

# RESILIENT CITIES: BUILDINGS, PEOPLE, AND RECIPROCAL INTERACTIONS

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## INTRODUCTION

An increasingly urbanised world brings with it unique challenges, such as widening inequality, lack of sustainability, and vulnerability of populations.<sup>1</sup> These issues can be compounded by other problems facing our world, including climate change,<sup>2</sup> an aging population,<sup>3</sup> public health crises,<sup>4</sup> and disasters.<sup>5</sup> Facing all of these challenges will require resilience, or “the ability to adapt and change, to reorganize, while coping with disturbance”.<sup>6</sup> Resilient cities are also livable cities. Many of the factors that others have found improve liveability, such as human-oriented design, street activity, and social cohesion,<sup>7</sup> are directly related to factors that we found promote resilience.

Much previous research on community resilience has focused on disasters<sup>8</sup> and often in rural areas.<sup>9</sup> While this has provided valuable insights, there is a need to explore urban settings and how communities develop resilience before disaster strikes. Community, household and individual resilience are interconnected.<sup>10</sup> Community resilience has been defined as grounded in social interactions and community networks<sup>11</sup> and also based on individual well-being.<sup>12</sup> The literature on community resilience had tended to overlook the importance of place. While some researchers have noted the value of people-place connections,<sup>13</sup> the research on community networks has placed little emphasis on the role of the planning and design of the built environment.

While under-emphasised in literature on resilience, the built environment is well established as an essential element for livable cities. All aspects of a city’s built environment can improve or worsen its liveability, including individual dwellings, streets, lighting, parks, signage, and all manner of public buildings.<sup>14</sup> In order for cities to be livable, they must also have the infrastructure in place to connect all of these elements within a reasonable and safely walkable route.<sup>15</sup>

This paper will explore the interaction between community and the built environment and how that interaction can promote resilient communities. To do this we needed to understand more about these interactions, so we conducted a study with almshouses. Almshouses are: “...a unit of residential accommodation (usually a house or flat) which belongs to a charity, is provided exclusively to meet the charity’s purposes (for example, the relief of financial need or infirmity) and is occupied or is available for occupation under a licence by a qualified beneficiary”.<sup>16</sup> The almshouse association is a charity that supports the over 1,500 almshouse charities in the U.K. The almshouse movement in England has a history of over a thousand years and new almshouses continue to be built today.<sup>17</sup> Almshouse charities currently provide affordable homes for 33,000 people. While almshouses are not exclusively for older adults, many are reserved for people over a certain age (the specific age varies across sites but

participants in this research ranged in age from 59 to 97 years old at the time of participation) and all of the almshouse sites we worked with are communities for older adults. These almshouse communities can act as a microcosm of a city, the lessons from which can be applied more broadly to urban contexts.

## METHODS

The study ran from January 2022 to July 2024 with the research question: What builds resilience in almshouse communities? Almshouse communities consist of past, current, and future residents, staff, trustees, governance, buildings, and grounds. Research was conducted at seven almshouse charities across England which acted as our project partners. The project was not an evaluation, but rather was looking for evidence of ‘what works’ for resilience. Contributors to the project included a full project team of seven people (four academic researchers, the Head of Research from one of the charities and a project liaison from two other key partner charities), a Residents Advisory Group (RAG) consisting of 11 almshouse residents from four of the partner charities plus one facilitator and one of the academic researchers from the core project team, and a Professionals Advisory Group for the project of 21 members with experts from housing, law, almshouses and equality, diversity and inclusion (EDI).

The primary research method used was semi-structured interviews with almshouse residents (n = 49), staff members (senior staff n = 16, operational staff n = 8) and charity trustees (n = 13). In addition to these interviews, the project conducted three focus groups with almshouse residents (n = 16); document analysis, including the charity websites, resident selection processes and annual reports; and site visits (n > 25) with ad hoc conversations written up as field notes, and photos taken of the site, facilities and relevant material such as notice boards. The study was approved by the university research ethics committee of the lead author. At each project partner site, residents were invited to participate in interviews through flyers on noticeboards, information about the project in email newsletters and, at the bigger sites, informational sessions to introduce the project. Staff were invited to participate in an interview through an email sent to all staff by the partner project liaison. Trustees were invited to an interview directly by email. Voluntary participation was emphasised in all recruitment. Abductive thematic analysis was undertaken on the data, resulting in thirty themes.

