

**EXTENDING SAME-DAY DELIVERY TO E-TAILING—  
A REAPPROPRIATION OF THE CITY BY LOGISTICS**

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## **EXTENDING SAME-DAY DELIVERY TO E-TAILING– A REAPPROPRIATION OF THE CITY BY LOGISTICS**

### **Abstract**

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The success of e-commerce, and its implications for the organization of logistical operations, has given rise to an abundance of academic literature. It is true that, unlike traditional in-store logistics, e-commerce logistics relies on delivery systems based on strong capillary flows. One of the most important developments has been the rapid expansion of same-day delivery, which is based on product delivery within a few hours of an online order, whereas the dominant model used to be delivery several days after an online order. To improve their reactivity, e-tailers are now multiplying the number of warehousing facilities in the heart of cities, where customers live. Whereas in the past, warehousing facilities had been rejected far from urban areas, in reference to a logistics sprawl movement, a reversal of the situation is now visible, notably under the impetus of Amazon, which is setting up a very large number of urban micro-fulfillment centers in the United States and Europe. This paper analyzes the reappropriation of the city by logistics, highlighting the challenges and threats facing e-tailers as they implement same-day delivery.

### **Keywords**

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Amazon, city logistics, e-commerce, urban micro-fulfillment center, same-day delivery

## **EXTENSION DE LA LIVRAISON J+0 AU COMMERCE ELECTRONIQUE– UNE REAPPROPRIATION DE LA VILLE PAR LA LOGISTIQUE**

### **Résumé**

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Le succès du commerce électronique et ses implications pour l'organisation des opérations logistiques ont donné lieu à une abondante littérature académique. Il est vrai que, contrairement à la logistique traditionnelle du commerce de détail en magasin, la logistique du commerce électronique repose sur des systèmes de livraison fondés sur des flux fortement capillaires. L'une des évolutions les plus importantes est l'expansion rapide de la livraison le jour même, dite J+0, qui consiste à livrer dans les quelques heures suivant une commande en ligne, alors que le modèle dominant était auparavant la livraison plusieurs jours après une commande en ligne. Pour améliorer leur réactivité, les e-commerçants multiplient aujourd'hui les entrepôts au cœur des villes, là où vivent leurs clients. Alors que, par le passé, les installations d'entreposage avaient été rejetées loin des zones urbaines, en référence à un mouvement d'étalement logistique, un renversement de la situation est aujourd'hui visible, notamment sous l'impulsion d'Amazon, implantant en ville un très grand nombre de micro-centres de préparation de commandes aux États-Unis et en Europe. Le papier de recherche analyse la réappropriation de la ville par la logistique, en mettant en évidence les défis et les menaces auxquels sont confrontés les e-commerçants dans la mise en place de la livraison J+0.

### **Mots-clés**

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Amazon, logistique urbaine, commerce électronique, micro-centre urbain de préparation de commandes, livraison le jour même (J+0)

## Managerial summary

For almost a decade now, the same-day delivery business model has been expanding rapidly in the context of online commerce. This business model dates back to the early days of courier services, being used primarily for urgent documents and parcels, before few e-tailers identified growth potential for a wide range of products. What exactly is same-day delivery? In the contemporary retail world, same-day delivery is the practice of having an online order delivered on the day it is placed by a customer, usually a few hours later. Very few e-tailers can implement this business model, which brings strong marketing value in purchasing situations where extreme reactivity is a key element of consumer satisfaction. In fact, it is very difficult to prepare orders and then deliver them within such short delivery times, when the traditional standard is for online orders to be delivered within 24 to 48 hours. The whole point of same-day delivery is to get parcels from point A to point B as efficiently as possible, with as little physical work as possible and with routes that fit together perfectly.

If same-day delivery is becoming more and more prevalent in the retail world, technological developments in logistical systems, including transportation, are largely to blame, especially with process automation. It is not surprising that Amazon is at the forefront in this respect –by launching its same-day delivery service in certain American cities in 2009– since logistical innovation is one of the keys to its success (development of humanoid robots in warehouses, massive use of artificial intelligence, etc.). The company’s strength also lies in its ability to leverage powerful economies of scale by shipping increasing numbers of packages using the same-day delivery model: the more packages sent, the more often they can be prepared and shipped. Economies of scale thus make it possible to reduce delivery costs to a level deemed acceptable by consumers, who will be prepared to pay a little extra if the added value is significant, such as improved quality or better service, of which reduced delivery times are an excellent example.

