

ANALYSIS OF THE *DARK STORE* FROM THE PERSPECTIVE OF URBAN LAW**ANÁLISE DA *DARK STORE* SOB A PERSPECTIVA DO DIREITO URBANÍSTICO****Jonathan Barros Vita¹****Julia Macedo Nogueira Nobre²****ABSTRACT**

This article aims to analyze the concept of dark store and their influence on urban law, identifying the externalities that the company can bring and the possible ways to reduce its effects to the city in which it will be installed, in order to guarantee the compatibility of the socio-economic-environmental development. It was used the deductive method, with bibliographic research. Firstly, the concept of dark store was analyzed under the reference system of the economic analysis of the law; after, the statute of the city and the master plan in the defense of urban rights were observed, to verify the influence of the dark store in urban law and examine the rules expressed in the city statute, which influence these companies. The research revealed that dark stores influence urban law, as they cause increase in traffic, noise pollution, saturation of the electricity and telephone infrastructure, increased crime, in addition to a reduction in the value of adjacent properties. The city statute and the master plan analyzed have instruments capable of reducing the negative externalities of the installation of dark stores in the urban environment, such as the neighborhood impact study, the environmental impact study and the environmental zoning.

Keywords: dark stores, urban law, city statute, master plan, urban environment.

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INTRODUCTION

The development of electronic commerce and the growth of online purchases generated the need to create warehouses for the distribution of goods purchased online. In this context, dark stores emerged, consisting of stores closed to the public, located in urban centers, with the exclusive purpose of storing, collecting, sorting and sending goods purchased online.

The advent of mobile technologies and the increase in purchases made on electronic sites has increased the number of dark stores worldwide. However, despite dark stores being more common in developed countries, such as the United States, France, Spain and Asian countries, their presence in the Brazilian market is already noticed.

From a broad perspective, it is possible to consider that a dark store is important for the growth of cities, but that it also causes significant influences on the urban environment, such as other large companies. Furthermore, it is not possible to live in a city, with quality of life, without analyzing the consequences that an activity or an enterprise may bring to the environment in which it will influence. Thus, the public authorities need to assess the economic impact of the enterprise and the infrastructure needed to support it, as well as its consequences on the socio-economic-environmental development of cities. So, there is a need to analyze the stores named dark stores, from the perspective of the economic analysis of law, in order to ensure the harmony between juridical and economic laws.

The 1988 Federal Constitution states that it is incumbent upon the Union to establish guidelines for urban development, as well as to establish general rules of urban law concurrently with States, the Federal District and Municipalities (articles 21, XX, 24, I and §§ 1 and 2 and article 30, II, of the Federal Constitution - FC).

Articles 170, III and 182 of the FC assert that both the property and the city must fulfill their social function. The use of urban property in favor of the collective good, security and well-being of citizens was regulated by the City Statute (Law n. 10,257/2001), which has the Master Plan as an instrument, whose purpose is to serve to the fundamental requirements of city ordering and regulate the urban development and expansion policies.

Thus, the urban law emerged aiming to improve the quality of life of cities, in order to determine the city's problems in their entirety and assess the consequences, control, monitoring and damage mitigation measures, so that the population may have a better life.

Thus, in order to better manage the city and avoid chaotic urban situations resulting from its disorderly growth, it is essential to study the possible influences and impacts of dark stores on the urban law of Brazilian cities.

Accordingly, this work has the following objectives:

- a) ascertain whether the creation of the dark store influences the city's urban planning;
- b) evaluate the consequences and impacts that the dark store can bring to the city where it will be installed;
- c) identify possible ways to reduce the urban impacts caused in Brazilian cities and,
- d) ensure the compatibility of socio-economic-environmental development with the establishment of dark stores.

This article was organized into four sections, in addition to the introduction and conclusion. First, the definition of 'dark store' was studied under the economic analysis of law and then an analysis of the City Statute and the Master Plan in defense of urban law was carried out. Then, the influence of dark stores on urban law was ascertained and, later, the norms of urban law in the City Statute that influence this type of business were examined.

The deductive method was used for this approach, starting from the analysis of general rules for understanding specific cases, in combination with bibliographical research. The reference system used was the economic analysis of law, in order to ascertain the positive and negative externalities with the implementation of dark stores in cities.

1. DEFINITION OF 'DARK STORE' FROM THE PERSPECTIVE OF THE ECONOMIC ANALYSIS OF LAW

According to the BBC News/Brasil (2019) website, the term 'dark stores' refers to exclusive locations for storing, collecting, sorting and sending products purchased online. However, unlike the gigantic distribution centers that are normally located far from the central region, dark stores are placed in urban centers and look like ordinary stores but are closed to the public.

Dark stores are justified by the growth of online purchases. Thus, it also increases the need for warehouses for the distribution of products purchased online. In these warehouses, the goods are stacked in towers and a robotized system is responsible for removing the goods from the place and entrusting them to the deliverymen at the time of sale. This is how dark stores work.

Pablo Foncillas (2017) states that the dark store concept emerged in England in the early 2000s. However, at the end of the last decade, the concept disseminated. The author also claims that dark stores usually serve consumers who live around them, as well as are created in the physical space of old stores that had little movement or little profit.

Wilmath and Alesandrini (2015) state that Dark stores are named after their simplicity of design, as they look like big boxes and have few windows, just like real distribution centers.

According to Benedictus (2014), organizing goods in dark stores saves space and time and creates a safer work environment.

Slaight (2018) considers that dark stores are stores made-to-measure to meet a specific purpose, which is the competition of e-commerce, as well as their creation was responsible for the closing of many physical stores.

