Urban planning policies for logistics facilities: a comparison between US metropolitan areas and the Paris region

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URBAN PLANNING POLICIES FOR LOGISTICS FACILITIES: A COMPARISON BETWEEN U.S. METROPOLITAN AREAS AND THE PARIS REGION

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INTRODUCTION[i]

The development of logistics activities and flows entails the construction of thousands of warehouses, distribution centres and terminals in large urban regions (Dablanc & Frémont, 2015). Thus, logistics exposes urban regions to new challenges concerning economic and social development (location of firms and jobs), sustainability (freight flows generated by logistics sites, land consumption), and urban development and regional governance (Hesse, 2008; Hall & Hesse, 2013).

Against this background, recent research has documented the spatial patterns of logistics industry geography in Europe and North America towards more and more concentration into major urban areas but also decentralization within them; that is to say "logistics sprawl" (Dablanc & Andriankaja, 2010; Dablanc & Ross, 2012). The literature highlights also the primary role played by municipalities and local communities in the regulation of logistics land uses, the lack of regional coordination and vision and, within this context, the increasing power of the logistics real estate industry in terms of selection of logistics locations and the definition of the features of logistics buildings (Hesse, 2004; Cidell, 2011; Dablanc & Ross, 2012; Raimbault, 2016, 2017). In this context, logistics activities are organized by forces located outside local areas and meet the requirements of economic players in terms of location choice, employment, schedules and delivery frequencies and vehicle types.

This chapter aims at analysing how logistics development and subsequent governance arrangements fit within regional and urban planning policies, and especially within spatial planning frameworks. Two urban regions are observed, Paris, France, and Atlanta, United States. Can public interventions lead to the emergence of dedicated planning policies for logistics facilities? If so, what is their effectiveness?

Planning logistics facilities at regional and local scales is a strategic area of public policy, because of its connection with economic, environmental and social issues. Planning these facilities includes influencing their location via land use zoning, developing new transport infrastructures or optimizing freight flows to reduce pollution and CO2 emission. Planning logistics sites also refers to the means used for this purpose. It first corresponds to the regulatory management of logistics land uses and warehouse development, including zoning and building permitting. The second aspect relies on the implementation of specific freight and logistics projects by public authorities, including public infrastructure or real estate experimental projects.

Planning logistics facilities refers also to different scales: national, regional and local. At the local scale, the literature and the practioners often refer to "urban logistics" to describe the organization of freight flows and logistics infrastructures located in denser parts of metropolitan areas. In this chapter, we will use this specific designation for planning urban logistics in these urban spaces.

In order to cover the different dimensions of planning logistics facilities at regional and local scales, the chapter is organized as follows. The second section analyses how spatial and transportation planning policies take into account logistics issues in U.S. metropolitan areas. The third section proposes a comparison with the regional planning framework of the Paris region. In the fourth section, freight villages, innovative planning and real estate experimental policies in the Paris region are studied. The last section focuses on the regulation of logistics land uses and warehouse development in the suburbs of Paris and Atlanta.

PLANNING LOGISTICS BUILDINGS AND FREIGHT ACTIVITIES IN U.S. METROPOLITAN AREAS

In the U.S., spatial and transportation planning is essentially local. Municipalities are responsible for land use plans. Transportation planning is a "bottom up" process, with municipalities, counties and other sub regional levels of governments proposing projects that eventually become part of the regional transportation plan (Giuliano, 2007).

This very local and fragmented situation is more pronounced in the U.S. than in Europe (Gordon and Richardson, 2001, Cox, 2004). "In the U.S. case, what is striking is the relative absence of an explicit urban and regional planning policy implemented by more central branches of the state, either federal or at the individual state level" (Cox, 2004, p. 253).

This context makes spatial planning extremely difficult to apply to logistics issues in U.S. cities. A representative from the Atlanta Regional Commission confirmed this by saying in 2008: "we are an MPO[ii], we know we have to promote a better planning of freight facilities in Atlanta, but land use decisions come from the local level. All we can do is advise that freight activities are a necessary part of the metropolitan economy and municipalities should be careful in not rejecting them" (2008 interview with Caroline Marshall, in Dablanc, 2012)
.

Focusing on regional and metropolitan spatial planning documents, this section presents the emergence of spatial planning approaches dedicated to logistics issues within land use and transportation planning in the U.S. It analyses the case of Atlanta in this perspective.

Logistics in land use planning

Industrial land use zoning holds a special place in the history of American cities. A landmark decision by the Supreme Court in 1926, *Euclid vs. Ambler*, recognized that economic activities, and especially manufacturing ones, do have impacts on the whole metropolitan area and that a community had the right, within its regular legal powers, to regulate them in order to decrease potentially negative impacts. Zoning to prevent industrial development, and by extension zoning in general, has been authorized since then, changing the fate of planning practice in the U.S. In other legal decisions, more favourable to industrial uses, economic development has been repeatedly considered a "public purpose," legitimating policies of eminent domain (the confiscation of private properties for public use with "just compensation" in the sense of the Fifth Amendment to the Constitution).[iii]

In today's U.S. metropolitan areas, industrial activities often come down to logistics activities (De Lara, 2013). Logistics activities, among all economic activities, tend to go the farthest out in suburban areas, where they are sometimes the first industrial activities these suburban communities are confronted with. In this context, the implementation of industrial land use planning by local governments constitutes the main regulatory management of logistics land uses and warehouse development. It could support the development of logistics activities or, on the contrary, prevent them.