To capture customers, especially the generation Z, who are sensitive to the near-instant availability of products, several companies have embarked on an unbridled –but ruinous– race for extreme responsiveness. Many observers have followed with interest attempts to break into the European quick commerce market and its marketing promise of 15-minute delivery after an online order. In France, notably with the bankruptcy of Turkish giant Getir in July 2023, preceded by a succession of start-up failures (the most recent judicial liquidation was that of the German company Flink in April 2024, the only “survivor” on the French market), a hasty conclusion was drawn: quick commerce had lost the battle over lead times, and more broadly heralded the coming failure of same-day delivery. Amazon, however, tends to prove that the war is not lost. The company is clearly looking to take on Walmart, the world’s largest retailer, which has also positioned itself in the same-day delivery market with Walmart+ and is using its dense network of stores to do so.

To meet this logistical challenge, Amazon is now building more and more micro-fulfillment centers (MFCs) in the heart of cities, to enable delivery within a few hours. In the medium term, the company plans to build no fewer than 1,000 to 1,500 MFCs in North American cities, as well as in several European cities such as Paris, which will thus regain a logistical function that has been missing for decades. Indeed, e-tailers have gradually moved their mega-warehouses far from cities to take advantage of inexpensive storage space but allowing urban deliveries within 24 or 48 hours. With MFCs, it is possible to speak of a reappropriation of the city by e-tailer logistics, sometimes to the detriment of the commercial activity carried out by small shops. If this trend is confirmed, the morphology of cities could undergo profound change, causing them to lose a significant part of their recreational dimension, and consequently of their economic dynamism.

## Introduction

Over the past 15 years, online sales of fast-moving consumer goods (FMCG), or e-tailing in the rest of this paper, have developed strongly in Europe. E-tailers offer delivery to the consumer's home within two to three days. This explains why some consumers prefer to collect products from pick-up points or physical stores more quickly, managing the last mile themselves. In this model, e-tailers prepare orders in mega-warehouses spatially located in outlying areas, sometimes several dozen kilometers from urban centers. The benefits of mega-warehouses are twofold: they enable significant economies of scale to be achieved, particularly in terms of storage and order preparation; and they offer the possibility of covering large catchment areas with comparable service quality. However, a new model is emerging, based on the micro-fulfillment centers (MFCs) developed by Amazon in the United States. It involves the proliferation of very small warehouses (or hubs) in the heart of cities, capable of delivering online orders in less than two hours. According to Kaspi *et al.* (2022), this is one of the three main trends in tomorrow's urban logistics, along with the development of autonomous vehicles and crowded logistics.

This is a real battle over lead times between e-tailers, with the aim of creating a sustainable competitive advantage. Convenience stores have understood the danger of losing market share, and are beginning to offer their customers ultra-fast home delivery services (Ackva and Ulmer, 2023). The impact of battle over lead times is considerable insofar as it is forcing the massive reintroduction of warehousing facilities in cities, sometimes to the detriment of physical stores. This paper points out that, while same-day delivery significantly improves the level of e-service provided to consumers, it may well have negative external effects for the city, through the multiplication of nuisances (pollution, noise, traffic jams, etc.). So, while many observers believe that the same-day delivery model greatly enhances the customer experience, by forcing the reinjection of warehousing facilities into the urban space, it is possible that the opposite effect will occur: the degradation of people's living environment. In short, the reappropriation of the city by logistics is profoundly transforming the spatial organization of flows and retailing, a fact that researchers in service management cannot ignore. By way of illustration, the example of Katowice, Poland, highlights that the existence of a powerful "logistics city" is rooted in a historical perspective that remains little known (Krzysztofik *et al.*, 2019), but whose *avant-garde* dimension is undeniable.

The present contribution proposes a preliminary reflection on the stakes of same-day delivery in the organization of the ultimate urban step of supply chains<sup>1</sup>; it wishes to suggest avenues in a direction not yet explored in the field (Cardenas *et al.*, 2017). Questions relating to city –or urban– logistics have given rise to an abundance of academic literature over the last three decades (more than 2.0 million entries on Google Scholar by June 2024). This is not the case for same-day delivery ecosystem (Kawa *et al.*, 2018), which still suffers from a deficit of research in service management even though the implications are significant for improving the performance of e-tailers. To this end, the paper is structured in three sections. In the first section, the fundamentals of the same-day delivery model are introduced, highlighting a major "*pendulum swing*," from logistics expelled from cities to logistics reclaiming the city. In a second section, the urban warehousing facilities associated with same-day delivery ecosystem are briefly described, taking the case of the most advanced e-tailer in this field: Amazon. The third section focuses on the threats to the "logistics city" emerging from the same-day delivery model, particularly in terms of the likely tightening of regulations enacted by local political authorities.

