



# Métropoles

Numéro 6 (2009)

Des mobilités urbaines à la ville mobile. Sur les traces des circulations urbaines

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## In search of the urban variable : Understanding the roots of urban planning in Portugal

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### Référence électronique

Álvaro Ferreira da Silva et Maria Luísa Sousa, « In search of the urban variable : Understanding the roots of urban planning in Portugal », *Métropoles* [En ligne], 6 | 2009, mis en ligne le 14 juin 2011. URL : <http://metropoles.revues.org/4029>

DOI : en cours d'attribution

Éditeur : Philippe Genestier  
<http://metropoles.revues.org>  
<http://www.revues.org>

Document accessible en ligne sur : <http://metropoles.revues.org/4029>

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## In search of the urban variable : Understanding the roots of urban planning in Portugal<sup>1</sup>

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Summary : This article demonstrates how public control over the street was at the origin of modern urban planning in Lisbon. The increased pressure over the street in the nineteenth-century city demanded increased public intervention, which was at the roots of urban planning as practice and as a body of theory. The strategic character assumed by urban planning derived from the fact that it was at the crossroads of the most important problems that nineteenth-century cities experienced: sanitation, circulation, and beautification. The preparation of the first Portuguese law on urban planning (1864) and the first improvement plan (1881) resulted from this need to exercise public monopoly over the use of the city streets. However, the financial, political, and technical conditions defined the scope of possibilities for the programme of improvement and beautification of the Portuguese capital. This article analyses the compromises between the forces driving modernisation and the limits of the possibilities.

Key words : Urban planning, Lisbon, urban environment, circulation

Résumé : Cet article démontre que le contrôle public de la voirie est à l'origine de la planification urbaine moderne à Lisbonne. L'intensification de l'usage des rues au cours du XIXe siècle a généré un interventionnisme public accru, qui est à l'origine de la constitution de l'aménagement urbain aussi bien comme pratique que comme

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<sup>1</sup> Paper developed within the research project *Networked cities: urban infrastructures in Portugal (1850-1950)*, financed by the Portuguese Council for Science and Technology (*Fundação para a Ciência e a Tecnologia*) and the programme POCI (*Programa Operacional Ciência e Inovação*).

corpus théorique. Se trouvant au carrefour des principales problématiques de la ville du XIXe siècle (assainissement, circulation, embellissement), la planification urbaine a revêtu un caractère stratégique primordial. L'élaboration de la première loi portugaise traitant de planification urbaine (1864) et du premier plan d'aménagement (1881) est la conséquence de ce besoin de la puissance publique d'exercer son monopole sur l'usage de la voirie. Toutefois, les considérations financières, politiques et techniques ont restreint le champ des programmes d'aménagement et d'embellissement de la capitale portugaise. Cet article analyse le compromis trouvé entre les forces de modernisation et les limites avérées des possibilités d'aménagement urbain à Lisbonne

Mots-clés : Urbanisme, Lisbonne, environnement urbain, circulation

## **Introduction : urban challenges in the mid-nineteenth century**

### **Urban environment as the leitmotiv for increased public intervention**

In mid-nineteenth century European cities were facing greater than ever problems related to hygiene and public health, resulting from urban growth, which had outstripped the modernisation of urban infrastructures, such as water supply, sewerage, and housing (Hohenberg and Lees, 1985 ; Pounds, 1985 ; Buchanan, 1990). These difficulties were a consequence of the rising number of large urban centres (more than 100,000 inhabitants), as well as their rapid growth. What had been isolated manifestations in some large metropolises, such as London and Paris, became more widespread and multiplied quickly (Hohenberg and Lees, 1985 ; De Vries, 1984 ; Bairoch, 1988).

Urban population growth and concentration placed greater pressure on the existing sanitation, circulation, and supply infrastructures, especially on the first. Cholera and typhus found a favourable environment in overcrowded areas with poor sanitation. Cholera epidemics that devastated the largest European cities during the first half of

the nineteenth century gained the attention of authorities and the public, not only for their virulence, but also for their emotional impact (Evans, 1988 ; Kearns, 1989 ; Rosenberg, 1966 ; Szreter and Mooney, 1998 ; Szreter, 1997). The level of mortality in cities continued to surpass that of towns or rural areas until the end of the nineteenth century (Woods, 1989 ; Preston and Van de Walle, 1978 ; Szreter and Hardy, 2000). Even though the epidemic outbreaks of cholera, typhus, and dysentery were not associated with water as the vehicle of bacterial transmission until the discoveries of Pasteur and Koch, the prevailing theory that the epidemics were due to miasma emanations coming from putrefying materials was a powerful incentive to seek improved sanitation and housing conditions (Silva, 2006). As a result, the nineteenth century's hygienist movement emphasised the modernisation of water supply and the introduction of sewer systems as the key to solving sanitary problems. It was recognised that these activities should be strictly regulated by the State or even publicly owned.<sup>2</sup> Poor housing and overcrowding both influenced the sanitary environment and demanded an increased public response (Rodger, 1989).

During the second half of the nineteenth century, political and administrative interventions over the organisation of the city gained importance on a scale without parallel in the past, or in other economic sectors (Sutcliffe, 1982 ; Daunton, 1990). State intervention in supplying certain goods and services, which were insufficiently provided by private initiative and considered fundamental for solving environmental problems, gained importance as a means of controlling urban life. The municipalisation of water supply, energy, and transports was considered in several countries as the most appropriate business solution to answer the specific needs of urban areas (Falkus, 1977 ; Hassan, 1985 ; Waller, 1983 ; Millward, 2005). In other

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<sup>2</sup> Schultz and McShane state that "water and sewer systems were a city's lifeline" (1988 : 84). See also Hassan (1985 : 543), Simson (1983 : 432) and Shapiro (1985 : 16 ff).

sectors, such as housing, private initiative remained dominant, though subjected to greater regulation (Bullock and Read, 1985 ; Daunton, 1983, 1990 ; Pooley, 1992).

The transition between the nineteenth and the twentieth centuries is sometimes pointed as the beginning of urban planning. However, we share in the belief that urban planning started earlier, coinciding with efforts seeking to address environmental problems through urban design (Konvitz, 1985 ; Hohenberg and Lees, 1985 : 290-330 ; Sutcliffe, 1980, 1981, 1982 ; Diederiks and Hohenberg, 1992 ; Meller, 1997 ; Cherry, 1989). According to Sutcliffe (1981 : 2), "town planning is the concerted intervention by public authority in the development and subsequent use of urban land". This administrative intervention could presuppose sophisticated means and processes. However, it has two components, one positive and the other negative. The first included the provision of basic infrastructures (road networks, sanitary equipment). The second were all public initiatives that set limits on the use of urban land by its private owners, in order to avoid conflicts or negative externalities from land use (density limits, reservation of space for public and collective equipments).

From the mid-nineteenth century on, the city's physical space was increasingly controlled by administrative means, through two instruments : the regulation of expansion into the surrounding environs ; and the urban reorganisation of city centre, plagued with serious problems of sanitation, congestion, and bottlenecks in circulation (Sutcliffe, 1981 ; Armiño Perez and Piñon Pallarés, 1989). The Italian legislation on urban planning distinguished between two types of intervention: the extension plans, which defined the expansion the city should follow, and the regulating plans, directed to the sanitary operations and rehabilitation of areas already built (Calabi, 1980a ; Morbelli, 1990). Public roads became the favoured

instrument for organising urban layout, with its double function of supporting the settlement of infrastructures and of defining the organisation of the building lots.

