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The production of logistics places in France and Germany: a comparison between Paris, Frankfurt-am-Main and Kassel

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ABSTRACT

Logistics is now a key concept for the analysis of the transformations of global capitalism and a central perspective for understanding the changing power relations within global production networks. Furthermore, the development of logistics relies on the construction of thousands of warehouses and terminals that are essential nodes in the circulation of goods. The production of these logistics zones entails negotiations and coalitions between local authorities and different local and global firms, and structures the everyday life of logistics workers. The aim of this article, therefore, is to analyse the production of logistics areas at metropolitan and local scale, through a comparison between Paris (France) and Frankfurt-am-Main and Kassel (Germany). Based on an interdisciplinary approach combining urban sociology, urban geography and political science, it reveals that the production of logistics places is primarily the outcome of local negotiations and legitimisation processes in which the logistics real estate investments of globalised financial markets are embedded.

KEY WORDS

logistics areas, production of space, local governance, metropolitan discourses, Paris, Frankfurt-am-Main, Kassel

Introduction

Logistics is now a key concept in the analysis of the transformations of global capitalism and a central perspective for understanding the changing power relations within global production networks (Cowen, 2014; Bernes, 2013; Mezzadra & Neilson, 2013, 2015; Neilson, Rossiter & Zehle, 2010; Rossiter, 2012). From a material point of view, the development of logistics activities and flows entails the construction of thousands of warehouses and terminals that are essential nodes in the circulation of goods (Dablanc & Frémont, 2015; Cidell, 2015). These multiple logistics sites are mainly understood as the physical infrastructures that make current globalisation processes possible: the emergence of a ‘wall-less global factory’ (Cowen, 2014), the diversion of capital into the built environment, and thus the expansion of the geographical frontiers of the accumulation process (Danyluk, 2018). In contrast with these approaches that identify logistics as something new, the result of a ‘logistics revolution’ (Bonacich & Wilson, 2008), research on logistics workers highlights the continuities between logistics activities and the manufacturing world (Benvegnù & Gaborieau, 2017).

However, global scale production is only one dimension of the space-making practices of logistics. This article deals with warehouses and terminals that are concentrated in urban regions. They raise many political issues in terms of the production of urban and metropolitan space, which have been addressed by current debates on ‘City Logistics’ (Taniguchi et al., 2001) and the ‘Logistics City’ (Cowen, 2014). As argued by Cowen, research on ‘City Logistics’ highlights the problems of the coordination of flows at urban and metropolitan or regional levels but hardly considers workers’ working conditions and the normative orders according to which logistics organisations reshape cities (Cowen, 2014:180–84). With the concept of ‘Logistics City’ Cowen thus defends a critical approach to the relationships between logistics and urban development, showing that logistics produce specific urban forms that are not conceived for people but for goods, according to an order derived from their military origins. Consequently, these spaces are standardised, privatised, fragmented, unsafe for workers and lacking in any democratic control by citizens. Nonetheless, the concept of ‘Logistics City’ tends to generalise specific cases of former military zones recently converted into logistics international hubs (the main examples are Basra Logistics City in Iraq, the Global Gateway Logistics City in the Philippines and Dubai Logistics City), without considering more ‘common’ logistics places, which are embedded in traditional industrial urban areas or in new economic development projects. These are precisely the logistics spaces we aim to study in this article that analyses the production of logistics spaces at metropolitan and local scale with the aim of complementing approaches that explore the global scale dynamics of logistics (e.g. Cowen, 2014, Danyluk, 2018). Rooted between urban sociology, urban geography (Storper, 2013) and policy analysis (Lascoumes & Le Galès, 2012), this holistic perspective on the modes of production of logistics spaces compares Paris (France) with Frankfurt-am-Main and Kassel (Germany) using a set of qualitative methods. The production of urban space encompasses the design, construction, exploitation and use of the urban built environment. Our analysis of this process focuses on the governance of urban places (e.g. Logan & Molotch, 1987; Fainstein, 2001; Lorrain, 2002), shedding light on the private and public actors involved in these local and metropolitan policies, on the decision processes and the discourses (Williams, 1999) as well as on the policy tools (Hood, 1983), which contribute to the production and governance of warehouses and terminals in the three urban regions. By doing this, it focuses on public land developers and real estate actors in their relationship to the retail industry and private investors (Raimbault, 2016).

Our contribution is thus twofold. First, we show that the standardisation, privatisation and fragmentation of space and the lack of democratic control, which characterise logistics places, also result from the way they are governed and produced at the metropolitan and local scales. The establishment of these logistics sites entails negotiations, discussions and coalitions between metropolitan and local authorities and a range of local and global firms. These regional and local contexts shape the everyday life of logistics workers and contribute to the reproduction of social relations of domination (De Lara, 2013).

