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Greening the city between public needs and private preferences in Carré de Soie, Lyon

Governments are increasingly facing conflicting land uses in cities. Many governments strongly aspire to provide green spaces for the public, yet simultaneously stimulate private preferences for real-estate development. This paper argues that examining the interrelationship between land ownership and control over land clarifies the provision of green spaces in the context of private preferences for development. It presents a case study of the Carré de Soie urban development in which the government aspires to an abundance of green but concurrently encourages the market to take the initiative. The findings show that the lack of public land ownership combined with private actors having a say in control over land fell short in satisfying public aspirations for green spaces. This paper concludes that if cities need to become greener, recognising the role of the government to act in the public interest is of utmost importance.

Keywords: urban development, green spaces, ownership, public aspirations, land-use planning

Introduction

Across the globe, governments increasingly recognise the need for public green spaces in cities due to secure evidence of delivering a variety of social, health and environmental benefits (e.g. Barton, 2009; Wolch et al., 2014; Lennon and Scott, 2014; Haaland and Van den Bosch, 2015; Douglas et al., 2017; Boulton et al., 2018).¹ A range of studies demonstrates the benefits of public green spaces for the well-being of humans and the Earth. In terms of physical and mental health, green spaces increase the exposure to nature, encourage physical activities (e.g. Douglas et al., 2017) and stimulate social interaction (Pretty et al., 2007). Green spaces can also provide ecological functions by managing the flow of storm and surface water (e.g. Lennon and Scott, 2014), improving air quality (e.g. Wolch et al., 2014), moderating temperatures (e.g. Wolch et al., 2014) and managing biodiversity and habitat provision (e.g. Kambites and Owen, 2006). In addition, green spaces may enhance access to recreation, such as public gardens, playing fields and community allotments (e.g. Lennon and Scott, 2014).

Despite these numerous benefits of green spaces, the provision of green spaces in cities is not evident (Boulton et al., 2018). To claim this statement, one must briefly

¹ Public green spaces denote publicly accessible spaces, leaving aside private green spaces such as back gardens (Wolch et al. 2014). Hereafter referred to as green spaces.

explain the underlying mechanisms of green-spaces provision. From an economic perspective, green spaces share many characteristics of a public good (Choumert, 2010; Wang and Chan, 2019). Based on the frequently mentioned assumption that the government is in a better position than the market to provide public goods (Olson, 1965), it is no surprise that green-space provision often rests in the hands of the government. Governments frequently argue that the significance of green spaces is in the name of the public interest. To reinforce this argument, governments often cite the numerous benefits of green spaces in cities. Clearly, governments themselves have apparent incentives to aspire and provide green spaces in cities (Colding et al., 2013). However, at the same time, they are increasingly promoting real-estate development in cities through private planning. As such, much land is assigned real-estate uses such as housing and offices (Boulton et al., 2018; Wang and Chan, 2019). Governments regularly set conditions under which markets can develop these land uses. Indeed, private actors are highly interested in these profitable uses (MacLaran, 2014). As such, given that land is scarce, it is relatively easy to imagine that different interests in land use can increase the chances of conflict over land use.

Particularly in cities, there is an increased risk that real-estate uses of land are at the expense of green spaces (Colding and Barthel, 2012; Haaland and Van den Bosch, 2015; Boulton et al., 2018). Consequently, green spaces come under pressure or even run out. As such, the provision of green spaces in cities often illustrates the dispute about public aspirations and private preferences to land use (Boulton et al., 2018). To that end, clarifying the provision of green spaces through private planning is of increased importance. To do so, one must turn to the domain of land-use planning (Choumert, 2010; Boulton et al., 2018; Wang and Chan, 2019). Generally speaking, land-use planning coordinates the use of physical land based on preferred uses (Lai, 1994). Two particular concepts are considered crucial in land-use planning. First, someone holds land in ownership, and second, the actions and behaviour of the owner of land are subject to control (Fennell, 2011; Needham et al., 2019). It is the interrelationship between land ownership and control that is ultimately the primary factor in explaining the uses of land (Bromley, 1991; Booth, 2002). To date, much planning literature about green-space provision concerns land control (e.g. Lennon and Scott, 2014; Haaland and Van den Bosch, 2015; Boulton et al., 2018). Consequently, the literature often ignores ownership and the explicit interrelationship of ownership and control over land (Wang and Chan, 2019). Therefore it remains unclear how the concepts relate to one another in realising public needs for green-space provision through private planning.

