



# Co-production of privately owned public space: Who, why, when, and how?

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## Abstract

The term ‘co-production’ has been used in various fields, including planning, as collaborative forms of public goods and service delivery gain significance. Co-production has two sides—the ‘co’ side refers to actors and their motivations, while the ‘production’ side refers to phases and instruments. This paper examines privately owned public space/s (POPS) based on the two sides of co-production. Thereby, it addresses two research gaps. First, less has been written to date on the involvement of actors other than local authorities and developers. Second, little attention has been paid to the phase through which POPS are co-produced. The paper fills these research gaps by presenting the empirical work undertaken in HafenCity, Hamburg. It reveals a wide range of actors engaged in four different phases through various instruments. This paper also identifies challenges of co-production of POPS, and makes recommendations.

**Keywords** Co-production · Public space · Privately owned public space · Public space governance

## Introduction

‘Co-production’ is a term that has its roots in the public administration field, but is widely used in various fields. There are several definitions of co-production in the literature within and across disciplines (e.g., for planning literature see Lee et al. 2023), but in essence they refer to the multi-actor engagement in public goods and service delivery (Nabatchi et al. 2017; Alfaro-d’Alençon and Torrent 2020). There are two sides to co-production: the ‘co’ side and the ‘production’ side. The former describes actors and their motivations while the latter is related to the phase in which co-production may occur and to instruments which encourage co-production to occur (Alford 2014; Sicillia et al., 2016). Co-production is a practice to be found in the production of public space. POPS are an example; they are privately owned and maintained, but are publicly accessible and useable (Kayden et al. 2000; NYC Department of City

Planning, n.d.). Since their first introduction in New York City in the 1960s, POPS have become a popular mechanism to increase public space in urban areas (Schmidt et al. 2011). POPS are co-produced public spaces in the sense that they are the result of collaboration between different actors including the public and private sectors (Lee, 2022a). The existing literature on POPS focuses on the role of the local authorities and developers. Yet the simple dichotomy between the public sector (i.e., local authority) and the private sector (i.e., developers) hinders a deeper understanding of the involved actors and their motivations. Moreover, previous empirical studies on POPS have rather neglected the engagement of the public. In addition, although co-production is recommended at all stages, little is known about the phases in which POPS are co-produced.

The aim of this paper is to examine the ‘co’ side and ‘production’ side of POPS based on case studies in Hamburg, Germany. To that end, it asks the following questions: (1) Who are co-producers? (2) Why do they co-produce? (3) When do they co-produce? and (4) How do they co-produce? The first two questions are related to the ‘co’ side, while the rest are related to the ‘production’ side of co-production of POPS. For this research, expert interviews and document analysis were conducted. The paper is structured as follows: first, the two sides of the concept of co-production are discussed in general and in the context of public space. After

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the Methodology section, research findings as well as policy recommendations are presented.

## The ‘co’ side and ‘production’ side of the concept of co-production

The term co-production was first coined by a political economist, Elinor Ostrom, in the 1970s. She defined co-production as “a process through which inputs from individuals who are not ‘in’ the same organization are transformed into goods and services” (Ostrom 1996, p. 1073). The initial idea was to involve regular producers and citizens in the production of public goods and services (Parks et al. 1981; Ostrom 1996). Yet it differs from citizen participation, as it goes a step further by involving citizens “in the execution of public policy as well as its formulation” (Whitaker 1980, p. 241). Co-production has the potential to generate a win–win situation for involved parties. For governments, co-production is potentially beneficial as it eases financial burden, while for citizens it ensures more effective and efficient public services (Osborne and Stokosch 2013; Khine et al. 2021). Furthermore, it creates values that are directly or indirectly beneficial to all such as citizens’ empowerment (Ostrom 1996), openness, inclusion (Khine et al. 2021), trust, and communication (Needham 2008). Co-production has regained relevance in the public sector in the wake of austerity and is practiced across various fields (Cinquini et al. 2017; Khine et al. 2021).

Co-production has two sides—the ‘co’ side and the ‘production’ side. The ‘co’ side refers to actors and their motivation (Alford 2014). Originally, the definition of co-producers was limited to individual citizens and groups of citizens (Brandsen and Pestoff 2006; Verschuere et al. 2012). However, it is now well established that co-production also involves other types of actors from the state, private sector, and civil society (Bovaird 2007; Alfaro-d’Alençon and Torrent 2020). There are various ways to classify co-producers, for instance, by their size and influence, phase of involvement, or legal status (Alford 2014). In a broader sense, co-producers can be divided into two groups—providers and users (Cinquini et al. 2017). Other scholars make a further division. Voorberg et al. (2015) distinguish three types, i.e., the initiator, co-designer, and co-implementer, depending on the phase of involvement. Alford (2014) differentiates types of co-producers according to their primary role in the production process from suppliers (providing inputs) to public sector organizations (converting inputs into outputs), to partners (sharing processes with public sector organizations) and consumers (receiving outputs).