Quintans (2017) comments that dark stores are distribution centers exclusively dedicated to e-commerce and that these stores are similar to a merchandise warehouse, in which a team of pickers selects the goods required by customers online.

Accordingly, dark stores consist of storage or collection points and are responsible for bringing the merchandise closer to the consumer, as they buy online and, within a few hours, they already have the merchandise in their hands. It is, therefore, the last stage of the supply chain.

According to a report published on the BBC News/Brasil website (2019), the delivery of goods purchased in dark stores occurs in two ways: 1) consumers can pick up products from online purchases at the company itself, but they do not enter the store and receive the purchase already packed, as a rule; 2) the company is responsible for delivery and customers receive the goods at home.

The aforementioned report states that "retail giants such as Walmart, Carrefour and Target are opening more and more dark stores in different regions of the world, including Latin America". Note the following excerpt:

No Brasil a abertura (ou transformação de lojas) de dark stores é uma escolha feita mais pelas grandes marcas de varejo, especialmente de alimentos, pelo grande fluxo de produtos, segundo Aurélien Jacomy, CEO da consultoria de logística Diagma. Lojistas menores preferem o ship from store, ou seja, distribuir os produtos vendidos online a partir dos estoques das lojas normais. Entre 50 e 100 pedidos por dia, é possível manter a distribuição a partir do estoque. Mais que isso, o fluxo de separação cruza com o fluxo dos clientes, o que pode prejudicar a experiência do cliente. Então ter dark stores vale a pena para quem recebe acima de 100 pedidos por dia", diz Jacomy. O desejo por rapidez na entrega é outro fator-chave para um varejista escolher abrir uma dark store. "É uma expectativa cada vez maior do cliente que a entrega seja mais rápida", afirma (BBC NEWS/BRASIL, 2019).³

According to the *Redação Novarejo* website (2019), the startups of Carrefour Brasil Group and Rappi are already using dark store tools to offer another shopping channel for the consumer, as shown in the excerpt below:

³ In Brazil, the opening (or transformation of stores) of dark stores is a choice made more by large retail brands, especially related to food, due to the large flow of products, according to Aurélien Jacomy, CEO of logistics consulting Diagma. Smaller retailers prefer 'ship from store', that is, distributing products sold online from stocks of regular stores. Between 50 and 100 orders per day, it is possible to maintain distribution from stock. More than that, the separation flow intersects with the customer flow, which can jeopardize customer experience. Therefore, having dark stores pays off for anyone who takes over 100 orders a day," says Jacomy. The desire for fast delivery is another key factor for a retailer choosing to open a dark store. "It is a growing expectation of the customer that delivery is faster", he says. (Free translation)

O Grupo Carrefour Brasil e a Rappi, aplicativo de delivery rápido, firmaram parceria para a venda e entrega de itens alimentares. Ao todo, são duas modalidades oferecidas pelo serviço: 'express', com entrega em até 35 minutos, e 'supermercados', para entrega em até uma hora. Inicialmente, o serviço será atendido por meio do modelo tradicional de picking em hipermercados e supermercados Carrefour. Porém, nos próximos meses, as empresas pilotam um novo modelo operacional a partir de dark stores da rede varejista, onde o próprio Carrefour fará o picking e a Rappi cuidará da entrega. O novo modelo traz eficiência à operação, já que o estoque, separado da área de vendas das lojas, será dedicado somente para suprir o serviço de delivery, eliminando as etapas tradicionais e garantindo ainda mais rapidez e sortimento assertivo.⁴

As seen, one of the objectives of dark stores is to provide convenience to the customer, bring them closer to the service center, reduce the prices of goods, in addition to providing faster shipping speed for purchased products.

It should also be noted that the creation of dark stores is extremely relevant to the economic activity, as it is a global trend, predominantly in countries with high technological development and massive use of e-commerce.

It is remarkable, therefore, that the presence of dark stores in today's world impacts on several branches of law. As an example, we can mention economic law, consumer law, urban planning law, environmental law, tax law, among other. Dark store-type companies also cause changes in the economy of the locations where they are installed.

Thus, given the concept of this business modality and its importance for the economy of cities, it is essential to evaluate the dark store from the perspective of urban law and from the perspective of the economic analysis of law, in which the harmonization and influence between juridical laws and the economic postulate of profit maximization is studied.

The school named Economic Analysis of Law (EAL), also known as Law and Economics, whose diffuser is Richard Posner, verifies the influence and interactive relationship between law and economics.

Gonçalves and Stelzer (2014, p. 270) portray the postulates of Law and Economics in the following terms:

⁴ Carrefour Brasil Group and Rappi, a fast delivery app, signed a partnership for the sale and delivery of food items. Altogether, there are two modes offered by the service: 'express', with delivery in up to 35 minutes, and 'supermarkets', for delivery within an hour. Initially, the service will be provided through the traditional picking model in Carrefour hypermarkets and supermarkets. However, in the coming months, companies are piloting a new operating model from the retail chain's dark stores, where Carrefour will pick up merchandise and Rappi will take care of delivery. The new model brings efficiency to the operation, since the inventory, separated from the stores' sales area, will be dedicated only to supply the delivery service, eliminating the traditional steps and guaranteeing even more speed and an assertive assortment. (Free translation)

Como postulados maiores da doutrina Law and Economics defendem-se, os seguintes: a) Prevalece, como método, na aplicação da Economia ao Direito, o individualismo metodológico, segundo a racionalidade maximizadora economicista; b) As leis jurídicas devem guardar mínima harmonia com as leis econômicas; e c) O Paradigma jurídico deve voltar-se para a agilização e fluidez das relações de produção, maximização dos lucros e otimização da produção e utilização da riqueza individual e social.⁵

