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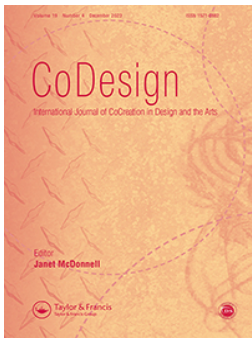
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Co-design, neighbourhood sharing, and commoning through urban living labs

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ABSTRACT

This paper examines the role of co-design methods in catalysing neighbourhood sharing and commoning in European cities. Through the comparative analysis of two design-mediated Urban Living Labs (ULLs) in Bagneux/Paris and Poplar/London, the paper explores how neighbourhood sharing of goods, spaces, and experiences are sustained in two different contexts. The paper then presents a co-design framework which was implemented in both cities, catalysing new sharing projects and relations in support of urban commons. We conclude that nesting co-design practices within 'civic-organic' ULLs can help to foster productive long-term relations between communities and academic partners based on mutual trust and help to initiate new sharing practices in the neighbourhoods of study. We argue that co-design methods are generative in this space, flattening knowledge hierarchies, supporting action on the ground, and developing situated responses to local needs.

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Co-design; neighbourhood sharing; commoning; Urban living labs; R-Urban

1. Introduction and research gap

Commoning has increasingly been seen as a third pathway, beyond the state or private enclosure, for the management of spatial urban resources (Foster and Iaione 2019). By this, we understand commoning, as a collective practice, where spatial resources (and knowledge) are exchanged and enacted without commodification (Petrescu et al. 2022, 256). This practice plays an important role in neighbourhood regeneration in European cities. Urban commons can be understood as an active resistance to market driven regeneration, favouring values beyond the market, that are often grounded in social and environmental transitions (Stavrides 2015, 2023). When deeply democratic and open, like in the case of 'boundary commons' (De Angelis 2017), these spaces can become important nodes in cities in support of sustainable transitions. Community sharing is an essential component in enabling urban commons to thrive, by 'sharing' we're referring to the exchange of things (e.g. tools), spaces (e.g. gardens) and experiences (e.g. workshops) without monetary exchange.

In parallel, we've seen the growth of the Urban Living Labs (ULLs) as a research method and model for innovation within academia (JPI Urban

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Europe, 2023). ULLs tackle local urban challenges through participatory and co-design methods, bringing together multi-stakeholder partnerships from civil society, business interests, state actors, and the academy to work collaboratively and innovate towards sustainable urban transitions (Bulkeley et al. 2019; Evans and Karvonen 2014). This paper brings together these two intersecting research fields, to better understand how ULLs foster sharing and commoning, and more specifically, how design researchers can enable sharing through co-design methods.

To date, co-design and participatory design methods have been used in living lab contexts to address urban challenges such as urban mobility (Ebbesson 2023), urban planning, and architectural programming (Binder and Brandt 2008) community driven re-use facilities (Seravalli, Agger Eriksen, and Hillgren 2017) to name a few. These examples all bring together diverse stakeholders through co-design, foregrounding citizen perspectives in addressing complex design challenges with public sector partners, often re-framing values, and institutions in the process (Huybrechts, Benesch, and Geib 2017). However, there is little research which explores co-design specifically in support of civic collaborations aiming to sustain urban commons, where grassroot groups and architects (rather than universities or public bodies) are initiating ULLs. This paper addresses this gap, and asks two main research questions:

- (1) How do ULLs enable sharing and commoning in urban neighbourhoods?
- (2) What is the role of co-design(ers) in catalysing neighbourhood sharing and commoning via ULLs?

Through the research project ProSHARE: *Enhancing Diversity, Inclusion and Social Cohesion through Practices of Sharing in Housing and Public Space* (2022), we were able to study sharing and commoning practices in two different cities (Paris and London). Unique to our research, is the focus on two urban commons which are part of the R-Urban network, a bottom-up strategy based on design-led ecological hubs which aims to build resilience in the face of climate change (Petcou and Petrescu 2018; Petrescu et al. 2021). Researching R-Urban ULLs in Poplar (London) and Bagneux (Paris), we can compare similarities and differences in socio-spatial contexts, as well as convergent and divergent design approaches, which have enabled or inhibited neighbourhood sharing in each context.

As design-researchers, we were able to support local groups and stakeholders develop sharing and commoning actions through co-design catalyts. We use the term catalyse, to refer the idea of 'speeding up a process' as defined by Davis (2009) work on urban catalyts. In this case, co-design played a role in 'speeding up' or 'enhancing' existing relations and sharing practices by adding new 'ingredients' (prototypes) for existing R-Urban hubs and commoners. The following paper first frames the research field around urban commoning and ULLs and their interrelations with co-design practices. We then provide a comparative summary of the two R-Urban hubs before outlining the specific ProSHARE methodology which was applied. The remainder of the paper presents the findings of the qualitative research on neighbourhood sharing and the specific 'sharing catalyts' which were co-designed as a research outcome. The paper concludes with a comparative discussion based on the reflective analysis of the design-researchers and lab initiators findings, which provides insight for future design researchers working to enable the commons in Europe.

2. Research on sharing practices and commoning at the neighbourhood level

Commoning is increasingly seen as a pathway to more democratic and equitable cities, which see urban resources being shared without commodification or enclosure (Foster 2016). Commoning is a key component of the commons. It is the process by which a pool of resources (material or immaterial) is held, governed, produced collectively, and shared by a community of commoners (Linebaugh 2008). The past decade has seen the growth of this paradigm across Europe, with grassroot activists and city municipalities seeking new ways to stimulate commons-based initiatives in our cities (Foster and Iaione 2019). Such examples of urban commons include community gardens, shared kitchens, co-housing models, energy cooperatives, tool sharing schemes to name a few. At their core they all focus on collaborative sharing practices and actions, in which spatial resources and knowledge(s) are co-produced, exchanged and enacted without commodification (Petrescu et al. 2022, 256). Urban commons do not only constitute the resource being shared (space and infrastructures) but consist of a community (of commoners) who devise their own governance mechanisms and values to sustain it (D. Bollier 2020; D. Bollier and Helfrich 2012; Ostrom 2015).

The production of commons (through acts of commoning) provide vital spaces of resistance, which support a different logic to urban development and everyday life. Feinberg et al. highlight the importance of mutual assistance, trust, and social cohesion in commoning practices (2020, 6). Arguing that urban commons are spaces of conviviality, generosity, and care. Which in turn produce community cohesion and trust between disparate groups (2020, 17–20). We argue that community sharing (of material things, of knowledge, of space) at all scales is an important stage in the reproduction of commons. This research focuses on this relationship between the sharing of resources between communities at the scale of the neighbourhood.

