures associated with urban regeneration (Lewis & Buffel, 2020). To fill this gap, this article adds to existing knowledge by exploring how the existence of social infrastructure might support older residents' sense of local identity, belonging and community in a newly regenerated neighbourhood.

The article comprises: first, a literature review on urban change and the older population, describing the importance of social infrastructure for providing a sense of belonging, identity and community. Second, the background to the Collyhurst neighbourhood is provided, along with a summary of the methodology developed for the research. Third, guided by an "infrastructural approach," findings from the research are analysed according to two main dimensions: *functional dimensions* of ageing in place, which underline the importance of ensuring that older people have somewhere to meet in areas undergoing urban regeneration and *affective dimensions* of ageing in place, which reveal how individuals feel about place, through their own subjective experience. Drawing on the concept of social infrastructure, the analysis discusses the potential of future redevelopment, but also the challenges there are in realising that potential, especially for groups such as older people (Latham & Layton, 2022). In the context of urban regeneration, taking an "infrastructural approach" is particularly useful as it provides a framework through which to discuss the future identity of place, as well as to explore how community has been experienced in the past and present. To conclude, the article argues that "thinking infrastructurally" deepens our understanding of the kinds of urban spaces and facilities which can promote social connections amongst older people, and which should be incorporated into future regeneration projects.

2. Urban Change and the Older Population

Two intersecting demographic trends define the 21st century: *urbanisation* and *ageing populations*. By 2030, two-thirds of the world's population will be living in cities, with major urban areas in the Global North likely to have 25% or more of their population aged 65 or more (UN, 2019). Yet, older people remain among the most excluded groups living in urban communities. Many live in neighbourhoods undergoing redevelopment and gentrification, with pressures arising from changing social networks and increasing housing costs (Lewis, 2018). Urban changes associated with regeneration may result in older populations becoming "stuck in place," due to rent increases (Simard, 2020), or forms of "indirect" displacement, where existing residents' access to familiar services and political representation is disrupted by the influx of younger, more educated, and wealthier newcomers (Burns et al., 2012; Simard, 2020). However, there is limited academic research focusing on the lived experiences of people ageing in areas affected by environmental pressures linked to urban regeneration and deprivation (Lewis, 2016). In many areas, older people have been "erased" from urban renewal discourse, with neighbourhood change typically focusing on the needs and lifestyles of incoming groups, rather than long-term residents (Kelley et al., 2018). The impact of urban regeneration on older people has received limited attention to date. As a result, there is little agreement about, or understanding of, what makes an age-friendly or supportive environment in neighbourhoods undergoing rapid urban change.

One attempt to address the challenges facing older people is the World Health Organization's *Global Network of Age-Friendly Cities and Communities* (GNAFCC). The GNAFCC was launched in 2010 and had 12 members (of which Manchester was one). By 2022, the network had grown to 1,400 cities and communities worldwide. The age-friendly approach acknowledges that older people's quality of life is determined by multiple place-based factors and shaped by potential physical and social barriers within neighbourhoods. It calls for coordinated action from policy-makers, service

providers, businesses and communities to improve the lives of older people (Buffel et al., 2012). The initiative aims to support the development of places "where older people are actively involved, valued and supported with infrastructure and services that effectively accommodate their needs" (Alley et al., 2007, p. 4). The age-friendly cities movement has gained global support for its efforts to improve the quality of life of older people living in urban communities (Kelley et al., 2018). In taking a participative and place-based approach that considers older people's experiences in urban environments, the AFCC approach recognises the importance of social and environmental factors within cities and neighbourhoods that promote ageing in place. A key aspect of this is social infrastructure—the libraries, cafés, and community centres that are vital to developing environments that support informal social networks amongst older people. The following section describes the impact of urban regeneration on social infrastructure, with particular reference to people ageing in place.