The aim of this research, therefore, is to better understand the relationship between land ownership and control in providing green spaces in the context of real-estate development. The research question of this paper is subsequently, *how can land ownership and control over land be governed to satisfy public aspirations for green spaces in the context*

of private preferences? This question applies to the French context. France is an appealing case in examining the struggle over land between public aspirations and private preferences because of the rapidly increased interest in private planning since the turn of the century. For France, the subjugation of land-use planning to the private sphere of action is a relatively recent phenomenon (Dikec, 2006). Historically, the republican logic considers the government as the representative of the public interest and the legitimate actor for land-use planning to provide public goods such as green spaces. Nowadays, the French government is increasingly facing conflict over public and private land uses, in particular in its metropolitan areas (Boino, 2010; Guelton, 2018). This research uses the urban development Carré de Soie, located in the metropolitan area of Lyon, as an illustrative example of this. The urban development was based on an abundance of green space but was concurrently premised upon the idea of privatisation of land. Therefore the Carré de Soie development yields insights about how land ownership and control over land can be governed to provide green spaces in the context of private preferences.

Who owns and controls land?

Land ownership and control over land are essential for the existence and functioning of land-use planning (Alexander, 2001; Wang and Chan, 2019). To focus on the inter-relationship of the concepts requires the definition of ownership and control in the first place. Land ownership is a social construct that determines the behaviour among those who own land and those who do not (Ostrom, 1990; Bromley, 1991; Davy, 2012). More specifically, ownership apportions particular confines of the physical space of land to someone (Lai, 1994; Alexander, 2001). In economic theory, various scholars consider ownership as a bundle of property rights (see, for example, Ostrom, 1990; Bromley, 1991; Schlager and Ostrom, 1992). Ownership denotes the entire set of rights ‘to possess, use, manage, benefit, secure, and alienate land’ (Bromley, 1991, 159). Premised upon this definition, a landowner holds the fullest set of property rights. In most advanced welfare states, the law regulates these rights to own land (Davy, 2012). Who holds property rights to own land can be diverse. For this paper, the focus is on public and private ownership. In public ownership, land rests in the hands of the government (Davy, 2012), whereas in private ownership, land rests in the hands of a private person or organisation (Bromley, 1991).

Control over land, as defined by Bromley (1991, 159), allows someone the right and capacity without regarding the interests of others in the practice of ownership. In other words, control concerns those who are permitted to intercede without having to consider the specific interests of the owner. Those who hold control have the power to yield outcomes that are perceived as desirable or needed. In many advanced welfare states, governments are legitimated to take actions to control preferred uses to land

(Needham et al., 2019). Upon this thought, many welfare states legally concluded that governments are entitled to enable or limit the behaviour of the owner of the land. The government is then authorised to act on behalf of the public in determining ways of using land without the endorsement of others (Davy, 2012; Needham et al., 2019). Controlling the behaviour of owners then justifies governmental interventions as a means to achieve spatial outcomes that are perceived desirable (Alexander, 2001) or to satisfy public aspirations (Needham et al., 2019).

Control over land can have multiple components (Wang and Chan, 2019). Alexander (2001) differentiates between three types of control: *regulative*, *inducing*, and *contractual*. *Regulative* control is an act of sovereignty in terms of legislation and regulations and provides certainty to owners. This type of control is frequently enshrined in planning law, comprising rules that regulate the government regarding the imposition of prescriptions, restrictions and obligations around land ownership. Planning law is mostly supplemented by land-use planning tools, which are formal interventions that regulate the use of land (Richardson, 2018; Needham et al., 2019). Alexander (2001) presumes that regulative control often complements *inducing* control; that is, producing incentives for others to enhance satisfaction with spatial outcomes and public aspirations (see also the work of Wang and Chan, 2019). Examples are tax incentives or financial and resource contributions. The *contractual* type of control is a form of market-supported control over land. The control over land is then subjected to the plan-conforming agreement with private landowners.

