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Introduction

Situated between production and consumption, logistics is a field of action (Gregson et al. 2017) that has come to be understood as central to the functioning of the global economy. For urban planners, logistics rapidly polarizes into the promise of jobs and land development versus the threat of sprawl and environmental dis-amenity; or, in a field which is quickly changing and in which planning education has failed to keep up (Baker et al. 2023), logistics is simply forgotten. This review of literature examines the links between the logistics industry and a series of urban

planning concerns, including: spatial reorganization, real estate, urban planning, labour, and governance.

Existing literature reviews on the logistics industry and metropolitan spaces focus on environmental impacts (Aljohani and Thompson 2016), transport issues (Cui et al. 2015) and education and training programs relating to logistics (Baker et al 2023). In contrast with these approaches, this review of literature discusses the global to local systems that produce the logistics built environment, in terms of the supply of, and demand for, land for logistics activity, and the related role of urban planning, labour, and local economic development policies. We develop a broadly political-economy framework (see Coe 2014 for a political economy approach on logistics dynamics at the global scale) in order to engage with current critical conversations in (sub)urban studies on the production of (sub)urban spaces (Keil 2017; Phelps 2017; Brenner 2019), as well as to assist planners acting at regional and local scales. We selected from various library and online databases papers and book chapters which addressed logistics geographies through a political-economy approach, or which connected logistics industry development with spatial planning, local and regional governance, as well as with labour and local economic development policies. We employed a qualitative approach instead of a systematic quantitative analysis to identify the main thesis and concepts of each text. We then classified these main concepts into three broad but interrelated categories; those focused on the forces which influence and drive the demand for land for logistics, those which shape the supply of land, and the effects of these supply and demand dynamics on urban planning, economic development, and local governance.

Throughout this review is a recognition of the power relations inherent in regional development; the fact that “regional development does not take place on a level playing field” (Coe et al. 2004, 481). A political-economy approach helps to explain the massive growth, and

uneven and fragmented nature of logistics at a range of spatial scales, involving a number of different actors and regulatory frameworks (Coe 2014). Moreover, urban planners need a framework for meaningful action that might enable them to negotiate the inherent tensions between the desire for economic circulation and community integrity, while being cognizant of the socially unequal impacts of logistics sprawl and related environmental effects.

We begin by outlining the various effects that logistics has had on urban regions, primarily focusing on the globally-observed phenomenon of ‘logistics sprawl’ (Cidell 2010; Dablanc and Ross 2012; Yuan and Zhu 2019). Logistics sprawl has been defined as the “spatial deconcentration of logistics terminals in metropolitan areas” (Dablanc and Rakotonarivo 2010, 6087). Thereafter, we review the economic and political forces shaping the demand for logistics land uses at global, regional, and local scales, recognizing that contemporary demand for logistics space reflects both long-standing and constantly evolving patterns of goods circulation. We then turn to questions of the supply of land for logistics, which are inseparable from questions of real estate development more generally, as well as labour, local planning, and community politics. As such, questions of how to govern and plan for the matching of demand and supply emerge as central; we identify a range of existing and emergent modes of logistics land use governance and explore the policy implications and research questions raised by each.

Logistics and Spatial Reorganization: Effects on Urban Regions

The impact of logistics on urban regions may be described as uneven and fragmented (Barbier et al. 2019). Logistics induces the construction of thousands of warehouses, distribution centers and terminals in urban and suburban areas (Raimbault et al, 2018) and more movement of

goods within and through urban areas (Allen et al. 2012), so generating negative environmental and social impacts (Cui et al. 2015). Moreover, “logistics *produces* new geographical landscapes at a range of spatial scales” (Coe 2020, 2). Therefore, as Aljohani and Thompson (2016) argue, urban planners should be attentive to the merits and limitations of land use allocation related to logistics facilities, given their potential ability to “affect the overall landscape, resource use as well as the future economic and social geography of suburban areas” (256). In other words, “giving permission for the implementation of warehouses is no small matter” (Dablanc and Browne 2020, 2).

In terms of spatial reorganization, the primary aggregate impact of modern logistics activities on urban environments is that of a “trend of outward movement of logistics facilities from inner urban areas to suburban and exurban areas” (Aljohani and Thompson 2016, 256). Dablanc and Ross (2012) define ‘logistics sprawl’ as “the tendency for warehouses to move from urban to suburban and exurban areas” (433). In studying the spatial patterns of logistics facilities in the continental US, Cidell (2010) confirms two trends: “the move towards inland distribution centres and the suburbanization of freight activity” (370). Numerous case studies in Europe, North America, Latin America and East Asia indicate a phenomenon of logistics sprawl in many urban regions on a global scale (Dablanc and Browne 2020).