3. Social Infrastructure and Urban Regeneration

Social infrastructure in the form of libraries, community centres, and cafés is vital for older people, providing environments to meet and develop informal networks of support (Yarker, 2022). Changes to the social infrastructure of a place, brought about by urban regeneration, may reduce social support, belonging and inclusion. Familiarity, attachment and identity are the main psychological processes that confer a sense of belonging that contributes to well-being in later life (Fullilove, 1996). Such dimensions are often discussed with reference to Rowles' (1983) work on the "insideness" of place. *Physical insideness* reflects an intimate familiarity with the physical configuration of the environment; *social insideness* arises from integration within the social fabric of the community; and *autobiographical insideness* refers to the way in which lifelong accumulation of experiences in a place can provide "a sense of identity" (Rowles, 1983). Older residents who have lived in the same neighbourhoods for many years often develop a strong sense of "insideness," as their lives become integrated with place over time.

The concept of "social infrastructure" helps to analyse the "public dimension of urban life" and the ways in which social connections may be supported in certain places (Latham & Layton, 2019, p. 4). The discussion recognises that "infrastructure is not only interesting as a noun—as the pipes, cables, switches, and surfaces—but also interesting as a verb or adverb—as something that modifies, supports and exists in relation to other activities" (Latham & Layton, 2022, p. 758). This approach provides an important lens through which to analyse the impact of urban regeneration processes, shedding light both on the functional and affective dimensions of ageing in place. In neighbourhoods undergoing redevelopment, both dimensions are vital to consider, in order to understand how best to support older residents' sense of local identity, belonging and community amidst dramatic material transformation.

Urban regeneration may result in the provision of *more* social infrastructure, such as upgrading public transport networks, investment in green spaces and the opening of new shops, which can promote the *functional* dimensions of ageing in place. Smith et al.'s (2018) analysis suggests that "economically vulnerable" older adults may benefit from living in a gentrifying neighbourhood, due to improved access to services such redevelopment brings about. However, ethnographically informed studies have found that urban regeneration can also result in a sense of "cultural displacement" where existing residents feel that new amenities and services are not "for them" (Buffel & Phillipson, 2019; Davidson, 2009; Yarker, 2022). In this respect, living in a neighbourhood undergoing radical material change can be unsettling, with research in Hong Kong suggesting that the demolition and rebuilding of residential units may result in the destruction of personal, psycho-emotional, and social links for older people (Chui, 2001).

The impact of austerity on urban neighbourhoods can also result in the loss of social infrastructure: "Over the last 10 years…communities and areas have seen vital physical and community assets lost, resources and funding reduced, community and voluntary sector services decimated and public services cut, all of which have damaged health and widened inequalities" (Marmot et al., 2020, p. 94).

Concepts such as "urbicide" (Coward, 2007), "slow violence" (Pain, 2019), and "ruin" (Shaw, 2019) capture the impact of austerity over time and the visible effects on the built environment. Shaw (2019, p. 971) documents the negative impact of the loss of infrastructure on wellbeing, arguing that: "If these landscapes are ruined by government cutbacks—compounding the already violent production of neoliberal space—a deep world of alienation and insecurity can set in." Austerity therefore not only means a loss of spaces for social interaction but also spaces of visibility. For neighbourhoods undergoing urban regeneration, which have suffered from long-term disinvestment as a result of austerity, additional removal of social infrastructure in the neighbourhood can result in a "shrinking" effect on the social worlds of groups such as older residents, unsettling their sense of belonging and identity.

4. Case Study: Collyhurst, Manchester

The case study for this article is based on research in Collyhurst in Manchester, UK, a neighbourhood which has been reshaped over several decades by the decline of local industries, demolition of housing, closure of local amenities and loss of population. These developments have resulted in entrenched economic and social deprivation for the remaining residents, exacerbated by austerity measures. Since 2010, a succession of regeneration

plans have been proposed and subsequently abandoned. As a result, there is a legacy of mistrust among some existing residents and a feeling that Collyhurst has become a "forgotten place" (Lewis et al., 2020). The neighbourhood consists of predominantly social rented properties, with 77% of older people living in this type of accommodation; 47% of over-50s lived alone; and 81% of older people were claiming pension credits in 2015, a "top-up'' benefit designed to help people on low incomes (Office for National Statistics, 2017). Because of limited local facilities, residents have to travel out of their neighbourhood for services and amenities such as shops and leisure facilities.