To some extent, all commons are designed, as the management of resources requires systems and governance structures to remain in common use (Foster and Iaione 2019; Ostrom 2015). Commons-based initiatives are often started from the ground-up, by networks of community associations and activist groups, which typically rely on external institutional support from state or private actors to begin with. These groups must engage with existing land management systems and the powerful stakeholders who control existing access to urban space (e.g. land owners, housing associations, municipal governments). Parker and Schmidt (2017) highlights the importance of socially engaged design processes in negotiating these relations between public sector actors (gatekeepers to land) and groups of commoners over time. Here-in lies an opportunity for co-design processes, that enable civic access to potential common pool resources, to have a key role in the development of neighbourhood sharing and urban commoning (Akbil et al. 2021; Petrescu and Petcou 2023). Co-design has the capacity to bring new ‘visions’ when working with civic groups and commoners, re-politicising design by addressing ‘big issues’ whilst operating at a relational scale or locality (Huybrechts et al. 2020, 6–7) Current literature on co-design and commoning focuses on the development of digital tools which either exist as open access commons in opposition to platform capitalism (Bassetti et al., 2019) or the co-design digital toolkits to further the urban commons movement (Baibarac, Petrescu, and Langley 2021). One underexplored avenue is the potential of ULLs in using co-design to enable the urban commons to thrive in cities through increased neighbourhood sharing.

3. Co-design in urban living labs

ULLs are situated laboratories, dealing in the specifics of local urban challenges, whilst simultaneously trying to achieve research outcomes at a wider scale to innovate systemic change (Aquilué et al. 2021; Scholl, de Kraker, and Dijk 2022; Voytenko et al. 2016). Unique to the research method is the geographical embeddedness of the approach, however, a hallmark of knowledge validity is in how this knowledge translates across geographic boundaries (Karvonen and van Heur 2014). ULLs can innovate from both the bottom-up and top-down, reflecting the differences in laboratory governance, however all ULLs have a focus on participation, experimentation and problem solving (Evans and Karvonen 2014; Karvonen and van Heur 2014).

Bulkeley et al. (2019) identify three main governance models in their analysis of European ULLs. Most prevalent were ‘Strategic’ – with top-down governance, often initiated and funded through the state. Second, were ‘Civic’ – with more locally oriented major institutional partners such as Universities as project leads. Least common were ‘Organic’ living labs, which are initiated and self-funded by civic associations and non-profit groups (Bulkeley et al. 2019, 323). This research focuses on two examples which could be defined by this framework as ‘Organic’ living labs, as they were both initiated by non-profit associations (architects working towards sustainable socio-ecological transition). However, in order not to oversimplify the governance in each case, both labs have strong supportive links to academic networks and other major institutional stakeholders (e.g. local municipalities and housing associations), we can say they are a ‘civic-organic’ hybrid.

Whilst governance mechanisms vary from case to case, co-creation as a methodological approach is essential in ULL research. Co-creation entails the participation of stakeholders throughout the implementation and decision-making process, which involves embedding citizens as equal collaborative partners rather than being only beneficiaries (Mahmoud et al. 2021, 2). They define co-creation as, ‘systemic process of creating new solutions with people, not for them . . .’ (4). This suggests that citizens’ ability to be active decision-makers in the process, on level terms with other project stakeholders and institutions, is vital for quality ULL research (Menny, Voytenko Palgan, and McCormick 2018, 71). Understanding co-creation ‘with communities’ as a hallmark for ULL research raises the potential for ULLs to be grounded in projects which value sharing and commoning from the outset.

Whilst co-creation is often understood as a creative mindset in which participants of a design process are fully immersed, co-design is more concretely the practice which facilitates a co-creative experience (Mattelmäki and Visser, 2011). Co-design and Participatory Design methods are integral to the living lab approaches, and through duration and practice enable the reproduction of the lab (Binder and Brandt 2008; Ebbesson, Lund, and Smith 2024). ‘Living Lab’ framing enables long-term relations to be formed between researchers/co-designers, civic activists, and public stakeholders. These relations are complex, at times agonistic (Björgvinsson, Ehn, and Hillgren 2012), and the negotiation of these open-ended design processes, ‘the various insides and outsides’ is inherently political across scales (Huybrechts, Benesch, and Geib 2017, 158). Binder and Brandt (2008) describe co-design and PD methods as dependent on all parties ‘putting something at stake in the process’ (2008, 117), highlighting the role of the lab as space in which multiple stakeholders come together to mutually negotiate (and re-design) solutions to local challenges.

Teli et al. (2020) suggest that co-design researchers have a mediating role when supporting commoning. Arguing that co-design helps form ‘publics’ in addressing societal issues that build relations between grassroots groups and institutions by ‘introducing new technical components and by re-using others already developed and experimented in other contexts’. (2020, 166).

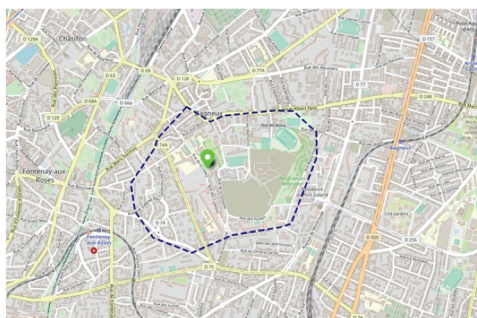
We argue that carefully selected co-design ‘components’, which involve diverse knowledges and skills, have the potential to flatten knowledge hierarchies in ULLs, and ensure all participants have something ‘at stake’ in the process. Ebbesson, Lund, and Smith (2024) frame ‘cogitation’ as the reflective state in which participants of co-design processes, ‘... can connect to challenge assumptions and familiarise themselves with new perspectives’ (2024, 14). When implemented successfully, co-design has the potential to work across differences in realising more democratic solutions to local challenges. Co-design process plays an essential role in negotiating relations, understandings, and defining what needs are addressed, and how.

4. R-Urban ULLs within designed urban commons

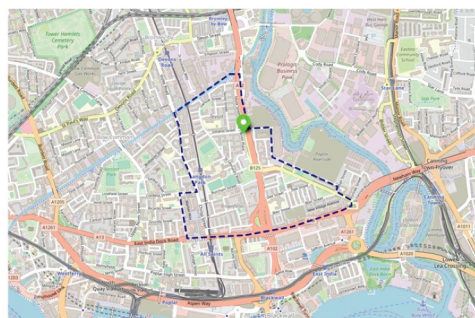
R-Urban is a bottom-up circular strategy which builds local resilience, through the creation of a network of eco-civic hubs at the neighbourhood level (Petcou and Petrescu 2015, 2018; Petrescu and Petcou 2020). The strategy understands neighbourhood ‘resilience’ as based on civic ‘resourcefulness’ and community empowerment (MacKinnon and Derickson 2013). This resilience strategy conceived in 2008 by Atelier d’Architecture Autogérée (AAA) is design-driven, involving several hubs designed and implemented by architectural practices (AAA in Paris and public works in London) of which the authors of the article are also members. The R-Urban hubs act as urban commons providing non-commodified spaces for action by commoners. Developing circular economic and ecological cycles through participatory processes, the hubs provide spaces in our cities where commoning can flourish (Petrescu and Petcou 2023).