When discussing the economic analysis of law, Payão and Vita (2018) understand that the market economy must be inspired by law, which, in turn, considers the rules of the market to develop. The authors further state that:

O direito parte de uma perspectiva mais objetiva, consistente na arte de regular o comportamento humano, a economia, por sua vez, é ciência que estuda os mecanismos indutores ou não por trás do comportamento humano em um mundo de recursos escassos e suas consequências. E analisar o direito sob a perspectiva econômica é empregar instrumentos teóricos e empíricos econômicos e ciências afins para expandir a compreensão e o alcance do direito, aperfeiçoando o desenvolvimento, a aplicação e a efetividade da norma jurídica (PAYÃO; VITA, 2018, p. 3).⁶

By examining dark stores from the perspective of the Economic Analysis of Law, it is possible to analyze how the business model of this enterprise modality influences the economic development of cities, urban law and the laws that regulate it, in addition to verifying changes in human behavior of individuals who maintain relationships with entities.

Thus, regarding this study, it is imperative to analyze what are the influences and impacts on the urban law of cities, resulting from the creation and implementation of dark stores, in order to verify the economic metrics that influence the creation of the aforementioned companies and the legal instruments that govern them, providing coexistence and harmonization between the postulates of the economy and urban planning law.

2. THE CITY STATUTE AND THE MASTER PLAN IN DEFENSE OF URBAN LAW

José Afonso da Silva (2006, p. 49) conceptualizes urban law as “the set of norms that aim to organize living spaces, so as to provide better living conditions for men in the community”.

⁵ As major postulates of the Law and Economics doctrine, the following are defended: a) Prevails, as a method, in the application of Economics to Law, the methodological individualism, according to the economic maximizing rationality; b) Legal laws must maintain a minimum harmony with economic laws; and c) The legal paradigm must focus on the streamlining and fluidity of production relations, maximization of profits and optimization of production and use of individual and social wealth. (Free translation)

⁶ Law starts from a more objective perspective, consistent with the art of regulating human behavior. Economics, in turn, is a science that studies the inductive mechanisms (or not) behind human behavior in a world of scarce resources and its consequences. And analyzing law from an economic perspective is to employ theoretical and empirical instruments in economics and related sciences to expand the understanding and scope of law, improving the development, application and effectiveness of the legal norm (Free Translation).

In the lessons of Baltar (1957), urbanism is a science, a technique and an art at the same time, whose objective is the organization of urban space aiming at social well-being, through legislation, planning and execution of public works that allow the harmonious and progressive performance of the urban functions.

Hely Lopes Meirelles (2013) states that habitable spaces encompass all areas that men collectively perform any of the four social functions, namely: housing, work, circulation and recreation. According to the author,

O urbanismo prescreve e impõe normas de desenvolvimento, de funcionalidade, de conforto e de estética da cidade, e planifica suas adjacências, racionalizando o uso do solo, ordenando o traçado urbano, coordenando o sistema viário e controlando as construções que vão compor o agregado humano, a urbe (MEIRELLES, 2013, p. 534).⁷

Urban planning limitations protect the community in general and, therefore, are considered infeasible, non-waivable and non-negotiable. State impositions can be of three types: positive (to do), negative (not to do) and permissive (let it be done). Meirelles (2013) also states that urban standards are public law and derive from the police power, which is inherent and inseparable from the Administration.

Ferrari (2012) emphasizes that the 1988 Federal Constitution (FC) was the first Brazilian Constitution to deal with urban planning law. Article 21, XX, of the Federal Constitution, states that it is incumbent upon the Union to establish guidelines for urban development, as well as to establish general rules of urban law, according to article 24, I and §§ 1 and 2, concurrently with the States, Federal District and Municipalities (art. 30, II, of the FC).

In turn, article 182 of the Constitution regulates that the urban development policy that is carried out by the Municipality, according to general guidelines established by law, aims to direct the full development of the city's social functions and ensure the well-being of its inhabitants. When editing urban norms, the Municipality is not violating the civil law field, which is exclusive to the Union, but only regulating the urban aspects of the property, which is in the local interest.

In the organization of urban spaces, the Administration must not act without public planning in order to seek better living conditions for the population. Thus, paragraph 1st of article 182 of the Federal Constitution provides that the Master Plan – approved by the City Council and mandatory for cities with more than 20 thousand inhabitants – is the basic instrument of policies of development and urban expansion. Paragraph 2nd of the aforementioned article states that “urban property fulfills its social

⁷ Urbanism prescribes and imposes norms for the development, functionality, comfort and aesthetics of the city and plans its surroundings, rationalizing the use of the land, organizing the urban layout, coordinating the road system and controlling the constructions that will make up the human aggregate, the city (Free translation).

function when it meets the fundamental requirements for ordering the city as expressed in the Master Plan” (Free translation).

Thus, a broad concern of the constitutional legislator in urban matters is clear, insofar as there must be a compatibility of socio-economic-environmental development together with the growth of Brazilian cities.

Meirelles (2013) states that urban planning rights arise from the need to establish public order limitations on the use of private property and the exercise of individual activities that affect social coexistence. Accordingly, for the ordering of life in society, each component of the human aggregate must concede a minimum portion of rights, receiving security, hygiene, comfort and collective well-being in return. Thus, when any business modality is created, it is essential that it observes and complies with local urban law standards.

In this context, aiming to regulate articles 182 and 183 of the Federal Constitution and establish the general guidelines for urban policy, Law n. 10,257/2001 (the City Statute) was created in order to establish norms of public order and social interest that regulate the use of urban property in favor of the collective good, the security and well-being of citizens, as well as environmental balance.

