Municipalities as enablers in urban experimentation

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ABSTRACT

In the light of increasing urban challenges, municipalities are developing and advancing new forms of governing. One such example is 'urban experimentation', a process where city-based innovation processes are initiated to test solutions that – if deemed successful – are intended to be scaled up with the ambition to leverage a broader urban sustainability transition. Research on experimental governance has shown that municipalities can play various roles in these processes, including the role as enabler. The article contributes to the literature on the roles of public actors in urban experimentation on sustainability challenges by advancing understanding of the less studied 'enabler' role. We probe the politics of enabling by focusing on the policy instruments employed by municipalities. Our aim is to provide deeper insights into the everyday work of urban administrations when they act in the 'enabler' role. One particular approach of urban experimentation is Urban Living Labs (ULL), and this paper analyses ULL that address sustainability challenges. Along the four dimensions of nodality, authority, treasury, and organisation, we identify the politics of enabling in four ULL examples from Sweden and the Netherlands.

1. Introduction

We are currently witnessing an upsurge of 'urban experiments' where city-based innovation processes are initiated with the explicit ambition to leverage a system change (Geels, 2011; Evans et al., 2016). As noted by Evans et al. (2016), urban experimentation combines the notions of innovation and creativity with very tangible practices of letting local actors test and experiment in sustainable solutions within diverse areas, ranging from technical solutions to services and policy innovations (cf. Hakkarainen & Hyysalo, 2016, p. 45; Karvonen & van Heur, 2014). Many of these processes are designed to address climate challenges (McCormick, Neij, Anderberg, & Coenen, 2013; Voytenko, McCormick, Evans, & Schliwa, 2016), by testing and experimenting in areas such as mobility, housing and energy use in the urban landscape. One important difference between urban development projects and urban experimentation is the general ambition in the latter of sharing experiences to facilitate broader processes of policy learning and knowledge dissemination (von Wirth et al., 2019; Evans et al., 2016).

We know from previous research that municipalities can play prominent but also diverse roles in the broader processes of urban sustainability transitions. The literature has also pointed to how the role of municipalities is changing, with new roles emerging and developing. These include not only new roles for municipal civil

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servants (Makkonen, Merisalo, & Inkinen, 2018), acting in the capacity of 'intermediaries' (Hakkarainen & Hyysalo, 2016), 'networkers' (Engberg & Larsen, 2010) or 'trend spotters' (Rauw, 2017) but also new roles for the municipality in general (Castán Broto & Bulkeley, 2014; van der Heijden, 2015; Kronsell & Mukhtar-Landgren, 2018). One role that has been highlighted in studies of urban experimentation is where municipalities act as *enablers* (Kronsell & Mukhtar-Landgren, 2018), the focal point for this paper.

On a broader scale, the discussion on 'the enabling state' is primarily associated with the development of neoliberal models of minimising the state in the United Kingdom during the late 1990s, and the concept is associated with changes in the role of the welfare state in relation to both its citizens and non-state actors (Bevir, 2009; Bohne, Graham, & Raadschelders, 2014; Gilbert, 2004). In local sustainability governance the concept of enabling is theorised in new ways. Here, emphasis lies on how municipalities act in promoting local sustainable development, utilising their function as local governments in various ways. Here enabling has been conceptualised both as a role (e.g. Kronsell & Mukhtar-Landgren, 2018; Mukhtar-Landgren & Smith, 2018; Zvolska, Lehner, Palgan Y, Mont, & Plepys, 2018), and a form of governing (e.g. Bulkeley & Kern, 2006; Frantzeskaki, Wittmayer, & Loorbach, 2014). These studies have mostly focused on theorising, categorising and contrasting different forms of municipal governance modes, illustrating the diverse ways that municipalities try to govern and promote sustainability. Less attention has been paid to the everyday practices of municipalities in these governance modes and roles and the tangible *actions and practices of enabling* in urban experimentation processes have not yet been explored in-depth.

The aim of this paper is, therefore, to contribute knowledge on the roles of municipalities in urban experimentation when addressing sustainability challenges. The focus is on the enabler role, probing the question of what municipalities actually do when they enable urban experimentation. We do this by analysing which policy instruments that are used in these processes, thereby examining the politics of enabling. With its emphasis on governing, the paper thus also relates to the calls for a clearer focus on political aspects of transitions and experimentation in research (Shove & Walker, 2007; Caprotti & Cowley, 2017).

In order to understand and theorise the politics of enabling we analyse which policy instruments that municipalities use when acting as enablers in urban experimentation. Policy instruments, such as subsidies or regulations, are often conceptualised in terms of a toolkit from which policy makers can pick and choose tools to address public issues. Typically, this toolkit is understood as to include fiscal tools (e.g. taxes, subsidies), legal tools (e.g. regulations, laws, bans) as well as more informal tools such as information campaigns or urban visions. We apply the NATO framework developed by Hood & Margetts in their seminal work *The Tools of Government in the Digital Age* (2007) to study policy instruments. The framework comprises four common and broadly formulated groups of policy instruments used by municipalities: Nodality, Authority, Treasure and Organisation (NATO) which are discussed further below. These are broad enough to capture the diversity of policy instruments within each group, while narrow enough to highlight the broad range of different policy instruments.

We analyse Urban Living Labs (ULL) as an example of urban experimentation, and our analysis is based on an in-depth multi-case study of four ULL examples, two from Sweden, and two from the Netherlands. Both countries have vibrant landscapes of diverse experimental governance initiatives.