### **The urban question in Lisbon and the quest for a modernization programme**

The strategic character assumed by urban planning in the nineteenth-century “urban question” was due to the increased pressure upon the street’s basic functions in the city’s metabolism : circulation of goods and people; organisation of the private and public spaces ; and stage for social life (Silva, 1997 : 257 ff). This increasing pressure over the different functions performed by the street has several explanations. The agglomeration effect caused by the rising urban population affected urban land value, making it in an even more scarce and valuable good. Population growth multiplied traffic, generating security problems, even in a city as Lisbon, which was less tumultuous than some larger metropolises.<sup>3</sup> The street was considered to be an important source of contagion, not only because of the excrement of animals used for the transport of people and goods, but also for human waste thrown into the street, in contravention of municipal by-laws (Pézerat, 1865). The new transport, water supply, and sewer and energy infrastructures led to more intensive use of the public thoroughfares, where these new networks of urban services were installed. The tortuous and narrow roads inherited from previous centuries, defectively paved, with steep grades and no rationality as a circulation network, needed rectification and enlargement. Efficient pavements and water drainage were demanded by the growing use of public and private transport, and also to protect subterranean pipes.

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<sup>3</sup> On the development of urban transports in Lisbon see Vieira (1982) and Capitão (1974). On the problems of pedestrians’ security, due to trampling, see, for example, the cases reported in Câmara Municipal de Lisboa (1862: 1052, 1245-1247). The introduction of the first electric tramways also provoked some spectacular accidents (Câmara Municipal de Lisboa, 1903 : 74).

Lastly, the rise in building activity increased the pressure on the streets, occupied by construction materials or the refuse of demolished buildings.

Another strong incentive for public urban intervention was “the urban modernisation ideology.” Throughout the nineteenth century, several technological innovations in water supply, energy, transport, and sewers contributed to the industrialisation of the city’s metabolism, symbolising modern life and new standards of comfort.<sup>4</sup> These represented the icons of urban life at the time. Nothing epitomized this new attitude and modernisation ideology better than the proposals of intervention in the urban layout, for the sake of simplicity here summarised under the heading of urban planning. In several ways – in the modernisation blueprint, the financial mechanisms and even in lexical terms – this ideology derived from the same matrix as the programme of infrastructure modernisation, undertaken in Portugal by several governments between the 1850s and 1890s. It was called the “*programa de melhoramentos materiais*” (material improvements programme)<sup>5</sup> and it became associated with the modernisation of transport infrastructure for improving inland circulation and promoting market integration. Public investment in railways was the most well-known feature of this policy. Its urban parallel was called the “*programa de melhoramento e embelezamento da cidade*” (urban improvement and beautification programme) and synthesised the proposals for urban modernisation during the second half of the nineteenth century (Silva, 2001). It was expected that both would lead Portugal to catch up with contemporary industrial economies and modern societies.

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<sup>4</sup> For energy see Schivelbusch (1988) and Hughes (1983). Sanitary equipment is dealt with in Tarr, *et al.* (1984). For an overall perspective, see Tarr and Konvitz (1987).

<sup>5</sup> It was the so-called *Fontismo*, coming from the name of the Portuguese Prime Minister at the time, Fontes Pereira de Melo, who was responsible for the most comprehensive articulation of its economic and financial justification (Cabral, 1976 ; Justino, 1989 ; Mata, 1988).

This article studies the way that urban intervention developed in Portugal during the second half of the nineteenth century and, in particular, in Lisbon. The capital city was the only urban centre in Portugal that had the scale and the political and economic importance needed to require development patterns similar to those in other European cities. In fact, the solutions found owe much to the circulation of models, information, and technicians on urban planning and urban technological innovations across the European space (Sutcliffe, 1983 ; Meller, 1995, 1997 ; Hietala, 1987). Initially focused on sanitary issues, an international movement of cooperation became particularly active in the second half of the nineteenth century (Meller, 2001 ; Saunier, 2001 ; Saunier and Ewen, 2008).

This article unfolds in three chronological movements, marked by different rhythms. The next Section (2) signals the first references to the need for a plan for improvements in Lisbon as the outcome of the sanitary crisis of the 1850s. Section 3 approaches a second period (1878-1891), in which we see the attempt to change the face of the city, the result of an economic environment of greater prosperity and generalised optimism among the political, social, and technical elites, believing that it would be possible to transform Lisbon into a European metropolis. Special attention to the protagonists' discourse reconstitutes the context of expectations and proposals that emerged throughout these periods, in a thicker than thinner description (Geertz, 1973). The analysis ends with a third movement (Section 4), marked by the impact of the financial and banking crisis of 1891-92, when the compromise between forces for modernisation and the horizon of possibilities creates a peculiar counterpoint of intervention models in Lisbon. Section 5 concludes.

**The program for urban improvements in Lisbon (1858-1878) : *Largo, con gran espressione***

The evolution of Lisbon's population throughout the nineteenth century was peculiar, at both the domestic and international level. The first two thirds of the century was a period of stagnation. During these years Lisbon was affected by political, economic, and sanitary problems. The capacity of Lisbon to attract population was impaired by the loss of the trade monopoly with Brazil, following 1808, and later by political instability, with periods of civil war that lasted until the mid-nineteenth century. Population growth was also aggravated by several outbreaks of disease, mainly in the 1830s and 1850s. This negative trend in the evolution of population was reversed in the mid-1860s. During the 1880s population growth accelerated, launching a period of great dynamism in Lisbon's life, visible not only in its demography, but also in urban development and construction. The main directions of Lisbon's growth, as well as the institutional framework supporting public intervention in the city were launched during this period and lasted until the 1930s (Silva, 1997).

Until the first half of the nineteenth century, Lisbon grew mainly along the river, reflecting the importance of water transportation. Although Lisbon's official limits increased during the second half of the nineteenth century, its real urban growth took long to match the administrative boundaries (Silva, 1940 ; Henriques da Silva, 1997 : 396-399 ; França, 1994 : 388). In the last quarter of the nineteenth century, the expansion to the interior and northern areas helped Lisbon to distance itself from the river, enhancing the North-South axis in detriment to the East-West axis (Henriques da Silva, 1994). The expansion to the North was achieved by opening two "arteries" perpendicular to the river and linking the post-earthquake

1755 centre (*centro "Pombalino"*) to the Northern and North-Western peripheral zones (see map 1). Both were laid out according to the physical landscape, following the city's two main valleys. The axis defined in the North-Eastern valley had been one of the most important exits of Lisbon, being densely populated in the section near the city's centre. It was in this axis that the avenue *Avenida dos Anjos/Dona Amélia/Almirante Reis* was opened up. However, its expansion became secondary in relation to that of the Northern valley, in the central area of the city, where the *Avenida da Liberdade* and *Avenidas Novas* would be built, as the symbol of the programme for a modern city.