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<sup>1</sup> Appendix 1 presents some significant statistics on same-day delivery for the most advanced countries in this field.

## 1. Same-day delivery

A managerial revolution is on the horizon and, as is often the case, the change is coming from the United States, under the aegis of the giant Amazon. The company is known for delivering an exceptional customer experience based on maximum operational efficiency of its supply chain (Cohen, 2018; Hahn *et al.*, 2018). When it comes to same-day delivery, what is being going on for the past few years? Amazon is clearly looking to take on Walmart, the world's largest retailer, which has positioned itself on the same-day delivery market with Walmart+, in other words, deliveries a few hours after an online order (Kumar, 2024). This clash between the two retail giants is not surprising for researchers in service management (Jindal *et al.*, 2021). As e-commerce continues to grow in many countries, especially since the Covid-19 pandemic, customer expectations are evolving, giving rise to a new era in delivery management. When consumers place an order on the Internet, the excitement of receiving the long-awaited product is now accompanied by a growing anticipation of its ultra-fast delivery, sometimes in just a few hours. This explains why the most powerful e-tailers compete to offer ever-shorter delivery times, sometimes even including same-day delivery in the service proposition. The effectiveness of same-day delivery can then lead to a significant drop in in-store sales, as Xi *et al.* (2020) point out.

The fierce battle over lead times is reshuffling the deck. To capture consumers who are sensitive to the near-instant availability of products, especially generation Z (Al-Muani *et al.*, 2024), various companies have launched a mad dash for extreme reactivity (Beretzky *et al.*, 2023). Many observers have followed with interest the first “battles” with quick commerce and its marketing promise of 15-minute delivery after an online order in several European cities. Many e-tailers have underestimated the dramatic consequences of an excessive marketing promise, which cannot be kept, on customers' intention to buy again (Cui *et al.*, 2024). In Europe, notably with the bankruptcy filings in 2023 of Turkish giant Getir in France, Italy, Portugal, and Spain, preceded by a succession of start-up failures, a hasty conclusion was drawn: quick commerce is dead on the battlefield of delay. Should we stop at these misadventures to consider that it is impossible to do better than deliver in 24 hours? This would be a main error of analysis, because delivering to a customer very quickly could soon become a unique source of customer loyalty, provided that efficient “proximity logistics” is implemented. The modeling proposed by Yang *et al.* (2024) highlights the fact that simply relaxing the time constraint by increasing delivery time by a few minutes would enable quick commerce to achieve a sufficient level of profitability, with a 50% reduction in fulfillment costs.

Of course, the growing number of online orders poses a major logistical problem in terms of delivery with the main risk being that cities will be overrun by delivery vehicles, leading to recurrent traffic jams, unexpected incidents, and road saturation (Muñoz-Villamizar *et al.*, 2021a); a drone delivery solution, as suggested by Dayarian *et al.* (2019) and Moshref-Javadi *et al.* (2023), seems totally unthinkable, not least for safety reasons. In addition, for several decades now, product storage has gradually been relocated to the outskirts of urban areas, or even dozens of kilometers away, in ever larger mega-warehouses, by obeying a process called logistics sprawl, including for e-commerce (Fried and Goodchild, 2023). Spatial remoteness combines with order-picking constraints to optimize the use of material and human resources. As the size of a warehouse increases, the volume to be processed mechanically increases, and the consolidation of flows becomes central; the online order of Mrs. Jones will have to be associated with the online order of nearby Ms. Smith to avoid costly vehicle movements from one city to another. It is therefore logistical optimization at order preparation level that defines the level of service offered to customers, particularly in terms of delivery times.