Ferrari (2012) asserts that, through Law n. 10,257/2001, the City Statute, the Union established the general norms that should guide the ordering of the full development of the city's social functions, with the aim of guaranteeing the well-being of its inhabitants.

According to Dias and Nepomuceno (2017, p. 395), the City Statute represented a great advance in Brazilian urban legislation, fulfilling, in addition to the mission of regulating the urban policy of our citizen Constitution, the mission of bringing municipal management closer to the citizen, through the forecast of various instruments of participatory democracy, for the construction of a common ideal of the city.

Panizi (2007) states that the City Statute has extremely important provisions for the structuring and development of cities, in order to prevent an uncontrolled urban policy. Furthermore, the statute has instruments capable of enabling a more effective intervention by the public authorities in the artificial environment.

Law no. 10,257/2001 provides that the basic instrument of urban development and expansion policy is the Master Plan, which is mandatory for cities with more than 20,000 inhabitants, encompasses the territory of the municipality as a whole and must be approved by municipal law, which shall be reviewed at least every 10 years. It is also worth noting the obligation of an urban transport plan that is integrated and compatible with the Master Plan, in the case of cities with more than five hundred thousand inhabitants.

The City Statute (Law 10.257/2001) determines a minimum content for the Master Plan, which must be aimed at the development of the municipality, with the proper ordering of the use and occupation of the land, its subdivision, the discipline of buildings, in addition to measures to provide services in education, health, hygiene, housing and transport, aiming to maximize the efficiency of urban developments.

For Ferrari (2012), the Master Plan aims to improve the quality of life of the population, observing the expansion of the city and the proper use of the land, with the proper conformation of a road system and location of services, to prevent disorderly growth and chaotic urban situations, such as those observed in many Brazilian cities.

According to Diógenes Gasparini (2002, p. 195), “o Plano Diretor é, assim, o instrumento básico de política de desenvolvimento e expansão urbana e parte integrante do processo de planejamento, devendo o plano plurianual, as diretrizes orçamentárias e o orçamento anual incorporar as diretrizes e prioridades nele contidas”⁸.

Meirelles (2013) states that the Master Plan must be unified, unique, dynamic and evolving. The author also emphasizes that the Master Plan is the “lei suprema e geral que estabelece as prioridades nas realizações do governo local, conduz e ordena o crescimento da cidade, disciplina e controla as atividades urbanas em benefício do bem-estar social”⁹ (MEIRELLES, 2013, p. 562).

Accordingly, the Master Plan is an instrument regulated by the City Statute, as a guide for future municipal projects, contributing to the maximization of the positive externalities of these projects, as well as the rational and satisfactory meeting of the community's needs. Therefore, it should be observed when creating dark stores in Brazilian cities.

3. INFLUENCE OF DARK STORES ON URBAN PLANNING LAW

The analysis of the influence of dark stores on urban law corroborates with the verification of the cost-benefit ratio of companies, as well as with the maximization of positive externalities and minimization of the negative externalities of enterprises that aim to be installed in urban locations. The assessment of business externalities in city development becomes an important public management tool, with the aim of preventing the disorderly growth of cities and avoiding chaotic urban situations.

⁸ The Master Plan is, therefore, the basic instrument of urban development and expansion policy and an integral part of the planning process. The multiannual plan, the budget guidelines and the annual budget should incorporate the guidelines and priorities contained therein. (Free translation)

⁹ Supreme and general law that sets priorities in the achievements of local government, conducts and orders the growth of the city, disciplines and controls urban activities for the benefit of social welfare. (Free translation)

The creation of dark stores contributed to diminish the vitality of cities, as reported in the article entitled *O que são as dark stores das gigantes do comércio e por que se proliferam pelo mundo* (what are the dark stores of trade giants and why they proliferate around the world), carried out by the BBC News/Brazil website in 2019. In New York, for example, negative externalities were observed for the flow of vehicles in public places, as, with the increase in the delivery of goods purchased online, there was a deficit of space on the streets for the couriers, who often need to double park to be able to deliver the goods to the final consumers.

Furthermore, according to the aforementioned report, the creation of dark stores is only justified when there are more than 100 orders per day, as from this amount the flow of workers who separate the goods purchased online starts to traverse with the flow of customers from physical stores, interfering with customer service and experience. In other words, it only becomes feasible to create dark stores if physical companies receive more than 100 online orders per day.

When talking about the need to install a dark store, Treasure (2014), in the article *A Ascensão da Loja Escura* (The Rise of the Dark Store), published on *essentialretail.com*, comments that:

À medida que os volumes aumentam, os varejistas descobrem cada vez mais que suas lojas não têm capacidade suficiente para suportar volumes de pedidos de comércio eletrônico sem afetar a operação da loja (congestionamento do corredor, disponibilidade na prateleira devido ao aumento da reposição, falta de espaço na parte de trás da casa, espaço de estacionamento insuficiente para entrega em domicílio vans). Normalmente, isso acontece quando as vendas online representam mais de 10% do total das vendas da loja¹⁰.

The Brazilian Society of Retail and Consumer Affairs (Sociedade Brasileira de Varejo e Consumo, 2017) described, on its website, the business model of Carrefour company, as shown in the following excerpt:

Inspirado em modelos que já dão certo na França e na Espanha, o Grupo Carrefour cria no Brasil sua primeira Dark Store. Ela funciona como mini Centro de Distribuição da varejista para atender os pedidos de compras de alimentos online, que não eram comercializados no site do Carrefour, que foi relançado em julho do ano passado. A Dark Store ocupa o espaço da loja desativada localizada na avenida Santo Amaro, no bairro do Brooklin, situado na zona sul da capital paulista. Essa loja física foi fechada porque a frequência caiu em função das obras do Metrô nas proximidades.