In 2018, Collyhurst was identified as a future site of urban regeneration called the Northern Gateway (later renamed Victoria North) involving a Joint Venture between Manchester City Council and Hong Kong-based private developers, the Far East Consortium International Limited. The Northern Gateway Strategic Regeneration Framework (NGSRF, 2019, p. 9) proposed significant investment in social and community infrastructure, "with a balance of employment, retail, social, community, health and education uses will be provided to meet the needs of diverse, integrational communities." Collyhurst lies 1.5 miles northeast of Manchester city centre, which has undergone dramatic developer-led regeneration leading to a steep rise in the population of the city centre, from a few hundred in the 1980s to 65,000 in 2019. The Northern Gateway plans promised to "revitalise existing communities" and provide a catalyst for the expansion of neighbourhoods to the north of the city. The "creation of place" was one of the central tenants of the plans, "profoundly influenced by the area's existing assets; the post-industrial legacy of railway structures; the remaining buildings of significance and architectural quality; the topography and landscape of the study area with the river valley running through it; and the character of the existing fragmented neighbourhoods" (NGSRF, 2019, p. 61). As well as housing, the plans included a retail and service hubs, neighbourhood squares, new parks, and "green links" via the River Irk to facilitate connectivity to surrounding areas.

5. Methodology of the Study

In 2019, the research team developed a network of stakeholders and practitioners working on urban regeneration issues in Greater Manchester. The research came about due to long running connections between the project team and the Age-Friendly Manchester programme, who had links with the Far East Consortium (McGarry, 2018). Regular meetings were held with Manchester City Council, the Far East Consortium and Northwards, a social housing provider. These organisations acted as gatekeepers for the research, introducing the project team to various groups in Collyhurst.

Ethnographic observations were also gathered over a period of three months in the neighbourhood, within community centres, food banks, sheltered housing and people's homes (see Hammersley, 2006). During these ethnographic encounters, the researchers had informal discussions about the neighbourhood and invited residents to take part in one-to-one interviews. The research team met regularly throughout the period of fieldwork to discuss their ethnographic observations. Reflecting on the emerging findings from the informal discussions, we adapted our research questions accordingly. For example, specific questions about the importance of social infrastructure in the lives of our respondents were added to the topic guide.

In total, 22 interviews involving four regeneration stakeholders, 12 residents and six community organisations were carried out. These participants came from a range of backgrounds and held varied interests and connections to the area. Interviews were semi-structured and included a core set of questions about the history of the area, residents' everyday life and future aspirations for urban regeneration. They included, for example: "How would you describe the sense of community in Collyhurst?" "How do you think the advantages and challenges of living in Collyhurst differ between different age groups?" "Do you anticipate growing older in Collyhurst and living here in the future?" "If you would like to stay in the area, what would best help support this?" The interviews lasted between 20 minutes and one hour and were recorded and transcribed.

Two focus groups with residents living in Collyhurst were held, including six people who lived in sheltered housing for people over 60 and five residents living in the same over—50s high-rise block. The focus group participants were recruited through tenant's organisations supported by Northwards Housing. An interview topic guide was used, based on the questions asked in the interviews. Both focus groups lasted around 60 minutes and were recorded and transcribed. Ethical approval was provided by The University of Manchester. All findings have been anonymised and participants are referred to using pseudonyms.

The interview and focus group transcripts were coded and analysed using Nvivo, a computer software program designed to facilitate content and thematic analysis according to themes identified in the secondary literature. These included relationships to place, belonging, community, social networks and social infrastructure. Themes which emerged in the interviews were also incorporated into the coding framework. Parts of the transcripts which were relevant according to each theme were selected. Regular meetings among the project team were held to discuss ongoing coding and exchange insights as well as to rectify inconsistencies in how the coding framework was being interpreted. A cross-sectional analysis was conducted, to look at how themes emerged across the whole data set in order to identify emerging patterns (see Grossoehme & Lipstein, 2016). The interviews were analysed according to themes which identified recurring patterns across the interviews (e.g.,

the identity or character of Collyhurst; views about future redevelopment), and previously unexpected findings (e.g., the importance of social infrastructure).