In total, since 2011 when the strategy was implemented by the architectural practices AAA and public works, there have been seven R-Urban hubs in the Metropolitan region of Paris and two in London. This research focuses on two of these hubs (one in each city) located in two neighbourhoods, Poplar (Figure 3) and Cuiverons/Bagneux (Figure 2), strategically chosen both being socially diverse neighbourhoods. These two R-Urban Hubs which have been set up since 2017 are host (and infrastructure) of the two temporary ULLs, which took place during the ProSHARE Project, between 2021 and 2022. They are referred here as ‘R-Urban ULLs’. Due to their nature, the R-Urban ULLs were contiguous with hubs activity and involved both the design-researchers/authors of the article, the architects initiators of the hubs, and the hubs stakeholders.

Poplar is in the East End of London, to the north of Canary Wharf and the docklands area which shaped much of its pre-war history. The neighbourhood has a high proportion of social rented housing (57.5%) and is home to a large Bengali-British diaspora (39% are residents with Bangladeshi origin) (LBTH, 2014). Bagneux is in the South of Paris in the suburban periphery, having a high proportion of social housing (65,32%) and also socially diverse (26,7% population from immigrant background) (INSE 2023). Both locations have left-wing municipal governments and



Cuiverons/Bagneux Neighbourhood and hub (Paris)



Poplar Neighbourhood and hub (London)

Figure 1. Neighbourhoods of study, spatial comparison.



Figure 2. R-Urban Bagneux – agrocité and Recyclab, during a community event.



Figure 3. R-Urban Poplar – food growing, classroom and kitchen.

sit within centre-right or right-wing national leadership. The context similarities (Figure 1) of these two neighbourhoods make them ideal for a comparative study. Table 1 outlines some of the core characteristics of both R-Urban hubs for context.

Table 1. R-Urban ULL comparison.

ULL/Hub	R-Urban Bagneux (Paris)	R-Urban Poplar (London)
Duration	2017 - present	2017 – present
Population	Bagneux – 40 000	Poplar – 21000
Infrastructures	Two hubs (Agrocite and Recyclab) located on a 1000m ² site belonging to the City of Bagneux: Agrocite: Food growing (200+ m ²), Multifunctional room (50 m ²), Green house, Workshop Kitchen/community cafe, Dry toilet, Composting facilities, Phytoremediation device, vertical planting, compost heating, Recyclab: Recycling and Material storage, workshop (50 m ²) (professional + amateur), Tool library.	One hub located on 450 m ² site belonging to Poplar HARCA (Housing Association): Food growing (100 m ²), Classroom and Kitchen (15 m ²), Composting facilities, Anaerobic Digester, vertical planting, greywater beds, dry toilet 5 x Offices (12.5 m ² each), Workshop (25 m ²), tool library, recycling and material storage
Initiated by	AAA (Architects)	Public works (Architects)
Hub's Commoners (stewards of the hub, active in its governance)	5 partner associations and citizens totalling approx. 100 members of the R-Urban Bagneux organisation.	3 partner associations and citizens totalling approx. 20 members of the R-Urban Poplar organisation.
Hub's Users (Using the hub, but not active in hub governance)	More than 400 users (70% from the immediate area and 30% from other neighbourhoods and cities)	More than 250 users (50% from immediate area and 50% from other neighbourhoods and cities)
Hub's Governance	Collective Charter, co-created by initiator and funders with the commoners organisation	Informal, initiators still primary stakeholder
Hub's Economic model	Public Land occupation (free lease), Infrastructure funded by AAA via diverse grants and the Municipality (Total 450K euros) For functioning, annual budget of 5000euros from productive activities (food selling, training) + a number of non-monetary 'diverse economies' (Gibson-Graham 1996) run by users	Housing Association Land Occupation (free lease), Infrastructure funded by public works via diverse range of grants (Total 150k over 5 years)For programme functioning, an annual budget of £20k for repairs and food learning programmes + many informal exchange economies run by users.
Thematic focus	Agrocité: Urban agriculture, green skills, environmental and civic education Recyclab: Recycling, re-use and repair, eco-construction, digital fabrication Community cohesion and togetherness Civic resilience and enhanced resourcefulness	Urban agriculture, green skills, environmental and civic education Recycling, re-use and repair, eco-construction, Prototyping Community cohesion and togetherness Civic resilience and enhanced resourcefulness
ULL Typology	Civic-Organic hybrid (Bulkeley et al. 2019) ULL is hosted by Agrocite/Recyclab hubs, run by a network of civic and non-profit associations, with institutional support from local municipal government (25% co-funding and land use permissions). The buildings have the legal status of 'common goods'	Civic-Organic hybrid ULL is hosted by R-Urban Poplar hub, run by a network of civic partners and non-profit associations, with external institutional support from a housing association (access to land, peppercorn rent)
Timeframe	2017–2019 – Hub infrastructure Co-Construction (by AAA) 2019–present – R-Urban Bagneux Commoners Programming 2021–22 –R-Urban ULL (ProSHARE) 2022-present – R-Urban ULL (CONNECT)	2017–2020 – Hub infrastructure Co-Construction (by public works) 2020-Present – R-Urban Commoners Programming 2021–22 – R-Urban ULL (ProSHARE)

5. ProSHARE co-design methodology

The research objective was to enable these hubs to develop and extend their sharing and commoning activities to other organisations and inhabitants of the area and to enhance community resourcefulness. The methodology was grounded in a ULL framework using co-design methods, designing ‘with’ rather than ‘for’ host communities. Manzini (2014, 2015) describes co-design as an open-ended social conversation, in which all partners have the voice to shape and influence the design process at all stages. Steen (2013) frames co-design as a process of ‘joint inquiry and imagination’, bringing diverse communities together to explore a situated need, and commit to collaboratively develop and test solutions in response. This approach resonates with our understanding, using co-design workshops to identify community needs, before co-designing new sharing catalysts for local action.