Na manhã de ontem (9/10), diretores e gerentes do Carrefour apresentaram o local para alguns jornalistas. O mini centro de distribuição está montado como se fosse uma loja física para que o funcionário – que possui um relógio aplicativo – possa fazer as compras do consumidor com agilidade. Compra feita com todos os itens no carrinho, o passo seguinte é acomodar os alimentos em embalagens

¹⁰ As volumes increase, retailers increasingly discover that their stores do not have enough capacity to support e-commerce order volumes without affecting store operation (aisle congestion, shelf availability due to increased replenishment, lack of space at the back of the house, insufficient parking space for home delivery vans). Typically, this happens when online sales represent more than 10% of the store's total sales. (Free translation)

especiais, inclusive para os perecíveis. Feito isso, eles seguem para a entrega, que pode ser feita via motoboy, van, carro, bicicleta, dependendo da distância. A taxa de entrega tem preço único de R\$ 14,90. Os produtos são levados até os consumidores entre 7h e 21h, no dia seguinte à compra. Neste momento não haverá a possibilidade de comprar pelo aplicativo e retirar os itens nas lojas e nem na Dark Store

(...)

A princípio, o programa só é válido para clientes situados num raio de 10 km da Dark Store. Isso significa atender 200 bairros da capital paulista, pertencentes às zonas central, oeste e sul¹¹.

Therefore, it is noticeable that Carrefour – one of the pioneering companies in the creation of dark stores in Brazil – uses a motorcycle courier, van, car or bicycle, depending on the distance, to deliver the goods within a radius of 10 km from the company, totaling approximately 200 neighborhoods in the city of São Paulo. The goods are delivered predominantly during the day, which leads to an increase in the number of traffic, precisely at times of greater circulation of vehicles, compared to the night period.

Still on the article *The Rise of the Dark Store*, Treasure (2014) mentions that "as lojas escuras de entrega em domicílio geralmente exigem um quintal muito grande para acomodar van de entrega e também um grande número de posições de carregamento de van"¹². Therefore, the dark stores have an impact on traffic in the locations in which they are installed, as they need a place with adequate transport connections and that allow access to many vehicles. Thus, the externalities of dark stores in urban law become evident, especially regarding the overload on the road system, with the increase in the circulation of vehicles in the region where they are installed.

In addition to the increase in the number of traffic, the installation of dark stores influences the aesthetics of cities, since, as a rule, such stores are devoid of aesthetic and urban beauty and have design simplicity, as their construction resembles large boxes, with few windows, such as real distribution centers. Furthermore, the installation of dark stores influences the circulation of

¹¹ Inspired by models that are already working in France and Spain, the Carrefour Group creates its first Dark Store in Brazil. It works as the retailer's mini Distribution Center to meet online food purchase orders, which were not sold on the Carrefour website, which was relaunched in July last year. The Dark Store occupies the space of a deactivated store located on Avenida Santo Amaro, in Brooklin, south of São Paulo. This physical store was closed because attendance dropped due to the nearby Metro construction. Yesterday morning (9/10), Carrefour directors and managers presented the place to some journalists. The mini distribution center is set up as if it were a physical store so that the employee – who has an application watch – can quickly make the consumer's purchases. Purchase made with all items in the cart, the next step is to accommodate the food in special packaging, including perishables. Once this is done, they proceed to delivery, which can be done via motorcycle courier, van, car or bicycle, depending on the distance. The delivery fee has a single price of R\$ 14.90. The products are taken to consumers between 7:00 am and 9:00 pm, the day after purchase. At this time there will not be the possibility to purchase through the app and pick up the items in stores or in the Dark Store(...)At first, the program is only valid for customers located within a radius of 10 km from the Dark Store. This means serving 200 neighborhoods in the city of São Paulo, belonging to the central, western and southern zones. (Free translation)

¹²Dark stores for home delivery usually require a very large yard to accommodate a delivery van and also a large number of van loading positions (Free translation)

pedestrians, since there is an absence of customers in their surroundings, as they are stores without service to the public.

There is also a reduction in the number of permanent employees in the company, as the profile of workers changes. In stores open to the public, workers are predominantly sellers, cashiers, among others, while in dark stores this number is practically nil.

Accordingly, it can be said that the installation of a dark store contributes to the creation of true "dead neighborhoods", in which there is an absence of pedestrian circulation that gives life to the neighborhoods, combined with the fact that its facades do not have any visual appeal. As they are real warehouses, with no service to the public, dark stores can interfere with the vitality of cities and can be a factor in the reduction of leisure in the surroundings of the location in which they are installed.

Furthermore, regarding infrastructure, it is undeniable that, with the installation of dark stores, the city must adapt so that there is, for example, no saturation of electricity and/or telephone power in the vicinity where the company is located.

According to Slight (2018), noise pollution is another important factor to be considered, because, in addition to heavy, constant and noisy traffic, there is an increase in the emergency response system in locations where the dark stores are operating, such as the demand for police and ambulance services.

Furthermore, critics of the creation of dark stores claim that such companies bring disadvantages for communities, as they reduce the value of nearby homes, in addition to be an inviting factor for vandalism. Additionally, Wilmath and Alesandrini (2015) state that dark stores often bring disadvantages to neighborhoods and can negatively affect a community, as they can attract crime, discourage the growth of retail in the neighborhood and potentially affect the value of adjacent properties.