Second, although the production of logistics space is influenced by metropolitan discourses and strategies, it is primarily the outcomes of local negotiations in which legitimisation processes are embedded (Raimbault, 2017), and which, in particular, incorporate the logistics real estate investments of globalised financial markets. The governance of logistics zones cannot thus be understood purely in terms of the ‘neoliberalisation of urban policies’, considered as a global ideological transition towards urban policies aimed at stimulating urban growth and capital accumulation processes by developing new markets. These approaches tend to subsume different processes of liberalisation, financialisation and the fostering of new forms of competition that must still be analysed separately (Pinson & Journel, 2017; Le Galès, 2016) or might even be a misleading interpretation of historical dynamics and of the role of ideas in urban change

(Barbier, 2018). Our comparative approach assumes the diversity of local modes of governance understood as stabilised systems of political, economic and social coordination (Le Galès, 2004) in urban regions (Raimbault & Reigner, 2018). More precisely, such a comparison confirms the existence of different local modes of logistics zone governance corresponding to distinct modes of production already highlighted in the case of Paris (Raimbault, 2017; Raimbault, Heitz & Dablanç, 2018).

After a brief discussion of our methodology, in the next section, this article shows how local and metropolitan authorities, experts and private firms establish a discursive hierarchy, which distinguishes between the ‘high, smart and clean’ logistics that contribute to the international competitiveness of cities, and the ‘dirty, noisy and polluting’ logistics characteristic of most logistics zones. Although these discourses emanate from practical policy instruments, such as research clusters and environmental labels, they help to eclipse the material and social issues relating to the spatial layout of logistics sites and the working conditions within the warehouses.

The following section then tackles the processes whereby logistics zones are produced, processes primarily governed by a powerful logistics real estate industry in negotiation with local governments. Because logistics activities and spaces are rarely the target of serious public intervention in urban regions (Le Galès & Vitale, 2013), this mode of space production remains outside the scope of metropolitan rhetoric.

Although this leads to a strong tendency towards standardisation in urban form, our analysis reveals that the historical and institutional context, the scarcity of land, the financialisation of the real estate industry and local social movements are key elements for understanding how current logistics zones are produced and governed.

Methodology: a comparative and interdisciplinary approach to the analysis of logistics places in urban regions

This collaborative research is empirically based on a PhD thesis on the Paris Region (Raimbault, 2014) and on the preliminary phase of the ANR WORKLOG research project in Germany.¹

The Île-de-France Region (population: 12.2 million),² which corresponds to the Paris metropolitan area and comprises 1,276 municipalities, claims 240,000 logistics jobs.

About 45% of these are blue-collar jobs in warehouses and terminals (handlers, pickers, forklift drivers and dockers) while 30% are blue-collar jobs in distribution and delivery activities (drivers and couriers) and the remaining 25% correspond to managers, engineers, technicians, salesmen and office clerks.³ These workplaces are mainly located in the outer or inner suburbs, especially in the former industrial belt (Omont, Graille & Saugnac, 2015). Île-de-France also plays a role as the French economy’s international gateway, with Roissy-Charles de Gaulle Airport, Europe’s leading freight airport.⁴

The Frankfurt metropolitan region, which comprises 112 towns and communities around Frankfurt (population: 2.2 million), accounts for 103,500 logistics jobs.⁵ Because of its denser urban structure and, as we will show, different spatial planning rules, logistics markets in Germany are mainly regional. In France, the logistics market is unified at a national level, especially around Paris. Nevertheless, like Paris, Frankfurt has its own airport, which makes it an international gateway.⁶

Logistics centres develop not only in metropolitan regions but also around middle-sized cities like Kassel. This city and its surrounding district (population: 430,000) is home to 17,400 logistics jobs,⁷ the same proportion of the working population as in the Frankfurt metropolis (9%). Whereas the attractiveness of this city for logistics is usually explained by its location at the barycentre of Germany’s road networks,⁸ we intend to show that these spatial properties are the result of political decisions and power relations.

In each city, our empirical study of the modes of production of logistics spaces is based on one or two logistics zones, which were chosen according to their importance at the metropolitan level in terms of the numbers of logistics firms and jobs, and according to their strategic meaning for urban and economic

¹ ‘Workers’ socio-cultural worlds in retail logistics. A visual and transnational ethnography backstage in the world’s cities’, University of Paris-Est Marne-la-Vallée, ANR-16-CE41-0003-01, <http://worklog.hypotheses.org>, accessed 21 January 2019.

² The Île-de-France Region is home to 19% of the French population.

³ INSEE, 2014, authors’ calculation.