## 2. Urban warehousing facilities

The logistical challenges associated with the development of same-day delivery in e-commerce are giving rise to major changes in the organization of product flows. These changes are comparable to those that took place in the 1970s with the expansion of out-of-town large retailing, which led to the proliferation of mega-warehouses located several hundred kilometers from urban centers. Now, with same-day delivery, logistics –especially the warehousing facilities of FMCG– are paradoxically reinvesting city centers in the form of MFCs (for a comparative analysis of different international experiences, see Katsela *et al.* [2022]). The aim of a MFC<sup>2</sup> is to bring products closer to the end consumer, and thus speed up delivery of the products ordered. Areas zoned for warehousing facilities are located as close as possible to residential areas. The MFC as urban mini hub prepares many orders containing a small number of items, as is often the case with online sales (Alessandro *et al.*, 2022). In addition to the great complexity of order management, consumers now demand ever-faster delivery, leading to huge automation of both storage and order-picking tasks. The gamble based on the application of technology in warehouses makes it possible to boost operations, improve stock management, reduce errors, and eliminate additional logistical costs.

Amazon is undoubtedly the e-tailer with the most aggressive policy when it comes to implement urban warehousing facilities. It is planning to build no less than 1,000 to 1,500 MFCs in North American cities in the next five years, leading the company to undertake massive urban expansion to reduce delivery times. This is a reversal of the old logistics strategy based on the presence of gigantic distribution centers in tax-advantaged States. As early as February 2020, Amazon Prime customers in Philadelphia (Pennsylvania), Phoenix (Arizona), Orlando (Florida) and Dallas (Texas) were able to order from a list of around 100,000 of the most popular items and receive them in just a few hours: before 6 pm for orders placed that morning; before 1 pm for orders placed the night before. Expansion has continued ever since, and in 2023 no fewer than 90 urban areas has been covered by same-day delivery, with plans to double this number by 2025. As a result, Amazon has implemented a wide-ranging strategic plan to capture urban customers, as shown by the high-density logistics of the Los Angeles Metropolitan Area and the New York Metropolitan Area (see Appendix 2). This managerial evolution is not surprising insofar as Amazon wants to counter Walmart, which developed collaborative delivery some ten years ago, precisely to deliver quickly to customers by adopting a sustainable strategy.

Amazon's MFCs are based on a "calibration" and organization that have nothing in common with the more mega-warehouses. On the contrary, they stock only FMCG, those most in demand by customers in urban areas (De Silva *et al.*, 2020). These include frozen foods, high-tech products, pet supplies, toys, and aperitifs. Nothing to do with garden furnishings or household appliances, whose low turnover and size justify processing in mega-warehouses. From these MFCs, deliveries are organized in less than two hours for Amazon Prime members (the minimum basket size is 20 euros, and delivery is charged at 3.90 euros, but free if the basket exceeds 60 euros). Delivery in less than 1 hour is available for certain zip codes in provincial cities, at a cost of 7.99 euros (May 2024 data). In short, Amazon's business model is clearly aimed at winning the battle over lead times in a hyper-competitive market. More broadly, the company's two-decade history highlights a strong strategy of locating physical facilities to improve rapid access to consumer markets (Rodrigue, 2020). It is possible, however, that large retailers who have developed a dual online and offline distribution network, as is the case with Walmart and Zara, may have a competitive advantage in terms of logistics. Integrating the two networks could make it easier to manage deliveries to

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<sup>2</sup> The MFCs are called *dark stores* in quick commerce, "where SKUs are stored in person-high shelves, accessed by human pickers" (Boysen and de Korster, 2024)

customers by connecting MFCs and offline stores, as detailed in the stochastic modeling of Lee *et al.* (2013).

### 3. Threats to the “logistics city”

At the end of the 2000s, Hesse (2008) published a remarkable book linking logistics management and spatial issues. In particular, he points out that logistical choices have a direct impact on the organization of urban space, for example in terms of land use and the well-being of populations. The development of same-day delivery fits in perfectly with Hesse’s (2008) reasoning, since it is leading to a proliferation of MFCs whose effects on the city are undeniable and are set to increase. In a forward-looking analysis, the World Economic Forum (2020) underlines that in Europe, same-day delivery accounts for just 5% of all deliveries following online orders. Urban logistics specialists might therefore think that the phenomenon mentioned is no more than confetti sized. Such an error of analysis could prove dramatic. Same-day delivery within a few hours of placing an order online could very quickly become a standard of service quality, and under these conditions, the MFC is likely to become a *structural component* of the city of tomorrow. The literature on the subject is increasingly voluminous, and on a managerial level, Ulmer (2017) already noted in the mid-2010s that same-day delivery was becoming a major business model.