Due to these multiple components of control over land, governments can answer differently to public or private property (Wang and Chan, 2019). As such, ownership and control over land can relate to each other in diverse ways and, therefore, yield different outcomes in the uses of land. Therefore the interrelationship strongly determines whether land uses are effectively regulated. The working hypothesis of this study is that in the event of private planning, it is likely that private ownership increases (Colding and Barthel, 2012; Haaland and Van den Bosch, 2015). Furthermore, based on previous studies, it is expected that the government relies much more on market-supported control over land – the contractual type of control – to support private preferences of land use (see, for example, Németh and Schmidt, 2011; Wang and Chan, 2019). The lack of other types of control, as a consequence, is expected to endanger the provision of green spaces (Madanipour, 2003; Wang and Chan, 2019).

Research design and methods

This research uses a case-study design (Yin, 2003). Understanding the interrelationship of land ownership and control requires in-depth understanding, justifying the choice of such a design. The methods used in this case study were document analysis and expert interviews. The document analysis included a systematic review of policy

and council documents. The analysis of the policy documents identified the public aspirations for green spaces and encompassed all policy documents assigned to Carré de Soie. Further, 170 official decrees in the period between 2003 and mid-2019 were analysed to gain insights into the justification of decisions taken by the metropolitan council of Grand Lyon.² The data from the document analysis used the logic of coding (Weiss, 1995), which entailed the qualitative conversion of the obtained data into concepts such as public aspirations, control over land and land ownership.

Additional data were collected using expert interviews, enabling a rich and detailed description of Carré de Soie. In the early stage of interviewing, three non-structured pilot interviews allowed the researcher to get to grips with relevant topics. During these pilot interviews, the snowball sampling technique was used to select other experts. The expert interviewing included a variety of experts, including senior planning officers and project managers of the metropolitan government, politicians of local governments, project managers of environmental research agencies, landscape architects and a range of private developers. The expert interviews were semi-structured, which permitted the experts to talk about topics that came to their mind and to answer further questions based on the importance of particular responses (Weiss, 1995). The interviews were qualitatively analysed using the same logic of coding to ensure internal validity.

The interviews took place in 2018 and 2019 when the urban development project was still ongoing. Nevertheless, sufficient time had elapsed to allow the researcher to study the interrelationship of ownership and control in depth. The interviewing stopped at the moment the encountered information did not add new insights to the research (Weiss, 1995). In total, the study is based on interviews with 19 key actors. During each interview, the researcher informed the respondents about their anonymity, namely that the scientific output does not include names of persons.

An urban development project in Lyon: Carré de Soie

Carré de Soie is an urban development project located in Grand Lyon, France's second-largest metropolis. The metropolis consists of 59 municipalities and is governed by the Grand Lyon metropolitan government (named after the eponymous metropolis). Grand Lyon has considerable powers and competences in land-use planning and related fields such as public transport, economic development, culture and environmental planning (Carpenter and Verhage, 2014). Despite the powers held at the metropolitan level, Grand Lyon delegates a few competences concerning land-use planning to the municipal level. The municipalities are, for example, required to sign building permits and to realise green spaces and schools on land designated by Grand

² The metropolitan council can mandate the mayor of the metropolitan government to enact ordinances.