### **The sanitary crisis in the 1850s**

The urban improvement programme, centred in Lisbon, followed two main stages: the first one from 1858 to 1878 and the second from 1878 to 1891. The first stage started with the sanitary crisis affecting Lisbon from 1856 to 1858 (Silva, 2006), which witnessed a succession of two of the worst epidemics of the nineteenth century (Rodrigues, 1995). The 1856 cholera epidemics almost doubled the level of mortality, and in 1857 yellow fever increased the deaths in Lisbon to more than twice the average level. The evolution of the crude death rates for specific years in the nineteenth-century reveals the impact of this succession of diseases, supporting convictions that the Portuguese capital faced an important sanitary crisis (Table 1).

**Table 1: Crude death rates in nineteenth-century Lisbon**

Years	Yearly death rate per thousand inhabitants
1801	25.78
1819	23.01
1835	23.04
1844	23.50

1853	29.35
1857	36.53
1864	30.47
1878	31.79
1890	24.31
1900	21.18

**Sources: Rodrigues (1995) and Leite (2005)**

This is a period in which there is a general acknowledgement that dreadful sanitary conditions were responsible for these epidemic outbreaks. Appalling sanitary facilities was condemned by medical societies and engineers, discussed in Parliament and the City Council, and criticized in the press.<sup>6</sup> Inefficient water supply and old sewer pipes, defectively built and routinely obstructed, were a focus of infection (Câmara Municipal de Lisboa, 1860 : 5).

Public authorities targeted three areas for intervention : the volume of water, through the supply of piped water by a private company ; the extension and improvement of the old sewer network, inherited from the reconstruction that took place following the 1755 earthquake ; urban planning, allowing better circulation and hygiene conditions. In January 1858 the city council of Lisbon asked the French municipal engineer, Pierre-Joseph Pézerat, to present a project of municipal intervention that would address the sanitary crisis. It was mostly a list of works demanding urgent action. Though rudimentary when compared to those of other European cities, it constituted the very first instrument of urban and sanitary intervention by the city council (Bocchi, 1992 ; Bourillon, 1992 ; Roncayolo, 1983 ; Sutcliffe, 1971, 1980, 1981). In the following year, Pézerat visited Paris to study the improvements being made and the organisation of the municipal services in the French capital (Pézerat, 1865),

<sup>6</sup> Report from the Medical Society to the municipality of Lisbon about the health conditions in the city. Successive reports by the city council's mayors emphasised the deficiencies in the sanitary equipment. See (Câmara Municipal de Lisboa, 1860: 4-7, 1863a: 843 ff, 1864b: 1711 ff).

which testifies to the process of circulation and emulation of experiences that characterised the period.

This project was never realised due to municipal financial difficulties (Silva, 2004). In October 1858 all of the city councilmen quit in protest of the lack of financial means. Consequently, the responses to urban problems continued to be fragmented and fitful: one or two sections of old royal pipes that threatened total failure were rebuilt; more dramatic insalubrious situations were solved; the sewer network was enlarged, but in a disjointed way and not based on any overall plan. The same occurred with urban renewal, with fortuitous and scattered interventions in order to rectify street alignments or widen thoroughfares in which circulation had become difficult.

However, this does not mean that nothing changed. The first references to a programme of urban improvements date from the 1860s. It is important to look in some detail at the arguments presented, as they raise several important issues: the relation to the national, material improvements programme; the presentation of the three most important goals underpinning public intervention in the urban space (sanitation, circulation, and beautification); the sense of international emulation and competition with other European urban centres, as a push factor to improve urban conditions in Lisbon.

The connection between the *Fontismo* programme (national material improvements programme) and urban modernisation is outlined by municipal authorities (Câmara Municipal de Lisboa, 1863b : 1677, 1864a : 1862), demanding greater financial support from the central government. They anticipated greater ambitions that became evident a decade later. The backwardness of Lisbon next to other European capitals and major cities was noticed and hence greater technical and financial support from

the central government for the modernisation of the city was demanded thereafter, as is manifest in a municipal petition to the government at the end of 1863<sup>7</sup>. Five months later, the necessity to modernise the capital was emphasised even more. Railway construction, which started in the mid-1850s, was reinforcing Lisbon's international connections, which also benefited from the conditions offered by the harbour.

After twelve years of important works and extensive construction of different railway lines, the already achieved easiness of communications anticipates an important development of activities in the capital at short notice. It will become even bigger after the railway connections between Portugal and central Europe. Lisbon's harbour will become a commercial emporium, a large warehouse, a centre of huge transactions, this fortune being facilitated by the establishment of the transatlantic telegraphic lines and assured by its geographical position as the best place of departure from Europe to America, the first and the most convenient harbour, coming from this part of the world. The increased transactions will develop agriculture, industry and commerce. (Câmara Municipal de Lisboa, 1864a : 1862).

This repository of technical innovations in transport and communication infrastructures, symbolising the capacity for increasing internationalisation in the second half of the nineteenth century, serves to signal the underdevelopment of the urban infrastructures in the Portuguese capital. Lisbon could have the magnificent destiny of a great European metropolis, thanks to the railway construction, the installation of the telegraph, and the submarine cables, and to the rising maritime traffic. Yet, this destiny would only become real if transport, sanitary, and urban improvements were achieved, allowing the city of Lisbon to keep up with the other

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<sup>7</sup> "Lisbon, besides being the best harbour in the world, will be for its new and fast communications the most frequented city, not only by Portuguese, but also by foreign people; its commerce will grow to a greater level of prosperity once its conditions of hygiene and beautification rise, as they should, to achieve the conveniences one finds in the capitals of the more civilised kingdoms" (Câmara Municipal de Lisboa, 1863b: 1677).

European cities “its equals” (Câmara Municipal de Lisboa, 1864a : 1862, 1863). Consequently, it was necessary not only to ensure the financial support from the government, but also the technical competences that the municipality of Lisbon did not have.

The municipal petition concluded that the city council was in no condition to undertake this “project of improvement and embellishment of the city of Lisbon” and asked for financial support (Câmara Municipal de Lisboa, 1864a : 1863). It sought to improve the capital's aesthetics, design more regular and pleasant streets, and provide facilities that would turn the city into a more enjoyable location. The new urban symbols of the nineteenth century were set as goals to achieve, from the domestic comfort provided by energy and piped water to the icons of sociability and representation represented by the parks and boulevards. Alternatively, building with no rules or criteria would continue, the modernisation of the sanitary facilities would be delayed, and the city of Lisbon would not seize the opportunities raised by the improvements in its domestic and international connections.

### **Great expectations : the 1864 law**

Although the change in the urban fabric was limited, the legislative framework changed, thanks to the combined pressure of the municipal councillors, the Parliament, and the public opinion. The decree of the 31<sup>st</sup> December 1864 established a new legal framework for public intervention in the city. It determined the preparation of “improvement plans” for Lisbon and Oporto, new health rules, and introduced building and urban development regulation<sup>8</sup>.

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<sup>8</sup> On the importance of this law, see mostly Silva (1997 : 257 ff). For other approaches see Gonçalves (1986, 1988), Marques (1968) Henriques da Silva (1985), and França (1980).