The proliferation of MFCs in the “logistics city” is having a negative impact on residents, particularly in terms of traffic jams and environmental degradation. The simulation carried out by Muñoz-Villamizar *et al.* (2021b) shows that ultra-fast delivery generates extremely high CO<sub>2</sub> emissions, as it is difficult to produce consolidated cargo, and as Appendix 3 (a) and (b) underlines, the more ultra-fast delivery develops, the more CO<sub>2</sub> emissions and carbon footprint will increase. To find the most effective solutions that safeguard the living environment, all urban logistics stakeholders need to be involved in urban planning, whether private stakeholders (e-tailers, wholesalers, logistics service providers, etc.) or public stakeholders (local authorities, residents’ associations, etc.). As Sharma and Singh (2023) emphasize, only a collective and shared vision of the place of warehousing facilities in urban planning can maintain a liveable city, based on the harmonious development of commercial, recreational, and logistical activities. The challenge over the next few years is immense, and as such needs to be cross studied both by researchers in service management and supply chain management. While analyses carried out from an optimization perspective, such as that of Klapp *et al.* (2018, 2020) devoted to the dynamic distribution wave problem, or that of Stroh *et al.* (2022) devoted to optimizing the size of the delivery vehicle fleet, are essential, we should not forget that the ongoing transformation of urban logistics raises numerous societal issues that it would be dramatic to underestimate, particularly at the environmental level, with a sharp increase in fine particle emissions (Shearston *et al.*, 2020).

The technical and managerial difficulties involved in developing a network of warehousing facilities in the heart of a city are well known. For example, the sharing of stocks between MFCs is essential for a better order fulfillment. Similarly, location is the key to success, since a location that cannot guarantee same-day delivery will lead to failure. Populations are changing, ageing, or moving with life, and a good location today may not be so in the next five years. This is undoubtedly why alternative solutions are being implemented, the most dynamic of which is that of drives, acting as veritable MFCs more or less “attached” to stores. The biggest threat, however, remains regulatory. Local political authorities are bound to take a dim view of the proliferation of warehousing facilities in the heart of cities, especially when these are tourist destinations. As was the case in the past for traditional retail, it is highly likely that e-tailers will be forced to relocate their logistics to peri-urban areas. The greater the distance involved in delivering FMCG to city dwellers, the greater the risk that same-day delivery will become difficult to guarantee. From this point of

view, the actions of local political authorities in many European countries could be a major hindrance on the further expansion of the new logistical model (see Appendix 4). This dimension is particularly important and should be studied as a priority, as Janjevic and Winkenbach (2020) point out.

One of the main problems faced by urban MFCs associated with same-day delivery is actually their legal nature, with the risk of a political *laissez-faire* attitude favouring the triumph of “going dark” (Bitterman and Hess, 2021). In many countries, including France, every building as part of the city is subject to various constraints linked to town planning and the geographical environment. The key issue is the qualification of the activity, in other words, the destination of the building: retailing or warehousing? The answer to this question is firstly tax-related, since taxes will differ depending on the intended use of the building. Secondly, as underlined above, it is societal, insofar as the city is a living space, and its inhabitants are certainly looking for practicality, but also for calm; thinking about the commons is therefore a human dynamic, since it depends on social groups with contradictory interests. It is also a multi-factorial dynamic: housing, work, business, climate and public tranquility must be the criteria for organizing the commons through strict legal rules. The same-day delivery could thus be destined to change if citizens’ initiatives are given a more prominent place, opening the door to a city policy that is more respectful of residents’ wishes. It remains for e-tailers to find ways of integrating the commons, without necessarily being able to implement “standardized” solutions that can be adapted to all cities, whatever their size and configuration.

## Conclusion

The same-day delivery model is an ongoing evolution in e-tailing, in response to new consumer demands for responsiveness and availability in FMCG, but also in fashion products with Zara’s fast deliveries in Paris or London (any online order placed before 2 pm Monday to Saturday will be delivered between 6 pm and 10 pm). The rise in the level of convenience expected when shopping online seems to be gaining ground, and where in the past a delivery time of a few days was perceived as entirely satisfactory, it is now perceived as mediocre. This development is not surprising, given that numerous studies in logistics over the past 30 years have highlighted the growing time pressure on supply chains. E-tailers are thus engaged in a “time-based competition” which, to use Stalk Jr.’s (1988) analysis, is a prerequisite for gaining a sustainable competitive advantage. From the perspective of a ratchet effect, once consumers have benefited from a higher level of service (delivery within a few hours), they are generally reluctant to return to the previous lower level (delivery within a few days). This would be seen as a degradation of the service level, the negative effects of which in terms of re-purchase could be significant, by altering the perceived level of satisfaction, which is known to impact the post-purchase experience (Cui *et al.*, 2024).