Several authors see logistics and industrial planning as a bad idea *per se*. According to Bogart (2006), the very essence of industrial zoning today is only a way for homeowners to avoid undesirable land uses locating nearby, "since business activities became more footloose [can be located anywhere] as a result of trucks." For Lee and Gordon (2007), repeated recommendations for regional public zoning and regulation are useless, regional intervention is both undesirable and unattainable, and cities should find other ways (other than planning for a specific ideal urban form) to mitigate congestion and other externalities. For other authors, logistics land use zoning is an option but can be actually damaging to cities. Hills and Schleicher (2010)[iv] argue that non-cumulative zoning, i.e. zoning that does not allow the accumulation of uses less noxious than industry in manufacturing zones, actually prevents urban areas to develop much more useful uses than manufacturing. Because transport costs have fallen, the authors do not see any rationale to justify this kind of protection of industrial land uses in urban areas, which *de facto* act as a subsidy resulting in cheap land prices for manufacturing. This last argument probably disregards one – major – rationale of protecting manufacturing and logistics land uses, which is the prevention of increased freight transport distances, and parallel impacts, within urban regions (see below).

Freight in transportation planning

The Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991 introduced a comprehensive and intermodal approach to the funding and implementation of transportation projects, with new planning requirements. Freight transportation was

specifically identified as one of the planning targets. In ISTEA, “for the first time (…), freight transport and freight facility location were factors to be considered by metropolitan planning organizations as they developed their long and short range transportation plans and programs” (Czerniak et al, 2000). ISTEA started a new process where freight was to be integrated into state and metropolitan transportation planning.

Following ISTEA, freight planning has experienced slow but effective progress. For the first time at this level (i.e. at Federal level and with an extended outreach to local practitioners and experts), the 2011 *Freight Facility Location Selection: A Guide for Public Officials* provided a comprehensive set of recommendations to local governments regarding the integration of freight facilities. The overall purpose of the guidelines is "to provide insight on location decisions for freight facilities and suggest best practices for transportation, land use, economic development, and regional partnerships to public sector agencies and officials considering and responding to freight facility development and location decisions."

Interestingly, what the guidebook insists on is the support that public agencies can and should provide in order to retain and develop logistics activities. The document displays an impressive list of the different instruments that can be used: “Public sector assistance in the forms of tax credits, grants, low-cost loans, training programs, utility discounts, and infrastructure development can address specific location shortcomings and is often used to close the gap between a location and its competition.”

Eventually, while land use zoning tends to give local communities the possibility to plan their industrial development, transportation planning documents insist on the importance of a local support of logistics sites development.

<u>The slow emergence of logistics and freight plans</u>

The reduction of transportation-based CO_2 emissions via land use and planning policies has been an important focus of discussion and practice, notably via "smart growth" and sustainable transportation strategies. This paradigm leads some Metropolitan Planning Organisations to tackle logistics issues in their regional plan and strategy. As an example, Atlanta has been one the most active metropolitan areas to introduce land use and community impact elements in its regional freight plan and strategy as early as in the 2000s. A freight advisory task force was established in 2003 by ARC[v] and several freight studies were made. A Freight Improvement Program of more than $75 million was set aside for the 2014 -2017 period (with 80 percent funds coming from federal programs).

States do not emphasise freight in their transportation plans despite an increasing number of freight studies. Some of the freight studies have resulted in the reorganization of project ranking processes, seemingly pushing freight projects higher on the states’ agenda. Rail freight is mentioned in several states as an important investment issue. The State of Georgia promotes freight and logistics issues in a seemingly active manner. A Statewide Freight Plan 2005-2035 was prepared in 2006-2007 in parallel with the state’ Transportation Plan by Cambridge Systematics, subsequently updated (Georgia Statewide Freight and Logistics plan 2010-2050). The plan ensures that “Georgia’s transportation system is in balance with the

demand for freight and logistics." Other States are now involved in making freight plans: 2014 California Freight Mobility Plan, 2014 (and 2017 update) Washington State Freight and Goods Transportation System (FGTS).

In 2011, the San Diego Association of Governments (SANDAG) became the first urban region of California to adopt a Sustainable Communities Strategy as a mandatory component of its Regional Transportation Plan under SB 375, California's anti-sprawl law. In this document,[vi] the first page reads that "The SCS must demonstrate how the development patterns and the transportation network, policies, and programs can work together to achieve the greenhouse gas (GHG) emission reduction targets for cars and light trucks that will be established by the California Air Resources Board." Further down the document, a Goods Movement Strategy (GMS) is developed producing "a menu of projects that reflects the needs of the region and balances freight benefits with sustainability needs." Although most of the freight strategy consists of a list of improvement projects in facilities such as intermodal facilities, ports and highway, two actions were directly related to freight land uses, and they involved local jurisdictions:

- "Update the SANDAG Regional Comprehensive Plan (RCP) to include policies, programs, and guidelines to integrate goods movement land uses and facilities, with minimal impact to adjacent communities."
- "Support and provide assistance for the update of local general plans to identify the long-term needs of moving goods, industrial warehousing infrastructure, and connectors to the regional freight network. Coordinate this effort with economic studies and RCP updates."