## FINDINGS

The thirty themes were organized into four overarching factors contributing to resilience: valuing and supporting people, developing and strengthening community, enhancing the built environment, and focusing on the future. This paper is primarily concerned with two of these categories: enhancing the built environment, which includes design, maintenance, and continuing development, and valuing and supporting people which includes individuals’ psychological resources, diversity, and developing community ties and people-place connections. From the analysis, it was clear that there were multiple and strong interactions between themes. This paper will highlight three factors for resilience that demonstrate the intersection between community and the built environment: shared space, gardens, and transport.

### Shared Space

Communal spaces varied across sites. Some didn’t have any, consisting only of self-contained homes. In those cases, communal spaces were missed, with one resident remarking:

“... what a place like this could do with is ... a little club area or something where people could go, even if you only put music on ... that’s the sort of thing that we could do with ...” (Resident 35).

Those almshouses that do have shared spaces range from a single small lounge to a series of common areas with different amenities and uses. These spaces allow for residents to maintain their independence while also providing opportunities for activity and connection, as one resident explained:

“You live your life. But you’ve also got that communal area. And you can do things. You haven’t got to be stuck.” (Resident 45)

A common type of shared space in the almshouses we visited is a lounge: a room with some chairs and tables, perhaps a TV and other activities like a shared stash of books and boardgames. These spaces allow for ad hoc, informal interaction to take place, as one resident described:

“I can take a walk down to the lounge, see who’s there, have a cup of tea” (Resident 11).

These spaces are also well suited for scheduled events and programming.

Shared spaces include not just dedicated rooms but also internal and external circulation areas, like hallways and paths. These areas allow for incidental interactions to take place, promoting connection among the community. As one resident highlighted: “You meet people in the hallway. I mean, it’s like, you know, you’re not alone” (Resident 25). These circulation areas represent the intersection between the private home and the public realm. Even without direct interaction, the visual connectedness of having a view out across shared areas provides a sense of integration with the community.

In whatever form they take, the provision of shared space is valued by residents and organizations. It is both an asset to the building and the community as well as a future opportunity for community building programming and connection. It is through the opportunities for formal and informal connection that shared space plays a critical role in developing relationships and networks in the community which lead to greater resilience.

## Gardens

Communal gardens play an important role in the wellbeing of residents. In addition to being a shared space as discussed above, they provide a connection to nature and opportunities for exercise and engagement in hobbies. Gardening is a social pastime for many people, connecting residents to their community. Communal gardens specifically allow for that social element in addition to allowing residents to garden without the cost and time requirement of having to maintain a garden by themselves. One resident directly linked gardening to living an active lifestyle:

“... we buy plants and we put them in, and we go out there ... and we sit, there are chairs, and we talk, get a bit of sun. So yes, yes, we have got an active life” (Resident 49)

Gardening also allows for flexibility of management, encouraging those residents that enjoy gardening to take on the maintenance while allowing all residents to enjoy the garden.

Many almshouses are built in a horseshoe shape around a courtyard. This provides all the homes with a view of the garden and creates a sense of enclosure. Even residents who are not able to get out in the garden can enjoy the sights, sounds, and smells of nature from their windows. Even small gardens or individual planters can serve this purpose, with the added benefit of allowing people to personalize their space. Gardens play a key role in connecting people to each other, connecting people to nature, and connecting people to place. They are highly valued by residents and passersby. Through their role in improving well-being, as well as enabling social connection, gardens are valuable elements of resilience.

## Transport

Connection to a place was something that many residents highlighted as a key factor in where they live. Many residents had a strong connection to the local community prior to moving into their home with the almshouse charity. Several factors allow for a continued connection to a local community, including prior familiarity with the area such as from growing up there, having loved ones who live nearby, local amenities like restaurants and places of worship, as well as proximity to activities like sports teams and dance classes. As most residents in the urban almshouse sites, we visited do not own a car,<sup>18</sup> the key to accessing all these things that connect a resident to their local community is public transportation.

Having reliable bus, metro, and rail services are essential for this population. These modes of transportation also need to be accessible to people with a range of mobility and other needs. Walkability/rollability is also an important factor that can connect people to or disconnect people from their broader local community. This connection is not a static factor but one that changes for better or for worse over time, thus changing an individual's connection to their community. Bus routes can close down, new train stations can open, etc. Feeling connected to a broader community requires access to that community, making transportation and walkability/rollability essential to a connected and resilient community.