The statement that any street was public domain, an inalienable right, constitutes the fundamental principle enunciated in this law. As mentioned in the beginning, the street was under much greater pressure in its three basic functions of promoting accessibility, as a platform for organising building, and as social space. The claim for public control over the road network was a means to diminish and correct the existing elements of pressure and to mitigate the contradictions between its different functions. Being such a powerful force to organise urban space, one understands the strategic importance of claiming the control over the city's streets by public administration. The existence of an improvement plan, which would serve as an instrument of urban layout design, would avoid the "spontaneous logic of city expansion" (Goodall, 1972 : 185 ff). Following this logic, the expansion of the urban space was carried out in a haphazard way, the result of scattered initiatives and without any type of layout design. The difficulties of circulation would grow worse in areas that had been the result of small scale, disperse, and un-articulated growth<sup>9</sup>.

The recognition of the importance of the street in the nineteenth-century city required that the legislation aimed at its control should do more than prescribe alignments, as had been done until then. The control over the street as a vector for installing infrastructures and organising the city's growth called for an integrated vision, defining rules that unified the different urban development domains. This is expressly recognised in the preamble to the decree of 1864 :

To provide for opening up new streets and improving those in existence, without demanding rules for the new works would be [...] an incomplete work. The decoration of the cities, the free transit, the convenience and safety for the inhabitants, the public health and the need to prevent

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<sup>9</sup> In his classic work on urbanism, Ildefonso Cerdá dedicates some pages to the inconvenience of the "private streets" (or "private neighbourhoods"), "where one could find in greater abundance the more prominent vices, faults and all types of irregularities" (Cerdá, 1968 [1867] : 338-340).

overcrowding, demand strict regulation. (Ministério das Obras Públicas, 1865).

The goals enunciated in the last sentence of this passage contain the topics of any intervention or critical reflection on the nineteenth-century city. Firstly, “the decoration of the cities”, often rendered in a single word (beautification), literal translation from the Italian or French word, which contemporaneously designated the importance of enhancing the aesthetics of the city, turning it into a more pleasant place and promoting it in relation to other national or international urban centres. Secondly, the intervention and control over public thoroughfares should favour circulation, widening and straightening streets, rationalising connections between areas densely built up, and improving the city exits to its surroundings. Public health was the third aspect elected as the main concern of public authorities. Fourthly, the overcrowding of urban space was considered to be noxious.

Intervention on urban design and control over how different urban activities were exerted in the public space would address these four problems areas, facing nineteenth-century cities (Sutcliffe, 1971 : 27 ; Roncayolo, 1983 : 94 ; Daunton, 2000 : 3 ff). The regulation of construction emerged as a corollary of this strategy of controlling public thoroughfares, due to the peculiar tension between built up space and public circulation space. Building layout of urban spaces would reconcile the purposes of hygiene, beautification, traffic, and overcrowding.

These were ambitious goals that proposed an overall action throughout the city. The plan should contain projects on the street organisation of the capital, the height of buildings, and their relation to the streets' width, the modernisation of infrastructures – emphasising water and sewer systems, cleaning and rubbish removal, and public lighting – and the integration of buildings in these networks,

with the parallel impact on the definition of future norms for building. Similar to what occurred in other urban modernisation projects of the day (Bergeron and Roncayolo, 1989 ; Sutcliffe, 1979), municipal authorities were subordinated to the central government and ministerial technical services, both in the preparation and application of the improvement plan.

On the other hand, another feature transformed this decree into a completely new normative framework for urban intervention. It established the possibility of generic expropriations for the execution of the improvement plan. Instead of the lengthy process then in force for any necessary expropriation for urban renewal and expansion<sup>10</sup>, this law declared right-of-way as public utility and expedited all the expropriations necessary for the execution of the improvement plan, after its approval by the government. Hence, as soon as the improvement plan was approved, urban planning would be endowed with an expedite process to do all the necessary expropriations.

In short, this was the first modern urban planning law in Portugal, simultaneously establishing the possibility of urban planning and the modernisation of infrastructures. However, the results were disappointing in the following decade. The technical and financial support for municipal activity was slow to appear, which was reflected in the absence of any continued project for the modernisation of the capital during the third quarter of the nineteenth century. The municipal financial debility did not allow for even the most urgent sanitary and renewal initiatives to be undertaken, which left the municipality nearly wishing for the creative spinoff of any natural disaster, such as the earthquake of 1755, which in the past had allowed urban

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<sup>10</sup> See Mata (1906) for a comparative perspective on expropriation legislation. See also Silva (1997 : 435-553), Alaimo (1988), and Lacave (1983a, 1983b).

intervention by the Marquês do Pombal in the downtown area : “only a fire can be a torch of civilisation, only an earthquake can awake from lethargy, and push towards progress” (Câmara Municipal de Lisboa, 1866 : 2862). The economic and financial situation, started by the crisis of 1867-68, paralysed public initiatives and private real estate investment. The studies that led to the establishment of the first plan of urban improvements, previewed by the law of 1864, started only in the mid-1870s (Henriques da Silva, 1989 ; Silva, 1997).

### **The programme for urban improvements (1878-1891) : *Allegro molto e con brio***

#### **Going ahead: the first urban improvements plan (1881)**

The late 1870s, in contrast, is a period of mobilisation of capital and political will for the transformation of the city of Lisbon. The beginning of a prolonged ascending phase of real estate investment gives the first sign of change in the economic environment. For almost a decade and a half, until the financial collapse of 1891, private construction increased, showing the vitality of the urban economy (Silva, 1996). Public administration invested in several projects seeking to radically transform the face of Lisbon (Silva, 1997). Left behind was another banking and financial crisis (1876), which affected investment (Justino, 1989, II : 82-90 ; Reis, 1996). Conversely, the 1880s were characterised by an unexpected ease in obtaining credit for the municipality and private investors.

A project of improvements in sanitation, circulation, and urban layout became more articulated and had better technical support. The construction of the avenue *Avenida da Liberdade* (see Map 1) – foretelling the expansion of the city – was presented as a landmark in the urban transformation of the capital. In spite of this modest beginning, one of the city councillors integrated it in a larger programme of

modernisation, aimed at improving the accessibilities and sanitation, at increasing the capacity of attraction, and the rehabilitation of the capital :

The works of our grand boulevard [*Avenida da Liberdade*] will shortly start and pursue the movement of the material transformation of the city, with the opening and extension of several thoroughfares, and the making of improvements – such as sanitary and others – which the city reclaims and the progress demands.

We are, therefore, in one of those solemn moments of transition [...]. Tomorrow [...] the capital is destined to represent, in the general movement of the country, mainly in relation with rapid transit [the railways], the important role assigned to its role as the first city of the kingdom, its greatness and traditions, its quality as seat of government, administration and commerce, namely its important geographical position.

Lisbon has to be the forehead of all our railways lines, the emporium where they converge, the heart where national life reflows to them, and must be the circulation of multiple arteries ramified by all the places in the country. (Câmara Municipal de Lisboa, 1879 : 372).

At the time the opening of *Avenida da Liberdade*, it was the most emblematic part of the project of modernisation, also including the suburban railway connections (Pinheiro, 1994), the construction of public markets, the slaughterhouse, and the first works for the modernisation of sanitation. Nevertheless, as it synthesised the ideal of beautification and modernisation of the city, the opening of the Avenue condensed this discourse of modernity at the beginning of this second period. Modernity was based on the emulation of experiences of other great European cities, as a way to support competitiveness<sup>11</sup>.