⁴ 2.3 million tonnes in 2017.

⁵ Beschäftigungsstatistik based on the 2010 employment classification, Bundesagentur für Arbeit, Land Hessen, 2016.

⁶ 2.2 million tonnes in 2017.

⁷ Beschäftigungsstatistik based on the 2010 employment classification, Bundesagentur für Arbeit, Land Hessen, 2016.

⁸ Starting from this location, a truck can reach many different points in Germany within the same distance/ time ratio.

development at the local level. For each zone, the investigations drew on expert and semi-structured interviews with logistics real estate developers (19), members of local public administrations (21) and employees of para-public urban development companies (14), as well as on the analysis of the public relations documents of these institutions.

The quest for ‘strategic logistics’: the symbolic upgrading of logistics in metropolitan discourses

Paris, Frankfurt-am-Main and Kassel have all experienced significant development in logistics over recent decades. In this context, much public discourse on logistics development in the three cities has emphasised the exponential rise in the international movement of goods, promoted regional planning for the key global logistics nodes and highlighted local forms of public–private partnership for specific ‘innovations’ in this sector. This section seeks to understand the basis of this discourse and its impact on the symbolic value of the different logistics activities.

The most frequent advocacy in favour of logistics as a dynamic and innovative economic sector is to be found at the metropolitan level in the institutions responsible for the economic development of the three cities: the French government and the Île-de-France Region in Paris, the metropolitan planning authority in Frankfurt (Regionalverband Frankfurt-Rhein-Main) and Nord-Hessen Regional Management and the city economic development agency in Kassel. On one hand, this rhetoric stresses the importance of logistics for the economic competitiveness of cities. On the other hand, the metropolitan discourses promote ‘innovations’ through the running of public–private research clusters. In so doing, some of the actors in metropolitan government are seeking to raise the symbolic status of specific logistics activities and thereby contribute to the establishment of an internal hierarchy within the sector as a whole.

Metropolitan discourses: logistics and economic competitiveness

Some logistics activities and spaces are framed as fulfilling a strategic metropolitan function by supporting international competitiveness. In Île-de-France, the logistics strategy defined by the French government and the regional authorities since 2009 has focused on the development of specific transport infrastructures such as ports and airports. By strengthening institutional integration and transport connections between Paris and its nearest seaport (Le Havre), these authorities have aimed to make Paris a global hub for international flows.⁹ They have therefore built a unified institutional structure incorporating all the ports on the River Seine and developed new rail and river facilities (Brennetot, Bussi & Guermont, 2013; Raimbault, 2014; Magnan, 2016).

In parallel, the regional strategic planning policy initiated by the French government during the same period, defined 14 ‘clusters of excellence’ in specific economic sectors and locations. Two clusters in particular are dedicated to ‘logistics innovations’: at Roissy-Charles de Gaulle Airport and in the new town of Sénart,¹⁰ which is the region’s main suburban logistics pole. Logistics is thus included in the broader metropolitan policy implemented within the Île-de-France Region.

However, the majority of logistics activities remain outside the scope of this strategy. In Frankfurt-am-Main, logistics are also seen as essential to the city’s international competitiveness, but, in contrast with the Paris Region, logistics growth is seen as just one of several aspects of an industrial strategy. From this perspective, development of the logistics infrastructures appears quite problematic, as it is in competition with manufacturing industry for space. Because of this competition, there is a scarcity of land for logistics, because it remains an ancillary function in comparison with industry. To solve the problem, much hope is invested in technologies that will reduce the space requirements of logistics functions through rationalisation (Beirat Industrie der Stadt Frankfurt-am-Main, 2015:20).

Although the Frankfurt-Rhein-Main metropolitan planning authority considers Kassel, which is located approximately 200 km north of Frankfurt, as a ‘periphery’¹¹ that specialises in land-consuming logistics with a low-skilled workforce, the city of Kassel’s logistics actors and land-use planners see things very differently. According to the head of Kassel’s economic development agency, logistics developed around Kassel during the 1990s as a consequence of industrial development and the site’s historical specialisation in

⁹ Interview with the deputy head of strategy and innovation, Haropa Ports, 2 January 2013.

¹⁰ New Towns were planned by the French government in the 1970s in order to regulate the urbanisation of the Paris region.

¹¹ Interview with the Director of the Regional Development Department, Regionalverband FrankfurtRheinMain, 5 April 2016.

the automotive industry.¹² He then explained that Kassel also faces the problem of land scarcity for logistics, which could have been solved through economic cooperation at local and regional level to concentrate ‘land consuming logistics’ 100 km further away, in the North-East of the region, around the city of Bad Hersfeld.¹³

The symbolic upgrading of ‘strategic logistics’

Apart from these rhetorical strategies, some logistics activities and locations have been symbolically upgraded by practical institutions, policy instruments and technological innovations that are publicised in international logistics journals and fairs. These policies on technical innovation, public–private research clusters or sustainability labelling have resulted in the reimagining of a so-called ‘high, smart and clean’ logistics.