We start by introducing the NATO framework and our understanding of policy instruments, by outlining our conceptual framework and relating it to previous research. The methodology and the case selection are then explained. The four ULL are then analysed in terms of how municipalities are using policy instruments to enable urban experimentation, along the four dimensions of the NATO framework. Finally, the article concludes by discussing how municipalities act as enablers in experimental governance for sustainability.

2. Theoretical framework

We are interested in the ways a municipality govern processes of urban experimentation, and suggest that our understanding of governance processes can be significantly enriched by focusing on how municipalities employ different policy instruments. This offers insights on the everyday work of municipalities engaged in the processes governing urban experimentation.

In the analysis, policy instruments are grouped into the four ideal categories that are developed in the NATO framework and here used to analyse how municipalities govern urban experimentation. Policy instruments cannot be separated from the social and normative context in which they are chosen, they are interlinked and layered with other tools (Margetts & Hood, 2007, p. 69), and they structure policy making in different local ways, including which resources that are used, which actors that are deemed relevant, and which roles they take on or are given (Lascoumes & Le Gales, 2007, p. 9). Our point of departure is that every time a policy instrument is used, it will have local and contextual effects, and the separation of policy instruments in discrete tools is thus merely analytical. We briefly outline the four policy instruments of the NATO framework below. We first describe the policy instrument and then relate it to previous research on municipal governing with regard to sustainability in general, and experimentation more specifically.

2.1 The NATO-framework

The policy instrument *Nodality* concerns the possibilities for, in this case, municipalities, to disseminate and obtain information by being in the centre of different types of networks, collaborations or relationships (a node is a point in a network). Local authorities participate in networks, which give them the possibility to obtain necessary information, either by actively requesting it or simply acquiring it as a by-product of their participation (Hood & Margetts, 2007, pp. 22–27). Public actors such as municipalities also use their position as nodes to disseminate or spread information (Hood & Margetts, 2007, p. 21). Municipalities participate in collaborative events and use their nodality to stay informed and to spread information and knowledge. By placing themselves on strategic nodes in networks, municipalities obtain credibility and confidence in their actions and their decisions, and in the formal exercise of power.

Authority concerns the possession of legal or official power (Hood & Margetts, 2007, s. 50), which, unlike other urban actors, municipalities are privileged with. With formal and legal power, authorities can ban, guarantee and permit (e.g. certify activities, initiate environmental inspections, give actors or business the right to operate, prohibit by withdrawing permits, etc.). Social planning and land use also concern the regulatory exercise of authority (Hood & Margetts, 2007, s. 50).

Treasury concerns the possession of fiscal resources, described as '"fungible chattels" in the sense of anything that can be freely exchanged' (Hood & Margetts, 2007, p. 78). This can be about anything from granting welfare benefits to subsidies, the purchase of services and goods as well as offering grants or loans to local actors. It also includes starting up businesses and encouraging businesses through benefits, etc. (2007, pp. 78–88). 'Treasury' relates to the organisation policy instrument through which municipalities can choose which assets to provide and how to organise them, i.e. which (types of) staff or premises to provide.

Finally, *organisation* refers to how the assets used in direct action or 'treatment' are organised (Hood & Margetts, 2007, pp. 102–106), including the provision of premises or staff. It concerns the capacity and capabilities of local authorities, and is related to the other three instruments in the sense that they can all be derived from organisation – or vice versa (Hood & Margetts 2007, p. 102). This concerns processes of (i) treatment of individuals, (ii) treatment of groups, and (iii) at-large treatment (2007, pp. 106–113). At-large treatment concerns provision of welfare as well as facilities such as parks, bridges and exhibitions, and construction projects, lighting streets and clearing snow (2007, p. 116).

In Table 1, the NATO framework is operationalised with sets of questions that have guided the analysis of the ULL:s. We focus on one specific actor in this process – the municipality. It should be noted that municipalities are embedded in a multilevel context, and they are not unitary actors. On the contrary, they consist of different administrations and actors with diverging interests and stakes in governance processes. This is often accentuated when there are imbalances in the distribution of resources, or problems with conflicting priorities (cf. Kern & Alber, 2008). Municipal activities in experimental governance can potentially give rise to governance tensions within different parts of the municipal administrations and in relation to different values and municipal priorities.

Table 1. Analytic framework.

Policy instruments (Hoods & Margetts, 2007)	Guiding questions to the empirical material
1. 1. 1. Nodality	Q1: How is the municipality building and participating in networks?
	Q2: How has the municipality expanded the participation of different actors in networks?
	Q3: What type of information is being disseminated and how?
1. 1. 2. Authority	Q4: What kind of regulatory tools are being used (if any)?
	Q5: How does the municipal authority navigate in legal conditions and decisions?
1. 1. 3. Treasury	Q6: What kind of economic support does the municipality provide?
	Q7: Which additional economic resources does the municipality provide?
1. 1. 4. Organisation	Q8: How does the municipality treat individual citizens?
	Q9: How does the municipality treat other stakeholder groups?
	Q10: How are the resources such as premises or staff organised, if provided?

2.5. Previous research

What Hoods and Margetts call *Nodality* is perhaps the most noted example of enabling in the previous literature on enabling in sustainability, where the emphasis is often placed on aspects related to networking, partnerships and collaboration. For Bulkeley and Kern 'governing through enabling' refers to 'the role of local government in facilitating, coordinating and encouraging action through partnership with private- and voluntary-sector agencies, and to various forms of community engagement' (2006, p. 2242). This is similar to the argument of Bulkeley and Betsill (2013, p. 141), who understand enabling as characterised by a growing reliance on various partnerships, where 'municipalities participate but do not have an explicit leading role'. Another aspect of nodality is the dissemination of information, which is a policy instrument that has also been identified in previous studies on the governance of the sharing economy. Here Zvolska et al. show how municipalities act as communicators when they disseminate information about innovations via official municipal channels (2017). For them, the communicator role entails processes where municipalities are creating arenas for other actors to meet, thereby acting as a 'matchmaker'. The sharing and using of information are also evident in the analysis of Kern and Alber, who identify persuasion as an important tool together with positive incentives (Kern & Alber, 2008, p. 174).