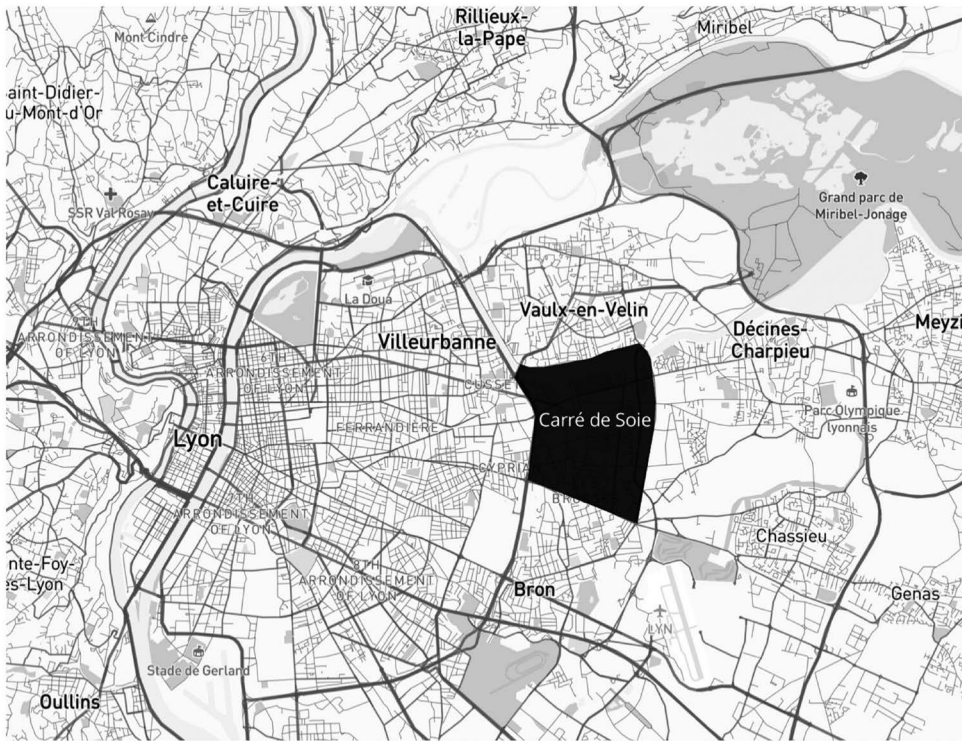


Figure 1 Carré de Soie

Source: Open Street Map, 2019/the author, 2019

Lyon. However, in principle, the authority for land-use planning is held by Grand Lyon. Within the practice of land-use planning, Grand Lyon decided to launch Carré de Soie, one of the largest urban development projects located in the municipalities of Vaulx-en-Velin and Villeurbanne.

Carré de Soie has a long history of industrial activities in artificial silk (Foret, 2010). When the industrial productivity came to an end in the 1970s, Carré de Soie deteriorated rapidly (Linossier and Verhage, 2010). In 2001, the Rhône territorial department decided to use the abandoned tracks to reopen a railway line and, subsequently, Grand Lyon realised the development potential of Carré de Soie. Consequently, Grand Lyon extended the railway line with metro and bus lines into a multi-modal hub. Furthermore, adjacent to this hub, a film company constructed a multiplex cinema, and Grand Lyon invested in a leisure activity centre (Karadimitriou et al., 2013). Eventually, the sum of these activities formed the trigger for the mayor

of Vaulx-en-Velin and residents to resolutely request further investments from Grand Lyon. Grand Lyon accepted this request and launched an urban development of around 500 hectares (Figure 1), of which 250 hectares were to be developed (Linossier and Verhage, 2010).

In 2004, Grand Lyon determined that Carré de Soie had to incrementally become a high-density and sustainable mixed-used neighbourhood with offices, housing and public spaces. To that end, Grand Lyon hired a landscape architect to draw up a spatial concept. A delegation from Grand Lyon, called Mission Carré de Soie, formally coordinated this concept. The spatial concept mostly expressed desired outcomes that Grand Lyon hoped to achieve for the benefit of the public interest. Prominently set out in the spatial concept were public aspirations for green-space provision. These aspirations were a reaction to the polluted, impermeable and infertile ground and the perceived lack of green spaces as a result of massive industrialisation. To add green spaces and to prevent a high-density design only consisting of buildings, the concept detailed the green infrastructure,³ premised upon the idea of a *paysage inhabité* (inhabited landscape) that denoted green canopies of trees stretching over buildings and covering green open spaces. To strengthen this idea, the concept of *ilots jardins* (garden islands) was applied – inspired by Ebenezer Howard's garden city and the former industrial spatial patterns. The idea of the garden islands was partly focused on the architecture of buildings, including green roofs, access to natural light, stimulating natural wind flows and an increase of water infiltration through green spaces. Furthermore, the spatial concept included the design of a green promenade that stretched from north to south. The underlying thought behind this green infrastructure was the continuity of green spaces and the discontinuity of houses, offices and streets. The metropolitan government considered the green infrastructure essential to enhance biodiversity, counter high temperatures, increase water infiltration and regenerate the fertility of the ground.

Who owns and controls land in Carré de Soie?

Despite the evident formulation of public aspirations in the spatial concept, Grand Lyon simultaneously expressed a preference for encouraging private owners to take the initiative in Carré de Soie. To do so, Grand Lyon decided not to turn to public ownership (as is common to France), but instead opted for a less-well-known strategy to land ownership, the so-called *strapontin* (folding-seat) strategy. This strategy meant that the government highly favoured private ownership,⁴ while some small but strategic pieces of land rested in the hands of the government. Public land was then a means

3 Green infrastructure denotes here a network of green spaces (Kambites and Owen, 2006).

4 According to French law, an owner holds the fullest set of rights to land but choices and actions open to owners are enabled and limited by the government's law and regulations (Gordley, 1994).