The following section is divided into two parts. The first explores the importance of social infrastructure for *functional dimensions* of ageing in place, underlining the importance of ensuring that older people have somewhere to meet in order to maintain informal social support networks. The second explores *affective dimensions* of ageing in place, which demonstrates how the changing identities of neighbourhoods can challenge older adult's sense of belonging and social relationships.

6. Functional Dimensions of Ageing in Place

6.1. The Loss of Local Amenities

While residents overwhelmingly held a strong sense of local belonging to Collyhurst, and a desire to age in place, they described one of the most pressing challenges as the loss of local amenities. Stephen, a resident and local church minister in his fifties, described how there was an urgent demand for more facilities. He emphasised how Collyhurst was in "desperate" need of public funding and redevelopment:

> We need infrastructure, we need a bank, we need a supermarket, we need coffee shops, you know, and if that means increasing the population then good, and if it's a mixed economy then that's great too.

Whilst being supportive of future regeneration, Stephen was concerned about whether the proposals would benefit existing residents. Observing the rapid gentrification of the city centre close by, he was fearful about the impact of new developments proposed for Collyhurst. He explained how one of his main concerns was that the neighbourhood could become a place for people to "sleep after they'd done all their activity in the city." He commented:

> They [new residents] get a nice two-bedroom flat, 20-minute walk from the city centre, and the car's safe because it's in a nice locked gated community. They don't have to engage at any level with the community. And that was the fear for the regeneration, that all we're going to do is set up bed and breakfast units for people to go into the city to spend all their money and there's no benefit to local people.

Stephen was anxious that without new amenities being built, Collyhurst would no longer feel like a "real place." He emphasised that future regeneration must include facilities to cater for both the existing and incoming community, enabling residents to mix and carry out everyday tasks in their neighbourhood.

During a focus group discussion with older residents who lived in sheltered housing, the participants explained how Collyhurst had lots of local assets, such as "great local parks for the kids," but that there were not enough essential facilities, such as "shops, opticians, chemists." They also discussed how public transport links to other neighbourhoods were a problem, with many older residents having to rely on taxis, as the bus stop was some distance from their homes. The priorities of the residents for future regeneration were "more places like this," referring to the community room in the sheltered accommodation where the discussion was held. They wanted more informal settings to meet outside their sheltered housing, such as, "a place for entertainment" where older and younger people could gather, like a social club. These findings reveal how while there were strong ties *within* the sheltered housing scheme, supported by communal meeting spaces, there were limited opportunities to socialise with other people in the neighbourhood.

6.2. Feeling Excluded From New Spaces

Discussing the plans for the Northern Gateway, residents at the sheltered housing scheme were worried that the regeneration would mainly cater for "suits, people with money; it's for people with money, it ain't for the likes of us." These findings suggest that for residents who remain living in areas undergoing redevelopment, feelings of "cultural displacement" may develop (Davidson, 2009). Older residents are often faced with new neighbourhood dynamics which they find unwelcoming and are effectively "erased" from the vision of urban renewal, making clear the implicit cultural bias towards age-segregated residential landscapes (Kelley et al., 2018). The discussion demonstrated how existing residents in Collyhurst were keen to be included in discussions about future regeneration and wanted more functional spaces to facilitate opportunities for intergenerational mixing.

Similar themes emerged in an interview with Diane, a local resident and community development worker who was in her sixties. She explained how she was worried about the "unbelievable" number of high-rise flats being built in the nearby city centre. Diane elaborated: "It's actually really quite frightening, I think, and I'm a Mancunian and I've lived here all my life." Her comments reveal how even when residents remain living in the same neighbourhood, they may experience feelings of social exclusion arising from re-development elsewhere. While long-term residents often make considerable investments in their locality over time, some may also experience a sense of disillusionment about the changes affecting their neighbourhoods (Thomése et al., 2018).