The ProSHARE Co-design workshops were developed in relation to existing living labs methods (Figure 4). Of relevance for this study was Aquilué et al. (2021) four-phase co-design model developed as part of the FURNISH project. Their model starts with ‘Problem and Ideation’ which involves the identification of problems to be addressed. Followed by ‘Development and Implementation’, which involved the design and production of working prototypes. Before realising a ‘Final proposal’ which was evaluated and documented in an open-repository (Aquilué et al. 2021, 8–9). This multi-phase approach, which begins with problem identification and opportunities is well suited to working with sharing and commoning. Understanding neighbourhood sharing as a possible solution to local challenges helps to embed the co-design aim within the group. This first phase is crucial in identifying ‘what’s at stake’ for those involved and is more likely to create deeper participation in subsequent phases. Co-design workshops became a way for design-researchers (in universities) to connect with and support diverse grassroots groups within each neighbourhood. The researchers (authors) had existing relationships with the R-Urban initiators (architects) who acted as gatekeepers and support facilitators of the university led research teams.

5.1. Phase 01 – understanding existing neighbourhood sharing, identifying stakeholders

The research focussed on analysing three main practices of neighbourhood sharing: the sharing of goods, experiences, and spaces. This was done through explorative semi-structured qualitative interviews with participants identified in collaboration with R-Urban. The London team conducted 6 individual interviews and one group interview, the Paris team conducted 10 individual interviews with key stakeholders involved in different capacities with R-Urban (organisations, policy makers, citizen).

5.2. Phase 02 – co-mapping community ‘resourcefulness’

This involved two exercises: firstly, collaboratively mapping existing sharing/commoning actions in the neighbourhood to reveal connections and relations between local associations. This was done both using the GogoCarto open-source online platform and through manual mapping, combining digital and analogue techniques to improve inclusivity and develop a more nuanced picture of neighbourhood sharing. Linking problem identification (need) to existing spatial dynamics builds on the use of co-mapping practices and ‘relational mapping’

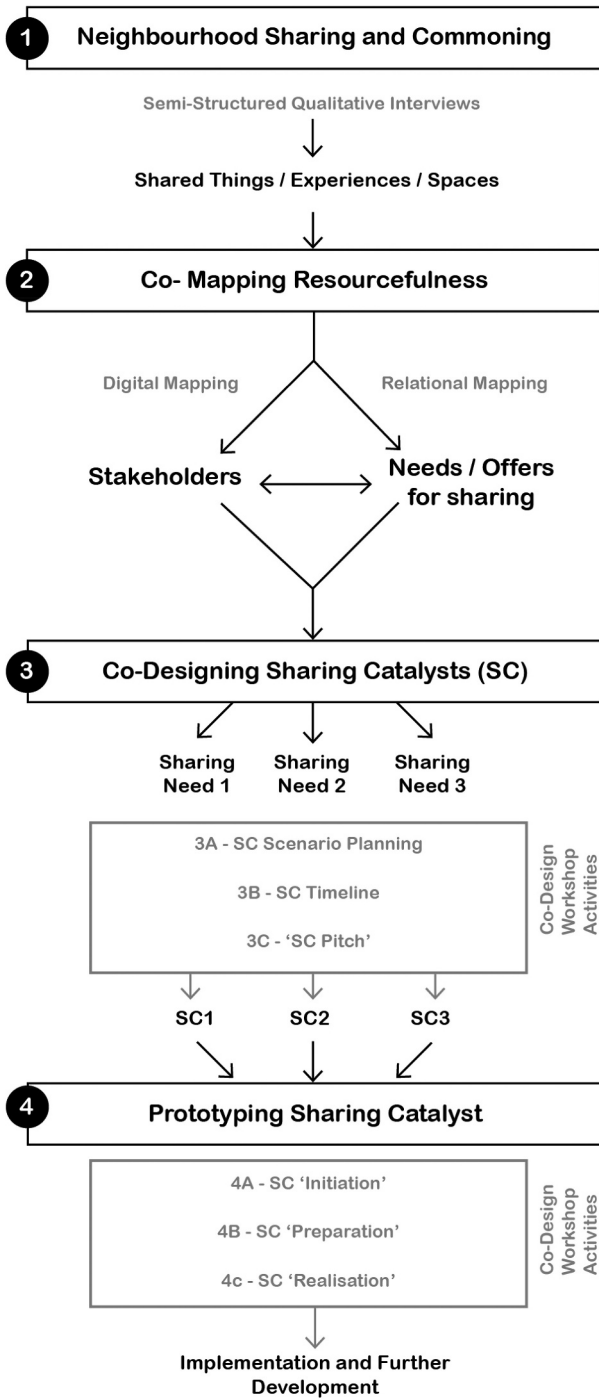


Figure 4. Four phase ProSHARE strategy design.

tools within urban design and commoning (Baibarac, Petrescu, and Langley 2021; Huybrechts et al. 2020, Petrescu 2012). Second, the group identified sharing needs and offers, allowing participants to actively reflect on the existing dynamics and contribute to enhancement of local sharing initiatives. In London, this co-design phase involved 11 participants from 8 different local associations, and in Paris the lab involved 15 participants from 7 local associations. These local associations were identified through R-Urban partners, invitations were sent to local groups (defined by geographic proximity to the R-Urban hubs) who could benefit from participation.

5.3. Phase 03 – co-designing sharing catalysts

The participants formed small working groups, developing ideas for a catalyst that would address both co-identified needs and organisation offers for sharing.

The authors introduced the idea of ‘sharing catalysts’ in response to Attoe, Logan’s, and Logan (1992) theory on urban catalysts, which recognises the addition of ‘new ingredients’ to accelerate urban change in neighbourhoods (Kristo and Dhiamandi 2016). In this case, catalysts were developed in support of existing capacities and resources previously identified, with small additions/interventions to foster further neighbourhood sharing/commoning. The identified sharing catalysts were then taken through a three-stage co-design process which involved scenario planning, developing project timelines – culminating in a ‘catalyst pitch’ (a short summary, aims, intentions and goals). In London, this phase involved 11 participants from 8 different local associations, and in Paris, the lab involved 15 participants from 8 local associations and the Municipal Council.

5.4. Phase 04 – prototyping sharing catalysts

Prototyping as a co-design method is well established within the fields of Participatory Design, which recognise the complexity of these social design processes (Brodersen, Dindler, and Iversen 2008; Hillgren, Seravalli, and Emilson 2011). The final phase involved the prototyping and testing of one catalyst in each city with the identified stakeholders. This involved detailing its ‘Initiation’, ‘Preparation’ and ‘Realisation’ phases with stakeholders, which helped the design groups think through the actions needed across a realistic timeframe. This final phase was planned to last 6 weeks but was drawn out over a much longer period (6 months). The extended timeframe was a reflection on the desire to combine elements from each project pitch in the final catalyst. In London, this phase involved 8 participants from 8 different local associations, and in Paris, the lab involved 8 participants from 5 local associations, and three municipal government representatives.