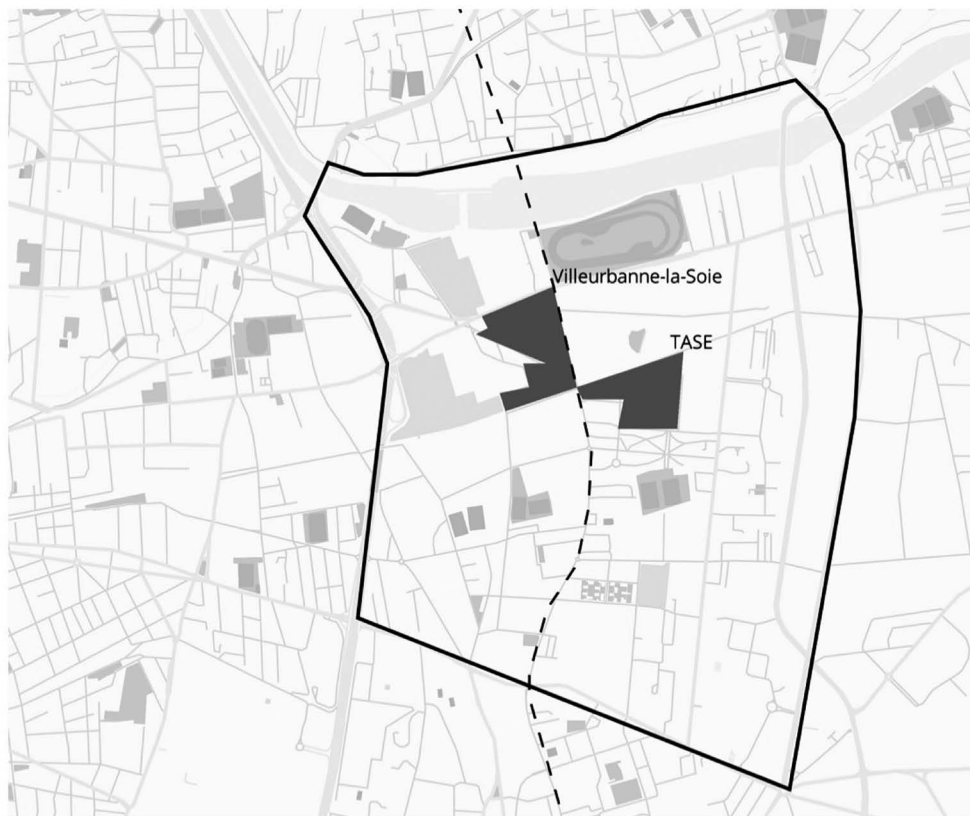


Figure 2 TASE and Villeurbanne-la-Soie

Source: Open Street Map, 2019/the author, 2019

to satisfy public needs or to use the land as a negotiating tool to control the actions of developers. A senior planning officer of Grand Lyon explained it as:

It is a strategy to attempt to acquire a small [public] piece of land in the middle of other large [private] pieces. With this [public] piece of land, in fact, we force private operators to have a seat at the [negotiating] table.⁵

Before the urban development project, small and large private landowners owned land. With this strategy, private ownership continued to dominate, yet Grand Lyon strongly desired different types of private owners. Therefore Grand Lyon sold the land on to private developers and investors. Further, at the start of the project, Grand Lyon

5 'Voilà, c'est une stratégie pour dire j'essaye d'acheter une petite parcelle au milieu d'autres grandes, et en fait cette parcelle-là, on va obliger les opérateurs à me mettre autour de la table.'

devoted much money to acquiring some strategic pieces of land (Guironnet, 2016). The spatial concept assigned particular locations for acquisition, scattered throughout Carré de Soie. Some of these designated locations were immediately ready for development, while others would be developed at a later stage. This strategy was a means to develop Carré de Soie incrementally up to the year of 2030 and to ‘let the market work’.