Allen et al. (2012) observe three land use trends that have “fundamentally changed the warehousing land use patterns in urban areas in the UK and other developed countries” (46). First, de-industrialization has caused a major decline in industrial land use in urban areas and a relocation of storage to modern warehouses outside of urban areas or near ports. Second, a spatial centralization of stockholding has resulted in the use of fewer, but larger-scale national and regional distribution centres that serve a far larger geographical area. Third, increasing land prices

and traffic congestion in urban areas have led companies to relocate warehouses to locations with relatively lower prices.

More recently, scholars have started to take note of the re-urbanization of some logistics facilities. Giuliano and Kang (2018) identify two somewhat divergent trends, including a move towards larger-scale warehouses and distribution centres given consolidation and concentration in the shipping industry, while at the same time, an “increased demand for close-in locations” (255). For instance, Kang (2022) identifies a ‘return’ of logistics facilities to the central Seoul Metropolitan Area since 2009 as online retailers have sought to reduce transportation costs. In the very different context of the post-socialist and shrinking Katowice region, Poland, Krzysztofik et al. (2019) document what they term ‘anti-sprawl.’ Here, logistics facilities are being located on cheap brownfield sites in the regional core and on greenfield sites in between the relatively tightly-knit polycentric region.

While logistics activity *on aggregate* has become more dispersed across metropolitan spaces, not only is it unevenly distributed across those spaces, its impacts are also highly unevenly distributed. For urban planners, this means attention to supporting logistics activity on economic grounds needs to be balanced with attention to social and environmental justice concerns. Aljohani and Thompson (2016) organize a taxonomy of the impacts of logistics sprawl in the following categories: increased distance travelled by freight vehicles, negative environmental impacts, and effects on employees’ commuting modes and patterns. They emphasize the impacts of logistics sprawl on the commuting modes of logistics workers, including a potentially smaller labour pool for logistics firms given a lack of public transportation service and a requirement for these workers to own a personal vehicle to reach these often-remote areas. In contrast, others note that “the decentralization of logistics hubs and facilities brings jobs and economic development activity in

exurban residential areas, benefitting local populations in need of blue-collar jobs while reducing lengthy commutes” (Dablanc and Browne 2020, 1). The varying impact of logistics sprawl on workers and their commutes appears to be highly contingent on local conditions and public policy responses.

Cui et al. (2015) note how logistics developments’ affinity for low-cost locations and land-extensive uses “may also contribute to inefficient dispersion of activities which in turn generates environmental costs” (587). As Aljohani and Thompson (2016) observe, the increased distances traveled by freight trucks due to the relocation of logistics facilities leads to both increased fuel consumption and greenhouse gas emissions (259). Cidell (2010) notes that it is “important to consider the impacts of increased freight activity not only on the suburbanizing fringe, but on existing central city locations” (371) as core neighbourhoods will have to deal with increasing volumes of truck and train traffic (Wagner 2010). Such impacts of logistics sprawl and urban freight transport are closely tied to livability and environmental justice issues (Cui et al. 2015, 587; Yuan 2021). Road noise and truck traffic in residential neighbourhoods are generally recognized as negatively impacting quality of life, while an increasing amount of research has found that low-income and minority-ethnic communities are disproportionately exposed to health risks and noise given their proximity to urban freight infrastructure nodes (De Lara 2012; De Lara 2018a; Yuan 2021).

Logistics sprawl also impacts the surrounding environment and communities through land take (Kumhálová et al. 2019; Raimbault and Heitz 2023), which reduces the surface of agricultural, park, and natural spaces, and which is a major cause of biodiversity decline. However, Aljohani and Thompson (2016) point out that the environmental impact of logistics sprawl “is significantly understudied as much of the prior research has been descriptive in nature while failing to quantify

the actual negative environmental impacts” (260). Furthermore, less is known across the literature regarding the impacts of logistics development as an environmental justice issue in suburban areas (Giuliano and Kang 2018, 255). One exception to this is the increasing number of studies examining the environmental injustice problems associated with ports, including racial disparities in hosting communities and related port-city tensions (Hall 2007; Wilson et al. 2011; De Lara 2018a; Greenberg and Kocakusak 2022).