## **DISCUSSION**

We found that the built environment resilience and social/community resilience were very closely linked. These findings demonstrate how good design provides the space for community to develop and thrive and how strong community protects assets. With a resilient built environment and resilient community, residents' individual resilience is improved. Almshouse communities can be considered as a microcosm of cities, in their development over time of both built estate and human community within a specific geographic location. What makes almshouses resilient can in turn teach us what makes larger communities resilient. A key to what makes almshouse communities resilient is the interaction between community and the built environment. Shared spaces make cities more resilient as they foster community connections and provide hubs for offering and accessing support. Gardens serve a similar purpose in addition to promoting biodiversity and connection to nature. Transport links all of these things ensuring everyone has access to the amenities that encourage community resilience.

### **Buildings that Promote Community**

Whether building new buildings or adapting existing ones, considering the flow of people is crucial to promoting community building. Where possible, considering the location of the housing can go a long way to promote community integration. Places that are close to essentials such as doctors' offices, banks, and grocery stores as well as other amenities like restaurants, bars, recreation centres, and parks are highly preferable. Locations that are well connected via walkability/rollability and through accessible and reliable public transportation ensure access to these community assets and promote connection between different parts of the community. Within the housing itself, considering incidental meeting points in design, such as providing wide hallways and benches along garden paths, encourage conversation and connection among residents. Large and comfortable lounges that people want to spend time in are also highly valuable. These spaces should be versatile, allowing for ad hoc socialization as well as a diverse range of planned activities that can appeal to different residents. These events can include physical activities, meals, and game nights. These spaces promote community not just among residents but with the wider community as well. Permeable spaces can allow for non-residents to join in with activities and interact with residents to the benefit of both groups.

### **Green Cities are Resilient Cities**

Similarly to the other communal spaces highlighted above, outdoor spaces allow for an even broader range of activities, including maintaining the space itself. They have the additional benefits to ecology; reducing the impact of heavy rainfall and heatwaves and providing opportunities for nature conservation and biodiversity. Gardens provide food and habitats for animals, insects, and pollinators. In that way gardens are beneficial not just for humans but for non-humans as well. The resilience to adverse weather events such as heatwaves and heavy rain that gardens provide is especially important in our ever-changing climate.

### **Buildings for Older People**

The almshouse communities we focused on are specifically for older people, however the lessons of building for older communities are applicable more broadly. Observed considerations for older residents, particularly in new or adapted almshouses buildings, include ramps and elevators, sockets placed higher up on the wall, wider corridors and doorways to allow for mobility aids, mobility scooter charging stations, and hearing loops. All of these improve accessibility of indoor and outdoor shared spaces not just for older people but for disabled people of any age as well as for parents and children. Homes that are built for older people or are adaptable for the needs of older people ensure that people can stay in their homes as they age and/or as their access needs change. As well as making homes more livable, this allows the maintenance of social connections over time which contributes directly to community resilience. Age-friendly cities are resilient cities. The World Health Organization has identified housing, transportation, and outdoor spaces, buildings, social participation, and community support, all factors that we found promote resilient communities, as key elements of a city that allows people to age actively and with a high quality of life.<sup>20</sup>

### **CONCLUSION**

Our findings demonstrate that resilient cities will consider the built environment and the community and the reciprocal interactions between them. The built environment is critical for resilience, providing the essential amenities that individuals and communities need to thrive as well as the means of accessing those amenities. With these shared spaces including crucially green spaces, the built environment is essential for connecting people and creating resilient communities. Communities also play a key role in developing and maintaining the built environment. In this way communities and the built environment are strongly interconnected, and the reciprocal interdependence is essential for resilient cities. Building and adapting with strong communities in mind make cities livable and resilient in our ever-changing world.