On the other hand, the global trend towards the use of electronic commerce is striking, whose benefits are also unequivocal: as a rule, companies offer lower prices, as a result of reduced operating costs; provide convenience to final consumers, considering that they receive goods at their residence; they avoid the permanent closing of stores; they are an important source of income and tax collection, in addition to contributing to the development of the city.

4. CITY STATUTE NORMS OF URBAN LAW, WHICH INFLUENCE DARK STORES

An economic activity that provides employment and tax collection, but which is also a source of congestion for motor vehicles, noise pollution and a reduction in the value of properties located around it requires special attention from city managers.

Given this scenario, it is imperative to analyze which norms of public order and social interest of the City Statute (Law 10.257/2001), can guide urban policy and regulate the use of property in favor of the collective good, security and well-being of citizens, as well as the environmental balance. In this regard, according to Meirelles (2013),

A excessiva concentração populacional, a indiscriminada utilização da área urbana, a localização inadequada das atividades humanas e outros fatores de desajustamento entre a população e o meio ambiente causam transtornos insuportáveis para a vida urbana, desequilibrando o trinômio área/população/equipamento. Daí por que os regulamentos edifícios dispõem sobre o uso e ocupação do solo urbano¹³ (MEIRELLES, 2013, p. 573).

The City Statute introduced in the legal order a new instrument of urban environmental management, provided for in articles 36 to 38 of Law 10.257/2001, which is the Neighborhood Impact Study (Estudo de Impacto de Vizinhança – EIV), which is less complex than the Environmental Impact Study (Estudo de Impacto Ambiental – EIA) provided for in Law 6.938/198 (National Environmental Policy) and in article 225, paragraph 1, IV of the 1988 Constitution.

According to Meirelles (2013), the Master Plan will define which projects and activities, public and private, in urban areas, will depend on the EIV to obtain licenses and authorizations for construction, expansion or operation. Activities and developments that are already subject to the EIA do not need to be identified by the EIV, because the studies of the latter may be included in the EIA.

According to articles 36 and 37 of Law 10,257/2001, the EIV consists of a study to be prepared by a team of professionals, at the expense of the entrepreneur, facing issues raised by the government, contemplating the positive and negative effects of the enterprise or activity on the quality of life of the population residing in the area and its surroundings, including analysis of at least the following issues: I - population density; II - urban and community facilities; III - land use and occupation; IV - real estate valuation; V - generation of traffic and demand for public transport; VI - ventilation and lighting; VII - urban landscape and natural and cultural heritage.

In the words of Panizi (2007, p. 224), “o objetivo do Estudo de Impacto de Vizinhança é democratizar o sistema de tomada de decisões sobre os grandes empreendimentos a serem realizados na cidade, dando voz aos bairros e comunidades que estejam expostos aos impactos dos grandes empreendimentos¹⁴”.

In the conception of Celso Antônio Pacheco Fiorillo (2002, p. 219):

¹³ The excessive population concentration, the indiscriminate use of urban areas, the inadequate location of human activities and other factors of maladjustment between the population and the environment cause unbearable disturbances for urban life, unbalancing the area/population/equipment triad. That is why building regulations provide for the use and occupation of urban land. (Free translation)

¹⁴ The objective of the Neighborhood Impact Study is to democratize the decision-making system on the large projects to be carried out in the city, giving a voice to neighborhoods and communities that are exposed to the impacts of large projects. (Free translation)

Mais importante instrumento de atuação no meio ambiente artificial na perspectiva de assegurar a dignidade da pessoa humana (art. 1º, III, da Constituição Federal), o Estudo de Impacto de Vizinhança (EIV) tem como objetivo compatibilizar a ordem econômica do capitalismo (art. 1º, IV, e 170 da Constituição Federal) em face dos valores fundamentais ligados às necessidades de brasileiros e estrangeiros residentes no país justamente em decorrência do trinômio vida-trabalho-consumo.¹⁵

The Neighborhood Impact Study is a document produced according to legal parameters, covering all aspects of the neighborhood impact and, for this reason, it provides subsidies to assess rights and obligations for the owner and the neighbors. Through the EIV, the previous debate about the influences that the intended innovation in a given property can provoke in its surroundings is exhausted.

According to Oliveira (2011, p. 217), "as conclusões do Estudo de Impacto de Vizinhança poderão conduzir à aprovação do empreendimento ou atividade, estabelecendo, contudo, condições ou contrapartidas para seu funcionamento, ou mesmo à inviabilização do projeto¹⁶".

Law 10,257/2001 requires the holding of a public hearing and makes it mandatory for any interested party to publicize the documents that make up the EIV, through consultation with the competent authority of the municipal government.

Panizi (2007, p. 224) argues that "somente o EIV será capaz de efetivar a mediação entre os interesses privados dos empreendedores e o direito à qualidade urbana daqueles que moram ou transitam em seu entorno¹⁷".

Thus, the Neighborhood Impact Study is an important public instrument to prevent dark stores that cause major impacts on traffic and the urban landscape from being authorized to have their operating license until they promote measures to compensate and mitigate the damage caused.

It should also be noted that in cities with over 500,000 inhabitants, an integrated urban transport plan compatible with the Master Plan or inserted in it must be drawn up (article 41, § 2 of the City Statute), precisely with the aim of avoiding the impacts of a chaotic road network. As a suggestion, it is observed that activities that use the concept of dark stores should be installed only in planned urban centers and that still bears orderly growth, favoring the flow of goods, without any effective harm to urban traffic.