This first section demonstrates that a large body of knowledge is being built up regarding logistics spatial trends and their (sub)urban impacts. This knowledge still needs to be fully taken into account in current urban planning conversations and action. As we argue in the next section, what is needed is an understanding of the economic and political mechanisms shaping these spatial dynamics at global, regional, and local scales.

The Logistics Revolution: Situating the Demand for Warehousing in the Global Economy

Political economy approaches to logistics mainly draw on macro-theory constructs and concepts such as the ‘logistics revolution’, ‘spatial fix’, and ‘global production network’. Logistics has evolved from “its long history as a military art of moving soldiers and supplies to the front” (Cowen 2014, 24), to an internationally-recognized business science and a transformed perspective on the global circulation of goods (Bonacich and Wilson 2008). Driven by a confluence of technical and economic factors, the “logistics revolution has altered socio spatial processes at multiple sites along the supply chain” (Danyluk 2018, 631). However, within the logistics revolution, there is a difference between the supply and demand of goods to be moved, and the supply of and demand for land, labour, and other factor inputs enabling this movement.

Distinguishing between these relationships, through a political-economy approach, means untangling how a particular focus on costs, inventory, and reliability has led to new “geographies of capitalist production and distribution” (Cowen 2014, 40).

The Logistics Revolution

Bonacich and Wilson (2008) attribute the logistics revolution to the efforts of firms to “control costs, to limit inventory pile ups at any stage of the chain, to speed up the time it takes to cycle through the system, and to provide better service to consumers” (p. 4). Limiting the accumulation of inventory anywhere in the network, therefore, is the primary purpose of logistics, as “logistics experts operate on the principle that capital not in motion ceases to be capital” (Bonacich and Wilson 2008, 14). Hence these same authors see the logistics revolution as driven by “an attempt to bridge the gap between supply and demand more effectively” (Bonacich and Wilson 2008, 4), which in turn led to a shift from the firm level to the supply chain level. This ‘rescaled space of action’ gave rise to the concept of integrated distribution management with firms beginning to incorporate logistics calculations into production planning (Cowen 2014, 35). Furthermore, the introduction of *total cost analysis*, described as the “applied means through which systems thinking entered the field” (Cowen 2014, 35), shifted the way firms made decisions. Bonacich and Wilson (2008) also acknowledge the connection between the logistics revolution and neoliberalization processes as it “grew out of a particular political context including attacks on the welfare state, deregulation, and increased international free trade that began in the 1970s” (5). Finally, along with this “diffusion of a system analytics approach to transportation, communication, and the spatial organization of the firm” (Neilson 2012, 323), the logistics revolution was also enabled by such technological innovations as “the introduction of the shipping

container, the formation of business organization and academic programs for the generation and transmission of logistical knowledge, the interlinking of logistics science with computing and software design” (Neilson 2012, 323).

In contrast, Danyluk (2018) argues that, while instructive, these explanations overlook the deeper, structural motives behind the ascension of logistics, which derives from the logic of capital itself. Danyluk’s Marxian geographical perspective posits that the logistics revolution has facilitated a multifaceted ‘logistical fix’ that “reshaped the geographies of production, consumption, and dispossession on a global scale” (Danyluk 2018, 643). Central to Danyluk’s argument is Marx’s concept of the annihilation of space through transportation and communication advances, elaborated by Harvey as “time-space compression” (1990, 240). Danyluk (2018) “recasts the rise of logistics as one episode in a much longer history of time-space compression” (631) and cautions against emphasizing the ‘revolutionary’ nature of the various historical and technological factors outlined by Cowen (2014) and Bonacich and Wilson (2008). Framed this way, Danyluk (2018) sees the logistics revolution as an “intrinsic tendency of capitalist development, and not an accident of history” (635).

Finally, Coe (2014) argues for a conceptualization of logistics from a global production network (GPN) perspective, focusing “on the complex global webs of intra-, inter- and extra-firm network relationships that underpin global production systems, the power and value relationships therein, and how these network relations emanate from and are embedded in different institutional contexts” (226). Therefore, Coe (2014) argues that the GPN perspective “opens up a more analytical space” (227) to consider the complex array of extra-firm networks, governance regimes, and multi-scaled spaces that may shape logistics activities. This perspective offers the “potential for a productive political-economy approach to logistics that can move beyond the firm-centric

nature of much of the existing literature and foreground issues of power, value, labour, state policy and development” (Coe 2014, 227). Such an approach is also helpful in understanding how logistics shapes urban landscapes, as well as the roles that various non-firm actors, including local governments, play in shaping the supply of logistics lands and, in turn, logistics activities.