## NOTES

- <sup>1</sup> United Nations Population Fund, "Urbanization," (2024)
- <sup>2</sup> Intergovernmental Panel on Climate Change, "Climate Change 2021 - The Physical Science Basis - Summary for Policymakers," (2021).
- <sup>3</sup> Emily M. Grundy and Michael Murphy, "Population Ageing in Europe," In *Oxford Textbook of Geriatric Medicine* (2017) <https://doi.org/10.1093/med/9780198701590.003.0002>.
- <sup>4</sup> Victoria Y. Fan, Dean T. Jamison, and Lawrence H. Summers, "The Inclusive Cost of Pandemic Influenza Risk," *NBER Working Paper Series* (2015).#
- <sup>5</sup> Intergovernmental Panel on Climate Change, "Climate Change 2021"
- <sup>6</sup> Brian H. Walker, "Resilience: What It Is and Is Not" *Ecology and Society* 25, no. 2, (2020) <https://doi.org/10.5751/ES-11647-250211>.
- <sup>7</sup> Jin Rui and Frank Othengrafen, "Examining the Role of Innovative Streets in Enhancing Urban Mobility and Livability for Sustainable Urban Transition: A Review," *Sustainability (Switzerland)* 15, no. 7 (2023) <https://doi.org/10.3390/su15075709>.
- <sup>8</sup> Douglas Paton, "Disaster Resilience: Building Capacity to Co-Exist with Natural Hazards and Their Consequences." *Disaster Resilience: An Integrated Approach* (2006)
- <sup>9</sup> Elizabeth Buikstra, Helen Ross, Christine A. King, Peter G. Baker, Desley Hegney, Kathryn McLachlan, and Cath Rogers-Clark, "The Components of Resilience-Perceptions of an Australian Rural Community," *Journal of Community Psychology* 38, no. 8 (2010) <https://doi.org/10.1002/jcop.20409> ; Veronica Matthews, Jo Longman, James Bennett-Levy, Maddy Braddon, Megan Passey, Ross S. Bailie, and Helen L. Berry, "Belonging and Inclusivity Make a Resilient Future for All: A Cross-Sectional Analysis of Post-Flood Social Capital in a Diverse Australian Rural Community," *International Journal of Environmental Research and Public Health* 17, no. 20 (2020) <https://doi.org/10.3390/ijerph17207676>.
- <sup>10</sup> Fikret Berkes and Helen Ross, "Community Resilience: Toward an Integrated Approach," *Society and Natural Resources* 26, no. 1 (2013) <https://doi.org/10.1080/08941920.2012.736605>.
- <sup>11</sup> Lucy Faulkner, Katrina Brown, and Tara Quinn, "Analyzing Community Resilience as an Emergent Property of Dynamic Social-Ecological Systems," *Ecology and Society* 23, no. 1 (2018) <https://doi.org/10.5751/ES-09784-230124>.
- <sup>12</sup> Tara Quinn, W. Neil Adger, Catherine Butler, and Kate Walker-Springett, "Community Resilience and Well-Being: An Exploration of Relationality and Belonging after Disasters," *Annals of the American Association of Geographers* 111, no. 2 (2020) <https://doi.org/10.1080/24694452.2020.1782167>.
- <sup>13</sup> Berkes and Ross, "Community Resilience"
- <sup>14</sup> Michael Southworth, "Measuring the Liveable City," *Built Environment* 29, no. 4 (2003) <https://doi.org/10.2148/benv.29.4.343.54293>.
- <sup>15</sup> Shuhana Shamsuddin, Nur Rasyiqah Abu Hassan, and Siti Fatimah Ilani Bilyamin, "Walkable Environment in Increasing the Liveability of a City," *Procedia - Social and Behavioral Sciences* 50 (2012) <https://doi.org/10.1016/j.sbspro.2012.08.025>.
- <sup>16</sup> "What is an almshouse?," The Almshouse Association, <https://www.almshouses.org/what-is-an-almshouse/>
- <sup>17</sup> Jenny Pannell and Alison Pooley, "Almshouses: a model of community housing for an ageing population," *Royal Institution of Chartered Surveyors Research Trust [RICS]* (2020).
- <sup>18</sup> In the London borough of Southwark where two of the research sites for this project are located, just under 40% of all households own a car<sup>19</sup>. Car ownership in London also peaks around age 50 before decreasing so it is not surprising that a population of Londoners aged 55 and over would not have a lot of car ownership.
- <sup>19</sup> Zarin Mahmud, "Understanding Car Ownership in London," *Centre for London* (2023).
- <sup>20</sup> World Health Organization, "Global Age-Friendly Cities: A Guide," *Community Health* (2007).