Concerning control over land, Grand Lyon was authorised to act on behalf of the public in determining how private owners would use their land. To that end, Grand Lyon had multiple options to exact control over land in terms of legislation and regulations. Due to the incremental character of the development (Van Karnenbeek and Janssen-Jansen, 2018), Grand Lyon used different types of control. The next sections examine two significant locations in Carré de Soie – TASE and Villeurbanne-la-Soie – to illustrate this. Figure 2 shows both locations, situated in the Vaulx-en-Velin and Villeurbanne municipalities (the dotted line represents the municipal boundary).

The power of a private developer in Vaulx-en-Velin

The 17-hectare site of the former Textile Artificiel du Sud-Est (TASE) silk factory, located in the municipality of Vaulx-en-Velin, was the first location to be developed in Carré de Soie. In 2007, a private developer acquired all land from a speculator. Grand Lyon did not seize the moment to acquire land here as they had already acquired some expensive pieces of land nearby. Right after the developer’s acquisition, the economic crisis hit. In order to instigate the urban development project, Grand Lyon granted the private developer a large amount of freedom to draw up their development plans. The private developer proposed a 75,000-square-metre project with residential towers, which involved the demolition of the historic factory. For these plans, Grand Lyon adapted its *plan local d’urbanisme* (PLU) in consultation with the private developer. The PLU is the binding land-use plan that locates land uses and sets limits on matters such as heights and footprints. Although the development plan was scarcely receptive to the spatial concept of the landscape architect, Grand Lyon modified the land-use plan to further proceed with the urban development project.

The changes to the land-use plan were accompanied by the establishment of the *program d’aménagement d’ensemble* (PAE),⁶ a financial tool intended to finance public facilities through investments by private actors that have land ownership (Karadimitriou et al., 2013). Furthermore, the PAE allowed some time-consuming land-use planning procedures in Grand Lyon to be skipped. Therefore the private developer was helped to act rapidly. Within that context, the developer’s plans were further (and quickly) approved by the signing of building and demolition permits by the mayor of

6 Translated literally, ‘comprehensive development plan’.

Vaulx-en-Velin.⁷ The municipal government argued that the perceived interest of the private developer was highly beneficial in improving Vaulx-en-Velin, which suffered from a bad reputation. Therefore the mayor viewed this signing as necessary to serve the needs of the municipality, even though it was mainly at the expense of green aspirations laid down in the spatial concept.

The planned demolition of the factory, the high density and the lack of green space, however, resulted in a considerable mobilisation of the inhabitants of Vaulx-en-Velin. The inhabitants started proceedings in submitting a legal challenge to the building permits of two residential buildings. When someone legally challenges a building permit in France, the entire development must stop. Given these emerged uncertainties, negotiations started among the private developer, Grand Lyon and the municipality. The public actors felt it was necessary to reassess their previous stance regarding the agreement on density and the demolition of industrial heritage. In turn, the private developer appointed a personal landscape architect to explicitly set out the developer's interests. Collaboration was slowly established between the landscape architect of the spatial concept and the developer's landscape architect. Eventually, they agreed on a revised development plan. Although the negotiations were time-consuming, the mobilised inhabitants approved the renewed development plan and withdrew the legal challenge.

It took almost two years until an agreement was reached and the urban development continued under three significant conditions. First, the private developer had to keep the architecture of the factory intact after the national heritage authority classified the facade and the volume of the TASE factory. Second, the private developer had to cut back its density to 65,000 square metres. Third, the public actors decided to pay for a green vein known as Esplanade TASE, throughout the site, to connect to the intended green infrastructure as proposed by the landscape architect in the spatial concept. To realise the Esplanade, an exchange of land took place between the private developer and Grand Lyon, combined with a change in land use.

Despite the Esplanade TASE, further green aspirations disappeared in the negotiations due to a lack of public money. Green spaces had to be financed by the municipality of Vaulx-en-Velin, and, at the time, the municipality had no resources to fund them. For the Esplanade TASE, Grand Lyon provided additional funding to bear the costs. Nevertheless, it was not very easy to get a sufficient amount of money in the given time, delaying the process of the Esplanade TASE substantially. Though the PAE offered possibilities to finance public facilities via developer contributions, the public actors had already spent these contributions at the beginning of the project, strikingly, on roads rather than green spaces.