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<sup>11</sup> “The great cities have to correspond to the demands of modern civilisation and show capabilities to receive conveniently the foreigners that visit them. That is where their credit and their interest is. [...] Lisbon is still at a

One of the heralds of this ideal of modernisation and of emulation of other European experiences in urban planning and sanitation was Rosa Araújo, the mayor between 1878 and 1885, after having served several years as city councillor in the 1870s. Rosa Araújo represented the continued presence of the *Regeneradores* (political “right” wing) in the municipality, and the expression of material improvements in urban environment. Speaking directly, the mayor compared Lisbon with other European capital cities and demanded financial resources to proceed with the “material improvements :”

The city of Lisbon, due the advantages of its geographical situation, the sweetness of its weather, the magnificence of its harbour, and for the richness of its surroundings, may be proud of being one of the most prodigally gifted by nature. Lisbon may be able not only of developing along the less prosperous, but also of disputing the primacy with the most beautiful capitals of the opulent nations. However, this will only be possible with work and progress.

But Lisbon, dormant, paralytic, torpid and morbid, stayed behind all the neighbouring cities [...].

London was crossed by several thoroughfares and built underground railways, enabling its population especially that of the City, to prevent overcrowding and get housed in more economic and healthier places.

Paris destroyed itself by half to exhibit its numerous boulevards, its twenty seven avenues and wants the glory of being named the great capital.

Bruxelles was submitted to a general plan of embellishment.

Madrid saw the creation of new neighbourhoods, which promoted it.

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great distance from what is to be expected from a civilised city, and for its position that destins it to be one of the most important commercial centres, not only of Europe, but of the world” (Cortes, 1874: 237). Francisco Simões Margiochi, engineer and city councillor throughout this period also enhanced the triple role played by the Avenue: at a sanitary level, communications, and, finally, the “embellishment” of the capital (Margiochi, 1886).

[...] And Lisbon, stationary, does not have a central market, does not have a park, did not open streets, did not promote buildings, does not fight against overcrowding, resigned to the growing insalubrity, going through ignoble alleys, and is ashamed at the dreadful mirror of the blackberry-bush and heath, which distorted it. (Câmara Municipal de Lisboa, 1880 : 476, 477).

In 1881 the improvements' plan was presented, representing the first instrument of urban planning adopted in Lisbon. More than a unified plan for urban expansion, it was for the most part a collection of interventions including road improvement in areas with dense construction, and the introduction of public thoroughfares in places of recent development. It synthesised the contributions of several projects over time, seeking solutions for some of the traffic problems the city faced. This was in response to two fundamental concerns of the municipality of Lisbon, going back decades : eliminating the traffic bottlenecks in areas densely occupied; organising the physical expansion of the city around road axes, which would enable easier communication with the hinterland in a period when the population of the capital started to grow, following more than half a century of stagnation (Silva, 1997 ; Silva and Matos, 2000). To these two problems corresponded two types of urban planning instruments, the regulating and extension plans, whose circulation in Europe was mentioned at the end of Section 1.1.

The first type of problem addressed was the layout of roads in the areas already built, the result of centuries of disorderly growth (Silva, 1997 : 310 ff). The intervention was similar to the regulating plans applied in other countries, often also used to address sanitary issues. The most well-known example is the urban renewal

carried out in Paris by Haussmann, which had similar characteristics (Pinkney, 1958 ; Saalman, 1971 ; Sutcliffe, 1971, 1979 ; Bergeron and Roncayolo, 1989 ; Boudon, 1977)<sup>12</sup>.

There was a clear difference between the massive Parisian renewal programme and that of Lisbon. The commercial and administrative centre of Lisbon had been reconstructed following the 1755 earthquake (França, 1980), which removed stronger incentives toward massive urban renewal in the centre. The interventions were piecemeal and atomistic, aimed at overcoming traffic restrictions or improving connections within the city. Nevertheless, this function of ordering traffic had important reflections on urbanisation. It sacrificed buildings to the road issues or stopped building on vacant land, which was expropriated for enlarging or constructing new streets. It submitted new buildings or rebuilding works to the discipline of road alignment, still the main rule for orderly urban development the builders should comply with. It also made it possible to freely dispose of lots to be built according to a set of rules, which started in the road alignment and ended in the building norms demanded by the decree of the 31<sup>st</sup> December 1864.

The second type of problem determining in the elaboration of the improvements plan was the attempt to discipline the expansion of the city through the planning of its growth. Cerdá's planning in the growth of Barcelona and the interventions made in Prussia and German Empire revealed the importance that urban design might have in regulating cities' expansion (Sutcliffe, 1981 ; Hohenberg and Lees, 1985 ; Bernet, 2004).

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<sup>12</sup> Similar actions were carried out in other French cities (Leonard, 1961 ; Bruston, 1975 ; Bourillon, 1992 ; Roncayolo, 1983). In England this kind of operation was also common on already consolidated areas of the cities, associated with improvement plans and schemes (Meller, 1997 ; Jones, 1983 ; Smith, 1980 ; Pooley, 1985 ; Wohl, 1977 ; Dyos, 1957 ; Dennis, 2000). In Italy, this type of urban intervention was *piano regolatore edilizi* (Calabi, 1980b). For examples see Caracciolo (1956), Insolera (1993), Coli and Giovannini (1984), Corsani (1992), and Morbelli (1990).

In this case the concerns about circulation would fall upon the Northern exits of Lisbon, where the areas of a more promising expansion were located, as well as the traditional connections to the regional hinterland, as the engineer Miguel Paes contemporarily claimed (Paes, 1882, 1886). These areas of expansion were located in the continuity of the two exit axes, described in the beginning of Section 2 (see Map 1).

This plan of improvements of the capital of 1881 had three consequences in the behaviour of municipal authorities and the economic agents associated with real estate (Silva, 1997). In the first place, it revealed a project of public initiatives, promoting the enlargement and rectification of the road network under the public domain. Aside from the obvious effects of improving the traffic conditions and accessibility, these interventions constituted the statement of a principle enunciated in the decree of 1864: any street was public domain. The State was responsible for the construction and regulation of public thoroughfares, as well as taking care of their maintenance and cleaning. The enunciation of this principle reflected a new intention to intervene more actively in the regulation of urban growth. It would also serve as a guide for potential real estate investors to make their decisions. The second consequence of the plan was its vision of the city's expansion, which could provide guide lines for the approval or rejection of building and rebuilding projects. It emerged as an instrument of rationalisation and standardisation of administrative decisions over the applications for building licenses. It facilitated the evaluation of these requests, easing laborious technical justifications and recurring to an administrative coverage that applicants could not contest – the requests could now be refused because they did not comply with the plan for urban improvements.

Lastly, the existence of the plan had a third advantage : it expedited the necessary expropriations.

### **Explaining the increased public intervention**

What were the novelties that allowed public intervention continuity after the mid-1870s ? It was not its formulation as a project, since this had been done before, in the first systematisation in 1858. Financial, political, and technical reasons explain their continuity and importance after the mid-1870s.