Several institutions promote and finance ‘technical innovations’ applied to logistics. The emphasis on technical progress, such as increased automation, is often linked with the idea that these upgraded activities will need more skilled employees. Local decision makers, professional organisations and logistics training institutions therefore emphasise figures such as supply-chain managers or researchers in robotics or logistics solutions,¹⁴ although they represent a very small part of the workforce (2% in Germany and 7% in France).¹⁵ In addition, the public–private research cluster acts as a strong symbol of economic excellence, which contributes to the reimagining of the logistics sector. In Germany, the ‘triple-helix coalitions’ established as models of academic–public–private-partnership for innovation (Fromholdt-Eisebith, 2012) play a central role in this discourse, with notions like ‘Industry 4.0.’ and the ‘Smart City’, and the participation of institutions like the Fraunhofer Institute or, in Frankfurt-am-Main, the ‘House of Logistics and Mobility’. In the Paris Region, though less closely tied to the logistics firms, there are comparable government-led initiatives such as the ‘logistics innovation’ cluster in Sénart new town.

Another form of symbolic upgrading of logistics activities is supported – often in a more pragmatic way – by local actors responsible for the production of logistics zones. Responding to protests in Germany led by environmentalist movements and green politicians since the 1990s,¹⁶ and to complaints over smells, noise and visual pollution since the early 2000s in France,¹⁷ local decision makers claim to be rigorously selective in their preference for ‘clean(er) logistics’.¹⁸ These claims rely on the introduction of various kinds of environmental protection instrument. Pollution indicators, sustainability standards and labels certifying low energy consumption by warehouse buildings – such as BREEAM certification – are among the different assessment and benchmarking systems that have been developed since 1990 and have been supported by professional organisations and real estate actors (Raimbault, 2016). In addition to this, specific transport infrastructures, such as multimodal terminals that connect rail, road and river transport, are touted as reducing the unit environmental cost of transport. Finally, offset schemes have been implemented to encourage public developers to buy wetland and biotope reserves for each new area urbanised through logistics development.

Ultimately, measures intended to symbolically enhance the status of logistics have led to the development of an internal hierarchy within the sector as a whole. The reimagining of logistics in fact relies on the targeted stigmatisation of specific logistics activities. In Frankfurt-am-Main, in particular, the public actors responsible for economic development policies present themselves as rejecting ‘dirty, noisy and polluting’ logistics, that is, the logistics of standard warehouses moving standard goods. Similarly, metropolitan actors in the Paris Region differentiate between strategic and non-strategic logistics activities, framing as strategic only a small part of the region’s logistics activities: the main transport infrastructures, logistics activities linked to the international seaports and the ‘logistics innovation clusters’. As a result, a large proportion of

¹² Volkswagen’s spare parts centre plays a central role in all scientific and political discussion of Kassel’s economic development over the last twenty years (Schröder, 2016).

¹³ Interview with the Director of the Economic Development Department, City of Kassel, 11 August 2017.

¹⁴ For examples, see the website of the Fraunhofer-Institute für Materialfluss und Logistik (www.iml.fraunhofer.de, accessed 21 January 2019).

¹⁵ Zensus, 2011; Enquête Emploi, INSEE, 2012.

¹⁶ This was the case of the protests against the airport enlargement project in Frankfurt in the mid-2000s.

¹⁷ The ‘Seine-et-Marne Nature Conservation Association’ (A.S.M.S.N), ‘Nature Environnement 77’ in association with ‘France Nature Environnement’, the R.E.N.A.R.D. in Roissy and the ADIR in Sénart, are examples of social movements that directly criticised logistics development in the eastern part of the Paris metropolis (see section 2).

¹⁸ For example, this happened in 2006 concerning the development of the ‘Parisud 6’ logistics zone in Sénart or more recently in the development of the ‘Mönchhof’ industrial park in the cities of Kelsterbach and Raunheim, next to Frankfurt Airport.

logistics activities and spaces in the three cities remains outside the scope of metropolitan rhetoric or is framed as non-strategic or even ‘dirty’.

The production of logistics spaces: development policies for local logistics zones, financialisation and silent privatisation

The way the majority of logistics activities are located in space remains largely outside the scope of metropolitan discourse and intervention. In fact, logistics zones are in the main developed by the logistics real estate industry, which leads to a strong dynamic of spatial standardisation. Nevertheless, the analysis of the logistics zones in each city reveals that the local and regional historical and institutional contexts are key determinants of the way current logistics sites are built and governed (Raimbault, Heitz & Dablanc, 2018).