In addition, more specific studies of municipalities in literature on experimental governance generally draw attention to the importance of networks (Evans et al., 2016; McFarlane, 2011), where stakeholder participation and collaborative aspects are highly relevant for ULL (Voytenko et al., 2016; Menny, Voytenko Palgan, & McCormick, 2018). These discussions relate not only to *Nodality* but also to *Organisation*. These processes are described with multiple terms, reflecting the variation in formality, for example co-creation, co-production, quadruple helix-model, and multi-stakeholder activities (see, e.g. Budweg, Schaffers, Ruland, Kristensen, & Prinz, 2011; Schuurman & De Marez, 2012; Leminen, 2013; Baccarne, Dimitri, Mechant, & De Marez, 2014; Franz, 2015), but few studies have examined how networking is used as a policy instrument by municipalities.

The ways, modes and roles, in which municipalities govern through their authority have been discussed previously in studies on sustainability (cf. Bulkeley & Kern, 2006; Kern & Alber, 2008; Zvolska et al., 2018) and – to a lesser extent – urban experimentation (Voytenko Palgan, Mont, & Zvolska, 2019). In particular, Bulkeley and Kern (2006) present 'governing by authority' as one of their four governance modes in which municipalities have engaged with the climate change issues. Governance through authority relies on formal planning, control and regulation, and uses sanctions to ensure successful outcomes of the governance process (Bulkeley & Kern, 2006). In a related study, Zvolska et al. (2018) examined the roles that municipal governments play when engaging with the sharing economy innovations in cities and dissect the role of 'a city as regulator' that reflects 'governing by authority' mode. Kern and Alber (2008) re-named this mode 'governing by regulation', whereby a municipality uses its formal authority to steer actions through laws and policies. They distinguish between regulating and enabling, in contrast to the position taken in this paper, where we argue that municipalities can use their authority, e.g. providing permits or temporarily exempting experimental activities in cities from local regulations, to enable urban experimentation. Yet in general, the literature on experimental governance rarely discusses regulation and authority, as the emphasis is generally placed on more informal policy instruments.

However, studies have generally noted that municipalities may choose to regulate experimentation when they see innovative activities or organisations as problematic and/or disruptive in a sense that they do not serve the public good (Zvolska et al., 2018; Voytenko Palgan et al., 2019).

Finally, and relevant for the *Treasury* policy instrument, previous research has shown that ULL were embedded in a highly competitive context, where local actors were manoeuvring in different constellations and projects with the ambition to access funding for innovation or development work. Municipalities act in different ways, from applying for funding as project leaders to strengthening and/or legitimising applications of other public, or private actors (Kronsell & Mukhtar-Landgren, 2018). Voytenko et al. discuss JPI Urban Europe-funded projects on ULL and found that multiple funding streams have been used, ranging from municipal budgets, private funds and external funding provided by the national funding agencies (2016; cf. Marvin, Bulkeley, McCormick, & Palgan, 2018).

Literature on governing in processes of experimental governance is scarce, and our knowledge of *how* municipalities act in these processes needs further research. When looking at previous literature, emphasis on processes of enabling in sustainability studies tends to be placed on what Hoods and Margetts call governing through Nodality and Organisation, with less or no focus on Authority and Treasury. In the literature that more specifically addresses experimental governance, processes of networking and stakeholder interaction have previously discussed at length – but not necessarily as a form of municipal governing, and not related to other forms of governance. In, this paper, these processes will be analysed in terms of the policy instruments nodality and organisation, by focusing on how the municipality acts when governing through them, which in turn will be related to processes of both authority, and treasury. Before we describe the analysis of how these policy instruments were used in our empirical cases, we present our method and cases.

3. Method and cases

Urban Living Labs (ULL) will be analysed as examples of urban experimentation (McCormick et al., 2013; Castán Broto & Bulkeley, 2014; Bulkeley et al., 2015). ULL is defined as 'sites in cities devised to design, test and learn from social and technical innovation in real world settings' (Voytenko et al., 2016), with the ambition of sharing experiences to facilitate policy learning (von Wirth et al., 2019; Menny et al., 2018). It is related to innovation in the sense that it is often innovations (both social and technical) that are being tested and related to broader processes of urban sustainability (cf. Marvin et al., 2018).

We analyse four ULL cases from the Netherlands and Sweden. These are (1) Malmö Innovation Platform (MIP), later reformed to Malmö Innovation Arena (MIA), and (2) Future by Lund (FbL) from Sweden, and (3) Open Lab Ebbinge (OLE) and (4) Concept House Village Lab (CHVL) from the Netherlands. The two countries were selected both on the basis of them being fairly similar in terms of their formal governance structure as unitary states with a decentralised strong local government as well as a their active and developing tradition of experimentation (cf. Voytenko et al., 2016; Bulkeley et al., 2019). However, the ways in which municipal governance is exercised in these two countries differ, which helps us explore a broader spectrum of policy instruments when municipalities enable urban experimentation.