PLANNING LOGISTICS FACILITIES AND FREIGHT ACTIVITIES IN THE PARIS REGION

As in the U.S., French municipalities benefit from extensive political powers vis-à-vis metropolitan and regional authorities, especially in terms of land use planning and building permits. However, France was one of the first European countries to take freight transport and logistics issues into account in the various urban and regional planning documents. It leads to the progressive inclusion of logistics issues in the Paris Region master plan.

Logistics in transportation and metropolitan planning

In 1982 and 1996 (when they became mandatory), two national Acts gave a mandate to French metropolitan authorities, and to the Paris Region (the Ile-de-France), when drawing up their urban transport plans (known as PDU) "to deal with the transport of goods and deliveries while rationalising the supply conditions of the metropolitan area in order to maintain commercial and craft activities" (Orientation Act for Inland Transport). More recently, the Modernization of territorial Public Action and the Affirmation of Metropolitan Governments Act of 2014 (known as the "MAPAM Act") strengthened and broadened the missions of metropolitan transportation planning agencies, called today "Mobility Organizing Authorities". On logistics, these authorities may go as far as organizing a public service of urban freight and logistics, "in order to reduce urban congestion and pollution and nuisances affecting the environment", and in the case of "unsuitability of private initiative for this purpose."

However, the implementation of these plans often remains a local matter. The municipalities - rarely the metropolitan or intermunicipal authorities[vii] - decide on zoning and urban planning rules. Building permits are granted, on the basis of land use plans. In the Paris region, municipalities are very numerous (1276, with an average surface area of less than 10 km^2). This means that building permits are decided by very local governments that are often poorly equipped in terms of logistics and freight expertise. Metropolitan governments, for their part, are responsible for another kind of planning document: the “territorial coherence plans” (SCOT). The SCOT constitutes an “intermunicipal strategic planning at the scale of a large intermunicipal area or urban area, within the framework of a sustainable development project.” One of its roles is to strengthen the links between transport and land use planning policies with a general objective of managing passenger mobility and goods flows. The document relies on the metropolitan transport plan (PDU) for the implementation of practical logistics policies.

Ile-de-France Region is the only French region regulated by a regional master plan (known as SDRIF), functioning as a SCOT at the regional scale, and by a coherent transport plan, the PDUIF.

Regional planning and logistics in the Paris Region

The master plan for the Ile-de-France region (SDRIF) sets the main guidelines in terms of the location of residential areas, economic activities, and infrastructures; and is a binding document, for some of its provisions, for local urban planning documents. The inclusion of freight in the SDRIF has been very incremental. In 1965, the regional master plan, after having recalled the importance of freight transport and assessed its future growth, made rapid reference to the "ongoing studies relating to road terminals and transit centres" (which will give rise to the two freight villages of Garonor and Sogaris[viii]). When the master plan was revised in 1976, freight was not specifically mentioned. The 1994 SDRIF, on the contrary, devoted a chapter to the "freight transport network". One of its goals was to "enable the establishment of a coherent network of multimodal logistics zones to meet the very high demand noted in this sector" (p.16).

The 1994 SDRIF was replaced by a new master plan in 2013. A chapter entitled “Optimising metropolitan logistics” identifies the major multimodal sites and specifies those that need to be preserved or created, in connection with major rail corridors (SDRIF, 2013: p. 135). Another map, dedicated to logistics activities in the inner areas, identifies rail and port sites that should be preserved for urban logistics (SDRIF, 2013: p. 139). It is actually in a sub-chapter in a completely different part of the SDRIF that proposals relating to the daily logistical functions can be found. The section "Renewing and densifying business areas, particularly for small and medium-sized firms and the craft sector" (in a section on "Re-establising the dynamism of the Ile-de-France economy") emphasises the need to support a mix of uses of activities, including logistics, in dense areas. The text is accompanied by a thematic map that indicates where to "renew, densify and organize the supply of industrial areas", logistics not being specifically mentioned on the map (SDRIF, 2013: p. 127).

The SDRIF proposes to polarize logistics and industrial activities around twenty sites, well distributed throughout the region. However, it should be noted that SDRIF deals with logistics by road mode only in the case of the outer suburbs.

One part of the SDRIF is legally binding: the “general destination map of the different parts of the regional space”. The local land use zoning must be compatible with this map, which mainly distinguishes between areas that can be urbanized and areas that are protected from urbanization. The different logistics sites listed above are represented in this map. The map institutionalizes this way the objective of preservation of several terminals and warehousing zones in the dense areas, even though they can be located in areas of current urban redevelopments.

Will this attempt, via the SDRIF, to propose the concentration of logistics functions in a certain number of clusters suffer the fate of the previous regional plans? These had illustrated “the constitutional incapacity of the regional plans to directly force the municipal plans” (Gilli & Offner, 2009). None of the past master plans has significantly influenced the location of warehouses and terminals in the Ile-de-France region, and SDRIFs have been ignored in local urban planning.

The Region uses another tool in order to regulate logistics activities. The Ile-de-France Transportation Plan (PDUIF), approved in 2014, proposes two maps identifying the "regional logistics framework", which includes the region's "non-displaceable" multimodal logistics sites. Even if it focuses only on multimodal terminals, this plan provides specific location on protected sites.