From the demand for goods to the demand for land at the global scale

Another aspect of global political-economy approaches concerns the demand for land at the global scale. Elaborating on Harvey’s (2018) statement that “the spatial mobility of commodities depends on the creation of a transport network that is immobile in space” (386), Danyluk (2018) identifies three specific ways in which the logistics revolution has transformed the demand for land at a global scale. The three ways include: promoting large-scale investments in the built environment, enabling the spatial diffusion of manufacturing, and expanding the frontiers of the accumulation process. This transformation has thus resulted in numerous projects of construction and expansion of international transport gateways, such as seaports and airports, both near the major metropolitan areas and in-between places (Hall and Hesse 2012; Danyluk 2019; Danyluk 2021). A focus on the reduction of large inventories of intermediate and final products in order to match supply with demand has also led to an “concomitant rise in hub distribution centers” (Dablanc and Ross 2012, 433). This entails the “construction of thousands of warehouses and terminals that are essential nodes in the circulation of goods” (Barbier et al. 2019, 31), where “suburban and exurban areas are attractive because of the availability and low cost of land and also because it is possible to connect to a more complex economy of regional and national flows from suburban areas” (Dablanc and Ross 2012, 434). In many ways thus, logistics is the

latest iteration of long-standing real estate development processes driven by changing investor, producer, distributor, and consumer demands.

The demand for logistics space at the regional and local scales

As the logistics revolution has transformed the demand for land at a global scale, this demand has also touched down in urban regions. Cidell (2010) argues that changes in logistics activities “have led to the need for single-storey distribution centers spread over hundreds of thousands of square feet” (371), and a general trend toward the standardization of these buildings with respect to their size, architecture, facilities, and layout (Cidell 2015; Raimbault 2022). These requirements translate into demand for cheap, large parcels connected to major transport networks, accompanied by a supply of inexpensive and low-skill labour (Bonacich and Wilson 2008, 135; Raimbault 2022). However, the uneven and fragmented nature of the logistics landscape suggests that there are additional forces at play shaping what is ultimately built where (or not) for the logistics industry. There is a need, then, to consider the supply of logistics lands, and therefore, the role of individual places, institutions, and policies (Cidell 2010, 370).

The Supply of Logistics Lands: Real Estate, Urban Planning, Labour, and Social Movements

Logistical geographies also shape, and are shaped by, factors such as real estate markets (Hesse 2004; Raimbault 2022), urban planning (or lack thereof) (Dizain et al. 2012; Dablan and Browne 2012), social movements and local politics (Barbier et al. 2019; Raimbault 2022), and labour (Hall 2016; Moody 2019). These factors can be seen as supply-side factors in relation to the logistics industry’s demand for space and are ultimately key to understanding the resulting geography of the logistics industry, including logistics sprawl. In this way, the production of

particular logistics spaces is implicated in the broader production of (sub)urban spaces (Cidell 2011).

Real estate markets

Several authors identify what they characterize as the ‘emergence’ of a specialized logistics real estate industry, driven by the logistics industry’s demand for flexible, large spaces in cheap locations (Hesse 2004; Raimbault 2022). Hesse (2004) notes that these new players in the logistics real estate market are more concerned with land capitalization and competition, and less so with urban planning and integration issues (171). In turn, this contributes to speculative development activity which entails land consumption and urban sprawl (Hesse 2004, 171). Similarly, Woudsma et al. (2016) note that “the provision of modern logistics facilities by a fast-growing logistics real estate industry has been critical in explaining location decisions since the 2000s” (476). This introduces additional considerations in the logistics (sub)urbanization process, including investor preferences regarding building typology and site configuration, as well as expected returns and risk tolerance. The rise and influence of this specialized real estate industry can thus be seen as a supply-side factor contributing to logistics sprawl (Hesse 2004; Raimbault 2022).

In particular, in cases of short supply, the “real estate industry must be able to respond by quickly building new [warehouses]... [although] this solution is only possible if investors already own plots of land, which must be prepared and authorized for development, and have obtained the necessary administrative permits” (Raimbault 2022, p. 1488). The role of this investment market thus “involves being able to supply such flexible logistics spaces in attractive and cheap locations, that is, in the (outer) suburbs of the main urban areas which are the largest logistics markets” (1488). Raimbault (2022) identifies two circuits of logistics real estate investment; one which is

more fragmented and separates financial agents and developers, and another, more integrated circuit, in which one firm plays the role of both financial agent and developer. An example of the latter is Prologis, which dominates the logistics real estate market worldwide. The increasing financialization of this real estate industry may be seen as a direct challenge to regional planning policies.