Sweden has ten million inhabitants, and a total area of 4,50,000 km^2 with 290 municipalities, while the Netherlands has 388 municipalities with a population of 17 million and a total area of 42,000 km^2 (CBS, 2017). Sweden belongs to a Scandinavian system of strong municipalities, while the Netherlands has a Germanic state tradition with 12 provinces/regions entailing a federalist hierarchy between the regional and local level that lacks a Swedish counterpart (Loughlin, 2000). In Sweden, municipalities have both mandatory and optional policy areas, where welfare services (e.g. education, elderly care) are mandatory, and where urban planning ranges from the mandatory areas of infrastructure and water supply to more optional policies of urban development planning. Swedish municipalities have extensive jurisdiction over planning, rendering them strong actors in relation to urban planning and housing development. The Dutch municipalities have many of the same responsibilities, but these are delegated from the state, entailing a certain autonomy and policy discretion, for instance, in the regional and local adaption of environmental policies. These

differences in municipal autonomy and discretion may have relevance for which policy instruments the municipalities in focus choose.

The cases were selected from a detailed analysis of municipal roles in 50 European ULL, with the empirical material generated in the research project Governance of Urban Sustainability Transitions (GUST)[1] funded by the Joint Programming Initiative (JPI) Urban Europe 2015–2017. The GUST project examined the design, practices and processes of ULL in relation to the governance of sustainability transitions and their effect on urban systems. From this sample, four cases of the enabler role were selected using a framework developed in Kronsell and Mukhtar-Landgren (2018), which differed between the three roles promoter, enabler and partner. The cases of Malmö and Rotterdam are somewhat similar in terms of their industrial history and transition to more knowledge- and service-based cities, as well as their comparable city size. The two smaller cities, Lund and Groningen are both cities with old universities featuring strong academic and innovation traditions.

This research applies a triangulation of data and methods. Data was collected through a literature review, semi-structured interviews with ULL stakeholders, and participation in events organised by ULL. Data availability varied between Dutch and Swedish cases. In Dutch cases, a lot of data was available through existing secondary sources, but for the Swedish cases (particularly for Malmö Innovation Platform) secondary sources were limited, so primary data was required. Consequently, a different mix of the most suitable data collection techniques was used for each case.

The number of interviews per ULL also differed. In total, 19 interviews were conducted with ULL stakeholders in person (e.g. from municipalities, ULL management, relevant knowledge institutions). The interviews lasted between 30 and 90 minutes. All interviews were recorded, and then fully or thematically transcribed. Interview data were analysed using content analysis and coding techniques to obtain answers to the guiding questions. The four ULL are described in Appendix Table A1.

4. Analysis

The analysis advances the understanding of the politics of enabling, by focusing on the policy instruments employed by municipalities in urban experimentation through the NATO framework. The analysis starts with the two policy instruments of nodality and organisation, as these are strongly related within the scope of this paper. These two sub-sections also have a common summary. We then discuss the policy instrument of authority and finally that of treasury. The results are summarised in Appendix Table A2.

4.1. Enabling through nodality

This section seeks to answer three questions, (i) how the municipality creates and participates in networks, (ii) how it expands the participation of different actors, and (iii) how it disseminates information (cf. Table 1).

Nodality is an intrinsic feature of all ULL, as they are based on bringing stakeholders together to generate learning. The Swedish ULL MIP brings various actors together by providing a forum where stakeholders can share challenges and discuss innovations, and FbL is described as a platform for developing pilot projects and testing innovations, with the explicit ambition to broaden participation. In both cases, municipalities were directly engaged in creating the networks. One tool used to *expand participation* is stakeholder-based steering groups, which are used to govern the development of the ULL in a collaborative manner. The Sustainable City Accelerator, which is a part of MIP, serves as another example of a meeting place, yet exclusively for innovators in different sectors coming together to work on developing solutions for sustainable urban development in cooperation with the real estate sector. Also, the Dutch CHVL was an exclusive site in its initial stage, when it was organised as an innovation space in the context of implementing sustainability policies in the building sector. Expanding participation thus has both an inclusive and exclusive character as participants are being selected on different basis.

Another important aspect is how municipalities expand the participation of citizens in the decision-making process by engaging them in ULL. User involvement has been described as an intrinsic characteristic of ULL,

yet it is important to critically assess what expanding participation actually means. In the Dutch ULL, users were included at an early stage and were present throughout, yet in the Swedish cases, the ambition to co-create knowledge with users is not always among the primary ambitions of municipalities. Whenever the involvement includes users, or when residents are present, it mostly takes the forms of either *information* about project activities, or simply consulting users to obtain user data. The involvement concerns spreading the knowledge to civil society and citizens rather than inclusion of users in the co-design of the ULL. At the same time, when looking at individual projects within FbL, participation did encompass residents and local actors, such as schools, elderly homes, community groups and local business.[2] Nodality is thus a broad dimension where there is a difference between simply informing citizens and extending participation to them.