6. The ProSHARE research (on sharing and commoning) in the R-Urban hubs and the role of co-design

In the comparative Table 2, we can compare the role of the two differently located R-Urban hubs in local sharing/commoning practices, alongside the outcome of the co-design process and sharing catalysts.

Table 2. Findings from the ProSHARE four phase strategy.

	Paris	London
Phase 01 + 02 (September 2021–February 2022)		
Existing Space	24hr Access to site and buildings for 'members' via keycode access.	24hr Access to site for 'members' via keycode access
Sharing in R-Urban Hubs	Parts of the hubs have access controlled by the members with responsibility (and keys). Free public access to external grounds (during daytime) Free hire/use of space for the five partner associations	Growing spaces shared by residents – communal beds managed by association. Free hire/use of space for partner associations Rental of offices/units in exchange for labour contribution to the hub
Existing Shared Things in R-Urban Hubs	Gardening Tool sharing (for local use) Cooking devices (for production of shared meals and for selling for collective benefit) Free Food sharing (community meals)	Tool sharing (access to workshop tools, equipment, can be borrowed free of charge to partners – Informally not legitimised) Sharing of seedlings, seeds and plants (given away during workshops, shared between food growers)
Existing Shared Experiences/ Knowledge in R-Urban Hubs	Food bank (regular free distribution of unsold organic vegetable) Regular activities organised by hub members: Collective planting Furniture and Co-Building Repair Cafes Composting Food bank Collective governance sessions Conferences Language courses and cultural activities – concerts, screenings	Sharing of food (regular community meals, sharing crops) Two weekly programmes of free workshops run by hub members: "Companions": Food growing, green skills, composting, community cooking/meals "Repairs Café": Skill sharing and repairing broken products/appliances
Phase 03 – Co-designing Sharing Catalysts (February-June 2022)		
Participant Profile	8 organisations: Four non-profits (an architect association- 'initiators', a theatre company, a pedagogy group, a civic circus) three local organisations (one specialised in recycling and food bank, a language school, a civic group) and a community garden and three members of the Municipal Council collaborating for the first time	8 associations: one youth charity, three community gardens, one environmental charity, three non-profits working with sustainable education and design
Participant Demographics	Primarily women (80%) Participants from diverse cultural background (20%)	Primarily women (80%) Participants from a diverse cultural background (50%)
Sharing Catalyst 'Pitch'	Sharing catalyst needs identified: 1. "Construire ensemble le Jardin du Belvédère et les aires de jeu" ("Building together the Belvedere Garden and its playgrounds") 2. Bagneux as "Terreau Européen de l'Ecologie Citoyenne" ("Bagneux - Fertile Ground for Citizen Ecology")- an attempt to set up a city wide civic ecology platform. 3. TRUC - "Transition Responsable, Utile et Conviviale" ("Responsible, Useful and Convivial Transition") - A programme to better define the activities of the R-Urban hub.	Sharing catalyst needs identified: 1. "Sharing solidarities" Desire for more collaboration and regular networking between local associations 2. "Tool lending network" Increased tool/equipment sharing, to reduce burden on unnecessary purchasing 3. "Poplar facilitators network" Increased exchange of workshop facilitators and sessions across local green spaces
Phase 04 – Prototype Sharing Catalysts (June-October 2022)		
Prototype development and implementation	The organisation of shared action 'Parcours des proximités' and the proclamation of Bagneux as "Terreau Européen de l'Ecologie citoyenne" (European Fertile Ground for Civic Ecology) as policy direction and label.	Poplar Sharing Solidarity Network (PSSN) between the co-design group. It takes the form of a shared online database of 'things for sharing', and quarterly network meetups facilitated by one of the lead partners.

6.1. Space sharing

The primary resource which is shared across both hubs is the physical space and infrastructures of the hub. These spaces are not public assets (open to all, managed by the state), but instead are spaces governed by the group of commoners with their own rules and systems. Their boundaries and borders are porous and encourage inclusivity and projects are managed by associations not by state bodies. These groups have their ties and connections in the neighbourhood, which make the projects more embedded. In both hubs, the main infrastructures shared are spaces for food growing and communal spaces such as workshops, kitchens and small building hubs. In London, the main physical assets (Kitchen, Workshop, Offices) are managed by local enterprises (non-profit companies) rather than community associations, meaning greater responsibility for enterprises and more limited opportunities for collective space sharing. In Bagneux, there are local associations who use and manage the infrastructures, but this is limited to their everyday activities and maintenance of the hub. Unlike in London, there are no enterprises operating as project stakeholders.

6.2. Shared things

Across both hubs they encourage sharing and commoning of goods/things by providing non-commercial spaces of exchange. The hubs exist outside the logic of the market, and their openness allows for other relations and economies to be tested. In both Bagneux and Poplar, tool-lending allows for members and a wider network of local partners to share tools and equipment, this is not through a formalised booking system (typical of tool-sharing initiatives), but instead works through a trust. The same applies for other goods shared within the hub, with seeds and seedlings grown and distributed to local growers for free and the sharing of crops as commonplace. Both hubs act as a redistribution space for surplus food and the sharing of free food via regular community meals.

6.3. Shared experiences and knowledge

R-Urban hubs have a curatorial role in offering a place for learning and knowledge exchange between members towards socio-ecological transitions. This includes forms of everyday knowledge such as gardening advice to more formally organised workshops and programmes of learning across both cities. In Poplar, these are organised around weekly programmes which develop skills and capacity within members in support of sustainable transitions (green skills and a repair cafe). In Bagneux, the hub has a similar workshop and knowledge focus around teaching skills around repair, green skills, DIY constructions, composting – all to develop know-how in participants in support of the transition. In addition, the Bagneux hub works in solidarity with neighbourhood challenges offering space for food banks, language courses and cultural exchange programmes in an act of solidarity with those who need and make use of the hub. The role of the local municipality in the hub governance has increased post-covid with city representatives taking an active role in providing future programming and events.

To summarise, both hubs have an active role in neighbourhood commoning, primarily through the sharing of physical infrastructure (the hub) and things (e.g. tools) which is collectively governed. Whilst both hubs have existing networks and provide access to nested resources (things/experiences) there is a collective need to open-up these resources towards other local organisations and members to realise greater neighbourhood impact, as part of its ‘resourceful’ strategy. In return for use of space/things, R-Urban hubs need the expanded programmes of shared experiences, workshops, and knowledge that can be offered by newcomers to share with the project networks.