Local governments and urban planning

The logistics real estate market's ability to develop warehouses, and therefore meet the demand of the logistics industry, "is directly determined by local planning policies" (Raimbault 2022, 1491). Similarly, Cidell (2011) argues that individual municipalities are still highly relevant in discussions regarding global logistics networks, despite the "supposedly placeless world structure by the global logistics network" (832). For a US municipality, "it does not matter...if new development is a chain restaurant or a regional distribution center...what matters is that it provides jobs for the 'rooftops', property taxes for the school district as well as property and sales taxes for the municipality" (Cidell 2011, 845). Dablanc and Ross (2012) summarize the equation the following way: "local governments give explicit consideration to logistics activities, either for the jobs and tax revenues they can generate, or their adverse impacts on communities" (440).

Reducing such decisions to simply a matter of taxes and jobs, however, does not take into account the internal hierarchies present between economic sectors and within the logistics sector as a whole. As Barbier et al. (2019) note, the symbolic upgrading of specific logistics activities as 'high, smart and clean' has, in turn, created a situation in which "local decision makers claim to be rigorously selective in their preference for 'clean(er) logistics'" (36). In order to understand the changing geography of the global logistics industry, Cidell (2011) argues that it is key to

understand how suburban planners see their world, i.e., their spatial imaginaries, as that is how they will approach planning matters (833). Planning practitioners and elected officials, therefore, might reflect on their own implicit assumptions about the costs and benefits of logistics development, and who bears or reaps them (Hall 2007).

The attitudes of municipalities towards logistics activities and development are also dependent on such factors as their location and economic well-being (Dablanc and Ross 2012, 440). Raimbault (2022) finds that in France, “the municipalities of the major agglomerations are not usually very enthusiastic about the development of new logistics zones as it does not translate into many jobs/taxes” (1491), while most outer-suburban municipalities, aside from the richest ones, find such development propositions attractive. Giuliano and Kang (2018) observed a similarly mixed set of attitudes towards warehouses and distribution centres among municipalities in California. Municipalities with scarce job opportunities are more inclined to welcome logistics developments, viewing them as job generators and a means for local economic development, whereas those who are already more economically advantaged tend to frame them as environmental nuisances (Giuliano and Kang 2018, 254). In this way, the uneven landscape (Coe et al. 2004) across which logistics development takes place can be seen as directly contributing to a fragmented and environmentally unjust (De Lara 2017a) logistics landscape.

The uncoordinated and piece-meal approach that characterizes metropolitan logistics planning and policies contributes to logistics sprawl (Dablanc and Ross 2012). Raimbault (2022) notes several studies that “highlight the lack of regional coordination and, therefore, the primary role played by individual municipalities and local communities in the regulation of logistics land use, which contributes to urban sprawl” (1483). However, despite their role in regulating logistics land use, Dablanc and Browne (2020) note that “many local communities lack expertise regarding

the planning for freight transportation and logistics buildings and lack the basic knowledge about how supply chains are organized and how they translate into logistics land uses and generate local or regional impacts” (Dablane and Browne 2020, 1). Comparing urban planning policies for logistics facilities between US metropolitan areas and the Paris region, Raimbault et al. (2018) find a “very local and fragmented situation” (2) in the US. In the absence of urban and regional planning policy from more central or regional branches of the state, spatial planning is “extremely difficult to apply to logistics issues” (Raimbault et al. 2018, 2).

Municipalities have widely divergent capacities to comprehend and regulate logistics activity. Nefs and Daamen (2023) find that larger, ‘logistics-savvy cities’, with more experience and knowledge about logistics developments “can deliver higher degrees of control over location choice...and landscape integration” (15). At the same time, “in other more rural municipalities, non-institutional investors seem to cause fragmented developments associated with logistics sprawl” (Nefs and Daamen 2023, 15). Similarly, Dizain et al. (2012) note how a lack of planning in the urban core in Paris has “contributed to the eviction of logistics activities and the abandonment of urban multimodal terminals” (271), while “in the outer suburbs, the lack of land use control has contributed to a disorganized presence of warehouses” (271). This piece-meal approach to logistics planning, lacking in regional coordination and local understanding, can therefore be seen as contributing to a “dualization of logistics geography, between urban and peri-urban regions and logistics” (Raimbault et al. 2018, 17).