Compared to American metropolitan areas, the Paris Region planning policies include logistics issues more clearly. However, the management of logistics land uses, and warehouse development remains essentially local, in a region where local municipalities are extremely numerous and small in size, with the exception of the city of Paris. In this context, innovative logistics policies, consisting in developing logistics “hotels” and other new formats of urban warehouses, arise in specific urban places (section 4). Simultaneously, the regulation is minimal in the outer suburbs, where huge logistics zones are multiplying (section 5).

PUBLIC DEVELOPMENT OF LOGISTICS SITES: FREIGHT VILLAGES AND URBAN LOGISTICS EXPERIMENTATIONS

In order to limit “logistics sprawl,” and thus to comply with sustainability goals, public authorities facilitate the supply of logistics facilities in inner areas, complementary to the one supplied by large logistics real estate investors in peripheral areas. This new public policy is focused on city centres. The result is a ‘dualization’ of logistics geography, between urban and peri-urban logistics (Heitz, 2017). In the Ile-de-France region, this dualization is illustrated by various planning modes for logistics facilities, with on the one hand the development of “freight villages” (FV), mostly in the suburbs, and on the other hand the development of urban logistics, mainly in Paris, in the form of urban real estate experimental projects. One of the most prevalent planning modes for many European local governments

when it comes to freight transport and logistics is the development of public, or private/public, logistics zones commonly known as FV.

Freight villages and suburban logistics development

Freight villages (FV) are publicly developed business zones dedicated to logistics, managed by a single public or private manager, offering specialized services such as catering, safety or security, repair of vehicles for freight and logistics operators (Savy 2006, Du and Bergqvist 2010, Higgins et al., 2012). For Savy (2006), "In the general development of logistics, FVs occupy (...) a singular place. They (…) link the "hard" (infrastructure) and the "soft" (management), the public (municipalities) and private (companies) interests, the long term (spatial planning) and the short term (flexibility of the market) ". Most FVs are located in Europe, particularly in France, in Italy (*interporti*), and in Germany (*Güterverkehrszentren*, or GVZ).

For Boile et al (2011), FVs play a positive role at the environmental level, reducing negative externalities. They allow for an optimization of urban flows, in particular when they are associated with intermodal terminals. In some cases, they result in a relocation of transport and logistics companies in a single place (resulting in the polarization of logistics facilities), thus reducing nuisances related to the logistics sprawl and fragmentation of warehouse location. The literature on FVs also emphasizes the growing need to protect and secure land availability for warehouses in the future, to which freight villages or logistics parks provide a satisfactory response.
In Ile-de-France, Bounie (2017) identifies different types of logistics zones, highlighting the existence of four specific stakeholders. In this typology, two formats correspond to a freight village.

The first, and most common, type of logistics zone is the result of a development operation inititated by local (municipal) or national governments with the aim of developing logistics activities. In this case, municipalities or public agencies acquire and develop the land (depollution, connection to networks, infrastructure). Once the development phase is complete, public authorities can sell the land to developers specialized in logistics real estate. The resale of land in the form of lots can generate a financial margin, offsetting the expenses for the development of the area.

The second type corresponds to publicy developed FVs that remain the property of a public or quasi public park manager. The Sogaris FV, located in the southern suburbs of Paris, is managed by the semi public logistics real estate investor (Sogaris) which is directly accountable to the city of Paris.

The third type corresponds to FVs carried out by transport infrastructure managers, such as river ports or airports. Infrastructure managers are public stakeholders, usually under the direct control of the national government (Raimbault, 2014). In the case of a project of FV on the property of the infrastructure manager, the manager will be responsible for the development of the site and will rent lots over a long period, through administrative leases, to actors wishing to develop logistics buildings for their own use or to rent them (Magnan, 2016). Developing FVs brings property incomes to infrastructure managers, which are often

higher than the revenues generated by the use of their intermodal terminals. Even if logistic activities are set up near a large rail or river terminal, they are not necessarily users of these facilities. The land can be simply a good opportunity to locate in close proximity to the heart of the city. An example of this opportunity effect is the 2017 opening of an Amazon parcel sorting centre in Bonneuil-sur-Marne (south-east of Paris). The new facility was developed and is operated internally by Amazon Logistics. It makes it possible to deliver to e-commerce customers six days a week. Amazon does not intend to use the port terminals. The proximity of the port to the city centre remains an attractive factor for the location of warehouses, especially for express parcel transport activities. New trends, such as 'instant deliveries' (Dablanc, et al. 2017), may increase the need for new buildings close to the city centre to optimize deliveries. Ports' strategy to accept non water-based logistics activities, allows a form of persistence of the location of logistics activities in the dense areas (Heitz, 2017).

The last type of logitstics zone corresponds to private logistics parks, which are more and more numerous in Ile-de-France and in the U.S. metropolitan areas, especially in the outer suburbs. The initiative most often comes from a real estate developer and investor who sees the development of a private logistic zone as an opportunity to enhance the value of their real estate assets and to secure land for further development. However, the initiative can also come from public authorities, which have the project of initiating an area dedicated to logistics, but which do not want to develop or manage, because of associated (financial) risks, so they rely on the private sector (Raimbault, 2016). In this case, the real estate developer and investor must take charge of the entire development and, then, of the property management of the zone.
According to the data provided by the Regional Census of Logistics Buildings (Heitz et al, 2017) and the Census of Logistics Zones (Bounie, 2017), 48 logistics zones can be identified in the Ile-de-France region. 25% are located in the "petite couronne," the dense part of the Paris Region. Overall, 44% of logistics facilities are located in freight villages or other logistics zones (figure 4.4).