On a related note, *disseminating information* is an instrument that ranges from informing within specific projects to public campaigns and business newsletters. In the cases, the municipality used information by explicitly align the ULL with local visions. For example, the motivations behind MIP/MIA were related to Malmö's municipality's vision of a democratic, socially equal and inclusive development (Malmö Stad, 2013), and FbL was aligned with Lund's visions to pursue innovation and smart city development as the city is proamoted as 'the world leading research and innovation environment' (Lund municipality, 2018). This was also evident in the Rotterdam-based CHVL, where the municipality supported the ULL theme of housing retrofitting and energy efficient buildings in order to align it with local visions. The municipality works intensively with visions and roadmaps, for example on a CO_2-neutral building stock in the city (e.g. Rotterdam, 2015) and CHVL was first debated as a reference case for these visions. It became increasingly important to the municipality, and was eventually picked it up as a reference project referred to in the *Rotterdam Program on Sustainability and Climate Change* (Rotterdam, 2015). The information produced and disseminated could thus be related to the cities' broader urban visions – in addition to being part of place-branding activities (von Wirth, Fuenfschilling, Frantzeskaki, & Coenen, 2019). The former deputy mayor of Rotterdam, together with other key actors, was 'very interested in making the Heijplaat area [where the lab was located] the most sustainable area of Rotterdam' (interview, Lab Manager CHVL, 2017). According to the former lab director of CHVL, the municipality had to take responsibility for embedding ULL ideas and concepts firmly in their overall strategies by developing a 'kind of an integral vision, and really think about it (the role of the lab within this integral vision) with the limited (public) money available […]' (interview). However, this did not materialise as intended for the CHVL, because the next municipal leadership had a different view on the vision of the city, and municipality's support decreased. Here Nodality through *disseminating information* is intertwined with *networking* in the process of embedding ULL:s in current urban visions. Political support can thus create a momentum but it can also be detrimental if visions are contested or change.

4.2. Enabling through organisation

Organisation is analysed through questions on how the municipality treats individual citizens and stakeholder groups and how premises and staff are organised in ULL (Table 1), which is closely related to nodality above. The analysis of nodality above illustrated how the *treatment of individuals* varies with the inclusion of both individual citizens and broader stakeholder groups. The ways in which citizens were treated varied, from being perceived as mere informants, via being users of future services, to more active democratic participators. As for the *treatment of groups*, the Swedish cases, as described above, were led by the municipality, so the question of treating groups was very much related to the initial formulation of relevant stakeholders and setting the boundaries for stakeholder participation through.

The example of Dutch Open Lab Ebbinge (OLE) illustrate that enabling through organisation is not related to the municipality setting early boundaries. OLE was initiated by a local retailer's association together with engaged citizens. It emerged as a way to enable new networks to engage in mutual learning about urban development and temporary architecture. OLE created meeting places, such as a small matchmaking and meeting office, where ideas for creative, local bottom-up activities were collected and potential partners were identified. When faced with challenges in financing and developing the area on their own, they approached the municipality. At first, the municipality resisted the ideas and approach, but due to a change in the city council, it

engaged with the initiators and implemented various policies and plans that supported the initiative. This indicates the character of the municipality as a political organisation, where the role of politicians can be decisive.

The final aspect is how the *provision of resources* such as premises or staff is organised. This aspect is a central policy instrument in relation to ULL and usage of space and localisation. The Swedish cases show the importance of choice in relation to locating collaborative ventures, with regard to their relative proximity to the everyday municipal setting. For example, FbL, which had been initiated by Lund Municipality, deliberately located its meeting place outside the municipal organisation, in the innovation district. This location was believed to create a more favourable working climate including easier interaction with business partners and university groups. Here there was an underlying assumption that processes were perceived as less experimental if they were too close to the formal institutions and there was an ambition to 'liberate' the ULL from the constraints of ordinary municipal politics.

Summing up, our analysis on *nodality* and *organisation* indicates several different processes relating to how municipalities enable experimentation through ULL. These include both the attempts of municipalities to create networks, as well as expanding (and restricting) the participation of different actors. As such, power dimensions inherent in these processes become evident in the choice of not only which stakeholders are included, but also in the roles assigned to them. These roles could be assigned to organisations or to individual citizens, where the latter could vary from being a more active co-creator and leader, a user or a more passive informant. Information as a policy instrument is used by municipalities in different ways, ranging from merely informing users about the projects, to broader municipal attempts to embed the ULL in urban visions relating to, for instance, innovation or sustainability (with or without a place marketing intention), which also opens up a potential action space for politicians. Finally, this also relates to the organisation of the ULL in a spatial sense. There is an underlying assumption that setting up an ULL too close to the formal institutions might restrain innovation, while locating ULL physical units outside the formal municipal organisation may also affect the possibilities for political influence. This also relates to the question of the relationship between the ULL and everyday local politics and administration.

4.3. Enabling through authority

The analysis here concerns how municipalities manifest their authority, and asked questions about which regulative tools, legal conditions and decisions are used (Table 1).

The Swedish cases demonstrate an explicit municipal ambition to use the ULL to favour a transition from top-down approaches towards more collaborative governance processes. Being a leader of MIP and holding the authority status, Malmö municipality originally intended to define the conditions for collaboration between MIP partners. This, however, was not accepted by the housing developers and it was perceived as an autocratic approach that did not incorporate the developers' ideas about collaboration. In response, Malmö municipality had to adjust its working procedures and make the process around MIP collaboration more co-creative and inclusive. The ambition to use the ULL to rearrange the power balance between urban actors was also made explicit by the actors. For example, the representatives from Lund municipality in FbL describe how municipal planning in Sweden is rather restricted by the Planning and Building Act, and according to their understanding, this can prevent innovative thinking, promote 'planning first, then innovation', thereby setting barriers for innovation processes. Here authority was used to by-pass the restraints of the formal planning process in urban experimentation, indicating how formal decision-making processes can be utilised – or not.