Questions about whether new redevelopments would be inclusive for existing residents also emerged in an interview with Graham, who owns a local business but lived in another part of Manchester. He described how the opening of a new school in Collyhurst in 2010 had a big influence on the area, providing lots of new oppor-

tunities for the community to be involved, including a local history group. According to Graham, before the school was built, some areas of Collyhurst had "died," but the new building had become "the most important centre of community gathering and togetherness." As the interview progressed, however, he added that the new facilities were not universally welcomed. He explained: "it pulls people together in a community space [but]…not everybody. Because probably still the majority of people are frightened of it." Some people were nervous about going there because "it's big and new and shiny and people lack confidence. If you've not been successful at things through life, then you lose confidence over time." Graham's comments reveal how existing residents may sometimes feel excluded because neighbourhood changes lead to feelings of insecurity as familiar institutions disappear and the public spaces take on a new look and "feel" (Burns et al., 2012).

This section has considered the functional dimensions of ageing in place. The discussion has shown how residents lamented the *loss of local amenities* in Collyhurst, and were concerned that the future plans for the area were "not for them." These findings reveal how the value of social infrastructure is often not immediately visible, but how: "Its absence is often only noticed when something goes wrong or when it has been taken away" (Latham & Layton, 2019, p. 9). The struggles encountered by many older people living in Collyhurst were expressed in relation to the loss of the kind of facilities associated with social infrastructure. In some cases, this referred to the closure or decline of certain spaces or amenities; in others, it referred to more of a symbolic loss of spaces that were perceived as welcoming and which also reflected the social and economic needs of the community. In both cases, the lack of social infrastructure was illustrative of how Collyhurst was unable to meet the functional needs of ageing in place for many older residents.

7. Affective Dimensions of Ageing in Place

7.1. Social Connections and Local Identity

A common theme which ran throughout the interviews and focus groups was that despite rapid urban change, residents of Collyhurst had retained a powerful sense of local identity. In a focus group held with six people who lived in a social housing tower block for the over-50s, a strong sense of neighbourliness prevailed. The residents likened the relationships between neighbours to an "extended family," particularly for those without any relatives living nearby. For example, Jean, who was in her late-50s, described a sense of commonality with other residents: "Well we're all the same type of person really, we're all just down to earth, working people, we've all had educations but all come from more or less the same stock." The opportunity to socialise regularly in the housing block was viewed as especially important. Residents met informally in a Common Room where social activities and events took place, with weekly visits from a hairdresser. The focus group participants described how people looked out for each other, making comments such as: "Like if I don't come down [to the community room] I know that one of them will probably knock on my door just to make sure I was ok." In this example, the common room provided an important place for engaging with other residents in the tower block. Examined through the lens of social infrastructure, it is possible to shed light on the different forms of sociality that occur in these spaces (Latham & Layton, 2022). Social encounters in the common room were fleeting but regular, allowing residents to develop networks of support which could translate into a sense of belonging and wellbeing.

Existing research shows that quality of life is affected by how we *feel* about a place, which underlines the importance of places in neighbourhoods where people can build and maintain relationships (MacGregor, 2010). Stephen, who had moved to Collyhurst ten years previously, described how he had heard lots of "negative assumptions" before living in the neighbourhood, as it was often described as a place of deprivation and crime. However, Stephen had had a rather different experience of living there:

> It's got trouble certainly, it's ravaged by the consequences of poverty and multiple layers of social deprivation, but [I have] met some really, really, lovely, fantastic people committed to the community.

Stephen described how social deprivation and poverty had been exacerbated by austerity policies, but explained how strong bonds between residents had endured due to the rich history of the area. He described how stone had been quarried in Collyhurst, the proud history of Irish immigration in the neighbourhood, and the strong links forged between the community and the churches. The interview with Stephen revealed how despite the damaging effects of disinvestment an affective sense of place remained, connected to the previous sites of social infrastructure.