7 Signing building permits is a competence of the municipality.

Negotiating land use in Villeurbanne

Villeurbanne-la-Soie, located in the municipality of Villeurbanne with a size of 11 hectares, was assigned as a location for development a few years later. For a long time, yoghurt and gas companies mainly used this site. A well-known private developer in France was among the first to show interest in the derelict site and started to discuss with the landowners about transfers of land ownership. In the meantime, the private developer informed Grand Lyon about its development plans. Subsequently, another private developer and two housing associations also acquired land for development. For the benefit of the developers' plans, Grand Lyon adjusted the land-use plan in consultation with the private developers and housing associations, among other things, in terms of the number and height of buildings.

For the benefit of set public aspirations, Grand Lyon decided to force the development plans to take place within the context of a *zone d'aménagement concertée* (ZAC).⁸ A ZAC is an operational contract between public and private actors, allowing public actors to firmly engage in negotiations with private actors about land use and the conditions of urban development plans (Guelton, 2018). This contract was chosen because it offered Grand Lyon opportunities to set conditions and regulate the urban development plans of the private developers. Utilising the ZAC, Grand Lyon was able to suspend building permits – even if the building permit follows the land-use plan – to expropriate land, and to impose requirements about densities and the choice of architects.

In the context of the PLU and the ZAC, the public sector made considerable efforts to achieve an agreement with the private sector. From this perspective, Grand Lyon set up a committee to consider and discuss the proposed development plans, comprising the relevant private developer, Grand Lyon, Mission Carré de Soie, the municipality of Villeurbanne, and the landscape architect. The committee turned out to be an open forum for repeatedly discussing and negotiating the urban development plan, including the number of dwellings, environmental quality and architectural competition. The discussions were time-consuming, with disputes over public aspirations and private preferences, but on good terms.

Concerning provision of green space, environmentalists from Grand Lyon and consultancies advised on and defended green-space provision during the debates. The environmental experts searched for a so-called 'green pedagogy', based on the spatial concept and broader environmental policies of Grand Lyon. During the discussions, environmental experts expressed the benefits of green spaces, time and time again. A senior planning officer of Grand Lyon explained, 'the regulatory aspect is important, but not everything ... When one considers [green space provision] as an obligation,

8 Literally, 'joint development zone' (Guelton, 2018, 553).

people do the minimum share'.⁹ In other words, Grand Lyon did not impose strong regulations on private actors regarding green uses of land in addition to the specifications in the land-use plan. Instead, efforts were made to influence private actors to act in favour of green-space provision and sustainability. What was clearly observable in the discussed development plans was that private developers themselves had little incentive to provide green spaces. Furthermore, the provision of green spaces was seen by the developers as a public task. As a result, green spaces were an underexplored topic during the discussions at the expense of issues about height and densities.

The minimal attention to green-space provision was evident, for example, in the discussions with one of the private developers. The conversations about the development plan took a long time but, eventually, the private developer received its building permits. The development plan of the private developer consisted of multiple residential towers with green roofs, shared spaces and spacious balconies – the latter were imposed by the public actors. The discussions scarcely touched upon the provision of green spaces on private land. The topic of green spaces was considered of less importance as Grand Lyon had already designated a small park (Parc Jorge Semprun) of 0.5 hectare adjacent to the urban plan of the private developer. Grand Lyon acquired this land according to the principles of the *strapontin* strategy. Subsequently, the piece of land was resold to the municipality of Villeurbanne to realise the park. Compared to Vaulx-en-Velin, Villeurbanne is a much more affluent municipality, making it easier to meet the green demands laid down in the spatial concept. However, despite green roofs and a park, Villeurbanne-la-Soie lacked the proposed green infrastructure.

Discussion: private dominance over Carré de Soie

To analyse Carré de Soie necessitates a return to the two concepts. Regarding ownership, the urban development project mainly consisted of privately owned land. Instead of strictly relying on private ownership, Grand Lyon adopted the *strapontin* logic with the idea to either negotiate with developers or to realise public needs. In practice, the metropolitan government had not used the *strapontin* logic as a negotiation tool but assigned pieces of land for public needs. Although the public land was used to provide green spaces, the minimal share of it had unquestionably increased the scarcity of green land use. As such, land ownership barely contributed to the proposed green infrastructure. Concerning control over land, Grand Lyon applied several types of control in the two designated locations. The work of Alexander (2001) is used here as a reference to characterise these types of control. First of all, for both the TASE and Villeurbanne-la-Soie locations, a regulative type of control applied: the land-use plan. For the spatial concept to be legally binding, its ideas have to be translated into

9 'L'aspect réglementaire est important mais ce n'est pas tous ... Parce que quand tu considères à obligation, les gens vont minimum.'

land-use-plan rules (Karadimitriou et al., 2013). For both locations, the rules of the land-use plan were adapted to the private preferences of the developers, and thus the land-use plans predominantly assigned real-estate uses to private lands.