6.4. Co-designed sharing catalysts

The co-design workshops were the occasion to formally open the R-Urban hubs towards new sharing practices and collaborations by inviting other local associations and enterprises to take part and activate wider community ‘resourcefulness’ (MacKinnon and Derickson 2013) beyond the hub’s boundaries. This ‘opening up’ of the hubs was reflective of the observation that they tend to be used primarily by specific communities (e.g. no youth engagement in Bagneux, limited collaboration between neighbourhood associations in Poplar and a wider sense that sharing between local groups could be enhanced). In both Paris and London, local associations identified through the explorative interviews were invited to participate, high levels of engagements demonstrated a strong neighbourhood interest in community sharing.

Co-mapping sharing practices formed a rich picture of existing relations in the neighbourhood (Figure 5). Conducting the mapping on paper, gave associations opportunities to draw the different forms of sharing relations with other groups, highlighting their depth and form of relation (things, experiences, and spaces). This process revealed important community nodes where sharing and commoning were most embedded. Mapping helped to identify opportunities for increased sharing, by demonstrating existing relations which could be enhanced through the introduction of a catalyst. Co-mapping was supported online with an open-access digital platform¹ (Gogo Carto), which was selected for its commons licencing and useability. The online mapping acts as an editable archive of the workshop results and point of reference for local participating organisations. The mapping database continues to be used today in Bagneux as part of the Terreau network,² showing the importance of visualising existing networks to local stakeholders.

Alongside the mapping, groups were invited to frame ‘needs and offers’ of sharing, as a way of identifying aspects of community ‘resourcefulness’. This involved associations writing down ‘things’, ‘experiences’, and ‘spaces’ which they could offer or needed from others. This exercise was useful in articulating community needs for the catalyst development, but also led to some easy wins by forming new connections between associations. In both Bagneux and Poplar, these needs and offers became the focus point for the Co-design and prototyping of ‘Sharing Catalysts’ (Figure 6). In Phase 03, these sharing needs were transformed into project pitches, where participants self-selected to develop ideas for sharing catalysts in the neighbourhood (See Table 2). In Phase 04, the pitches were refined down into one catalyst proposal following group discussion and debate, which harnessed elements

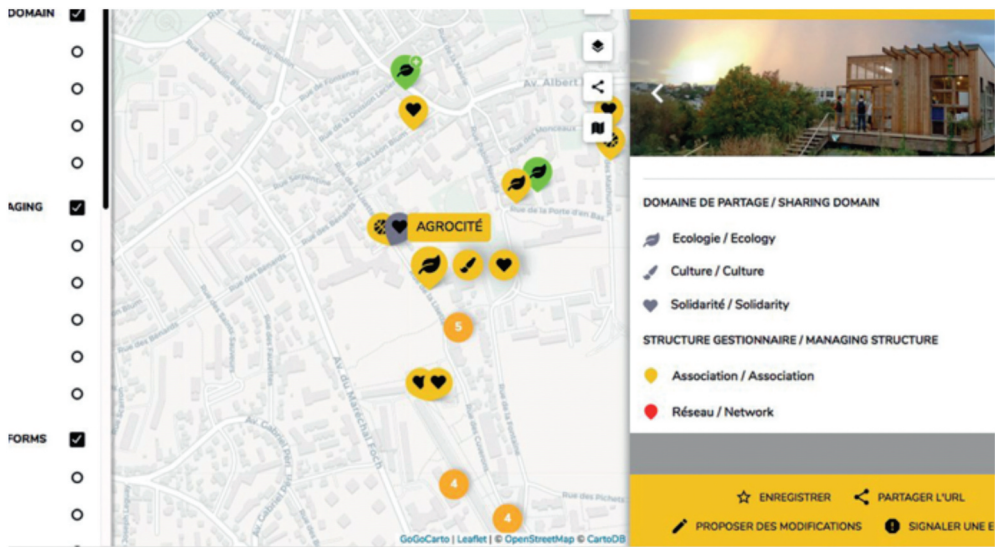



Figure 5. From digital to analogue mapping – R-Urban ULL bagneux.

of each pitch for prototyping (Figure 7). It was at this stage that the ULLs objectives were co formulated: help scaling the sharing activity (and resourcefulness) in Bagneux, help intensifying the network of informal sharing between local associations in Poplar.



Figure 6. Developing sharing catalysts – ‘project pitch’ – R-Urban bagneux.

Projet 2
Bagneux, Terrain Européen de l'écologie Citoyenne
AAA Mairie Les Amis Végétariens / FPOC
BAGNEUX Écologie Environnement
2021-2023



Projet 1 : Bagneux – Terrain Européen	
QUAND ?	2022 - 2024 (Bibliovisite) - 2028 (à venir)
QUI ?	- Les Amis de l'ÉCOC - lors de l'appel national - Mairie de Bagneux - Réseau de villes et communes partenaires - Réseau de formation de sensibilisation, ateliers citoyens - Outils, ateliers ateliers, ...
QUOI ?	- Ateliers de travail - Bagneux + autres villes
OD ?	- Appui à projet préparatoire - "Niveau à gérer" ?
OBTACLES	- Appui à projet préparatoire - "Niveau à gérer" ?

Projet 2 : Bagneux – Terrain Européen	
QUAND ?	2024 - 2028 (Bibliovisite) - 2028 (à venir)
QUI ?	- Social media - Cartographie - Identifier les initiatives et les acteurs - Classes préparatoires en école (primaire, etc...) - "Science citoyenne" (atelier de bio-écologie...) - Sans pour oublier - Réseau de sensibilisation, de suivi
QUOI ?	- Partenariats financiers - Mutualiser les parcours de projet, les connaissances et les associations - écoles
OD ?	Bagneux
OBTACLES	- Appui à projet préparatoire - "Niveau à gérer" ?

Projet 3 : Bagneux – Terrain Européen	
QUAND ?	2024 - 2028 - "Niveau de suivi" en même temps que les projets comme les bibliovisites, rencontres, lyde 2022 - "Niveau à gérer"
QUI ?	- Participer à identifier des micro-événements - Outils "open source" à partager (biens communs, développement de réseaux) - Pôle écologie municipale
QUOI ?	- Associer d'autres villes en Europe - Mairie de Bagneux, Nord-Pas, Europe de l'Est
OD ?	Bagneux
OBTACLES	- Gagner en Avril l'"Châtaignier" (Europeennes) - Suivi avec les écoles, et finalisation

Figure 7. Co-designed sharing catalyst n°2, developed for implementation – R-Urban bagneux.