The third quarter of the nineteenth century was characterised by a new reality in the history of the municipal treasury : the continuous resort to debt for supporting the modernisation of the city (Silva, 1997 : 353-431). It occurred mainly after 1877, when the municipality contracted three successive loans from the Banco Lisboa & Açores. It increased the resort to debt issue as an extraordinary means of financing, entering into a phase of continuous growth in municipal expenditures. This mounting public debt went from less than 1% in the 1860s to around 40% in the 1880s. The material improvements policy in urban areas was thus carried out with financial mechanisms similar to those that were supporting the national improvements programme (*Fontismo* programme), introduced for the construction of railways, roads, and telegraph communications (Mata, 1993). The counterpart of this indebtedness, without the transformation of the revenues structure – very close to the “domain” structure (Schumpeter, 1991) – would be the strangling of the capacity of resorting to debt, as ultimately happened after 1886.

A second novelty of this period corresponds to the broad political support for the urban renewal goals, which went hand in hand with greater stability of the municipal executives. The continuity of municipal executives was expressed in the

longer-lasting mandates of the presidents, who more noticeably were associated with this project. Between 1878 and 1885 Rosa Araújo was the president, after several mandates as city councillor (1872-74) and vice-president (1876-78), continuing as city councillor until 1890. In his turn, Fernando Palha Osório Cabral was president between 1885 and 1890. This stability had not existed in other periods during the nineteenth century. It also corresponded to a period of remarkable calm in politics at the national level, contrasting with previous and subsequent periods. On the other hand, the projects for the transformation of the capital continued, even when there was a change from the *Regenerador* party (with Rosa Araújo, “right” wing), to the *Progressivo* party (with Fernando Palha, “left” wing). This represented even broader agreement across the political spectrum represented in the city council, since the republicans (more radical), albeit in minority, were active supporters of the modernisation policy. The republican leader Elias Garcia, municipal councillor, supported the financial model for the public works, the technical reorganisation of the municipal services, and the urban projects. Moreover, he played a protagonist role, by being one of the few city councillors who was a member of the Committee for Municipal Works and Improvements, the real centre of power in the municipality. The consensus amongst parties on this project of modernisation was also very important after the financial crisis of 1891. The partial fulfilment of the project was supported by all parties, despite the great difficulties of the municipal exchequer.

The last novelty of this period was the improvement in technical capabilities revealed by the public intervention after the late 1870s. It was the result of two complementary influences. The first was the much greater capacity of absorbing the latest solutions attempted in other urban contexts, both in urban planning and sanitation – the main

issues in the project of modernisation outlined after the sanitary crisis of 1856-58, but never formulated in technically updated solutions (Silva, 2006, 2007). The role of several processes of technological circulation and diffusion (advanced training in foreign institutions; continuous presence in international exhibitions and conferences; study visits abroad), as well as the agents of this circulation and incorporation of technical innovations have been stressed elsewhere (Matos, 1999, 2006; Matos and Diogo, 2007). Furthermore, the role played by Lisbon's municipal administration in keeping well-informed with the latest developments abroad is also clear. Pierre-Joseph Pézerat and Ressano Garcia went to Paris on different occasions to collect information on the urban intervention underway in the French capital city, as well as on the organisation of the municipal services. The sewers modernisation project in 1881 was anticipated by a long journey of the engineer Castel-Branco to several European cities, amassing a body of information on sewer systems (Castel-Branco, 1880). On at least two occasions, Haussmann, as prefect of Paris, offered the City Council several books, some of them on technical issues regarding water supply and sewer systems. The situation in European cities, the legislation on compulsory urban land purchase, and the improvement projects launched across urban Europe were used to sustain the proposals again and again.

The second influence results from the creation of technical competences within the municipal services, which could study and implement the new projects (Silva, 1997). In 1874 there was a profound change in the municipal services, starting with the appointment of the chief municipal engineer. This post had been vacant for ten years, debilitating the municipal capacity in urban planning and sanitation. Frederico Ressano Garcia, recently graduated from École des Ponts et Chaussées of Paris, was chosen for the post (Henriques da Silva, 1989). One of his first initiatives

was to proceed to an administrative organisation of the technical services, replacing informal and unregulated procedures with patterns of technical-administrative rationality. He also suggested creating the Committee for Municipal Works and Improvements, composed of the Mayor, four city councillors, and the chief engineer of the technical office. This Committee would evaluate all urban projects and was also endowed with executive powers regarding the proposals approved by the city council. The technical services reinforced their role in the decision-making process, regarding urban development or infrastructures, from public (sewer, slaughterhouse, markets) and private responsibility (water, energy, and transports). The permanence of Ressano Garcia as the head of the technical services for more than 30 years may explain why some of the modernisation projects launched during this period were maintained, even after the financial crisis.

The most emblematic urban initiative of this phase was the project of *Avenidas Novas* (see Map 1). It was approved at the end of this period (1888), still at the height of the real estate boom. It was based on an expropriation operation that transferred to the public domain all of the land to be included in the development project. The municipality would install the sanitary and road infrastructures, and would sell the building lots to private investors. Through this mechanism of zone expropriation the municipality would raise – directly and not by fiscal means – the capital gains coming from the transformation of rural land into building area. Simultaneously, through the previous road infrastructure construction and the lot provision, the municipality would control the city's expansion in a stricter way, compared with private urban development. The zone expropriation was transformed into the engine

of urban planning<sup>13</sup>. The land expropriation ceased to answer only to tangible public uses, such as the opening of streets, the endowment of collective use areas (gardens or parks), or facilities (markets, slaughterhouse). Until then these were the public goods that municipal administrations undertook. On urban soil localisation is everything, as has been pointed out by Hohenberg and Lees (1985 : 291). The use of zone expropriation assumed this motto. Urban development started to be considered as a public good, with the inherent restrictions to property rights (Silva, 1997 : 435-553).

### **Financial crisis, political instability, and the fate of the urban improvements programme : *Contrapuncto dissonante***

The financial and banking crisis at the beginning of the 1890s had a profound effect on Portugal. The 1891-92 crisis affected not only the Exchequer (with the state bankruptcy), the monetary regime (with the abandonment of the gold standard), and the banking system (with several failures), but also interrupted the rising trend in building activity, with the inevitable repercussions on urban employment (Silva, 1997 : 559 ff). The optimism of the 1880s had evaporated by the beginning of the 1890s and urban planning projects halted. Meanwhile, public regulation over building activities was allowed to wane, as a way of restoring economic activity and employment affected by the crisis. As a matter of fact, the public administration renounced the powers the 1864 law had granted to it and surrendered once more to the piecemeal private initiative (Silva, 1997 : 318).

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<sup>13</sup> A discussion of the different modalities of financing urban expansion can be found in Silva (1997 : 472 ff, 500 ff). The expropriation per zone did not constitute a modality used in other processes of urbanisation, such as those delineated by Cerdá for Barcelona or by Haussmann for Paris (Morbelli, 1993 ; Llobet, 1990 ; Lacave, 1980, 1983b ; Alaimo, 1988).

The municipal finances of Lisbon faced serious difficulties at the end of the 1880s, even before the 1891-92 crisis. Having a very weak fiscal basis, the investments in infrastructures and the increase in municipal staff after the mid-1870s, pushed the municipality to permanent deficits, balanced only by debt issues and central government aid. During the 1880s, the construction of *Avenida da Liberdade* and the beginning of the improvement plan aggravated the financial situation even further.