The PAE, as used in the TASE location, likewise corresponded to regulative control. In theory, Grand Lyon had the power to force the private developer to invest in the proposed green infrastructure. Strikingly, the public actors only made efforts to use the PAE for realising roads. Further, the PAE was used as a means to proceed with the development plans of the private developer quickly with the aim of giving Vaulx-en-Velin a better image. As such, regulative control was in favour of real-estate uses and was highly underutilised for the provision of green spaces. Therefore the proposed green infrastructure was endangered. Only after Grand Lyon redefined its position after the local residents' legal challenge, did they apply regulative control differently – issuing regulations and initiating changes in favour of green-space provision by cutting back density and changing land use. Gradually, the situation in the TASE location was rectified and did, therefore, some justice to green infrastructure.

The ZAC, in the Villeurbanne-la-Soie location, mainly shared characteristics of the contractual and inducing control types. During the negotiations with the private developers, the public actors predominantly searched for market-supported control with private landowners. This argument is evidenced by the fact that the discussions were often limited to real-estate uses of land. However, the public actors did make a few demands to reach a plan-conforming agreement with private landowners, such as the green roofs and spacious balconies. These green roofs partly sustained the idea of the *paysage inhabité*. Furthermore, the public actors attempted to induce private developers with a green pedagogy within the context of the ZAC. Given the focus on real-estate uses during the negotiations, it is questionable whether this pedagogy had an impact. Theoretically, the ZAC could deliver a wide range of options for regulative control over land, but in Villeurbanne-la-Soie these options were not explicitly applied to satisfy public aspirations for green spaces.

On balance, both the TASE and Villeurbanne-la-Soie locations produced relatively disappointing results in satisfying the public aspiration for green spaces. The proposed green infrastructure, consisting of such concepts as *parc inhabité* and *ilots jardins*, was not truly realised. Ownership was predominantly ceded to private developers. Control over these private lands was diverse, but in all circumstances highly determined by private preferences. As a result, the diverse types of control over land did not produce significantly different outcomes. In this view, the findings partly correspond with the working hypothesis formulated earlier. Private ownership did indeed increase, yet the public actors did not apply a specific type of control in Carré de Soie. Instead, they subjugated themselves, and their control, to the preference of private actors. Therefore private developers have mainly governed themselves, aiming to keep restrictions for and limitations to their preferences low, while putting public aspirations at risk of being eroded, or at least of being treated with reduced importance.

Conclusion

This paper has shed light on the provision of green uses of land in the context of real-estate developments. It started with the claim that despite the well-documented benefits of green space, its provision cannot be taken for granted. Particularly in cities, governments face conflicts over these public and private preferences of land use. This paper has argued that examining the interrelationship between land ownership and control over land helped to clarify the provision of green spaces in the context of private preferences for development. Despite the limitations of a singular case in terms of generalisation, it has provided two valuable insights for broader contemporary debates on conflicts over private and public preferences for land uses across the world.

First, the paper argued that while it is in the public interest that cities become greener, the lack of public ownership and of public control over land can introduce considerable uncertainty to green-space provision. The TASE and Villeurbanne-la-Soie locations showed that private land combined with private actors having a say in control over land was not a perfect fit for satisfying public aspirations for green spaces. A misalignment of land ownership and control over land can therefore endanger the provision of green spaces in the context of real-estate development. Second, as again observable in both locations, there are various ways to deal with private property, and land control is exceptionally diverse (Wang and Chan, 2019). However, ceding control over land to private developers enhances the risk that control over land by the government loses its value, including its diversity.

On balance, the concern about the provision of green spaces is nothing but a struggle about who owns the land and how one controls the land. This paper ends with the claim that for green-space provision, the role of government to act in the public interest (without the endorsement of others) must be recognised for its importance. Green spaces may be variously provided, but the role of the government in its provision seems vital (Choumert, 2010). In this vein, planners need to think critically about the way land ownership and control over land interrelate and how public aspirations can be thoughtfully articulated in these concepts.

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