The ‘production’ side of the concept of co-production refers to stages of the service cycle. Nabatchi et al. (2017) distinguish four phases of the service cycle in which

co-production might occur, i.e., co-commission, co-design, co-delivery, and co-assessment. Co-commission refers to the initial phase where needed public services are identified and prioritized. The next phase, co-design, includes activities that incorporate inputs from involved actors. During the co-delivery phase, public services are delivered. Lastly, co-assessment is where monitoring and evaluation of public services are performed. Although differently termed, Politt et al. (2006) classify four types of phases in a similar way based on a traditional cycle of service delivery, i.e., co-design (designing of policies and services), co-decision (making decisions), co-production (production) and co-evaluation (evaluation). What is important is to determine how to make co-production happen at all stages (Sicillia et al., 2016).

## Co-production of public space and POPS

The engagement of multiple actors in relation to public space has been observed and studied in diverse contexts (see Kim 2016; Certoma et al. 2020). Van Melik and Van der Krabben (2016, p. 140) define co-production in the context of public space as “*the sharing of costs, rights and responsibilities of public space among a wide range of stakeholders, ranging from the market to civil society and individual citizens*”. A variety of new types of public space has emerged due to societal changes such as the withdrawal of the state and a trend towards co-production of public services. This has led to the notion of hybrid space (Nissen 2008). Several authors have examined hybrid spaces, for example business improvement districts (see Hoyt and Gopal-Agge 2007; Michel and Stein 2015), friends of the park groups (see More 2005; Murray 2010) and POPS (see Németh 2009; Huang and Franck 2018; Lee 2022a, b).

Only a few studies have been conducted regarding co-producers of public space. For example, Berding et al. (2010) identified five types of co-producers in public space based on their interest, i.e., market-oriented private actors, market-oriented actors with municipal connections, intermediary actors, public and non-municipal actors, and municipal actors. When it comes to POPS, which is the focus of the paper, actors are broadly divided into the public sector (i.e., local authorities) and the private sector (i.e., developers). Yet the simple dichotomy between the public and private sectors hinders a deeper understanding of the involved actors and their motivations. Also, little is known about the engagement of the public in relation to POPS. Moreover, the ‘production’ side of POPS, which refers to the phase through which POPS are co-produced is less known. Although there are studies on how POPS are co-produced (i.e., instrument), the majority of literature is focused on POPS in the US—the origin of POPS—or in countries whose instruments



are inspired by those in the US (such as South Korea and China). Less is known about alternative approaches. Hence, this paper attempts to fill in the research gap by examining both the ‘co’ side and ‘production’ side of POPS.

It is important to mention that there are controversial issues around POPS, such as exclusion and underuse (Loukaitou-Sideris 1993; Kayden et al. 2000; Smithsimon 2008). Indeed, POPS have been associated with privatization of public space; thus, it is contentious whether they are public spaces. Yet, as actors beyond the public sector are increasingly engaged and new types of public spaces keep emerging, there is a consensus that ownership alone is not a decisive factor in defining public spaces (Lee and Scholten 2022). Several authors have suggested other dimensions such as management, accessibility, and inclusiveness (Kohn 2004; Varna and Tiesdell 2010; Langstraat and Van Melik 2013). More importantly, Langstraat and Van Melik (2013) reveal in their research about urban spaces in the UK and the Netherlands that private involvement does not necessarily lead to reduced accessibility or inclusiveness especially in the non-flagship public spaces. How public POPS are and how well they are used depends on factors beyond ownership. These include, for instance, the type of POPS (e.g., plaza, arcade, street), their design and management practices. While this is an equally important topic, the purpose of the paper is not to measure the publicness and use of POPS (see instead Dunlop et al. 2023), but to explore, in the first place, how POPS are co-produced by whom, why, and when.

## Methodology

The research involved multiple sources of data and mixed methods, one of which is a case study approach. Germany is a country that is less associated with POPS than liberal welfare states such as the US. A small number of studies on POPS in Germany suggest their particularity regarding POPS in terms of the context, i.e., welfare state where private sector involvement is rather limited (Lee and Scholten 2022), and relevant planning instrument (Berding et al. 2012; Lee 2022b). In terms of planning instrument, examining POPS in Germany is particularly useful, as it allows one to overcome Anglo-American dominance (Langstraat and Van Melik 2013). Indeed, alternative approaches to POPS are largely unexplored. Unlike in the US or countries whose instruments are inspired by those in the US, POPS in Germany do not have their own land-use designation. Instead, several planning instruments are used, depending on the context, to secure public access and make them useable. As a result, POPS in Germany are provided and managed on a case-by-case basis. This paper will not compare approaches used in the US and

Germany but demonstrate the German approach in the following sections. This way, the research adds to the existing knowledge of how POPS are provided.