[! Insert Figure 4.4 here !]

Figure 4.1: Typology of freight villages in Ile-de-France (Author: Heitz, 2018; source: Bounie, 2017)

Developing logistics buildings in Paris: innovative planning and experimentation

Innovative planning of logistics activities in Paris

In Ile-de-France, the City of Paris has, for several years, integrated logistics issues into the city planning documents and processes, proposing a new model of logistics facilities dedicated to the dense area. Drawing inspiration from Japanese achievements and interpreting the principles of urban logistics discussed by experts and researchers (Diziain et al 2012), its action is based on two instruments: planning and experimentation.

Initiated in 2006 and developed in 2013 in a partnership framework involving public authorities and private stakeholders (carriers and shippers), the Paris "logistics charter"

promotes best practices for freight and deliveries. The 2013 document is an operational document, including as one of its targets the development of new types of urban warehouses and micro-hubs for logistics. Also, in 2018, Greater Paris (the authority for the Metro area) has proposed a “pact for the logistics activities in the Greater Paris”. This new charter includes 131 municipalities and proposes a new regulation and harmonization in planning logistics facilities. Moreover, this charter promotes logistics experimentations and make available founds to finance them.

In the 2006 Paris zoning code, ‘major urban service zones’ (UGSU) opened the way to urban logistics innovations or logistics real estate project. They especially targeted former railyards as well as the banks of the Seine river. The stated objective is to develop logistics facilities, among other activities (waste management, medical facilities etc.). The development of logistics infrastructure is supposed to induce modal shift to reduce the use of road freight transportation and its negative externalities. The 2016 zoning code, replacing the 2006 one, extends the areas where logistics uses are encouraged (or even made mandatory) (Figure 4.5). The opportunities to locate logistics facilities in the city centre have increased as a result.

[! Insert Figure 4.5 here !]

Figure 4.2: Logistics zones in the 2016 Paris zoning code (source: APUR)

The city of Paris has therefore created a policy framework favourable to the development of urban logistics. However, in order for this urban logistics infrastructure development policy to succeed, other actors must support it. The challenge, for the City of Paris, is to convince private investors of the value of urban logistics by providing a favourable policy framework and available land for the development of this type of real estate.

In its 2016 zoning code, the Paris City Council has set up a new category of CINASPIC (Constructions and Installations Required for Public Services or Collective Interests) dedicated to urban logistics, reserving some land for small warehouses from which, for example, electric vans and cargo cycles can be operated, or allowing logistics activities to be integrated into urban projects. These urban logistics areas are defined as spaces dedicated to the reception of activities related to the delivery and removal of goods, which may include short-term storage and withdrawal by the recipient. For the time being, repackaging and permanent storage operations are excluded. Apart from the floor dedicated to logistics, the rest of the building must be intended for other functions. Mixed use real estate projects combining housing or office/recreational and logistics activities are now encouraged.

The legal definition of logistics as a service of interest to the public (CINASPIC) excludes many logistic activities, requiring longer term storage. Therefore, they clearly revolve around specific logistics activities such as express parcels deliveries, excluding other sectors of logistics.

Logistics real estate and urban experiments

The City of Paris is directly involved in the development of specific urban logistics projects. It funds projects such as the consolidation centre of Beaugrenelle for Chronopost (a major French parcel express operator), the consolidation centre of Les Halles or the Chapelle "Logistics Hotel" run by the city owned logistics real estate investor Sogaris (Dablanc et al., 2018). A logistics hotel is a multi story urban building where several types of activities coexist with logistics activities. These experiments open the way for testing new practices in terms of logistics and freight transport, in relation with logistics or freight transport operators. They are supposed to serve as an example to other municipalities by demonstrating the viability and the benefits of these facilities.

The Chronopost facility of Beaugrenelle, opened in 2012, is located in the 15th arrondissement and is composed of 3,000 sqm spread over two levels. This project had to receive a high number of authorizations to be built, in particular from the official Architects of Buildings of France, as the regulatory and architectural constraints were significant.

The Urban Distribution Centre of Montorgueil is another project backed by the City of Paris in the heart of Paris, as part of the diesel reduction municipal objective. Located in one of the densest areas of Paris, it will deliver to stores in the neighborhood of Montorgueil. Freight operators will be required to pool their flows if they wish to have access to the 600 sqm made available for this project. The municipality wants to create a favourable environment for consolidating deliveries from different carriers. However, in a very competitive freight transport sector, the space proposed by the City of Paris appears too small for carriers who have trouble in finding a relevant business plan in it. The project is currently struggling to succeed.