¹⁵ The most important instrument of action in the artificial environment from the perspective of ensuring the dignity of the human person (article 1, III, of the Federal Constitution), the Neighborhood Impact Study (EIV) aims to make the economic order of capitalism compatible (article 1, IV, and 170 of the Federal Constitution) considering the fundamental values linked to the needs of Brazilians and foreigners residing in the country, precisely as a result of the life-work-consumption triad. (Free translation)

¹⁶ The conclusions of the Neighborhood Impact Study may lead to the approval of the project or activity, establishing, however, conditions or compensations for its operation, or even making the project unfeasible. (Free translation)

¹⁷ Only the EIV will be able to actualize the mediation between the private interests of entrepreneurs and the right to urban quality of those who live or move around it. (Free translation)

Another instrument with the function of guaranteeing the protection of the urban population is the zoning (article 4, III, c, of Law 10,257/01). Panizi (2007) ensures that zoning is responsible for establishing homogeneous use zones, in which only certain activities are allowed, such as commercial zones, residential zones and industrial zones.

Environmental zoning is an instrument of the National Environmental Policy (Law 6,938 of 1981 – article 9, II), as well as an instrument of urban policy (article 4, III, paragraph c, of the City Statute). Environmental zoning is based on article 21, IX of the FC and aims to geographically delimit territorial areas and establish special regimes for the use, enjoyment and fruition of property. Zoning, therefore, consists in recognizing the impossibility of productive forces occupying the territory without a minimum of prior and coordinated planning. According to Meirelles (2013),

O zoneamento urbano normalmente estipula as áreas residenciais, comerciais e industriais; delimita os locais de utilização específica, tais como feiras, mercados, estacionamentos de veículos etc.; dispõe sobre as construções e usos admissíveis; ordena a circulação, o trânsito e o tráfego no perímetro urbano e disciplina as atividades coletivas ou individuais que de qualquer modo afetem a vida da cidade¹⁸ (MEIRELLES, 2013, p. 576),

In the words of Oliveira (2011, p. 215), “a legislação urbanística tradicional atribui ao Zoneamento a função de garantir a proteção da população em relação aos usos incômodos, à medida que estabelece zonas homogêneas, no interior das quais apenas determinados usos são permitidos.”¹⁹

Panizi (2007, p. 117-118) brings the following reflection:

Dentro da área econômica e social, o zoneamento é uma intervenção estatal baseada no poder-dever da União de articular o complexo geoeconômico e social, desenvolvendo as regiões e reduzindo desigualdades sociais e econômicas. Já na área urbanística, o zoneamento permite ao Estado a instituição de regiões metropolitanas, aglomerações urbanas e microrregiões²⁰.

Meirelles (2013) describes the existence of mixed zones, that is, those with promiscuous occupation - residence, commerce, industry and others - and for which there is no indication of specific and exclusive uses by building regulations. Consequently, in these zones there are no nonconforming uses, as all are admitted in the omission of the law. Thus, to prevent or stop any activity in a mixed zone,

¹⁸ Urban zoning typically stipulates residential, commercial and industrial areas; delimits the places of specific use, such as fairs, markets, car parks, etc.; provides for admissible constructions and uses; it orders circulation, transit and traffic in the urban perimeter and disciplines collective or individual activities that in any way affect city life. (Free translation)

¹⁹ The traditional urban legislation assigns to Zoning the function of guaranteeing the protection of the population in relation to uncomfortable uses, as it establishes homogeneous zones, within which only certain uses are allowed. (Free translation)

²⁰ Within the economic and social area, zoning is a state intervention based on the Union's power and duty to articulate the geo-economic and social complex, developing regions and reducing social and economic inequalities. In the urban area, zoning allows the State to establish metropolitan regions, urban agglomerations and micro-regions. (Free translation)

the city hall or the neighbor must demonstrate their harmfulness or abnormal or abusive harmfulness, as they cannot invoke non-compliance with use.

In addition, Meirelles (2013) asserts that the division of the city into zones is intended to assign each sector a specific use, compatible with its destination. However, as cities are not always planned, neighborhoods are mixed and disordered in uses and activities. Therefore, the supervening zoning is important, dividing the urban area into residential, commercial, industrial, institutional and other areas, indicating the compliant, non-compliant and tolerated uses.

Despite the possibility of supervening zoning, it is known that this is hardly used, since it involves a series of political measures, often avoided by the head of the city's executive power, during one's term of office.

Also according to Meirelles (2013), zoning, in its programmatic and normative aspect, is an object for law, but in its executive phase - in compliance with the law - it is object for a decree. Zoning exclusively by decree is not allowed without a basis or legislative norm that imposes it on the city and indicates the urban limitations of each zone.

Thus, zoning is an effective instrument in the initial planning of the city or in the process of its orderly growth, in which the process of elaboration, expansion and adequate use of the soil is essential, with the proper conformation of the road system and location of services, in order to improve the quality of life, preventing it from disorderly growth and chaotic urban situations, as seen in many Brazilian cities. According to Meirelles (2013),

O controle do uso do solo urbano apresenta-se como das mais prementes necessidades em nossos dias, em que o fenômeno da urbanização dominou todos os povos e degradou as cidades mais humanas, dificultando a vida de seus moradores pela redução dos espaços habitáveis, pela deficiência de transportes coletivos, pela insuficiência dos equipamentos comunitários, pela promiscuidade do comércio e da indústria com áreas de residência e de lazer²¹ (MEIRELLES, 2013, p. 575).

Zoning alone is not capable of mediating all neighborhood conflicts, considering that large subdivisions can accommodate large projects that, even meeting the requirements of the law, cause profound impacts on the neighborhood, such as traffic and infrastructure saturation. However, it is important to study these impacts, insofar as the population can seek from public agencies the measures to clean up and compensate for activities that present harmfulness or abnormal or abusive harm to the community, even if they comply with the zoning.