Labour

While differing from the supply of land for logistics, the supply of labour— understood here in the broadest sense to encompass the underlying patterns of social geography, the costs and skills

of workers, and the presence or absence of unions— provides another set of factors that influence logistics landscapes. Bonacich and Wilson (2008) and de Lara (2018b) include the availability of a low-wage, racialized, local labour force as one of the reasons for the movement of logistics firms to the Inland Empire in Southern California. This labour pool is essentially ‘captive’ given the challenging commutes to other areas for work, thus allowing “the warehouse sector... [to] get away with paying lower wages than it could elsewhere” (Bonacich and Wilson 2008, 135). It is also important to note that work or employment at dispersed logistics locations is supported by extensive employment of truck-drivers, delivery-persons, and other mobile logistics workers; in many cases, these workers occupy precarious employment situations (Gregson, 2017). Cidell (2011) maintains that “proximity to a low-skill, low-wage workforce remains an important consideration for distributors, especially for seasonally-oriented enterprises” (836). Similarly, Nefs and Daamen (2023) note that, overall, logistics costs are generally mentioned as the main argument in location choice, but these still depend highly on traditional location factors such as labour, consumer markets, and labour union power (5).

Therefore, as Hall (2016) notes, “there are powerful incentives for shippers and carriers to structure their activities to seek out, establish, and maintain the most favourable balance of labour market skills and costs” (7). As such, the spatial reorganization of logistics has also included a spatial escape of union jurisdictions and a growth of non-unionized, inland distribution facilities (De Lara 2018b). In some ways, the demand of the logistics industry for cheap labour is similar to its increasing demand for flexible spaces, both of which may be seen as extensions of the flexible nature of its supply chains (Cidell 2011, 30).

Local social movements

Another largely unexplored supply-side mechanism in the shaping of logistics land is the influence of local social movements (Barbier et al. 2019; Chocteau et al. 2023). While the literature outlined above touches on the influence of the spatial imaginaries of planning professionals and the differing attitudes of municipalities towards logistics development, these planners and municipalities themselves are influenced by their local populations and the presence of activist organizations. Barbier et al. (2019) note how local social movements concerned with logistics tend to focus on environmental or resident issues, and not on the working and living conditions of warehouse workers (Barbier et al. 2019). Raimbault (2022) observes a similar trend, stating that local social movements opposed to the development of logistics parks “focus almost exclusively on land development issues, approaching them from an environmental or quality of life perspective” (1495). In the US, where zoning has long been used to exclude industrial uses from wealthy and white residential areas (Silver 1997), advocacy planners concerned with environmental injustice have recently focused on the impacts of port activity on surrounding poor and racialized communities (Greenberg and Kocakusak 2022; Wilson et al 2011).

We do not yet have a deep understanding of the particular ways local social movements influence the production of logistics developments. In their analysis of the production of logistics sites in France and Germany, Barbier et al. (2019) note an increasing visibility of logistics at the local level, due to the financialization of the logistics real estate industry and the subsequent manner in which logistics parks are produced (44). This type of logistics development “makes it easier for social movements to object to the construction of new logistics sites” (Barbier et al. 2019, 44). Therefore, echoing Moody’s (2019) observation of the ‘contradictory’ nature of logistics, the industry’s focus on securing flexible sites may in turn be creating a situation in which local social movements are able to exert more influence over the production of logistics

landscapes. This can be observed in the European context where environmental organizations have successfully stopped the development of several logistics sites, particularly Amazon distribution centre projects (Chocteau et al. 2023).

Local Governance and the Political-Economy of Logistics: Privatization, Politicization and Financialization

Through a political-economy lens, this literature review highlights the multiple interactions between the supply of, and demand for, land for logistics. Local policies play a crucial role in these interactions. The logistics industry's demand for flexible space options, supported by a specialized logistics real estate and investment industry, is not only shaping the way land devoted to logistics is becoming a commodity (Hesse 2003, 165), but has also resulted in the increasing privatization of logistics-related urban developments (Raimbault et al. 2018; Barbier et al. 2019; Raimbault 2022). Barbier et al. (2019) observe a limited form of politicization regarding the urban development of the logistics industry, noting that “public and academic discourses on the ‘logistics revolution’ do not tackle these questions of urban development and governance” (44).