7.2. The Loss of Community

Similar themes about the local identity of Collyhurst emerged in an interview with Simon and Mavis, a retired couple in their 70s. Their attachment to place continued, even though they had moved away from Collyhurst in the 1970s due to their home being demolished as part of a previous cycle of redevelopment. Simon and Mavis travelled from a suburb in north Manchester to attend a weekly local history group in Collyhurst and enjoyed sharing stories about their upbringing, memories of family and community life. They described how when they were children, there were plenty of spaces for residents to meet up. Simon explained:

> Well, in Collyhurst, the main pubs were Billy Greens, The Swan, The Queens….We used to have the swimming baths and you used to have what they call a wash house where your mother threw all the washing in a handcart or whatever, took it down and washed it and brought it back. There was The Crescent, a little pub on Rochdale Road, there was the Three Tuns, so it was a big community, and everybody knew everybody.

Simon's comments reveal how, when people describe the *loss* of community, this is often done through describing the removal of social infrastructure. Rowles' (1983) concept "autobiographical insideness" describes how older people refer to landmarks and particular spaces over time to anchor their memories in place, thereby retaining a sense of attachment and belonging. Rowles (1983, p. 310) argues that "autobiographical insideness" takes longer to attain within redeveloped settings due to the need to "re-accumulate personal biography" arising from the loss of significant places. But, as Simon and Mavis's example shows, even places and social infrastructure which no longer exist may retain an enduring significance. During processes of urban regeneration, it is important to acknowledge the enduring nature of memories attached to shared spaces and social infrastructure. These play an important role in older people's sense of belonging and attachment (Yarker, 2018).

Plans for redevelopment often consider the physical needs of older people, including access to green spaces, high-quality paths, accessible benches, and toilets (Thompson, 2013). In addition to these functional dimensions of place, our findings also suggest that regeneration plans must pay attention to the *affective* dimensions of neighbourhoods, such as the identity of place, a sense of community, and feelings of belonging (García & Rúa, 2018). Analysing the changing nature and meaning of *functional* and *affective* relationships to place highlights the connection between social and material change in neighbourhoods undergoing significant urban change.

In order to create future social infrastructure, inclusive for all age groups, Damien, who worked for the local authority, described how forthcoming regeneration in Collyhurst should be designed in order to create:

> Places for people to naturally and informally meet and connect, or places that are a backdrop for people to come together and then create and do what's important to them are lacking in abundance really in Collyhurst. There are sporadic spaces, but they're not best equipped for people to come together.

Similarly, Sarah, who worked for the private developers, shared a similar view, explaining how regeneration needed to focus on public spaces:

> We want people to occupy and have those public spaces alive with activity. Again, a cross—section of communities become socially inclusive because people meet in the park. You bump into people. Dog walkers, families, all the people, anybody. That's what makes a strong community, because there's an interaction which you so often don't get in, kind of, quite impersonal poorly planned spaces.

Discussing the plans for the new area, Sarah explained how there would be more retail facilities in the neighbourhood in the future, which may include "a convenience store, a chippy [chip shop] and a bookies [betting shop] or whatever it was, the community want and is sustainable." Her comments indicate how the needs of incoming and existing residents will need to be balanced. Spencer, who worked for the local authority as part of the regeneration team, explained how planning new facilities for Collyhurst is a challenging task. It was difficult to entice business owners to invest in the neighbourhood until significant rebuilding had begun and more residents had moved to the area. He described this as a "chicken and egg situation," recognising the need to provide new facilities, such as schools "upfront," in order to attract families and create a new housing market for people wanting to buy.

This section has considered the affective dimensions of ageing in place. Thinking infrastructurally, the discussion has shown how during processes of urban regeneration, it is important to acknowledge the enduring nature of memories attached to shared spaces and social infrastructure, these playing an important role in older people's sense of community, belonging and attachment. As Yarker (2022, p. 5) suggests: "The story of social infrastructure is also the story of community," meaning that both the state of social infrastructure and how we engage with it can be used to tell us something about the places in which we live our everyday lives. In Collyhurst, residents' narratives of the "loss" of community were connected to the loss of social spaces, illustrating the benefits of an infrastructural approach to older people's relationship to place, and of viewing community through its infrastructure, past, present, planned and imagined.