More precisely, on the basis of several case studies in the three regions, this section shows the co-existence of different local modes of logistics zone governance. These modes of governance correspond to different phases of logistics development. To explain these variations, we identified four main and interconnected mechanisms. First, demands for logistics space differ according to the structure of the regional logistics markets. Second, features of the local land and real estate markets (from the availability of land in existing industrial zones to the degree of financialisation of the real estate industry) largely determine these modes of governance. Third, the regulation of these markets mainly relies on the public and political institutional architecture of the urban region, that is to say on the level of political autonomy of municipalities and on the effectiveness of regional planning regulations. Finally, local development projects are also influenced by social movements in the neighbourhoods in their immediate environment.

In this way, changes in the modes of production of logistics sites significantly structure the changing geography of workplaces, local services in the logistics zones and their connection with the places where logistics workers live.

The incremental and silent conversion of industrial zones into logistics zones

The first mode of governance corresponds to the development of logistics in industrial zones from the 1970s to the early 1990s. During this period, logistics providers and shippers were looking for land in major urban regions, in order to build the warehouses they needed to expand their logistics networks.

They first found suitable spaces in the large existing industrial zones. They built on plots that became available when the demand for new manufacturing sites started to decline. This led to a silent conversion of industrial zones into logistics zones. The production of this generation of logistics sites did not rely on complex political arrangements, or specific real estate or land development operations. The land, usually developed by public land developers, was available for any kind of industrial purpose, whether manufacturing or logistics. Municipal authorities were asked to give their formal agreement by signing the building permits. Their political involvement and public regulation were limited to urban planning. The shift to logistics on these former industrial sites was therefore almost invisible, without explicit public discussion or negotiation between public and private actors. There were only few social movements against it.

In the Paris Region, the historical industrial suburbs, known as the ‘red belt’ because of their strong communist history, became the focus of most of the logistics sites over this period (Raimbault, 2014). The shift to logistics was consistent with development trends in the industrial world. Relying on ‘low-skilled’ jobs, logistics activities could find the necessary labour force among local jobless workers, who may previously have been employed in more skilled positions in the local manufacturing firms. At the same time, they paid local taxes that enabled the municipalities to continue implementing social redistribution policies.

In the Frankfurt-Rhein-Main metropolitan region, the development of logistics in the town of Dietzenbach followed the same model.¹⁹ In 1973, the State of Hessen wanted to expand urban growth in this town in order to meet the huge demand for housing in the city of Frankfurt. For this purpose, the State of Hessen used the so-called ‘Städtebauliche Entwicklungsmaßnahme’ planning instrument, which enabled the city authorities (which at that time were in favour of urbanisation) to buy land from landowners through compulsory purchase at the price of non-constructible land, and then to sell it to public or private investors at the price of construction. Two German retail groups bought large parcels of land (between 1 ha and 6 ha) in this period in order to build their national distribution centres. Their warehouses rubbed shoulders with other industrial activities in a mixed economic landscape.

In the 1990s, the local authorities began to prohibit logistics activities in land-use plans in response to

¹⁹ A town of around 30,000 people located 15 km south-east of Frankfurt.

criticisms by local green party or citizen groups, which objected to the environmental pollution caused by warehouses. Since 2000, logistics real estate developers have taken advantage of industrial brownfield sites to develop new logistics parks, but this development remains restricted by land-use plans, political decisions and adjacent activities (when the available plots are smaller than 1 ha). Specialist logistics real estate developers have emerged recently, in relation to the other governance modes we will describe in the next sections. This example shows that these new governance modes are dependent on the local institutional and spatial path as well as being shaped by local social movements.

The production of logistics spaces in historically industrial areas has not followed a specific path vis-à-vis the dynamics of industrial zones. In the Paris region, logistics development represents a continuation of the municipal policies of the 'red belt'. In Frankfurt-Rhein-Main, the regional authorities planned industrial zones that were attractive for logistics development. However, the development of logistics in these industrial areas has been met with objections from environmentalists that have significantly hindered the process.

The emergence of local policies on the development of logistics zones

The increasing demand for logistics spaces led to a second mode of governance. Many local governments or authorities took advantage of this demand to develop new business zones dedicated to logistics activities.