The Free and Hanseatic City of Hamburg is a city-state in northern Germany. It is a growing and prosperous city with a varied and strong economy; yet at the same time, it faces social problems such as inequality. In this context, co-production has been generally regarded as an appropriate option for urban (re)development. The HafenCity, which is located in the southeast of Hamburg, started to be redeveloped based on a master plan approved by the Hamburg Senate in 2000. The plan was to transform the former port area into a mixed-use urban quarter for living, working, and leisure. It is considered the largest inner-city urban redevelopment project in Europe (Bruns-Berentelg 2010).

As part of the redevelopment, many public spaces have been created. Public spaces in HafenCity make up 37% of the total area (Bruns-Berentelg 2010). This is a high proportion compared to the Old Town, where public spaces account for 5% of the area only (HafenCity Hamburg GmbH 2021). Among the total area of public spaces, one-third is dedicated to POPS in the form of outdoor spaces, often developed as squares. This is consistent with one of the general goals of POPS, i.e., to increase the amount of public space in urban areas. In fact, POPS were regarded as an important element and, thus, incorporated from the beginning. Hence, their co-production is prevalent and this provides a good opportunity to study POPS (Fig. 1).

The research involved semi-structured expert interviews. Interviewees were selected based on their expertise and experience with POPS in HafenCity. In total, six interviews were conducted with a planning officer of the Authority of Urban Development and Housing, a representative of the HafenCity Hamburg GmbH, a representative of the district management of Überseequartier, an owner, a developer, and a scholar. When selecting the interviewees, it was important to cover a wide range of actors in order to (1) incorporate various perspectives; and (2) have as complete understanding as possible. All interviewees expressed their role and motivation in relation to POPS as well as challenge and recommendation. Interviews with actors from the public sector, in particular, helped understand the processes and instruments with regard to POPS. They also represented the role and interest of the public towards POPS. Interviews with actors from the private sector brought another perspective. In addition to interviews, secondary sources (i.e., master plans, legally binding land-use plans and their explanatory statements) were used to find additional information on how POPS in HafenCity are co-produced. In particular, they provided information on the local context as well as instruments used for POPS, of which the latter allowed for triangulation.



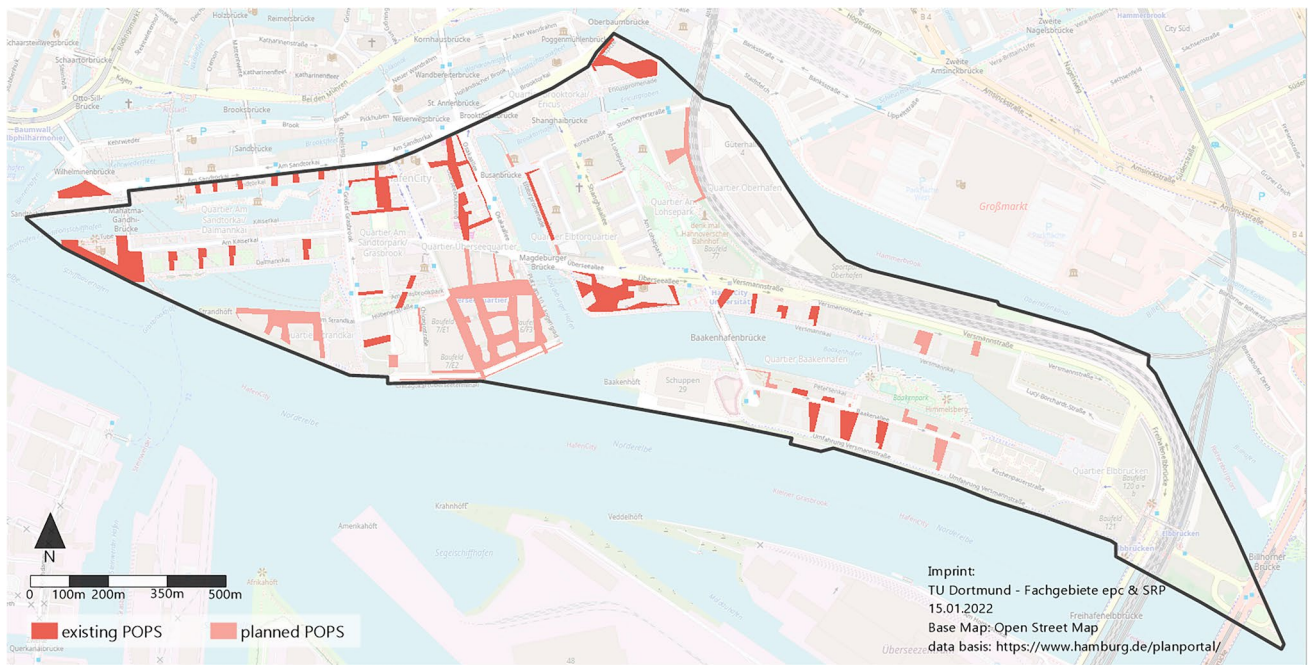


Fig. 1 Map of POPS in HafenCity (source: own illustration)