6.5. Prototype sharing catalysts

In Poplar, the prototype which emerged was a ‘Poplar Sharing Solidarity Network (PSSN)’ (See Table 2). This sharing network has deepened collaborations between the groups. Firstly, in the increased sharing of things between groups such (e.g. equipment), second, the increase in space sharing, with one local enterprise given an office space at R-Urban (rent free) in exchange for a programme of workshops. The prototype network also increased the sharing of knowledge between associations through a formalised offer to train other associations in food growing and composting for three local associations in Summer/Autumn of 2022 (Figure 8).

In Bagneux, the sharing catalyst which was prototyped and developed towards implementation was, ‘Bagneux – Terrain de l’Écologie Citoyenne’ a whole city platform project which translates as a ‘Bagneux – Fertile Ground for Citizen Ecology’ (Figure 9). This responded to the need expressed by several organisations to use the hub as the seedbed of a citywide collaboration, which will involve citizen outside the commoners group. It was a collaboration between four local associations and the municipal government which demonstrates a shift in scale to metropolitan level and moving beyond the R-Urban hub.



Figure 8. Compost workshop (shared experience) at Teviot Centre garden, delivered as part of a workshop exchange, August 2022.



Figure 9. Sharing catalyst event: proclamation of *bagneux-terreau* European de l'Écologie citoyenne at Recyclab by civic and municipal stakeholders - R-Urban bagneux Sept 2022.

This prototype has materialised through a further event (Le Grande Voyage 2022) and policy development including the declaration of intent sent to the local Mayor. This movement aims to scale up existing sharing and commoning practices in support of an ecological transition movement within the neighbourhood. Unlike in Poplar, this prototype has the support of the local municipal government in its development which is

significant for resourcing new initiatives. The movement is now sustained and continues to develop through a further research project CONECT³ – which focuses on networks of civic resilience, across several EU countries.

7. Discussion

7.1. *How do ULLs enable sharing and commoning in urban neighbourhoods?*

Through shared spatial infrastructures, which are collaboratively governed and rooted in commons values. These spaces enable relational networks to grow and build trust between citizens in urban neighbourhoods.

Both R-Urban ULLs were grounded in existing eco-civic resilience hubs with commoning principles embedded within their project values and governance systems. This is significant for local neighbourhood sharing, as the physical infrastructure, space and resources are designed to sit outside the domain of state or private ownership and are intended for a common good purpose from the outset. This provided a rich context from which to engage in new catalysts and enabled the mobilisation of local associations through the R-Urban network.

The hubs employ divergent modes of governance, in Paris this is organised through a collective charter, whilst in London, this is still managed by the project initiator. Despite this difference in governance, the actual operation and function is relatively similar, offering comparable programmes of shared experiences around sustainable and ecological transitions, and the sharing of similar goods and tools through informal tool libraries (See [Table 1](#)). One difference is how the Bagneux hub is more directly working in solidarity with local struggles beyond a sustainable transition (language schools, theatre and circus companies, food banks) – which is reflective of the need to scale up and a broaden the alliance of local groups who make shared use of the facility. Whereas the London hub is collaboratively managed by non-profit associations who utilise the hub as a base for their on-going social missions around the sustainable transition. The need here was to understand how local associations could support each other missions in solidarity. Despite this difference (reflected also in the ULLs objectives), the project values, and principles (which are shared across the R-Urban network) are equally important in establishing neighbourhood sharing and commoning.

The difference is also reflective of the socio-political contexts, In Poplar, the hub has a more entrepreneurial focus which is a reflection on the neoliberal management of urban space as an outcome of the UK's 2010 austerity agenda (Tonkiss 2013). In this case, the role of the landowner and state is negligible, with the project direction driven by non-profit associations. In contrast, the Bagneux municipality retains a strong state influence in the management of urban space, part financing the construction of the hub, and being an active stakeholder in its management, reflective of a stronger welfare state within the Parisian context. In Paris, more time has been invested establishing charters, with multiple R-Urban hubs across Parisian metropolitan context and the City Council as partner. As such, the project operates more strategically at a metropolitan scale, with greater municipal support from local government in acquiring sites and funding. The

catalyst reflects the consolidation of the existing partnerships and a transition from the hub (neighbourhood scale) to a city scaled platform in support of the ecological transition. In comparison, the London catalyst is a more novel sharing network between the group of local associations at the neighbourhood scale. A simple agreement of shared principles and a commitment to work in solidarity with one and other, focussing mainly on sharing of things, spaces, and knowledge between associations.

Although these sharing catalysts have had some longevity and successes, especially in Bagneux's case which managed to take the prototype into further implementation and development, the project did not allocate enough resources towards the prototyping and evaluation phases. Whilst the intention was for local associations to take these forwards, this proved challenging for local groups, and it therefore required additional time and resources invested by project initiators (architects) and researchers. The lack of resourcing limited the scope of impact for the catalysts despite early success, and should be addressed in future research projects. In both cases, the authors have continued to be involved with R-Urban hubs and the associated ULLs beyond research funding, which reflects the need for further reproductive labour and commitment to local causes beyond publishing academic findings. In Paris, this has been addressed through the development of the CONECT project, which has allocated additional resources towards the Sharing Catalyst prototyped in ProSHARE towards the implementation of new tools for local sharing via a city-wide platform. The scaling of sharing and commoning practices has been pursued in this new research project and the on-going involvement of researcher has allowed for further prototyping, feedback, and evaluation by stakeholders.

Both hubs play an important role in facilitating existing neighbourhood sharing and act as civic nodes for action in enabling urban commons to thrive, through their collaborative governance and embedded values. These are existing spaces of community trust and cohesion (Feinberg, Ghorbani, and Herder 2020) which enable wider relational networks to participate in their design, through their openness. The R-Urban ULLs formalised a co-design process during ProSHARE and continue to develop and evolve now as a form of 'civic-organic' ULLs (Bulkeley et al. 2019). This is possible because both R-Urban hubs are sites of long-term⁴ occupation and operation, constantly in the process of design and periodically activated through research opportunities (such as ProSHARE, or CONECT in the case of Bagneux).

7.2. What is the role of co-design(ers) in catalysing neighbourhood sharing and commoning via ULLs?

Co-design 'opens-up' existing urban commons, keeping their boundaries porous and critical, by expanding the networks who benefit and govern shared resources. Co-designers can catalyse new initiatives in solidarity with commoners, by bringing in new tools and creating spaces for reflection in the co-design group, they can help build trust between academia and grassroots groups.

In both instances, co-design methods played a central role in the creation of research impact by facilitating new catalysts and strengthening existing networks within the host communities. Co-design methods highlight the potential for research to be both propositional and analytical, by first gathering concrete understanding of existing sharing dynamics and needs (Phases 01 + 02) and by prototyping and testing new sharing catalysts in each neighbourhood (Phases 03 + 04).