In the Paris Region, this strategy of economic development was adopted in particular by several new towns such as Evry, Marne-la-Vallée and, most of all, Sénart. These new towns were entirely designed and planned by public land developers – 'Établissement Public d'Aménagement' (EPA) – directly accountable to central government and, conversely, independent of municipalities and local politics. Since the 1990s, logistics have been seen by these public corporations as an easy way to attract businesses in a so-called 'post-industrial context'.²⁰

The case of Sénart is particularly emblematic. The EPA designed a development programme for several logistics zones connected to the area's main motorway nodes. It established strong links with domestic property developers, which built warehouses for rent on the different sites. In this way, Sénart became one of the region's main logistics poles with some 7,000 logistics jobs (20% of local jobs) and 2 million square metres of warehouses.

Although a public land developer was responsible for this policy, working conditions in the logistics zones, together with housing and public transport for those working there, were not considered to be relevant issues for the public authorities. The goal of the EPA was to increase the number of jobs according to the population growth they had planned in the new town. The policy was supported by the municipalities²¹ insofar as it brought in substantial tax revenues.²²

From the 2000s, a social movement influenced the development of the most recent logistics zone planned by the EPA. The plan for the zone was first challenged by a group of residents directly affected by this land development and with strong connections to their local municipal council. The municipality itself did not have the power to stop the development planned by the EPA. However, as a result of these objections, the municipal council could legitimately seek several changes to the project in the sense of making it a greener logistics zone, as well as introducing a number of planning gain measures, with the result that the EPA agreed to finance local facilities such as local roads and cycling lanes.²³

The development of a logistics zone with a container terminal to the south-east of Kassel reflects a similar strategy of local economic development. In the 1990s, a new container terminal had been planned and financed by the city of Kassel and two neighbouring municipalities (Lohfelden and Fuldaabrück). The context of this first decision remains unclear: on one hand, the three cities were supported financially by the German Federal State, so that the costs of this infrastructure were reduced; on the other hand, the forecasts for its short- and medium-term profitability were controversial. The director of the public company which now manages this infrastructure thus presents this project as the result of a 'successful gamble' on further regional development and as a political compromise, which today restricts further development of the logistics park.²⁴ A 75-ha logistics zone was developed by an international real estate developer during the 2000s, in order to take advantage of the proximity of the container terminal.

²⁰ Interview with the head of economic development, EPA Sénart, 18 August 2011.

²¹ Sénart new town is made up of 10 municipalities.

²² Interview with the mayor of Lieusaint and vice-president of Sénart intermunicipal organisation, 31 May 2011.

²³ Interview with the mayor of Réau, 1 September 2011.

²⁴ In order to respond to the actual demands, the terminal would need a second crane, but no land has been set aside for this purpose. Interview from 11 August 2017.

In the absence of strong regional planning policies or metropolitan discourses on ‘international competitiveness’, local governments have implemented economic development policies based on logistics zones and terminals. These local public strategies are a response to the growing demand for logistics spaces. In both cities, this has resulted in logistics zones spreading towards suburban and outer-suburban areas, generally in zones of lower housing density. The urban sprawl resulting from logistics development (Dablanc & Ross, 2012) appears even bigger in the case of the urban area of Paris where legal restrictions on land use are weaker than in the German cases. A significant number of municipal authorities in the outer suburbs of Paris lack political, financial and technical resources. They often rely on external bodies in order to implement new logistics zones. In new towns, the planning function belongs to the EPA. Furthermore, some municipalities are tempted into authorising real estate firms to lead these development projects, which are directly related to a third mode of logistics spaces production.

Logistics sprawl, financialisation and privatisation

Since the 1990s, logistics firms (shippers and logistics services providers) have tended to opt for flexible real estate solutions and thus to look for warehouses to rent rather than building and managing their own facilities. This has contributed to the emergence of a market in logistics real estate (Hesse, 2004; 2008; Raimbault, 2016). This new process in the production of logistics spaces is tied to a third mode of governance in the three cities.

In connection with the general dynamic of the financialisation of business property (Halbert & Attuyer, 2016), the logistics real estate market is dominated by international firms which specialise in logistics and manage global investment funds.²⁵ These companies take charge of the development of the warehouses they buy as investment fund managers. In order to lessen their dependence on negotiations with local public authorities, they also tend to be the developers of the logistics zones in which they invest.²⁶ In other words, instead of building warehouses scattered around different business zones, the industry leaders develop private logistics zones containing several warehouses. These ‘logistics parks’ are entirely owned and operated by the same investment fund managers who are also responsible for property management. They are fenced and protected by private security companies. Property management firms also provide services for the companies that rent the warehouses and their employees, such as canteens, creches or even transport services.

This business model leads to the privatisation of the governance of logistics spaces (Raimbault, 2017). To the extent that logistics parks are entirely private, real estate firms become the de facto owners and managers of the streets and green spaces that constitute the public spaces in the logistics parks. Moreover, this model also enables real estate companies to decide on local economic development issues, insofar as they select the firms that settle in the municipality, which considerably affects the specialisation and prospects of the local economy.