In 2010, a call was launched for the construction of a logistics facility which could also include offices, sports facilities and housing in the north of the 18th arrondissement. Sogaris proposed a logistics "hotel" located within a larger zone open for housing redevelopment. The logistics hotel goes hand in hand with an urban project wich includes 900 housing units and 80 SOHOs ("Small Office, Home Office", spaces that combine places of work and housing). The logistics hotel hosts an urban rail terminal, several small storage facilities, a public school, a farm (urban agriculture), tennis courts, sport and leisure facilities and a datacentre. The purpose of this cohabitation is that these activities bear a portion of the cost of building and land, since they are more profitable. This financial equalization strategy allows logistics to return to dense urban areas at an acceptable cost. This logistics hotel, inaugurated in June 2018, is a double experiment for the city of Paris, as it tests the concept of a logistics hotel, and tests the use of rail for the delivery of goods in Paris. The urban rail terminal (TFU) required a lot of work and innovations such as the control of specific and adapted cranes and adapted containers. The inability to use standard techniques increased the cost of the project. The development of the Chapelle logistics hotel has been a complex operation involving multiple authorizations (Dablanc et al., 2018). The City of Paris also had to change the local zoning regulations in order to authorize higher buildings, to allow for the financial capacity of the project, and to adjust to the technical constraints of the construction of the rail facility and the use of railways. The results of this experiment tend to show that the support of public authorities is crucial in these projects, which can slow down the diffusion of this type of logistic format because it can make investors risk averse.

The city of Paris and the semi-public company Sogaris are the main stakeholders in the development of these urban logistics facilities. While private actors are involved in the development of suburban logistics zones, they are just emerging in the development of dense urban logistics buildings (UPS, for example, has just opened an urban facility of 7,000 m^2 in the eastern part of Paris).

The expansion of suburban logistics facilities is often the result of local governance arrangements in which private stakeholders dominate local governments (Raimbault, 2014), especially through the development of private logistics parks. On the contrary, urban logistics infrastructure has, to this day, relied mostly on public initiative (Debrie & Heitz, 2017). The planning and programming of urban logistics is today largely the prerogative of the City of Paris but tends to spread to other municipalities in the Greater Paris area. Some suburban municipalities are becoming more aware of logistics issues as for example in Saint Denis in the North or Vitry in the South East, with two projects of logistics hotels.

CONTEXT-BASED GOVERNANCE OF LOGISTICS LAND USES AND WAREHOUSING DEVELOPMENT

The way the majority of logistics activities are located remains largely outside the scope of regional planning or real estate and urban experiments. Faced with increased pressure from distribution centres' development, how do local planners and policy-makers take account of logistics activities in their planning processes? Cidell (2011) notes the inherent difficulty of local governments faced with the development of logistics sites: "in a world of flows and networks, [planners] work within bounded territories." The irruption of logistics activities in this pattern is met with diverse reactions Jobs are welcome but the low tax revenues per acre and absence of sales taxes of this type of development are often resented.

In this context, logistics zones are largely developed by the logistics real estate industry, which leads to a strong dynamic of spatial standardisation. Nevertheless, an analysis of the Paris region and Atlanta shows that the local and regional historical and institutional contexts are key determinants of the way current logistics sites are regulated. In this way, changes in the modes of production of logistics sites significantly structure the changing geography of logistics terminals, goods flow and workplaces of logistics employees in the two regions.

The incremental and silent transformation of industrial zones into logistics zones

The first mode of governance corresponds to the development of logistics activities 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 that they needed.

They first found suitable spaces in the existing industrial zones, replacing former factories or, more often, 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.

In other words, industrial places have become *naturally* logistics places because of this spatial legacy which follows a "path dependence" (Pierson, 2000).

The development of these 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 only asked to give their formal agreement by signing the building permits. The shift to logistics on these former industrial sites was therefore almost invisible, without explicit public discussion or negotiation between public and private stakeholders.

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 population of these municipalities is poorer than the regional average. 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. At the same time, they paid local taxes that enabled the municipalities to continue implementing social redistribution policies.

The twin municipalities of Mitry-Mory and Compans, located south of Roissy-Charles de Gaulle airport, constitute an example of the logistics development of the "red belt". In the 1970s, the State created a large industrial zone spread over the two municipalities. This has gradually attracted a large number of logistics establishments for a total of approximately 600,000 sqm of warehouses (DREIA, 2018), one of the largest logistics concentration areas in Île-de-France. Logistics development is therefore not the result of local policies but of the evolution of a vast industrial zone developed (and therefore imposed) by the State. Due to the proximity of the airport and the presence of chemical establishments in the industrial zone, the municipalities are subject to numerous urban planning constraints. In particular, residential development opportunities are limited. In this context, logistics offered and still offers an unexpected local development opportunity, bringing jobs and taxes. The industrial zone represents 7,500 jobs, the majority of which correspond to logistics jobs. The local interest in hosting logistics establishments lies even more in tax gains, which fund approximately one-third of the municipal budgets. They are two "rich municipalities populated by poor inhabitants" (interview with the major of Compans, 08.04/2011). Local tax gains are much higher than the grant transferred by the State. The two municipalities are therefore dependent on these taxes to make up their budgets and to implement social redistribution policies (transport subsidies for schoolchildren, sports and cultural activities of residents, etc).