²¹ The control of urban land use is one of the most pressing needs in our days, in which the phenomenon of urbanization has dominated all peoples and degraded the most humane cities, making life difficult for its residents due to the reduced living spaces, the deficient public transport, the insufficiency of community facilities, the promiscuity of commerce and industry with areas of residence and leisure. (Free translation)

The City Statute, a rule of urban law, also considers a way to democratize the city management system by stipulating in article 43 that collegiate urban policy bodies should be in force. In addition, the holding of debates, conferences, hearings and public consultations on matters of interest to cities at all federal levels must take place, encouraging popular initiative of bills and plans, programs and urban development projects.

Furthermore, the publicity of the documents that are part of the EIV is required (article 37, sole paragraph), as well as the publicity of documents and information produced in the process of preparing the Master Plan with the proper access of any interested party to the documents and information produced (article 40, paragraph 4, items I a III).

The publicity of the acts, with the consequent active participation of the population in the decision-making process is an important control tool that helps to guarantee the maximization of the positive externalities of the dark store and the compatibility of these companies in the socio-economic-environmental development of cities.

Despite the mention that there should be public hearings and consultations on matters of interest to the cities in article 43, in a search carried out on the website of the city of São Paulo, on November 23, 2019, no public hearing for the installation of any dark store in that city was found. Thus, there is an evident need for a more effective public power in order to make viable the instruments provided in the City Statute, able to guarantee a better quality of life for the local population.

Moreover, with the aim of making effective the democratic and transparent management established in the City Statute, the mayor who hampers or fails to guarantee any of the requirements contained in items I to III of paragraph 4 of article 40 will be liable for administrative impropriety, without dismissing the punishment of other public agents involved in the enforcement of other applicable sanctions (article 52, VI).

Law 10.257/2001 considers the Environmental Impact Study as an instrument of urban policy. The Brazilian Constitution in article 225, paragraph 1st, IV, provides for the Environmental Impact Study (EIA) for developments or the installation of activities that may potentially cause significant degradation of the environment. The existence of the EIA is based on the principle of prevention of environmental damage, as this instrument must present the direct and indirect and the positive and negative externalities of the environment and the mitigating measures.

Accordingly, the assessment of environmental impacts (Law 6,938 of 1981 – article 9th, III) through the Environmental Impact Study (EIA) and the Environmental Impact Report (Relatório de Impacto Ambiental – RIMA) is also an important instrument of socio-economic-environmental development compatibility, since its elaboration will be required in the installation of a development or activity that may potentially cause significant environmental degradation.

Therefore, the City Statute provides for numerous instruments, among which the following stand out: the neighborhood impact study, environmental zoning, participatory budget management and the environmental impact study (EIA). Such instruments can be used by urban policy in defense of the collective good, security, the well-being of citizens, as well as environmental balance.

Finally, Law 6.938/1982, which provides for the National Environmental Policy, structured the National Environment System (Sistema Nacional do Meio Ambiente – SISNAMA) in its article 6 and organized the environmental administration as follows: a) higher body: Government Council; b) consultative and deliberative body: National Council for the Environment (Conselho Nacional do Meio Ambiente – CONAMA); c) central body: Secretariat for the Environment of the Presidency of the Republic; d) Executive body: Brazilian Institute for the Environment and Renewable Natural Resources (Instituto Brasileiro do Meio Ambiente e dos Recursos Naturais Renováveis – IBAMA) and the Chico Mendes Institute for Biodiversity Conservation (Instituto Chico Mendes de Conservação da Biodiversidade – ICMBio); e) sectional organ; f) local agency.

Thus, in the case of the State of Mato Grosso, questions relating to the environment must be referred to the State Secretariat for the Environment (Secretaria de Estado do Meio Ambiente – SEMA). In the case of Cuiabá/MT, the local body responsible for environmental issues is the Department of Environment and Urban Development (Secretaria de Meio Ambiente e Desenvolvimento Urbano – SMADES).

CONCLUSION

Dark stores are distribution warehouses, closed to the public and located in urban centers, with the exclusive purpose of storing, collecting, sorting and sending goods purchased online. They differ from gigantic distribution centers in that they are located in the central area of cities.

From the point of view of economic analysis of law, dark stores have positive and negative externalities that must be analyzed so that there is harmonization and coexistence between the postulates of economics and urban law.

Dark stores influence urban planning issues in cities, as they cause an overload on the road system, due to the increase in the number of vehicles circulating to deliver goods purchased online.

In locations where dark stores are installed, there is an increase in noise pollution resulting from heavy, constant and noisy traffic, as well as an increase in police and ambulance services. It is also necessary to observe the city's infrastructure, so as not to generate an overload of electricity and telephone power in the vicinity of the place where a dark store is installed.

During the dark store installation process, precautions must be taken to avoid the creation of “dead neighborhoods”, which, in addition to attracting crime, can be an inviting factor for vandalism, discourage the growth of retail in the neighborhood and potentially affect the value of adjacent properties.

It is essential to comply with the norms established in the City Statute and in the Master Plan to avoid non-compliance with urban policies in Brazilian cities and the disorderly growth of municipalities, as well as to ensure rational and satisfactory service to the community's needs.

Therefore, the population and the government must use the instruments provided for in Law 10,257/2001 – among which the neighborhood impact study, the environmental zoning, the participatory budget management and the environmental impact study (EIA) stand out – in order to guarantee the achievement of public policies in favor of the collective good, security and well-being of citizens, as well as environmental balance.

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