However, local governments retain control of every legal resource. Indeed, logistics parks must be authorised and supported by local governments, which are responsible for issuing spatial planning documents and building permits. The production of logistics parks therefore implies that the local authorities concerned accept this dynamic of privatisation. Case studies conducted in the Paris region and the Frankfurt-Rhein-Main Region reveal two different political mechanisms that explain why local governments accept privatisation.

First, some local authorities in the outer suburbs, because of a lack of financial, technical and even political resources, are looking for private investors able to establish private business zones. For example, between 2002 and 2009, Val Bréon undertook a project for a large, dedicated, 200 ha logistics park.²⁷ However, the local authority lacked the administrative, technical or financial resources to lead it.²⁸ It therefore welcomed the proposal for a joint venture between the developer PRD (Percier Réalis et Développement) and the investor Amundi (a subsidiary of the Crédit Agricole bank) to build a private logistics park. The joint venture company would be responsible for financing the total operation, developing the site and the buildings and finding the firms that would rent the warehouses, as well as for the long-term management of the site. Moreover, the private firm was also tasked with the global steering of the project, even in its political dimension. With regard to land development, the main challenge was to resolve a legal conflict with an

²⁵ The market leaders are Prologis (USA), Global Logistic Properties (GLP, Singapore), Goodman (Australia) and Segro (United Kingdom).

²⁶ Interview with the director of development, Prologis Europe, 14 September 2011.

²⁷ Val Bréon is an intermunicipal district of 15,000 inhabitants and 10 municipalities about 50 km east of Paris.

²⁸ Interviews with the president (26 November 2011) and the vice-president of Val Bréon (24 May 2011).

environmental group, which objected to the impact of the development project on local wetlands. The local authority asked the private land developer to negotiate with the association and to find a solution. The developer proposed involving the group in discussions on the design of the zone and selling the wetlands to it for one euro for protection. The local authority also asked the firm to extensively rewrite the local master plan in order to adapt it to the logistics park project.²⁹ In this way, the real estate company undertook many of the activities usually carried out by local governments within the framework of their policies for urban and economic development.

Second, some outer-suburban municipalities argue that the private logistics park model is superior to traditional publicly developed business zones. This explains how Prologis, the global leader in logistics real estate, chose Sénart to develop its principal logistics park in France. In the early 2000s, Prologis bought a large agricultural plot in Moissy-Cramayel, one of the communities that are part of the new town. They immediately negotiated with the municipality the possibility of building a logistics park, which required a change to the local master plan. Although the mayor initially rejected the project out of hand, three arguments regarding the differences between the logistics park and the logistics zones developed by EPA Sénart, convinced him to change his mind.³⁰ First, the general design of the park and the fact that it was fenced and secure seemed to be an improvement. Second, as both development and management were totally private, it made no demands on the public purse. Third, the property manager Prologis would be solely responsible for the entire park, and would negotiate directly with the mayor over any request. This gave the mayor a greater sense of control over his territory compared with the situation with the logistics zones developed by the EPA.³¹ Indeed, the latter did not need the mayor's authorisation to develop a logistics zone, and would not subsequently control the long-term management of the zones (since the plots would be owned by different investors). In the end, however, Prologis and the municipality were opposed by a social movement, 'ADIR-Sénart', a Sénart residents' group, supported by an environmental organisation (France Nature Environnement), which protested against what they called 'logistics XXL'. Their goal was to prevent Prologis agreeing to store dangerous goods in its park. The campaign gained a quick political response, promising a slowdown in logistics development in Sénart.

Although this way of developing logistics sites seems to be less common in Germany, we found a quite similar example in the city of Rodgau, a municipality of 43,000 people located 28 kilometres south-east of Frankfurt. As in the case of the neighbouring municipality of Dietzenbach presented above, logistics developed in line with industrial development trends from the 1970s to the 1990s. The project for a new logistics park emerged at a time when the municipal government was seeking to acquire better control of the direction of economic development on its territory. Even though logistics development had been locally and regionally politicised by the environmentalist parties since the 1990s, the local government could not develop its own planning policy during the 2000s, because, in contrast to Dietzenbach, where land property had been in public hands since 1973, it had remained in private hands in Rodgau, even at the time when the first industrial zones were planned. Up to the end of the 2000s, logistics providers continued to settle in former industrial zones by simply buying brownfield sites from their private owners, a process difficult for local government to control through the traditional instruments of building permits and land-use plans. At the end of the 2000s, it therefore cooperated with a Czech real estate developer, which wanted to 'conquer' the German market, for the development of a new logistics zone of around 12 ha on former agricultural land. The local authorities contributed to the project by working with the private landowners to negotiate the land price with the developer and by requiring it to provide environmental compensation and to fund development spending. On the basis of these 'requirements', the local authority was able to claim that it actually managed the development and the potential objections to it. Thanks to the 'requirements' negotiated with the real estate developer, the local mayor gained the support of city councillors belonging to the local green party.³² In contrast to the case of Dietzenbach, where we could see how the spatial and institutional legacy of the first governance mode constrained the local financialisation of the production of new logistics zones, the case of Rodgau shows how this financialisation can be used by local governments as a resource to intervene in logistics development and actively get out of the first governance mode.