In Atlanta, some areas followed the same path from manufacturing to logistics, as early as in the 1970s such as Fulton Industrial Boulevard (FIB). In the 1980s and 1990s, although remaining an important focus for logistics activities, FIB lost some of its attractiveness because of rather small and outdated warehouses, with low ceiling and small and unwired spaces. Today, many warehouses require some degree of retrofitting and upgrading, and FIB faces direct competition as newer logistics facilities are being developed in nearby counties. The assets of Fulton Industrial Boulevard are its central location as well as the low prices of the facilities. It benefits from its proximity to the centre of the metropolitan area as well as immediate access to two major highways. A handful of major real estate companies (Avison

Young, Millers Logistics, Ackerman and Co, Grubb and Ellis, Prologis) own a majority of the southern area of FIB and have done an important job in reorganizing land parcels, enlarging them to provide scope for larger buildings.

Local policies targeted towards 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 the 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 "post-industrial context" (Interview with the head of economic development, EPA Sénart, 2011, quoted in Raimbault, 2017).

The case of Sénart is particularly emblematic. In this new town located 35 km southeast of Paris, EPA Sénart designed a development programme for several logistics zones connected to the area's main motorway nodes. The goal of the agency 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 municipalities[ix] insofar as it brought in substantial tax revenues. Slow during the 1970s and the 1980s, the development began in the 1990s: more than 470,000 sqm were built between 1985 and 1997[x]. This development accelerated then at the end of the 1990s, with the rate of construction doubling to 900,000 sqm until 2009. This chronology is also closely linked to the development of three motorways in the area during the 1990s. The strategy of EPA Sénart was to develop large logistics zones, thought to be attractive to the logistics companies, and close to the main motorway modes. In order to quickly attract logistic facilities in these zones, EPA Sénart established strong links with domestic property developers, which built warehouses for rent on the different sites. Its last logistics zones, the "A5 park" (200 ha, 550,000 sqm of warehouses), has developed since the early 2010s and is almost totally occupied by five huge distribution centres. In this way, Sénart became one of the region's main logistics poles with more than 2 million sqm of warehouses[xi] (12% of the warehouses of the region).

It can be noted that some local governments, which implemented first economic development policies based on logistics zones, shifted from logistics, generally in order to upgrade their socio-economic profile. This strategy was adopted by Gwinnett County in the suburbs of Atlanta. The County experienced the bulk of its logistics developments in the 1980s and 1990s. The government has constantly promoted low-rise buildings. "This served us well in the past" (interview with local manager, quoted in Dablanc & Ross, 2012), and gave way to a boom in logistics facilities in addition to major retail developments. But the strategy, today, is changing. The county wants to attract mixed-use developments, offices and other high-rise buildings, in the way other northern Atlanta counties have been doing. Urban sprawl is recognized as a major issue, generating traffic congestion and a rapid reduction of

available land. Higher densities are now considered a valid option for the county's future economic development. Also, logistics facilities are going further east towards Barrow and Jackson Counties on Interstate 85 and current logistics facilities in Gwinnett may face a risk of remaining empty. The county's 2030 comprehensive land use plan emphasizes mixed-use activities, at the expense of logistics zones. The county has therefore chosen to promote a "transition" away from traditional logistics activities towards upper scale mixed-use activities.

In the absence of strong regional planning policies, local governments implement economic development policies based on logistics zones. These local public strategies are a response to the growing demand for logistics spaces. In both urban regions, this results in logistics zones spreading towards suburban and outer-suburban areas, generally in zones of lower housing density (Dablanc & Ross, 2012).

Private logistics parks

Since the 1990s, logistics firms 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 development and investment market in logistics real estate (Hesse, 2008; Raimbault 2016), which is connected to the general dynamic of the financialisation of real estate (Halbert & Attuyer, 2016). The financialisation of logistics real estate is tied to a third mode of governance.

The logistics real estate market is dominated by international firms, which specialise in logistics and manage global investment funds[xii]. These companies take direct charge of the development of the warehouses they buy as investment fund managers. In order to reduce their dependence on negotiations with local public authorities, they also tend to be the developers of the logistics zones in which they invest. 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 manager responsible for property management (see 4.1). They are fenced and protected by private security.
This business model leads to the privatisation of a number of local policies. Logistics real estate firms privatise land development policies, since in the past, business zones were directly developed by local governments. 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 business parks. Moreover, the 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 latter's economic specialisation and prospects.

However, local governments retain control of every legal resource. At present, logistics parks must be authorised and supported by local governments, which are responsible for issuing spatial planning documents and building permits. In other words, the production of logistics parks implies that the local authorities accept this dynamic of privatisation. Case studies show 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 in Ile-de-France, between 2002 and 2009, Val Bréon local gouvernemnt undertook a project for a large, dedicated, 200 ha logistics park[xiii]. However, the local authority lacked the administrative, technical or financial resources to develop it. It therefore welcomed the proposal of the real estate firm PRD to develop a private logistics park. The company was responsible for financing the total operation and developing the site and the buildings. Moreover, with regard to land development, the main challenge was to resolve a legal conflict with an 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. The developer proposed selling the wetlands to it for one euro for protection. In this way, the real estate company undertook many of the activities usually carried out by local governments (Raimbault, 2017).