E-tailers who have opted for the implementation of same-day delivery are therefore faced with a new business model for which it is difficult to imagine a reversal when they have defined delivery guarantees with a high level of respect (Fotouhi and Miller-Hooks, 2023). This explains the massive investment in a network of warehousing facilities in the heart of cities, whose level of automation is rising rapidly to accelerate the processing of critical stages, particularly order preparation and storage (Edouard *et al.*, 2022). As with any servuction process, however, it is impossible to eliminate certain human factors, both among employees and customers. On the employee side, an accidental mix-up of labels during a speedy pickup could result in a customer receiving another customer’s product. On the customer side, last-minute cancellations or changes to orders can disrupt order preparation and delivery routes. Furthermore, as Banerjee *et al.* (2023) underline, depending on the time of day, it will be more or less difficult to fulfil the marketing promise made by the e-tailer.



Same-day delivery thus introduces a high level of “managerial tension” that is beyond the financial and technological reach of all e-tailers. This explains the success of Amazon, which benefits from its experience in monitoring warehousing facilities.

It remains to investigate in depth the prospects for same-day delivery by analyzing the societal, environmental, and political context facing e-tailing. On the societal front, the success of the model is undeniably based on a cult of speed and “everything, right away.” However, there is no guarantee that future generations will continue to favor this frenzy of time (Oyama *et al.*, 2024), just as the “*Great Resignation*” movement is leading millions of young employees to leave their current, often highly lucrative, jobs in search of a new one that preserves their well-being and a balance between personal and professional life. On the environmental front, awareness of the ecological cost of the many variations of ultra-fast, whether ultra-fast fashion or ultra-fast delivery, could encourage the spread of *slowness logistics* (Paché, 2007), along the lines of Italy’s famous slow food movement. According to France Stratégie, a department reporting to the French Prime Minister, urban deliveries account for 20% of daily traffic, 30% of road use and 30% of greenhouse gas emissions. By way of example, given that over a million deliveries are made in the Paris region every year, urban supply chain members can no longer avoid this issue, given that the same-day delivery model is likely to increase negative externalities unless ecological transport solutions are implemented across the board. Finally, on the political front, as mentioned above, the interventionism of local political authorities, largely responsible for the sharp drop in quick commerce in several countries, could force e-tailers to abandon the huge establishment of MFCs in cities, making same-day delivery impossible.

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## APPENDIX 1

### Some significant statistics on same-day delivery

#### Same-day delivery forecast

Same-day delivery is likely to become available at most retailers with an online channel on a broad scale in urbanized areas in countries with dense metropolitan areas. (Digital Journal)

About **40%** of consumers would consider receiving their order via drones to speed up delivery. (PwC)

Same day delivery should be designed to provide a fast and extensive yet affordable mode of distribution of goods in densely populated areas where there's a high number of online shoppers. (Supply Chain 24/7)

High cost of labor, maintenance, and fuel may restrain overall market growth in coming years. (NBC Right Now)

#### Who's using same day delivery?

About **51%** of retailers offer same day delivery to date. By **2019**, you could expect the number to rise to **65%**. (Stores by National Retail Federation)

Same day delivery is most crucial for businesses in the automotive and flower delivery sectors. (Econsultancy)

Local B2C shipment in Western Europe could reach **17%** per adult in **2020**. (McKinsey & Company)

#### Consumers and same-day delivery

**88%** of consumers are willing to pay for same day or faster delivery. (PwC)

Knowing the estimated or guaranteed delivery date is important among **63%** of online shoppers. (MarketingProfs)

The top reason that customers use same day delivery is the need for immediate delivery of their orders. (Econsultancy)

**30%** of millennials consider an e-commerce business' ability to deliver on the same day before purchasing with the online store. (Econsultancy)