## BIBLIOGRAPHY

Almshouse Association, The "What is an almshouse?," <https://www.almshouses.org/what-is-an-almshouse/>  
 Berkes, Fikret, and Helen Ross. "Community Resilience: Toward an Integrated Approach." *Society and Natural Resources* (2013): 26 (1). <https://doi.org/10.1080/08941920.2012.736605>.

- Buikstra, Elizabeth, Helen Ross, Christine A. King, Peter G. Baker, Desley Hegney, Kathryn McLachlan, and Cath Rogers-Clark. "The Components of Resilience-Perceptions of an Australian Rural Community." *Journal of Community Psychology* (2010): 38 (8). <https://doi.org/10.1002/jcop.20409>.
- Fan, Victoria Y., Dean T. Jamison, and Lawrence H. Summers. "The Inclusive Cost of Pandemic Influenza Risk." *NBER Working Paper Series* 22137 (2015).
- Faulkner, Lucy, Katrina Brown, and Tara Quinn. "Analyzing Community Resilience as an Emergent Property of Dynamic Social-Ecological Systems." *Ecology and Society* (2018): 23 (1). <https://doi.org/10.5751/ES-09784-230124>.
- Grundy, Emily M., and Michael Murphy. "Population Ageing in Europe." In *Oxford Textbook of Geriatric Medicine*, (2017), <https://doi.org/10.1093/med/9780198701590.003.0002>.
- Intergovernmental Panel on Climate Change. "Climate Change 2021 - The Physical Science Basis - Summary for Policymakers." *Climate Change 2021: The Physical Science Basis*, 2021.
- Mahmud, Zarin. "Understanding Car Ownership in London." *Centre for London*, 2023. Accessed August 6<sup>th</sup>, 2024. <https://centreforlondon.org/blog/car-ownership-census/>
- Matthews, Veronica, Jo Longman, James Bennett-Levy, Maddy Braddon, Megan Passey, Ross S. Bailie, and Helen L. Berry. "Belonging and Inclusivity Make a Resilient Future for All: A Cross-Sectional Analysis of Post-Flood Social Capital in a Diverse Australian Rural Community." *International Journal of Environmental Research and Public Health* (2020):17 (20). <https://doi.org/10.3390/ijerph17207676>.
- Organization, World Health. "Global Age-Friendly Cities: A Guide." *Community Health*, 2007.
- Pannell, Jenny and Alison Pooley. "Almshouses: a model of community housing for an ageing population." *Royal Institution of Chartered Surveyors Research Trust [RICS]*. (2020). Accessed August 6<sup>th</sup> 2024. [https://www.housinglin.org.uk/\\_assets/Resources/Housing/OtherOrganisation/AlmshousesModelCommunityHousingAgeingPopulation.pdf](https://www.housinglin.org.uk/_assets/Resources/Housing/OtherOrganisation/AlmshousesModelCommunityHousingAgeingPopulation.pdf)
- Paton, Douglas. "Disaster Resilience: Building Capacity to Co-Exist with Natural Hazards and Their Consequences." *Disaster Resilience: An Integrated Approach*, 2006.
- Quinn, Tara, W. Neil Adger, Catherine Butler, and Kate Walker-Springett. "Community Resilience and Well-Being: An Exploration of Relationality and Belonging after Disasters." *Annals of the American Association of Geographers* (2020):111 (2). <https://doi.org/10.1080/24694452.2020.1782167>.
- Rui, Jin, and Frank Othengrafen. "Examining the Role of Innovative Streets in Enhancing Urban Mobility and Livability for Sustainable Urban Transition: A Review." *Sustainability (Switzerland)*, 2023. <https://doi.org/10.3390/su15075709>.
- Shamsuddin, Shuhana, Nur Rasyiqah Abu Hassan, and Siti Fatimah Ilani Bilyamin. "Walkable Environment in Increasing the Liveability of a City." *Procedia - Social and Behavioral Sciences* 50 (2012). <https://doi.org/10.1016/j.sbspro.2012.08.025>.
- Southworth, Michael. "Measuring the Liveable City." *Built Environment* (2003): 29 (4). <https://doi.org/10.2148/benv.29.4.343.54293>.
- United Nations Population Fund. "Urbanization.", (2024) Accessed August 6<sup>th</sup>, 2024. <https://www.unfpa.org/urbanization#summery105950>
- Walker, Brian H. "Resilience: What It Is and Is Not." *Ecology and Society*, 2020. <https://doi.org/10.5751/ES-11647-250211>.