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 world leader in logistics real estate, chose Sénart as the location for its main logistics park in France, buying a large agricultural plot there in the early 2000s. The firm immediately negotiated with the municipality (Moissy-Cramayel, part of new town Sénart) on the possibility of developing a logistics park. Three arguments regarding the differences between the logistics park and the logistics zones developed by EPA Sénart, convinced the mayor. 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 Sénart. 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) (Raimbault, 2017).
Logistics real estate investments also explain the contemporary development of logistics zones in the outer suburbs of Atlanta. In Henry County, logistics activities developed in the 1990s and especially in the 2000s. A newcomer in the logistics map of Atlanta, Henry County now sees its focus on distribution centres reinforced. New land parcels were opened up to logistics development (mostly from agricultural or forest use). The zones are organized in major logistics parks, holding very large distribution centres, many serving companies that trade with Florida. These logistics parks resulted from the strategies of the main logistics property investors: a major company buys a large amount of land, plans out and builds the roads and other mandatory amenities, and resells plots to other companies, either direct users or other real estate companies, with a profit. This was encouraged by the county, eager to promote fast economic development. The county, which went from 59,000 people in 1990 to 200,000 in 2010, remains a "bedroom community"[xiv] and logistics is considered an essential part of the strategy to provide more local jobs.

The consequences of this last mode of governance, dominated by the logistics real estate industry, are twofold. At the local scale, local governments negotiate only with property 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. In consequence, logistics issues are seen as a question of real estate, disconnected from matters relating to logistics activities and employment, such as employee transport or transfer of goods flows from road to rail or river modes. At the regional scale, private logistics parks directly challenge planning policies. As these real estate products are 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 largely contributes to logistics sprawl since the 1990s.

CONCLUSIONS

Spatial planning dedicated for logistics facilities and activities has emerged in many urban regions. This dynamic is clearer in the case of the Paris region than in the case of U.S. metropolitan areas such as Atlanta. The current Paris regional master plan and transport plan introduce specific orientations concerning the location of major logistics facilities.

The main question remains the implementation of practical regulations of the development of logistics activities. The local decisions in this domain are pre-eminent, leaving the real estate industry taking the strategic decisions and the local communities deciding on the desirability of logistics establishments. This context stimulates logistics sprawl, and its impacts on congestion and pollution, in the outer suburbs.

In parallel, some logistics real estate innovations are implemented in denser areas, and especially in the city of Paris. They lead to new practices in terms of urban logistics services, in relation with stakeholders such as logistics or freight transport operators. However, as the regulation remains minimal in the outer suburbs, the result of these policies is a dualization of logistics geography, between urban and peri-urban logistics (Heitz, 2017).

Thus, a greater collaboration and agreement between places within urban regions regarding issues of zoning and the location of logistics sites is still needed. Compared to the present piece-meal approach to logistics planning, greater coordination would support the development of a more consistent planning and zoning done at the various scales of local and regional policies. Joint decision-making relative to logistics locations and support for critical logistics networks might include revenue-sharing with coordinated approval of site locations and shared provision of required infrastructure. A primary benefit would be a region wide and more comprehensive approach to congestion mitigation resulting in an improvement in goods movements. A regional approach could actually reduce the competitive attitudes of cities leading to an accumulation of tax breaks and subsidies to incoming warehousing facilities that, in the end, can be detrimental to local governments. A regional view could also prevent, on the other hand, very organized communities to reject freight facilities in the ‘backyard’ of some less organized ones. Additionally, this perspective could tackle the issue of the local employment base as well as training programs locally or regionally available for warehousing jobs.

Another important issue in freight planning is the necessary attention given to noise and pollution reduction at facilities' level, through such equipment as low noise asphalt on the access roads and parking of facilities, as well as energy saving and environment friendly architecture of logistics facilities.

Eventually, whatever the instruments used, what counts is the implementation of effective interventions taking into account logistics issues in planning and urban development policies.

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[i] With the permission from Armand Colin publishers, this chapter uses parts of Chapter 11 of La Métropole Logistique (Dablanc & Frémont, 2015). We thank Armand Colin for their kind authorization.

[ii] MPO: Metropolitan Planning Organization.

[iii] « (…) [No] private property [shall] be taken for public use, without just compensation » (Fifth Amendment to the US Constitution).

[iv] The authors mention, in their article, that they are both residents of a newly gentrified area of Brooklyn with some remaining industrial activities, which may also explain part of their position.

[v] ARC: Atlanta Regional Commission.

[vi] www.sandag.org/uploads/2050RTP/F2050rtp_all.pdf

[vii] In France since 2014, metropolitan authorities have the possibility to implement land use zoning instead of municipalities. But very few metropolitan authorities have adopted a truly metropolitan land use strategy, preferring to piece together municipal land use plans.

[viii] These facilities, in the northern (Garonor) and the southern (Sogaris) suburbs, were designed as the two main gateways for goods bound for the capital. These two freignt villages still exist today, and continue to serve the city of Paris as well as the Paris region but with very different functions from what was initially planned (Sogaris, 1997). Geographically, they are now located in inner dense suburbs.

[ix] Sénart new town is made up of 10 municipalities.

[x] Source: sit@del2.

[xi] Source: synthèse du Contrat de Développement Territorial de Sénart (2013).

[xii] The market leaders are Prologis (United States), Global Logistic Properties (GLP, Singapore), Goodman (Australia) and Segro (United-Kingdom).

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

[xiv] In 2000, nearly 70 percent of the working population of Henry County commuted to another county.