The consequences of this last mode of governance, dominated by the logistics real estate industry, are twofold. At the local scale, within these coalitions, local governments negotiate only with property

²⁹ Interview with the deputy director of PRD, 14 October 2011.

³⁰ Interview with the mayor of Moissy-Cramayel and president of Sénart intermunicipal organisation, 17 July 2011.

³¹ Interview with the mayor of Moissy-Cramayel and president of Sénart intermunicipal organisation, 17 July 2011.

³² Interview with the heads of the urban and economic development departments, city of Rodgau, 28 April 2016.

developers and investors. They rarely meet the users of the warehouses, the workers or even the logistics firms themselves.

Managing the relations with the firms that rent the warehouses becomes the task of the property manager alone. Social movements focus exclusively on land development issues, approaching them from an environmental or quality-of-life perspective. At the regional scale, the financialisation of the production of logistics zones directly challenges planning policies. As this real estate product is particularly attractive for outer-suburban areas, where local authorities do not have the resources or the desire to develop logistics zones alone, the financialisation of logistics real estate has contributed considerably to urban sprawl since the 1990s. Financialisation therefore intensifies the spatial mismatch between the workplace and the home faced by logistics workers.

The comparison shows that, in the two German cities, regional planning regulations have restricted the space available for logistics and reinforced the regionalisation and, thus, the fragmentation of the logistics real estate markets. By contrast, the case of the Paris region highlights how the weakness of regional planning regulations has led to the development of huge logistics parks and zones in the outer suburbs (Raimbault, Heitz & Dablanc, 2018), which rely on a national logistics market. Nonetheless, the same three different modes of logistics zone governance co-exist in both France and Germany. The availability of land for logistics in existing industrial zones first keeps logistics development largely outside the scope of local politics (the first of the three modes of governance described above). The production of new logistics zones contributes to politicising the process within the framework of local development policies (the second mode of governance). The opposition of environmentalists or residents' associations can influence these policies. Our investigations show how environmental objections have generally gained the attention of municipal councils in the German cities whereas the connections of social movements to city authorities appeared to be much weaker in the French cases. The financialisation of the logistics real estate industry and the subsequent production of logistics parks have contributed to the privatisation of these policies and to limitations on local political agendas. However, this makes logistics highly visible at the local level and thus makes it easier for social movements to object to the construction of new logistics sites. Finally, the degree of development of logistics parks still depends on local and regional historical and institutional conditions, as is highlighted by the German case studies. The lack of financial, technical and even political resources in many local authorities in the outer suburbs of Paris explains the success of the logistics parks developed by the real estate industry (the third mode of governance).

Conclusion

This analysis of logistics development in Paris, Frankfurt-am-Main and Kassel highlights the different modes of regulation and legitimation of the production of logistics space. Discourses on metropolitan attractiveness, together with image policies that seek to raise the symbolic status of logistics activities by marketing a kind of logistics that is supposed to be 'strategic, smart and clean', are emerging evermore frequently from a growing number of research institutions, public-private partnerships and groups of experts. These coalitions act to promote scientific, economic and environmental innovations, whether for the purpose of reducing the negative externalities of logistics or of fostering the development of high-tech logistics activities that draw on a highly skilled workforce.

However, our inquiry has shown that the core of the economic and urban changes brought about by the development of logistics activities remains outside the scope of this rhetoric. The negotiations about the planning of logistics zones and their facilities, the type of firms allowed to occupy them, the protection of the environment around the warehouses, as well as the different forms of pollution produced by logistics activities and the vehicle traffic associated with them, continue to take place behind closed doors. Public and academic discourses on the 'logistics revolution' do not tackle these questions of urban development and governance, which appear to be raised in public only if environmental and neighbourhood movements manage to make enough noise. This limited form of politicisation also fails to address the working and living conditions of warehouse workers. One may hope that the contributions to this issue of the journal will help to open the black box of logistics, highlighting what goes on in warehouses, describing who the logistics workers are, and engendering public debate about this growing component of the capitalist world.

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