Multiple roles were adopted by stakeholders at different stages in the process. Firstly, the co-design workshop programme was designed by the authors (design-researchers), which involved the planning and implementation of the multi-phase workshop design process and introducing the ‘catalyst’ concept. One of the most-successful phases was ‘co-mapping’, giving space to local associations to reflect on the existing neighbourhood ‘resourcefulness’ was vital in recognising social relations and community needs which could be addressed through a new sharing catalyst. Blending digital and analogue mapping approaches helped with the adoption of the method, widening participation and accessibility. This co-mapping exercise firstly helped to frame what was ‘at stake’ for each participant (Binder and Brandt 2008), and was an accessible way of opening-up the research objective to a wider group of participants who do not have formal ‘design’ experience or training. We believe the mapping of ‘needs and offers’ for community sharing was vital in ensuring community ownership and openness that could be replicated in other contexts.

R-Urban ‘initiators’ (the architects) played a lead role in facilitating the process, acting as community gatekeepers and sharing pre-existing trusting relations to a diverse range of participating local organisations in both cities. The longstanding ties between the ‘initiators’ and the design-researchers built existing trust capital with commoners and enabled a smoother co-design process which involved multiple civic associations and organisations external to R-Urban. Co-designing Sharing Catalysts became an opportunity for academic design-researchers to work in solidarity with local associations and causes, supporting and nurturing their needs. R-Urban ‘commoners’ played the lead role in the decision-making process, which was vital for ensuring wider trust. Perhaps shifting research practices towards existing ‘civic-organic’ ULLs could be a way of building cohesion between universities and communities. These laboratories could be long-term, multi-year sustained alliances between grassroot groups of commoners and university partners, which would avoid some of the inevitable capacity building and relationship forming in new start-up ULLs.

The success of these early research phases is also in part due to stakeholder familiarity with co-design as a process prior to ProSHARE. Co-creation as a founding principle in the hubs design and operation, whether through collaborative approaches to governance design, co-producing public programmes, or collaboratively building infrastructures. These pre-existing processes involve diverse communities; bringing together groups with multiple lived experiences, disciplines, backgrounds, genders and are driven by citizen needs rather than the direction of technical expertise. This collective familiarity with co-creation enabled the catalyst co-design to be assimilated swiftly into the existing research community. An example of ‘cogitation’ (Ebbesson, Lund, and Smith 2024), in the reflective state for participants to first identify neighbourhood needs, and recognise what existing resources and agency they had to tackle them. This resourceful approach to co-design is integral in reaching wider hub aims in empowering commoners and users towards sustainable and ecological transitions. Nesting

a co-design programme within a research context familiar with co-creative approaches enabled adoption of sharing catalysts in a limited project timeframe.

These collaborations which use co-design processes as a driver can be mutually beneficial to all stakeholders. Commons-based resilience hubs such as R-urban hubs provide long-lasting infrastructures and strong local relationships, networks, and trust, alongside a deep situated knowledge of the challenges and opportunities of the context. In exchange, hub commoners receive institutional resourcing from universities, in support of their aims and local causes through design-mediated collaborative research. In Bagneux, the impact of involving academic partners can be felt on a policy level, mobilising local metropolitan governments in support of a community-driven catalyst. Here, the design process itself provided a space of legitimacy (leveraging the knowledge capital of the University) to bring in institutional stakeholders (state) at a horizontal level with the existing local associations. In Poplar, the co-design process formalised neighbourhood sharing between civic associations, nurturing new sharing dynamics through the design of simple shared resource (database). Finally, the ProSHARE ULLs brought in a significant moment of opening-up existing hubs to new networks of groups, possible collaborators, allies, ensuring these spaces remained open with porous boundaries in the spirit of ‘boundary’ commons (De Angelis 2017).

8. Conclusion

Conducting a comparative study across two R-Urban sites, enabled us to develop and test the same ULL-framed co-design approach in two different European contexts. This provided insight into the specific tools, methods, and values which enabled further neighbourhood sharing and commoning towards increased resilience. In our cases, co-mapping was an essential phase to open-up the R-Urban ULLs to new groups, allies, and collaborators. Helping to frame what was ‘at stake’ for all those who took part, it enabled them to scale up (Bagneux) or intensify (London) their sharing practices. The introduction of ‘catalysts’ built on existing resourcefulness of communities to address situated needs, providing a framework to first reflect on and then ‘speed up’ or enhance commoning through the addition of new sharing practices.

Unique to the research was an existing stakeholder familiarity with co-creative methodologies that enabled successful adoption of prototypes, and provided ways of resourcing community needs through the process. In the London case, this required significant input from community research partners, which was difficult to sustain within such a short research project and placed additional burden on existing groups, something that must always be considered in future research. However, an important lesson is that such spaces like the R-Urban hubs, which can translate the temporary nature of ‘civic’ ULLs into long-term ‘organic’ labs can play a key role as the gateway between communities and academia, fostering trusting relations and becoming mutually beneficial for communities by addressing situated needs.

Co-design in such ULLs can make space for trust building, political, civic, and ecological emancipation and champion under-represented voices in design (in our cases women from socially and culturally diverse background). This however implies an otherwise time-intensive process that requires researchers to embed

themselves beyond the funded research framework to generate impact. We believe that long-sustained collaborations between co-design researchers and engaged citizens via ‘civic-organic’ ULLs could enable the further growth of the commons, and support wider socio-environmental transitions. This research confirmed that beyond the ULL framework and setting, co-designers are well placed to support groups of commoners in their struggles. The needs-based, and resourceful approach has applicability to other participatory design contexts, and many co-design tools used and archived⁵ in this research could be translated to other urban contexts. For this movement to thrive, it needs sustained allies from universities, designers, and researchers to work with citizens and commoners from the ground-up.

Notes

1. <https://sharingneighbourhoods.gogocarto.fr/map#/carte/@48.7943,2.2960,15z?cat=all>.
2. <https://bagneuxterreau.hotglue.me/>.
3. CONECT - Collective Networks for Everyday Community Resilience and Ecological Transition - JPI Urban Europe project (2022–25)
4. Long-term in the context of emergent urban commons in cities.
5. Co-Design Tools, worksheets and templates can be accessed via <https://doi.org/10.5255/UKDA-SN-856163>.

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Ethics approval

All research was conducted in accordance with Ethics Approval – 044610, granted by the University of Sheffield.

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Data availability statement

You can access the co-design framework and interview transcripts via the WRDTP Open access repository - <https://doi.org/10.5255/UKDA-SN-856163>.

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