For the Dutch cases, authority was manifested for example in the CHVL, where the *legal permission* given by the municipality to use the particular land parcel for experimenting with the concept houses for free was absolutely crucial. In their role as the landowner, the municipality was able to enforce the initial Lab operations and experiment with building reconfigurations. However, this legal power, e.g. in the form of granting usage rights, became an authority to disenable the particular lab at a later stage. After five years of lab operations at the initial location, the municipality stated an interest in developing the area itself, given the increasing land values and local market context. Nevertheless, the case of CHVL illustrates how the municipality makes use of its authority

to create (or end) flexible, temporary conditions that enable experimentation in the urban fabric. Summing up, the municipality can choose to use its legal authority or to keep these tools at an arm's length. Still as land owners and permit holders, they have a number of tools at their disposal to both enable and hinder the development of urban experimentation.

4.4. Enabling through treasury

In this section, we analyse treasury by asking about the kind of economic support and other resources the municipality provide in enabling (Table 1).

Economic support for ULL is often provided via external funding agencies. Municipalities can either co-fund ULL or apply for external funding and thereby channel resources via the formal municipal decision-making bodies in their capacity as applicants. In both Swedish cases, it was the respective municipalities that received funding for the ULL from the Swedish National Innovation Agency (VINNOVA). In the case of MIA/MIP, funding was also provided by the European Regional Development Fund (ERDF), opening up the municipal function of coordinating between funding and projects. In the Dutch case of OLE, the ULL was built on the pooling of resources from different sources, including ERDF, the Dutch Ministry for Economic Affairs, the private sector (e.g. the local retailers) – also the Municipality of Groningen.

When grants are involved, municipalities have the power to formulate the goals for the ULL. Yet the role of the municipality is influenced by the requirement of the grant, including adapting municipal goals to funding requirements, a process that in turn requires setting local goals and (re-)formulating policy problems in order to receive funding (cf. Mukhtar-Landgren & Fred, 2018). Economic resources provided by external funding can often dictate the challenges, agendas and issues with which the grant recipients should engage, and may not always offer ways for municipalities to prioritise and address their local needs.

The municipalities must also coordinate their goals with the goals of other stakeholders to encourage participation, thereby relating treasury to nodality. This opens up at least a potential route for a municipality to issue demands and set requirements in the interaction with other stakeholders in the application process.

In relation to *additional resources,* a number of examples are visible in the material. Examples include OLE, where the municipality was responsible for providing the necessary public facilities,[3] and FbL where the municipality supports single projects including either financing them directly or making in-kind contributions through working hours of its staff or operational services. In the case of CHVL, the municipality providing the right to use vacant land parcels and when the initial funding period ended, the municipality's urban development section provided resources for additional two years to cover the costs of a team of four people working to keep the lab running.

ULL often operate in a precarious economic situation: their ad-hoc character means that they need to rely on pooled financing from various sources. In addition, external funding is often temporary. The municipality is instrumental in supporting the ULL, either directly as a provider of funding or indirectly as an applicant for external funding as well as with additional resources. Some funders even require active participation of municipalities as a condition of funding. This implies that many ULL are dependent on municipal participation, which makes treasury a multi-faceted yet central policy instrument in the context or urban experimentation. While municipal resources may be more limited, they are crucial, as the availability of public buildings, land and staff for use in the ULL is key to their survival and possibly also success.

4. Concluding summary and reflection

In the analysis, we have discussed what governing through enabling could be, by applying a policy instrument perspective to four different ULL. The four broad categories, nodality, organising, treasury and authority, helped us explore how enabling in practice is materialised in policy instruments and discuss what municipalities actually *do* when they enable urban experimentation. Here, we first summarise the policy instruments and relate them to each other, discuss the findings and highlight areas for future research.

4.1. Conclusions

As ULL are intrinsically collaborative, nodality and organising are strongly related and extensively used as policy instruments by municipalities. As we know from previous research, governing through enabling often involves setting up spaces and initiating processes that encourage expansion of participation – but at times participation was exclusively oriented towards targeted actors, where the combination of the policy instruments nodality and organisation indicates how municipalities build networks in different ways, from merely informing about current ventures, to expanding the participation and empowerment of stakeholder groups. The analysis also shows that an important function of organising is how citizen groups are being created as very different types of subjects, ranging from being perceived as mere service users to being conceptualised as more engaged citizens and co-creators. This relates to the broader understanding of policy instruments being not only a toolbox from which municipal actors can pick and choose, but also that policy instruments – when applied – initiate a number of different local processes, arranging and creating citizens and groups in new ways in ULL:s. New constellations create new roles for citizens (such as users, informers, smart consumers), as well as new groups of stakeholders, which in turn is changing the configuration between urban actors. Besides the issue of which citizen roles that are being created in ULL, the analysis of nodality also opens up the question of who and which groups participate in networks.

Nodality is also related to organising. Visions are a form of information which signals urban ambitions and prioritised policies, and they can become a policy instrument used to organise new collaborative processes. In all four cases, the municipalities used nodality as a conscious way to embed the work of the ULL in the wider ambitions of the city, ranging from sustainability and climate objectives to the visions of 'smart cities'. Nodality also relates to treasury as aligning visions with broader narratives and funding schemes can aid in acquiring external funding from funding agencies of various kinds. Yet we also note that, when an ULL was aligned with sustainability objectives or urban development visions, there was a tendency for visioning to glide into place marketing, possibly losing the sight of initial sustainability objectives.