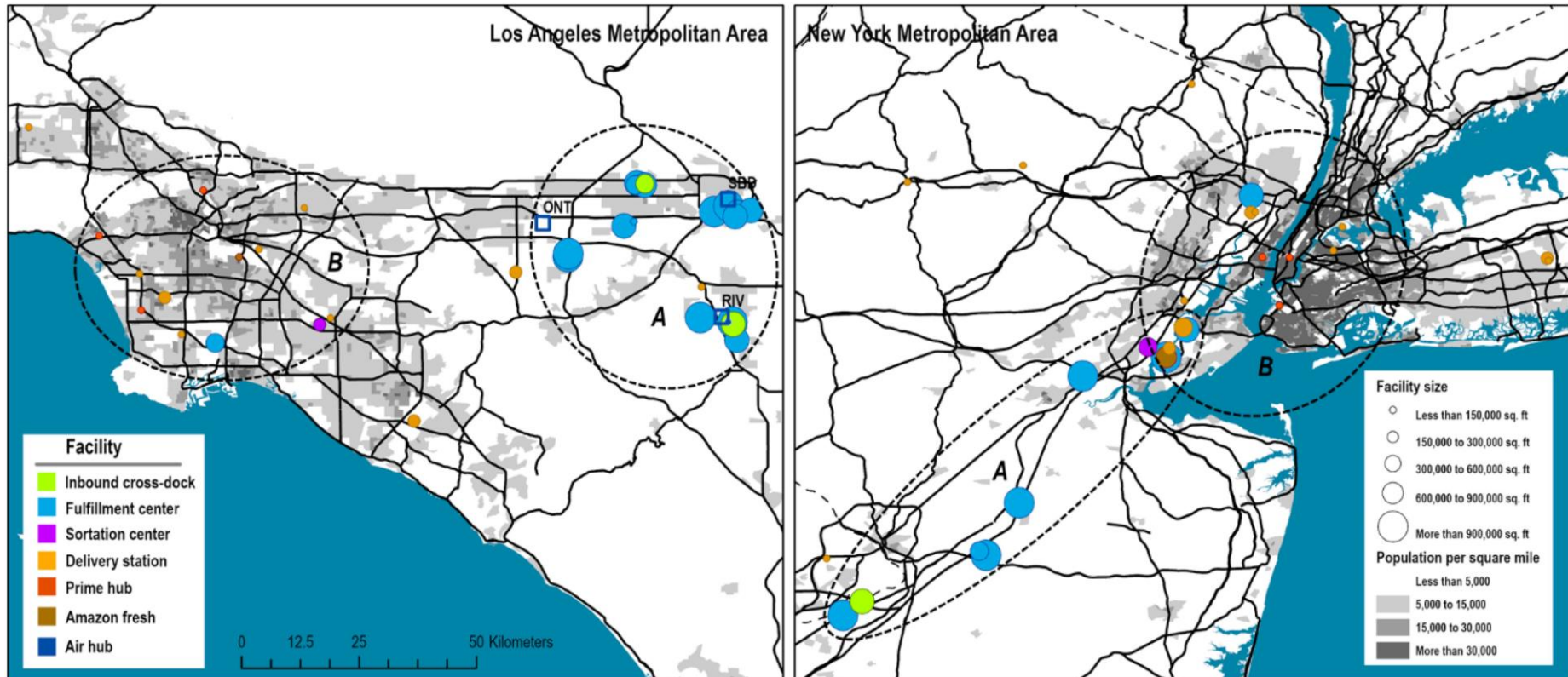
**28%** of customers rate the speed of delivery as the top feature they're looking for in their delivery service provider. (McKinsey & Company)

Nearly **57%** of consumers reported once they've experienced unprofessionalism from a delivery person, they're less likely to purchase from that retailer again. (ColoradoBiz)

Source: Adapted from an Emerald document (2024).

## APPENDIX 2

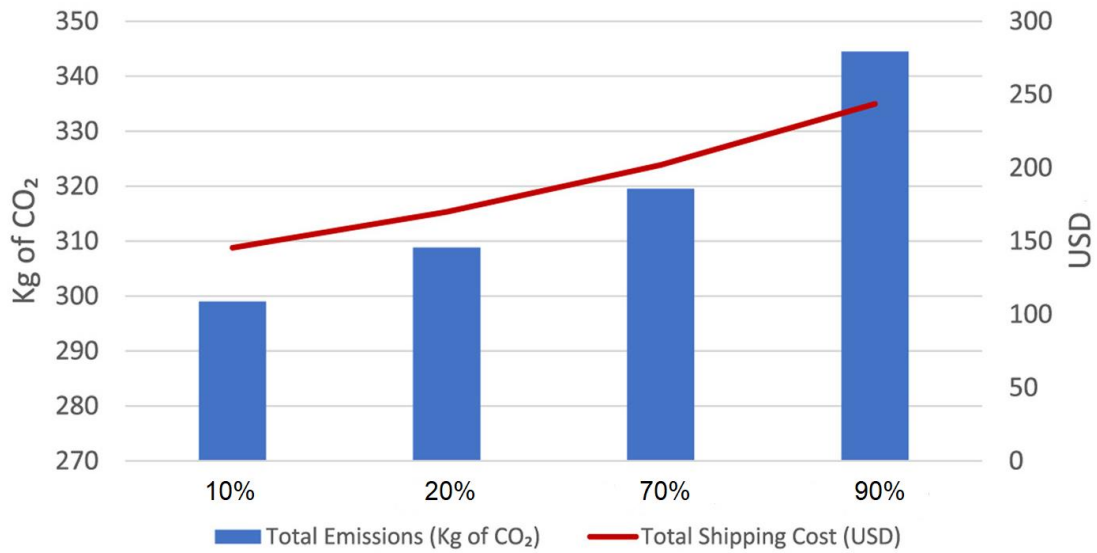
### Logistics densification in the Los Angeles Metropolitan Area and the New York Metropolitan Area