8. Discussion

Critically analysing past regeneration in Manchester, Froud et al. (2018, p. 12) argue that future planning cannot put "blind faith in a benign and competent state or an efficient market" but future approaches should consider the diversity of opinions across society. Extending this further, analysing the changing dynamics of place through the lens of social infrastructure provides insights into how regenerated spaces should be planned in a way which is inclusive for all generations. Existing research shows that the social support generated in spaces such as libraries and community centres has been found to be protective of health and well-being across the life course (Cotterell et al., 2018). This discussion has shown that social infrastructure provides an important lens through

which to understand how older people experience processes of urban change. In particular, it highlights how developments associated with urban regeneration can alter the physical environment and also the facilities through which relationships and networks are formed, and the capacity of an area to support people ageing in place.

This article argues that in addition to improving the range of physical infrastructure in an area, regeneration plans must also include adequate social infrastructure, in order to support *affective* dimensions of ageing in place. Rather than focusing solely on the bricks and mortar of the new neighbourhood, this may involve investing in community development and support, skills training, and social enterprises. Discussions about urban regeneration policies must be holistic, considering the needs of different groups such as incoming families with young children, people in mid-life, and long-term residents, including older people (Phillipson, 2007). Therefore, social infrastructure should be considered at the forefront of urban regeneration plans. The analysis highlights the need to maintain spaces that are important to older people throughout the redevelopment process, to ensure they have places to be seen and heard (Burns et al., 2012).

Existing research demonstrates that urban regeneration is often only advantageous to certain groups, such as younger, more affluent residents (Phillipson, 2007). However, as yet, the impact of regeneration on the older populations has been under-theorised. Ageing in neighbourhoods that are undergoing rapid physical redevelopment may result in exclusion (Lewis & Buffel, 2020), detachment, or a sense of "being out of place" (Phillipson, 2007). At the same time, it is also important to note that when older people experience physical changes to their locality, adaptation can also take place (Gilroy, 2012). Ageist stereotypes commonly depict older residents as resistant to change, stuck in the past, and overly nostalgic (Lewis, 2016). However, our findings show that older residents have a range of expertise and knowledge about their communities, which has the potential to contribute to discussions about the future of their neighbourhoods (Lewis et al., 2020).

Our research suggests that older residents are keen to age in place but that any redevelopment should provide more local amenities and places to socialise. In future urban regeneration, social infrastructure will be vital to nurture public life and address some of the most pressing concerns of contemporary urban life, such as social isolation and limited social networks (Latham & Layton, 2019). Finlay et al. (2019, p. 2) make the point that such community spaces "represent essential sites to address society's pressing challenges, including isolation, crime, education, addiction, physical inactivity, malnutrition, and socio-political polarization." Social infrastructure is essential in communities undergoing rapid transformation, providing the basis for maintaining social connections and community cohesion. In relation to promoting ageing in place, installing designated age-friendly benches in parks, ensuring seating to allow people to queue comfortably in shops and promoting accessible, green, safe and inviting public spaces, are just a few examples of how "age-friendly" interventions may address the needs of different age groups (Yarker, 2022).

Further research is required in order to make specific recommendations about how older people can influence and contribute to processes associated with urban regeneration. This will require new working relationships between stakeholders (policy, industry, community, and academia) to produce creative solutions for equitable development. Sustained engagement with existing residents will be vital in order to understand their expectations for the new area and to ensure they feel involved. Traditional styles of consultation are often rather limited and more open styles of collaboration should be supported. Observing urban public spaces, such as those awaiting redevelopment, it may not be self-evident what is going on in these places (Latham & Layton, 2022) or the meanings which are attached to them. Therefore, a greater understanding of the importance of social infrastructure from the perspective of residents is essential.