Enabling through treasury proved to be not only important but also complex, as funding required not only knowledge but also network capacity. The pooling of funding, the adaptation of local ideas into funding schemes, and the sharing of knowledge takes place through networks, entailing a close relation between nodality, organising and treasury as policy instruments. This means that, in practice, these processes go hand-in-hand. Treasury is used in a variety of ways. Unlike supporting the continuation of urban experimentation, as was the case of FbL, the CHVL case shows that municipalities also act differently. When the CHVL gained value and momentum, the municipality became involved more intensively but, instead of supporting the lab with additional resources, it decided to basically evict the lab and develop housing on the land themselves, thereby using resources as a means of (re-)organising. Use of the treasury instrument also varied, shifting from applying for external funding to investments using internal funds such as staffing or facilities. Enabling of external funding initiated the processes that developed in different ways – in some cases they deepened over time, even initiating new processes, such as in CHVL, where treasury evolved from the mere provision of land to providing resources for staff to keep the lab running. Finally, policy instruments were affected by context. Variation in engagement can depend on such factors as shifting local political support – as indicated by the Dutch cases – and the perceived utility and usefulness of the knowledge produced by the ULL. This also indicates the power that the municipalities have in these processes, where degrees and forms of enabling may be detrimental for the continuation of the ULL.

4.2. Reflections on the politics of enabling

ULL changes the relationships between various urban actors, which is also their explicit ambition. Here formal channels and forms of decision-making are deliberately disrupted in order to promote innovation, where municipalities in various ways, and to different degrees, try to control the outcomes and configurations as the process proceeds. Without over-estimating the action space of municipalities in ULL, our analysis has

indicated that municipalities have a certain scope to navigate in these processes. Municipalities – both civil servants and local politicians – make choices when they prioritise between funding, forms of organising and participating actors.

It is important to note that the municipality is a key actor because of its legitimate position in the local context, its trustworthiness in research applications, and its role in highlighting priorities for the city through urban visions. In addition, municipalities operate in a broader democratic framework, where their promotion of public values such as sustainability and democratic accountability through transparent processes and democratic inclusion entails a fundamental difference between public and private actors in the broader institutional urban landscape. In practice, these processes are governed through instruments such as inclusion, including the potential ability to include citizens beyond mere users, spectators or informants, and localisation, were municipalities can choose were to locate the ULL. When placing the lab outside their own organisational structures, the issue in focus for experimental governance is also placed at 'arm's length' from the municipality. There may be reasons for this choice, but it does raise questions about transparency and the prospect of more permanently embedding the issue on the municipal political agenda. These issues go beyond the scope of our study but are pivotal for future studies on urban experimentation. In this regard, there is a need to develop knowledge about the particular governing and political aspects of experimental governance, examining the issues of power, ability and action space for public actors, and assessing enabling as a form of democratic governance.

Notes

1. See http://www.urbanlivinglabs.net
2. For example, in the Human Centric Light project area, partners have worked to collect data from users on daily routines and needs for lighting, engaging them in testing lighting solutions. As a result, pilot projects for improved lighting were developed in a kindergarten and an elderly home in Lund (http://www.futurebylund.se/project/human-centric-light).
3. Source http://ec.europa.eu/regional_policy/en/projects/netherlands/turning-urban-wasteland-into-a-creative-micro-city

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Appendices

Table A1. Overview of analysed urban living labs

	The Malmö Innovation Platform (MIP/MIA)	Future by Lund (FbL)	Open Lab Ebbinge (OLE)	Concept House Village Lab (CHVL)
Location	Malmö, Sweden	Lund, Sweden	Groningen, The Netherlands	Rotterdam, The Netherlands
Aim	To use physical regeneration as a motor for socio-economic development, long-term environmental goals and business opportunities	To develop sustainable attractive cities by working with and advancing the concepts of 'smart cities' and 'smart citizens	To develop a previous wasteland area into a centre for business creativity.	To test and experiment with concept houses and building retrofitting within existing residential setting to speed up innovations in the sustainable building sector
Focus areas	Renovation of existing apartment buildings, energy efficiency, socio-economic development	Lighting, mobility, smart energy systems, makers and sharing, and internet of things	Redevelopment of a vacant area, sustainability, experimentation with mobile architecture and temporary (city) construction	Sustainable urban development, building technologies, new building retrofitting approaches

(Continued)

Table A1. Continued.

	The Malmö Innovation Platform (MIP/MIA)	Future by Lund (FbL)	Open Lab Ebbinge (OLE)	Concept House Village Lab (CHVL)
Funding scheme	VINNOVA – Swedish Innovation Agency	VINNOVA	Mainly European Regional Development Fund (ERDF) coordinated by the Ministry of the Foreign Affairs and Groningen municipality	EU Interreg SusLabNWE programme, Dutch Ministry of Economic Affairs, the Municipality of Rotterdam
Duration	2013 – Present	2013 – Present	2008 – 2017; initial funding period from 2009–2011	2010 – present; core operating period until 2015
Lead partner	City of Malmö	City of Lund	Private sector / Civil Society: The local retailers association Ebbingekwartier (in collaboration with citizens and the city)	University of Applied Sciences Rotterdam & TU Delft
Partner types	Local and regional government, academia, business	Local and regional government, academia, business	Local government, private sector, civil society, knowledge institutes	Local government, knowledge institutions, private building construction sector, residents