## Co-producers in the public sector: Who are they and why do they co-produce?

The research reveals that there are multiple actors, even within the public sector, who are involved in producing POPS. To begin with, planning officers within the Authority of Urban Development and Housing are responsible actors. According to Interviewee 1, the role of planning officers includes establishing urban development concepts, drawing up master plans and developing legally binding land-use plans. These plans have an impact on POPS from the location to design. The planning officers' motivation is to provide a high proportion of public spaces in HafenCity. Hence, they regard POPS as an important tool to increase the amount of public space. This motivation is shared by HafenCity Hamburg GmbH, which is a municipal company fully owned by the City of Hamburg. It works closely with the Authority and fulfils public sector tasks for the development of HafenCity except for drawing up legally binding land-use plans (Interviewee 2). Yet increasing the proportion of public spaces is not the only reason for providing POPS; what is important is to ensure good quality. A large amount of public space means high costs. As argued by Interviewee 2, the city would quickly reach its limit to the resources if it had to pay for the maintenance alone.

During the implementation phase, officers within the Authority who approve the building application come to play a role in order to check compliance after the construction of buildings and POPS. Once POPS are provided,

there are several public actors who monitor them to make sure that they function as public spaces. Interviewee 1 mentioned that there are officers in the borough office Hamburg-Mitte who inspect public areas including POPS. They monitor POPS regularly, for instance, to see whether there is a need for repair or improvement and approach owners if necessary. In fact, most POPS in HafenCity do not have private security guards; hence, the police are normally responsible for security (Interviewee 2). Yet, where there are private security staff, the police only intervenes in crime-related matters (Interviewee 3).

## Co-producers in the private sector: Who are they and why do they co-produce?

In addition to the actors in the public sectors, there are multiple co-producers in the private sector. First, there are architects and landscape architects who are involved from the early stage. In case of HafenCity, an international competition was prepared by HafenCity Hamburg GmbH in order to create the basis for the development. The Hamburg plan team with Kees Christiaanse and ASTOC won the competition. Accordingly, they became the principal authors of a master plan (HafenCity Hamburg GmbH, n.d.). While prescribing open space planning in HafenCity, they took POPS into consideration:



“Both privately owned open spaces and public parks form an integral part of the urban structure of HafenCity. [...] The overall open space concept will comprise both public and privately owned areas which are in partly open to the public. This will result in a network of interlinked public and privately owned spaces that complements and reflects the rich diversity that is typical of Hamburg” (HafenCity Hamburg GmbH 2000: 67-68).

Moreover, six landscape architects, who won the competition for landscape architecture, played a significant role as they created an integrated design of POPS and publicly owned public spaces (Bruns-Berentelg 2010; HafenCity Hamburg GmbH 2022).

Other actors include developers, who purchase land, develop, and then rent out or resell it, as well as constructors, who deliver actual POPS according to plans. The role of the developers concerning POPS is to finance competitions and bear construction and maintenance costs—until they sell the property (Interviewee 2). When developing POPS, developers have their own interests which, according to Interviewee 2, are not necessarily different from that of the public sector. Indeed, no matter who provides public space, they all try to save maintenance costs (Interviewee 2). So on the one hand, developers take costs into consideration; on the other hand, they are aware that high-quality POPS will increase the sale value when they resell the property. Hence, they are more motivated to create and maintain high-quality, vibrant public spaces than the public sector (Interviewee 2). This was partly noticeable during the interview with a developer, Interviewee 5, as the interviewee was worried about retailers in HafenCity going bankrupt due to high rents. According to the interviewee, this has a negative impact on public spaces, including POPS as small shops bring vitality.

Interestingly, the findings suggest that, when it comes to maintenance, there may be a different interest between developers who sell properties quickly and those who acquire and own them for a longer term. For the latter, how POPS are maintained is a more important issue as they are willing to satisfy their tenants. This became apparent during the interview with an owner, Interviewee 4, who suggested that it is not just the office space that counts, but also amenities, including outdoor spaces. Owners have to comply with the arrangements they have with the city; the same goes for tenants in Überseequartier as well, who are required to follow, for instance, design regulations (Interviewee 3). When it comes to maintenance, owners have their own interests to keep POPS clean through cleaning services (Interviewee 1). They are interested in hosting events to promote uses so that more locals and tourists are attracted (Interviewee 3). One of the interviewees who



Fig. 2 Überseeboulevard (source: own photo)

owned a property in HafenCity mentioned that he/she was considering a redesign of his/her POPS so that the tenants would receive more visitors.