A full understanding of the impacts of logistics sprawl on the urban environment entails not only investigating *what* gets built and *where*, but *how* it is built through governance processes enacted at the local level. Several authors have begun to explore these questions of urban logistics development and governance. Hesse (2004) argues that the increasing role of real estate and development firms in the production of logistics sites makes public policy goals more difficult to achieve due to the “competitive dynamics between firms and— particularly— between municipalities” (171). In this way, a political-economy approach concerned with the production of

the logistics-built environment necessarily leads to an examination of the dynamics of governance, understood as the formal and informal public-private negotiation and decision-making processes about urban planning and land development policies.

In identifying three different local modes of logistics zone governance, Barbier et al. (2019) note that, “the local and regional historical and institutional contexts are key determinants of the way current logistics sites are built and governed” (37). These three modes of governance highlight the role of land supply in shaping logistics development and the increasing trend toward privatized logistics spaces.

The first mode entails what Barbier et al. (2019) characterize as an incremental and silent conversion of industrial zones into logistics zones, wherein logistics providers looking for land in major urban regions find suitable space in existing industrial zones (37). Since the land was already zoned for industrial use, the conversion from industrial functions to logistics became an “invisible shift” (Barbier et al. 2019, 37), where the involvement of municipal regulation was limited to the issuance of building permits. Next came an “emergence of local policies on the development of logistics zones” (Barbier et al. 2019, 39), in which municipal authorities implemented economic development policies based on logistics zones in response to a growing demand for logistics spaces (Barbier et al 2019, 40). In this mode of governance, local economic development strategies may be seen as a supply-side factor, supported by local governments who view the logistics industry as an “easy way to attract business in a so-called ‘post-industrial context’ (Barbier et al. 2019, 39). Rather than build and manage their own facilities, logistics providers relied upon the emergence of a market in logistics real estate. This has led to a third governance mode in which logistics parks are developed by international investment fund managers, leading to the privatization of the supply of land for logistics. This mode of governance appeals to local authorities with a lack of financial,

technical, and political resources, who appear generally accepting of this privatization. This governance mode is also appealing to municipalities “eager to promote fast economic development” (Raimbault et al. 2018, 16).

Raimbault (2022) builds on these observations, outlining the “specific features of the financialization of the logistics real estate industry” (1481) and its relation to and impact on not only logistics sprawl, but also the financialization of outer-suburban governance. The construction of entirely private logistics parks by investment firms leads “to the privatization of a number of local policies” thus enabling “real estate companies to decide on local economic development issues” (Raimbault 2022, 1491). However, “the dominance of integrated, and often global, companies and strategies in logistics real estate relies on their capacity to locally negotiate the development of private logistics zones, which involves the capacity to form local coalitions” (Raimbault 2022, 1483). These coalitions, dominated by real estate developers and fund managers, seek to govern logistics parks in ways that suit investor desires for flexible, attractive and cheap locations (cf., Wachsmuth 2017). Within these logistics development coalitions, Raimbault (2022) notes that “local governments negotiate only with property developers and fund managers” (1495), rarely ever meeting the warehouse users, workers, unions or logistics companies. In turn, issues relating to logistics zones are seen as a question of real estate management, further complicating the ability of local governments to better understand the role of logistics in urban regions (Raimbault 2022, 1495). Therefore, as Raimbault (2022) concludes, not only has the increasing financialization of logistics led to logistics sprawl, but also to the restructuring of outer-suburban governance “through the privatization of economic and land development policies” (1496).

Conclusion: The Future of Urban Logistics Planning

The spatial patterns of logistics are indeed more complex than a simple dualism between urban and suburban areas (Cidell 2011; Heitz 2021), and it is clear that logistics is shaping urban regions in myriad ways, with material impacts for planning and policy (Hesse 2004, 172). The political-economy approach to logistics development governance shows that the ability of local governments and social movements to influence what is built, and where, depends largely on supply-side factors such as the location of the site, the economic well-being of the municipality, and whether the governance processes allow for the issue to be raised in public. Combined with the demand of the logistics industry for large plots of cheap land connected to major transportation routes, these factors directly contribute to the fragmented nature of logistics development. The ensuing impacts of logistics sprawl raise both wider social and environmental concerns. In response to this situation, this review of literature highlights several recommendations for those planning both urban and suburban spaces, and questions for future research.