The scarcity of financial resources influenced the ability of the city council to pursue the plan of improvements, open new streets, promote the rectification of traditional thoroughfares, or improve pavements. There were additional problems. If an owner wished to enlarge a building or make repairs to in his own property, the license was sometimes refused on the grounds that the building interfered with municipal improvements and would be expropriated. Confronted with the restriction on the use of urban sites, a common reaction of the landlords was to ask for the immediate expropriation. In many cases neither did the plan work, nor were the expropriations possible, due to financial constraints. However, that expropriation could not be postponed indefinitely. If that were to happen, it would lead to a sense of loss by the owner. He was denied the use of his property, but the administration did not purchase it in order to compensate him for the impossibility of using his property. Such a situation could not be sustained for long without greatly distressing the owners. This was exactly what happened, leading to two responses. Initially, licenses were granted with dubious justification, even in situations scheduled for future expropriation. Eventually, the function performed by the improvement plan as a tool to regulate the construction in Lisbon fell out of use.

Considering the complaints about the delay in approving building projects and the complaints from owners who felt injured by the refusal of their projects in areas that

were covered by the improvement plan, on the 6<sup>th</sup> of April 1892 the Executive Board of the municipality of Lisbon approved the end of the improvements' plan as a tool of urban planning and guide to decisions on licensing. From this date on, the buildings that were condemned to demolition or the land that was not approved for construction activities because of the restrictions outlined in the improvements' plan, started to receive licensing if, in the short term, the municipal administration could not perform these works (Câmara Municipal de Lisboa, 1892a : 217).

For about ten years, between 1881 and this decision to allow the licensing even under conditions of conflict with the goals outlined in the plan, building activities had an effective planning framework. Municipal financial difficulties put an end to this innovative experience. A new plan would come into effect only a decade later (1903), but was even less successful.

In short, at the end of the nineteenth century there were three types of model for regulating urban layout in Lisbon, far from the consonance of initiatives sought in the combination of the 1864 Decree and the 1881 plan. First, there was a vast area of planned intervention, the *Avenidas Novas* (see Map 1), discussed above.

A second model of intervention took place in the second axis of expansion of the city to the north, with the opening of a new avenue, the *Avenida dos Anjos*. In addition to its goals of expansion and communication from the city centre to the periphery, this project sought to solve the bottlenecks in the street *Rua da Palma*, one of the main city exits to the north, a problem already identified as early as the end of the seventeenth century (Ribeiro, 2001). These traffic problems were exacerbated by the public transport's modernization in the 1870s. The proposal to open this avenue, advanced by a company of horse-drawn tramways, corroborates this view (Comissão de Obras e Melhoramentos Municipaes, 1875 : 170-170v). At the same time, opening this

avenue would serve some areas of urban sprawl, created since the 1860s. The project, already considered in the 1881 plan, was re-introduced in 1892, when the works on the opening of the Avenue began, despite the financial crisis of 1891-92. However, the opening of the avenue faced difficulties, prolonging the work, because by 1892 “private neighbourhoods” (unregulated developments by private entrepreneurs) flanking the projected avenue had been built, such as *Bairro Andrade* and *Bairro dos Castelinhos*. The costs and setbacks resulting from the expropriation processes explain why the first section of the project was never carried out and other parts of the avenue took long to be opened. Unplanned scattered developments along the way prevented the coherent planning of the expansion. In short, the pressure of private investors influenced urban planning on this axis.

A third model prevailed in peripheral areas. In the eastern part of the city and in areas of *Graça*, *Monte*, and *Sapadores* (see Map 1), where some interventions for road rectification had taken place, financial difficulties left room for further uncontrolled action by real estate developers and builders. The council did not totally abandon the control of unplanned development. From 1892 on, several municipal decisions repeated the requirement that any building should have direct access to public roads, keeping the road network as the means for organizing urban development (Câmara Municipal de Lisboa, 1892b : 155). However, although these deliberations had not been repealed, the pressure to carry out uncontrolled development could not be stopped, as is implicitly recognized. In 1923, the opinion of the city's Public Works Committee illustrated the difficulties the municipal administration faced in controlling the private processes of urban development, which had led to the proliferation of private neighbourhoods and streets, without effective municipal control over the occupation of the urban layout. The report said :

Errors and errors have accumulated, evident in most neighbourhoods built until four years ago, such as : Braz Simões, Bairro Camões, Bairro Andrade, Bairro dos Castelinhos, Bairro da Bélgica (near Rego), Bairro Gadanho, Bairro Ermida, Bairro de Campo de Ourique, etc., etc. Its owners derived the best profit from them, without any other concern than making a lot of money, leaving the most difficult works to the City Council, such as very deficient streets' exits, which demand expensive excavation, gardens whose land the Council will have to buy in order to make them, as already happened in Campo de Ourique, etc.

In contrast, notice the works carried out in a happy moment by the Council in *Picoas* [*Avenidas Novas*] which constitutes the illustration of Lisbon's modernisation [...]. (Câmara Municipal de Lisboa, 1923 : 245).

The retreat by local administration from its responsibilities for controlling urban development underscores the contrast between two disparate ways of promoting urban expansion. One left urban development to the initiatives of real estate developers and builders, exactly the one criticised by the previous report. The other assumed public control over urban development and was identified in this report with the *Avenidas Novas*, a more radical way of urban intervention, based on zone expropriation and in the provision of building lots by the public authorities. The opening of the *Avenida dos Anjos* was a compromise between the need to open access to the city's north-eastern periphery and the existing private initiatives responsible for the creation of private neighbourhoods in this area, outside of any public planning. These neighbourhoods, some of them quoted in the 1923 report (Câmara Municipal de Lisboa, 1923), illustrated the criticisms directed at private streets. It was very common in this period that in areas with no publicly controlled urban development, private interests celebrated agreements with the City Council in order to make their private streets part of the public road network, which effectively

transferred the maintenance (and other) expenses to the city (Silva, 1997 : 197). The same happened with these private streets, which later had to be “absorbed” by the municipality regarding the alignments, slopes, and provision of urban infrastructures (lighting, plumbing, and paving) to be integrated into the public road network and, particularly, in the axis created by the new *Avenida dos Anjos*.

Different strategies were aimed at achieving a difficult balance between regulation, private interests, and public motivation for the improvement and beautification of the city. The *Avenidas Novas'* project allowed the partial fulfilment of the urban modernisation goals and the city's beautification programme.

## Conclusion

This article sought to demonstrate how public control over the street was the origin of modern urban planning in Lisbon. The preparation of the first Portuguese law on urban planning (1864) and the first improvement plan (1881) resulted from this need to exercise public monopoly over the use of the city streets. The central role of the road network as a system for the organisation of building, and as an element prompting urban planning characterized other experiences of urban control throughout the second half of the nineteenth century (Sutcliffe, 1980, 1981 ; Smith, 1980 ; Calabi, 1980a, 1980b).

The birth of urban planning as a discipline is closely related to the understanding of the role the road can play as an instrument shaping building conditions, as shown by the work of Cerdá and the importance he gave to this theme (Cerdá, 1993 [1863], 1968 [1867] : 335-346). The reticular nineteenth-century city, replicated in multiple plans of expansion or plans of renovation of central areas, was just the complete assumption of the primacy the road network should have in the morphology of the city.