In addition, there is district management of Überseequartier, namely a non-profit organization financed by owners of the district named Überseequartier (see Fig. 2). The district management represents the owners and takes on management tasks, from the marketing of the district to the security and maintenance of POPS, i.e., Überseeboulevard. Interviewee 3 described the district manager as “*something like a mayor*” as the manager is responsible for everything outside buildings. As the largest POPS in HafenCity, Überseeboulevard is located in the core area. The district management did not play a role in developing the POPS, as it did not exist at that time. Yet today, it takes an active role in managing POPS. For the district management, the presentation of the district is important. Thus, it maintains POPS and organizes events such as Christmas markets and flea markets to bring in visitors to POPS. Since the monitoring of POPS is also a task of the district management, there are private security guards 24/7 on Überseeboulevard (Fig. 3).

### The public as co-producers: Who are they and why do they co-produce?

Apart from the public and private sector, the third sector is also involved in the co-production of POPS. There is, for instance, a district association named Netzwerk HafenCity (in English, Network HafenCity) whose members are invited to the jury for urban design competitions. The jury also consists of a number of citizens and political representatives, usually between three to six depending on the scope of competition (Interviewee 2). Public spaces including POPS are among the important criteria when making decisions. Public participation takes place as part of establishing legally binding land-use plans. For projects like HafenCity, public



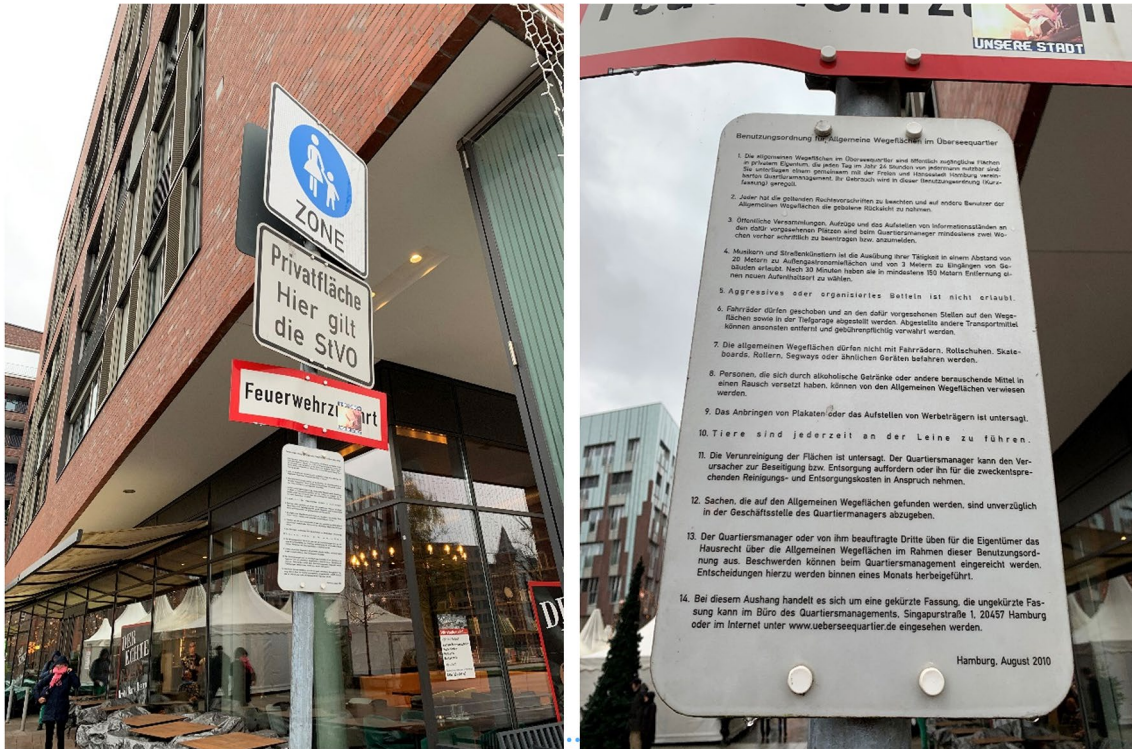


Fig. 3 Signage indicating POPS and usage regulation (source: own photo)

Fig. 4 Co-producers of POPS (source: own illustration)

Public sector	Private sector	The public
<ul style="list-style-type: none"> <li>• Authority of Urban Development and Housing</li> <li>• HafenCity Hamburg GmbH</li> <li>• Borough office Hamburg-Mitte</li> <li>• Police</li> </ul>	<ul style="list-style-type: none"> <li>• (Landscape) architects</li> <li>• Constructors</li> <li>• Developers</li> <li>• Owners</li> <li>• Tenants</li> <li>• District management</li> <li>• Cleaning service</li> <li>• Security guards</li> </ul>	<ul style="list-style-type: none"> <li>• Netzwerk HafenCity</li> <li>• Individual citizens</li> <li>• Residents</li> <li>• Political representatives</li> </ul>