Table A2. Summary of the empirical results

Policy instrument	Questions posed to the case studies	MIP/MIA	FbL	CHVL	Open Lab Ebbinge
Nodality	Q1: How is the municipality creating and participating in networks?	Through both ULLs municipalities of Malmö and Lund bring public and private actors together by creating a meeting arena to share challenges and discuss innovations. Both municipalities are lead partners in ULLs and therefore directly participate in these networks.		During the initial design phase of CHVL the municipality participated as a consortium partner in the tender for ERDF funding for the lab activities. Overall, the municipality of Rotterdam is strongly embedded in diverse PPP networks on urban transformation.	In the case of OLE the municipality of Groningen teamed up with the initiating local retailers' association and citizen initiatives in a later phase of the project to acquire EU funding in a collaborative effort. Today, the municipality of Groningen is actively participating in diverse networks on urban transformation. The municipality, e.g. committed to participate with OLE in the Creative City challengea network.
	Q2: How has the municipality expanded participation of different actors?	Both municipalities created multi-actor 'steering groups' that manage ULLs and in this way expand the participation. At the platform level, the ambition to co-create knowledge with users is not among the primary ambitions of municipalities while the participation of citizens is rather expanded at the project level.		Both ULLs were originally designed and set up with support from the municipality however, not (yet) with an actively enabling function in the initial phase, which was driven by other urban actors. With a more mature state of these ULL, the municipality then took a more pro-active role as a partner and network node. Through the municipal engagement in the lab activities the municipality also expanded cross-departmental collaboration within the municipality.	
	Q3: What type of information is being disseminated and how?	Malmö municipality aligns its communication about MIP with local visions and priorities	Lund municipality aligns its communication about FbL with local visions on smart city development and	Over time, the strategic relevance of CHVL increased for the municipality and was taken up in their information and	At a later stage of the lab activities, the municipality of Groningen supported the ULL communication and

(*Continued*)

Table A2. Continued.

Policy instrument	Questions posed to the case studies	MIP/MIA	FbL	CHVL	Open Lab Ebbinge
		on social sustainability.	promotion of sustainable innovations.	dissemination strategy as a reference case for housing retrofitting and energy efficient buildings, which was explicitly referred to in local visions and strategic programmes.	dissemination, e.g. through its municipal websites about events in the lab and publications around the creative city challenge and the flexible city concept, as well as international nominations for OLE.
Authority	Q4: What kind of regulative tools are being used (if any)?	Swedish Building and Planning Act is a conservative legal document that restricts innovation. Through both ULLs Malmö and Lund municipalities open urban spaces for innovation and experimentation with sustainability solutions.		CHVL illustrates how the municipality makes use of its authority to create (or end) flexible, temporary conditions that enable experimentation in the urban fabric with.	Likewise, in the OLE case, the municipality of Groningen as one of the land owners, used its authority to provided part of the land to experiment with the new form of urban re-development.
	Q5: how does municipal authority manifest in enabling legal conditions and decisions?	Both ULLs favour a transition from traditional top down governance approaches in which Malmö and Lund municipalities exercise their power of authority towards more collaborative and inclusive governance processes. These provide flexibility for urban actors in the ways to achieve local sustainability goals.		These two ULLs on the one hand benefitted from municipal authority, when the municipality authorised the temporary (in between) use of land parcels within the city for ULL operations. On the other hand this authority was also used in the case of CHVL to 'kick-out' the ULL after operations for 5 years, when the municipality as land owner considered re-developing the area.	
Treasury	Q6: What kind of economic support is the municipality providing?	Malmö municipality received basic funding for MIP from VINNOVA and ERDF and coordinates these budgets.	Lund municipality received basic funding for FbL from VINNOVA. It also co-finances some projects.	Both Dutch ULL's were not the main applicants for the initial funding from ERDF or other funding within a larger consortium of European partners. The municipalities did not provide direct financial support during the first year(s), yet, additional resources were provided in both cases.	
	Q7: Which additional resources does the municipality provide?	Employees of Malmö and Lund municipalities provide in-kind contribution by dedicating their time to work on the ULLs.		The municipalities did not provide direct financial support during the initial phases. The ULL in Rotterdam was partly enabled by the municipality providing the right to use vacant land parcels, When the initial funding period ended, the municipality's urban development section in Rotterdam provided resources for additional two years to cover the costs of a team of 4 people working to keep the lab running	
Organising	Q8: Treatment of individuals/citizens in ULL	At the platform level, the ambition to engage individuals is not among the primary ambitions of both municipalities while the participation of citizens is rather expanded at the project level.		The two Dutch ULLs both did involve citizens, however, OLE organised more explicit opportunities for individual citizens, while CHVL rather focused on organising the co-creation among institutional actors, e.g. from the building sector, academia, and others, rather than primarily focusing on individuals' engagements.	
	Q9: Treatment of groups in ULL	Through both ULLs Malmö and Lund municipalities open space for collaboration between various urban actors towards a common goal. Practically this is operationalised through, for example, steering groups.		In both Dutch ULLs, the municipality was not in a leading, enabling role in the initial phase, however, later, supported and co-provided the space for co-creation and learning between various urban stakeholder groups.	

Table A2. Continued.

Policy instrument	Questions posed to the case studies	MIP/MIA	FbL	CHVL	Open Lab Ebbinge
	Q10: How are resources such as premises or staff being organised, if provided?	At the local level, MIP is part of the Environment Department of Malmö municipality, and its employees dedicate their time to the ULL work. At the county level, MIP is part of the Region Skåne innovation agenda and structure.	Lund municipality located meeting place for FbL in the innovation district outside of the municipal organisation to create a favourable working climate for idea-driven employees and facilitate their interaction with business partners and university groups.	The municipality of Rotterdam initially kept a low profile reduced to co-financing within a European funding scheme. The municipality's interest in organising new partnerships to regenerate the Heijplaat area grew in the second year, temporary free land use for the Lab activities was granted in response to the external pressure to adapt local policies to the growing demand for knowledge about housing retrofitting	OLE illustrates how organising emerges less formally and how the municipality can be an enabler over time, even when not directly involved in the initial phases. It was a local retailer's association that initiated OLE together with engaged citizens, yet, the municipality supported acquisition of additional public funding and locally organised meetings became included in municipal (co-) organising.