Source: Rodrigue (2020).

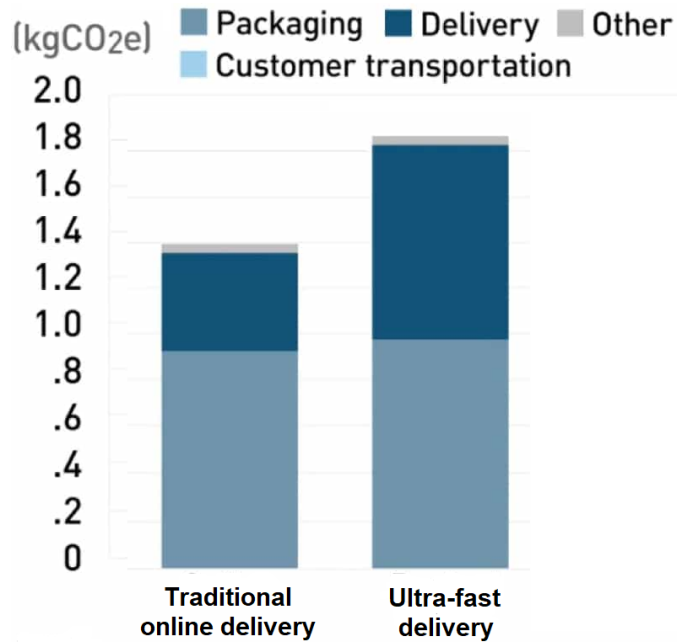
### APPENDIX 3

(a) Impact of ultra-fast delivery according its percentage



Source: Adapted from Muñoz-Villamizar *et al.* (2021b).

(b) Carbon footprint: comparison between traditional online delivery and ultra-fast delivery



Source: Adapted from a MIT survey (2017).

## APPENDIX 4

### The potential influence of regulations on same-day delivery ecosystem in Europe

	Autonomous delivery vehicles	City-center ICE bans by city in Europe	Dark store regulation
<b>Timeframe</b>	<b>Long-term</b> Legislation might influence autonomous delivery vehicle adoption in the coming years	<b>Imminent</b> Legislation in place and evolving	<b>Emerging</b> Legislation emerging to regulate dark stores
<b>Examples</b>	<p>Posten Norge and Buddy Mobility pilot an <b>autonomous parcel robot</b> able to serve up to 100 households</p> <p><b>Starship's ground-based, semi-autonomous delivery robots</b> are tested, eg, in the US</p> <p><b>Autonomous delivery version</b> of the DHL Deutsche Post StreetScooter tested in the US</p>	<p><b>ICE ban by 2025/2030 (example cities)</b></p> <p><b>Norway</b> Oslo, Bergen</p> <p><b>Netherlands</b> Amsterdam</p> <p><b>Sweden</b> Stockholm</p> <p><b>Poland</b> Warsaw</p> <hr/> <p><b>Congestion control</b></p> <p><b>Germany</b> Hamburg testing smart loading zones</p> <p><b>Belgium</b> Brussels decreased speed limit to 30 km/h</p>	<p><b>France</b> <b>45</b> dark stores asked to close by Paris City Council (August 2022)</p> <hr/> <p><b>Netherlands</b> <b>1</b> year opening freeze of dark stores in Amsterdam and Rotterdam (2022)</p> <hr/> <p><b>Spain</b> <b>21</b> dark stores to be closed in Barcelona, all in the city (January 2023)</p>

Source: Beretzky et al. (2023).