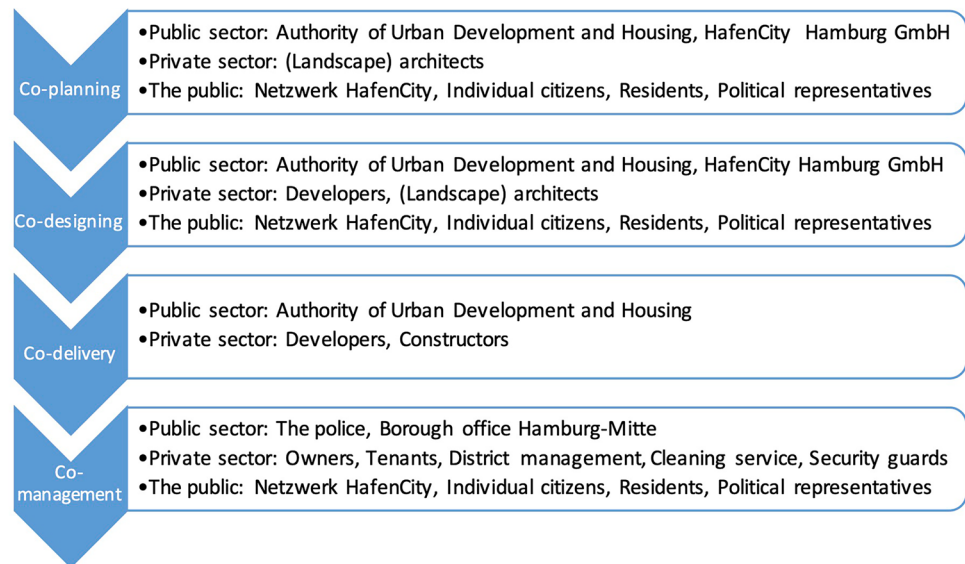
participation is not limited to the minimum; it is rather the opposite (Interviewee 1). According to Interviewee 1, though, there was relatively low interest from citizens at the beginning due to the absence of residents there, now the situation is different. Interviewee 3 from the district management also mentioned that there are advisory board meetings every 6 months where anyone can take part and give their opinion on matters including POPS. Overall, users, citizens, and residents would like to have clean, accessible, and useable POPS in HafenCity.

To sum up, it is clear that multiple actors are involved in the co-production of POPS in HafenCity, Hamburg. Broadly speaking, the actors can be divided into the public sector, private sector, and the public. Yet each category involves several

actors, as summarized in Fig. 4. Within the category of the public sector, there are several offices at two different levels—city and borough. The private sector is much more than developer. As the research reveals, the public is also involved in co-production of POPS. Each actor has its own motivation depending on its role. They all play an important role and share responsibilities for POPS but contribute in different phases. In the next section, the ‘production’ side of POPS (i.e., phase and instruments) will be discussed.



**Fig. 5** Phase of co-production of POPS and actors respectively (source: own illustration)



### Phases and instruments: Which actors co-produce, when and how?

The research reveals that co-production of POPS involves four stages, i.e., co-planning, co-designing, co-delivery, and co-management. POPS are co-produced in all stages and actors are engaged through different instruments. Figure 5 illustrates which actors are involved, and when. The first phase, co-planning, lays the foundation for the co-production of POPS. Activities include developing urban development concepts and a master plan for HafenCity. Regarding the master plan, the Authority and HafenCity Hamburg GmbH work closely with the architects who won the international competition. Also, the public is engaged in the process of competition. Landscape architects play a role in this phase as well since they create an integrated design of POPS and publicly owned public spaces (Bruns-Berentelg 2010).

The next phase is co-designing; this is where decisions are made for each POPS in HafenCity. Based on the master plan, concrete plans are drawn up for each district of HafenCity through urban design competitions. The competitions are financed and carried out by developers but under the rules set by HafenCity Hamburg GmbH (Interviewee 2). The competitions bring the Authority, HafenCity Hamburg GmbH, developers, (landscape) architects, and the public together (Interviewee 2). In this phase, legally binding land-use plans<sup>1</sup> are established. The public is engaged in the

process of establishing legally binding land-use plans (Interviewee 1 and 2). They can express their opinions regarding POPS. Legally binding land-use plans are the result of co-production between the Authority and developers. They ensure the public access to POPS through public right of way in the long term, regardless of any change in ownership. However, the limitation is that they do not allow detailed arrangements, especially regarding the design, maintenance, and use of POPS.