First, this review suggests that to remedy the fragmented nature of logistics development, urban regions would benefit from a regional approach to urban logistics planning (Dablanc and Ross 2012). Further, such approaches would also benefit from the integration of land-use, urban freight, and economic development planning (Hall and Hesse 2012). With regards to improving the spatial outcomes of distribution centres, Nefs and Daamen (2023) note that “existing local planning instruments and guidelines, if combined with regional and national coordination...seem promising spatial steering tools” (p. 18). Similarly, Dablanc and Ross (2012) argue that “the present piece-meal approach to logistics planning should be abandoned” (441). Building on this, Raimbault et al. (2018) recommend that “a greater collaboration and agreement between places within urban regions regarding issues of zoning and the location of logistics is still needed” (17). These authors argue that “greater coordination would support the development of a more consistent

planning and zoning done at the various scales of local and regional policies” (Raimbault et al. 2018, 17). Recognizing the different degrees of power that exist across urban regions, they also suggest that such a “regional view could also prevent...very organized communities to reject freight facilities in the ‘backyard’ of some less organized ones” (Raimbault et al., 2018, 17).

However, Cidell (2011) questions the feasibility of such calls for planning at the regional and mega-regional scales, arguing that this approach “belies the fact that mega-urban regions are in fact composed of multiple jurisdictions with their own land use and economic development policies, their own residents and their own needs for jobs and property and sales tax income” (836). Similarly, Hall and Hesse (2012) note that efforts to integrate planning at the regional scale must contend with the fact that “urban regions are...shaped by assertions of autonomy and identity” (12) as municipal governments will continue to “strive to maintain their identity and control over public services” (12).

Second, in general, a better understanding of logistics at the local and regional levels is required, especially in order to help inform planner’s education (Baker et al 2023), local public policies, and political debates. This literature review reveals how critical it is for planning practitioners to have an awareness of the underlying political-economy of logistics, including the role and relative power of the specialized real estate industry, local growth coalitions, and community opposition. This includes, not only as Hesse (2004) notes, “establishing a general awareness of the distribution economy” (172), but also understanding logistics in relation to its impacts on urban regions, urban planning, and governance. For example, Aljohani and Thompson (2016) argue that the “impacts resulting from relocation of...logistics facilities need to be carefully taken into consideration by urban planners and public authorities when allocating industrial land for logistics facilities in urban areas” (261). Similarly, Woudsma et al. (2016) suggest that a “more

complete accounting of the benefits and drawbacks of logistics sprawl could be a focus of further research to help inform public policy direction” (487). With regards to the largely unknown long-term impacts of logistics sprawl, Cidell (2011) notes that “while historic warehouses are now in high demand in many central cities for housing, live/work space, or restaurants or art galleries, it is hard to imagine creative reuse of a vast, single-storey, concrete box with no windows in the middle of a sea of pavement” (30). More generally, understanding the functional role of warehouses within local, regional, and national economies, should be of concern to both local governments and logistics scholars.

Third, a better understanding of current regulations and modes of governance of logistics development is key. For instance, in Chinese cities, Yuan and Zhu (2019) find that “in the current zoning codes, warehouses with storage of hazardous goods are categorized as a special type of land uses that require more stringent screening... [while] mega warehouses with a large number of truck trips have not been included into any catalog of environmental assessment yet” (251). These authors suggest that local governments in China should therefore “provide guidance on understanding and addressing... [these] regional problems” (Yuan and Zhu 2019, 251). Referring to the dynamics of logistics development at the local level, Nefs and Daamen (2023) note that incentives such as land prices and favourable labour programs used to attract logistics companies “are still largely a local affair and the politics behind them remain somewhat of a black box” (17). Raimbault (2022) calls “for more evidence on the financialization of residential, commercial and industrial (outer) suburban spaces, including their effects on workplace governance” (1496), as well as on the role of environmental and labour social movements. In this way, as Neilson (2012) argues, there continues to be “an urgent need to bring logistics out from the political shadows” (337).

In addition to the areas of future research outlined above, this literature review revealed that urban logistics planning would benefit from further research into the specific impacts of logistics sprawl on suburban communities, especially with regards to its socially uneven effects. Untangling the ways in which logistics interacts, shapes, and is shaped by urban regions is one way to bring light to a field of study that has long been considered “simply as a service input to client industries, rather than a sector in its own right” (Coe 2014, 225). Given the increasingly important role of (outer)suburban spaces in the functioning of urban regions (Keil 2017; Phelps 2017; Brenner 2019), “there may be a new narrative to be constructed here on the contribution of the suburbs to the metropolitan productive economy that public policies could seize upon” (Heitz 2021, 9).

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