One approach to encourage meaningful dialogue between residents and regeneration stakeholders could be the adoption of collaborative methods of co-research, as developed, for example, by Blair and Minkler (2009), Buffel (2019), and others. Older people, trained in research skills, are best placed to play a vital role in deepening our understanding of ageing in neighbourhoods undergoing rapid change—especially among groups experiencing various forms of social exclusion. This could involve, for example, bringing together older people, architects and regeneration planners to make suggestions for how future urban regeneration could integrate age-friendly homes and social infrastructure (such as parks, shopping, and leisure facilities). Including residents as co-researchers/co-designers would help to ensure that people can age in place and retain vital social links, such as those evident in Collyhurst.

This research had several limitations. First, *the sample*: this analysis focuses on a relatively small number of older residents and stakeholders. Further research should examine the views of different age groups including residents who had recently moved to the area. Second, *the methodology*: interviews and focus groups were carried out as well as some ethnographic research in key settings in the neighbourhood. Future research would emphasise the importance of also using collaborative or co-research approaches to ensure that older people have a closer involvement with the research process (Buffel, 2019), as discussed above. Notwithstanding these limitations, a key contribution of this research comes from analysing qualitative data to produce local insights into the experiences of proposed urban redevelopment in Collyhurst, from both existing residents and regeneration stakeholders.

9. Conclusion

This article has examined the importance of social spaces in neighbourhoods, which enable people to encounter others and support inclusivity (Latham & Layton, 2019). Social infrastructure provides an important lens through which to analyse the impact of urban regeneration processes and sheds light on the *functional* and *affective* dimensions of ageing in place. In neighbourhoods undergoing redevelopment, both dimensions are vital to consider. The article suggests that social infrastructure should be foregrounded in discussions about urban change, in order to ensure that new spaces of the city foster social connections for all generations and support older residents' sense of local identity, belonging and inclusion amidst dramatic material transformation.

Developers, policy-makers and service providers must take into consideration the changing needs of older people both now and in the future, together with their families and the communities in which they live. The WHO Age-Friendly Cities programme recognises the complex relationships between people, policy and the places they reside influence people's quality of life. By acknowledging the specific histories and relationships people have within their communities, the age-friendly model demonstrates the need to take a "whole system" approach to planning in which issues of housing and public facilities are taken alongside those of civic participation and social inclusion. Central to this is a participatory ethic that challenges urban professionals to develop genuinely participatory processes, in which groups such as older people are genuine stakeholders rather than mere consultees (Handler, 2014).

In order to remain a leading city in age-friendly issues, it is recommended that the council should work closely with private developers to develop a new style of urban regeneration, which places older people's interest at the heart of the agenda. The example of Collyhurst, earmarked for significant urban regeneration as discussed in this article, highlights some of the challenges in embedding these ideas within the competing priorities that drive local decision-making. While there is increasing recognition about the need for architects, planners, and developers to address issues of ageism and social justice through collaboration with older people (see Hammond & Saunders, 2021), the levers of power through which these can be realised (both nationally and locally) remain limited. The origins of this study suggest a potential route to addressing this, building on the age-friendly cities and community approach. The Age-Friendly Manchester initiative, developed collaboratively between older people and Manchester City Council, is long-established with strong political support. This, in turn, positioned them uniquely to impress upon the joint venture partners how important it was to consider older people at an early stage of the project's development. In response to this, Age-Friendly Manchester and the Victoria North joint venture were able to approach the research team to help them understand how local older people perceived the proposed redevelopment programme, and how it could better respond to the concerns, needs and aspirations of local older people.

"Thinking with social infrastructure" broadens and deepens our understanding of the kinds and qualities of social life in cities that should be promoted, and the implications for supporting people ageing in place. The analysis suggests that having detailed knowledge of the needs of older people in relation to promoting social infrastructure is of utmost importance in developing successful urban policies. In neighbourhoods undergoing urban regeneration, efforts should be made to continue to invest in the social infrastructure which supports functional and emotional dimensions of ageing in place. This would ensure that existing older residents are best supported in the place in which they may have lived for much of their adult live.

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