For this reason, the Authority and developers make detailed arrangements either directly in sales contracts or in supplementary contracts to the sales contract (Interviewee 1). Often, the sales contracts do not include every detail; however, they give an indication that further arrangements will be made in supplementary contracts if necessary (Interviewee 1). In HafenCity, sales contracts are primarily used as the land belonged to the city (Interviewee 6). Hence, in this process of selling it to developers, the Authority could require several things to ensure that POPS play the same role as publicly owned public spaces. Interviewee 2 suggested that the Authority and HafenCity Hamburg GmbH had dealt intensively with the topic of how to make POPS public in the early phase of HafenCity to ensure that users were allowed to do the same thing as in publicly owned public spaces. In order to secure public rights to POPS, various detailed arrangements are made which sometimes restrict householder's rights. Examples include rights to demonstrate on POPS, or design-related regulations for POPS which owners and tenants are required to follow (Interviewees 3 and 4). So for instance, public gatherings on Überseeboulevard are possible in principle though they must be registered with the district management (Interviewee 3). The content of contracts varies from plot to plot; it is not publicly accessible due to data protection concerns.

<sup>1</sup> A legally binding land-use plan is usually drawn at a scale of 1:1000. It determines which developments are permitted at a certain location and lays down legally binding rules (e.g., use, building and lot coverage, green space). A plan remains valid until a new plan is established.

The legal arrangements made through contracts remain even if there is a change in ownership (Interviewee 2). Yet there is the question of how long they can last. As admitted by Interviewee 2, the arrangements cannot be secured for eternity as the contractual rules may become unfair at some point in time in the future and would have to be readjusted. Hence, it is possible that after a few decades, the public sector will have less influence on POPS. This is an important issue as spaces like Überseeboulevard are likely to remain longer than a few decades. Hence, the discussion on how to maintain the influence of the public sector on POPS in the longer term should continue (Interviewee 6). In general, the legally binding land-use plans and sales contracts, including supplementary contracts, complement each other. While the legally binding land-use plans ensure long-term safeguarding of the public access to POPS, sales contracts allow for detailed arrangements regarding design, maintenance and use of POPS.

In the next phase, POPS are co-delivered by developers and constructors. This phase is simple; while constructors realize POPS based on the plans developed in the previous phase, developers pay the costs. The Authority grants building permits and checks the compliance after the construction of buildings and POPS (Interviewee 2).

The last phase, co-management, involves activities such as maintenance, monitoring and promoting the use of POPS. In HafenCity, owners are responsible for the maintenance of POPS (Interviewee 2). Normally, POPS are cleaned through cleaning services. If they do not comply with the arrangements made with the city, there is a financial sanction (Interviewee 2). Tenants who have businesses on the ground floor also have to make sure that they keep the entrance area clean. In the case of Überseeboulevard, the district management is responsible for the maintenance as well as security-related tasks (Interviewee 3). In other POPS where there are no security guards, the police can be involved if necessary (Interviewee 2). The borough office Hamburg-Mitte inspects POPS in HafenCity to make sure that POPS function as public spaces (Interviewee 1, 3, and 5). The public is engaged through different channels, for example by participating in events or working groups organized by the district management to exchange opinions about various issues including POPS (Interviewee 3).

To sum up, POPS are co-produced in all phases from the planning to management. While all three types of co-producers are involved in the first phase, the public sector (i.e., the Authority and HafenCity Hamburg GmbH) leads this phase as they prepare the master plan which lays the foundation for the next steps. This is also the case for the second phase, co-designing, where important decisions are made for each POPS through legally binding land-use plans and contracts. Developers play an important role by arranging competitions, yet under the rules set by the HafenCity Hamburg

GmbH. The situation changes when entering the next phase, i.e., co-delivery. Developers are the leading actors as they pay for the construction and implement the plans developed in the previous phases. The consequence of the public sector primarily defining the plans with rules, and developers implementing the plans is that there are more public spaces in the city and that they are well maintained. When it comes to the last phase, co-management, there is not a single actor who leads the phase; rather, all three types of co-producer equally share the responsibility. Since well-managed POPS is of interest to all co-producers, this ensures that POPS function as public spaces.

### **Discussion: What are the challenges and what should be done?**

While all interviewees agreed on the importance of co-production of public spaces in the form of POPS in HafenCity, they identified a few challenges. First, it is not always easy to convince the public why there is a need for POPS. Überseeboulevard is an example as there was a huge debate about whether a central street like this should be privately owned (Interviewee 1). Apart from the lack of public budget, there are other reasons as well, and the city has to convince the public. Überseeboulevard, for instance, became POPS due to the private parking area underneath. The shared ownership of publicly owned spaces on top and private parking area underneath is not an option for the city due to the potential legal difficulties. Another challenge is to coordinate the interests of different actors. This applies both for HafenCity Hamburg GmbH and the district management of Überseequartier, as taking everyone's interests into account is very difficult (Interviewee 3).

Private actors in general described challenges of working with the Authority and HafenCity Hamburg GmbH due to the strict regulations. Interviewee 4, as an owner, argued that owners are closer to their own properties as they work on their buildings and POPS on a daily basis. Thus, they know what works best and sometimes they feel that there is a need to adapt the regulations. Interviewee 4, for instance, wanted to redesign his/her POPS by providing benches and lighting in order to attract more people. Yet even for small adjustments, owners have to obtain approval from several public authorities and have to go through a long process. This problem was raised by the district management as well.

During the interviews, a number of ideas emerged which could address these challenges. In order for POPS to be perceived as public spaces their use should be promoted. One way of promoting the use of POPS is to accommodate certain uses on the ground floors (Interviewee 1). In HafenCity, there is already a concept which requires ground floors to have public-related use (Interviewee 2). This can promote





the encounter and interaction of different user groups and enhance casual interactions. However, to increase the effect, the city should consider supporting tenants financially so that they can afford high rents (Interviewee 5). Also, holding events on POPS would increase their vitality and attract more users. Moreover, the public should be actively engaged throughout the whole course of co-production, from planning to the management phase.

As written above, one of the difficulties of co-production lies in the coordination of multiple actors. This can be addressed by having an actor who has the role of coordinator. The coordinator can be from either the public or private sector. Since the actors have different interests, compromises should be negotiated. For example, in the case of Überseeboulevard, the Authority and Hafencity Hamburg GmbH wanted the usage regulations to explicitly allow begging (see Fig. 3). The building owners in Überseequartier, however, were against the idea due to the potential negative effects on the image of the area (Interviewee 3). In the end, both parties agreed that begging in general would be allowed but aggressive begging would be forbidden. The coordinator would bring actors together so that they could communicate their expectations and set responsibilities effectively.

In order to ensure that POPS function as public spaces, it is important to regulate what is necessary, even at the expense of limiting householder's rights. When it comes to uses of POPS, especially, there is a need for detailed and strict arrangements to ensure inclusiveness. On the other hand, it is important to allow some degree of flexibility where necessary as circumstances keep changing over time. One way would be to approve variances, for instance concerning the design of POPS, in advance so that the process does not have to take years (Interviewee 3).

## Conclusion and avenues for future research

Due to societal changes, collaborative forms of public goods and service delivery have gained significance. Today, co-production is a common practice in the production of public spaces. This study contributes to the ongoing research on a type of co-produced public space, i.e., POPS, as there is a lack of research on the 'co' side and 'production' side of POPS. The paper answers four questions: (1) Who are co-producers? (2) Why do they co-produce? (3) When do they co-produce? and (4) How do they co-produce? In terms of co-producers and their motivations, the present research findings indicate that there are actors beyond local authorities and developers. The wide range of actors can be categorized into the public sector, private sector, and the public. They all have different motivations depending on their role. Regarding the phase, the research reveals that there are four phases, i.e., co-planning, co-designing, co-delivery, and

co-management. What is important is that the co-production of POPS takes place in all stages through different instruments including competition, legally binding land-use plans and contracts.

HafenCity may be a unique case in terms of the scale of the urban development project; yet it shows that producing POPS can, indeed, involve various actors across all stages. This study provides an empirical evidence which is important since the private provision of public spaces are increasingly popular as part of urban (re)development projects. So far, the role of the public has been rather neglected in POPS studies. This study reveals that even when public spaces are privately owned, there can be a room for the public engagement like the case of non-POPS, especially when the public sector makes an effort. As this paper illustrates, the public consists of several actors and they engage themselves from the initial phase with different motivations. This suggests that POPS have the potential to become public spaces.

This study contributes to the ongoing research on POPS in Germany and fills the research gap by examining the 'co' side and 'production' side of POPS. It should be noted that how public POPS are—even when the public is engaged in various stages—and how they are used are outside the scope of the research due to the pandemic situation and weather condition during the research period. The publicness and use of POPS depend on several factors; it would therefore be interesting to conduct a study and examine influential factors. Also, a research may compare the co-production of POPS with co-production of publicly owned public spaces and see how their publicness and use are affected. A comparative study based on the type of POPS (e.g., street, square, park, and arcade) would be interesting as well. The current research lacks direct input from the public; hence, future research may engage them directly and study their role with regard to POPS. Moreover, since there is a lack of research on POPS in Germany (or any other country whose approach to POPS differs from the one in the US), future researches can undertake a comparative research involving further case studies in Germany and abroad asking questions, such as whether POPS are a global movement, how co-production of POPS differ across countries and whether the private sector assumes a larger role in some countries.

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