Hence, the improvements programme emerged as an ideal of urban renewal and expansion with functional and utilitarian goals, but it was also endowed with aesthetic and symbolic motivations, expressed in the widespread expression “city embellishment.” Aesthetic motivations were highlighted by the importance given to new forms of urban harmony. The symbolism of public intervention in the reinvention of the city appeared in association with the glorification of progress, as pointed out by Lewis Mumford, when he noted both the decorative and functional purposes of the new and wide avenues built in the nineteenth century (1961 : 186).

Urban planning epitomised the visible aspects of this programme. The new-born discipline of urban planning put the accent on the public good residing in the urbanisation and development process. However, for the politicians and technicians who decided upon urban policy in Lisbon, this was a rather abstract approach to their motivations. The increased pressure over the street in the nineteenth-century city, triggered by population growth, sanitary problems, and technological innovations (lightning, urban transports, modern water supply, and sewer systems, for instance), demanded the amplified public intervention, which was at the root of urban planning as a practice and theory. The widespread conviction – not only in Portugal, but also across Europe (Bédarida and Sutcliffe, 1981) – was that it would be possible to deal with public health problems, urban circulation, and city competitiveness through public intervention in urban layout and design. Therefore, the strategic character assumed by the intervention over the layout of the city through urban planning derived from the fact that it was at the crossroads of the most important problems that the nineteenth-century city had experienced. City design was considered as a panacea for all the evils affecting the city. The new, large, reticulated design of the streets reconciled the three-pronged perspective of the most

important urban problems at the time: sanitation, circulation, and beautification. Therefore, designing the street network was an instrument for organising and controlling the urban space, not just a platform for mobility. This conclusion rests on extensive evidence, as seen in this article.

These new concerns with urban design were translated into new legislative and administrative devices (the 1864 Law, the 1881 Plan, and the local Ordinances on building activity), coping with the need for increased public intervention. The approval of the *Avenidas Novas'* project represented a major breakthrough in urban planning. The 1891-92 financial crisis had a contradictory impact on municipal decisions about urban planning. On the one hand, it weakened regulation. After 1892, if the Municipality lacked the financial means to execute the works called for in the 1881 plan, the rules stipulated in the plan ceased to bind building permits. For all practical purposes, this decision meant the end of the plan as a mechanism to control private building and development. The Administration renounced the public monopoly over street building as well, allowing private streets, with looser rules compared to those regulating public thoroughfares. On the other hand, the Municipal Administration assumed its engagement in the *Avenidas Novas'* project, translated into greater public investment, and in the mechanism of compulsory purchase of the land for development. Given the archetype assumed by the *Avenidas Novas*, areas such as the one crossed by *Avenida dos Anjos* were developed without the strict control on urban expansion. The main road axes were defined, but there was a compromise both with private developments not being considered in the plan, and with spontaneous building activity.

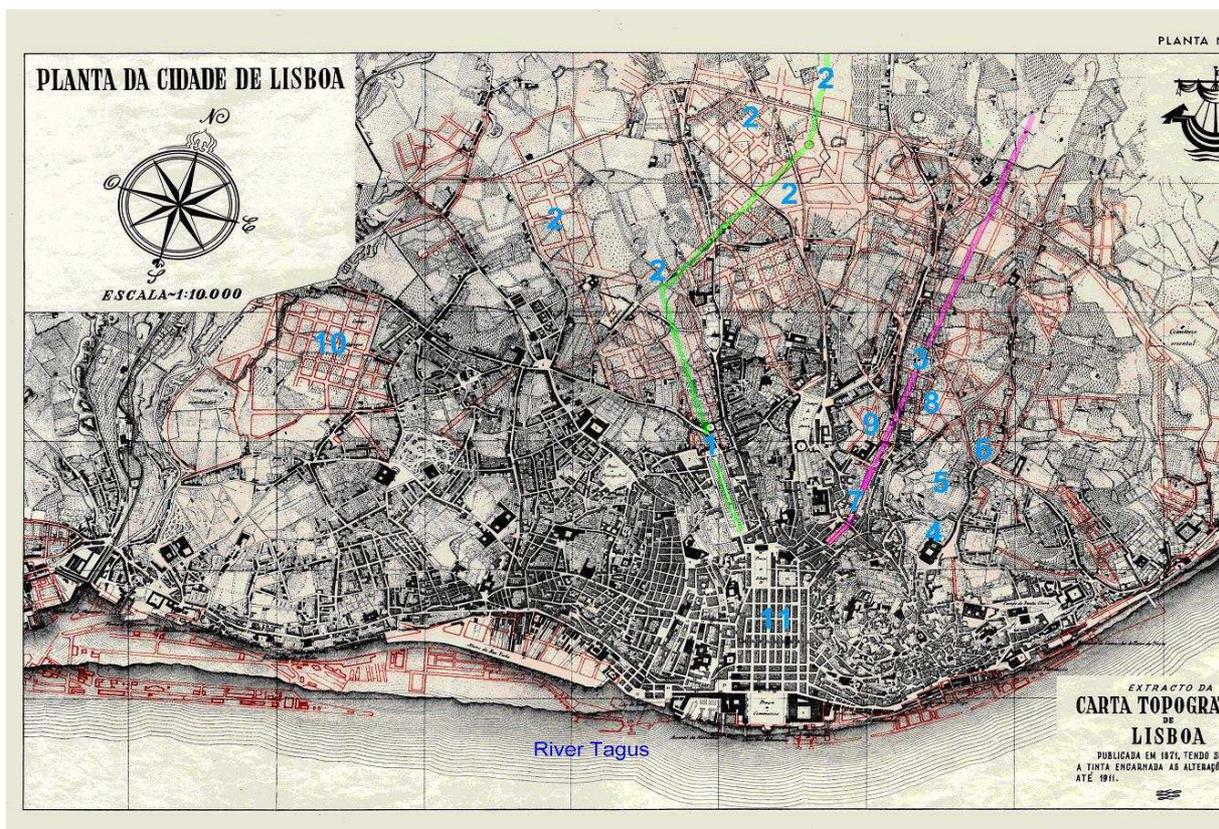
Throughout this article, urban planning was understood as part of the general trend toward increasing public intervention over the city, observed since the mid-

nineteenth century. Anthony Sutcliffe (1982, 1983) considers that this increase in public intervention and regulation can only be explained by the specificity of the urban environment, using the expression “urban variable.” In fact, when compared with land ownership in rural areas, the use of urban land was heavily constrained by administrative rules, which in some cases decreased its potential value. These constraints were even more extraordinary, as they occurred in an epoch that valued the absence of administrative limits that could deter free enterprise. Any limit on property rights could be accepted only in very exceptional cases. The “historical tension” (Diederiks and Hohenberg, 1992) between private initiative and the forms of social and political control over the market that always characterises the city reached a period of paroxysm in the second half of the nineteenth century. This was the result of environmental problems, the growth of investment opportunities in urban areas, and new sanitary, energy, and transport infrastructures (Silva, 1994, 1997 : 225 ff ; Morris, 1990, 1992 ; Rodger, 1992 ; Alaimo, 1990).

The evolution of urban projects and practices in Lisbon at the same time demonstrates both the identity of the tensions and the circulation of knowledge, solutions, and technologies that characterised the urban Western World during this period. They also reflect the uniqueness of this particular urban space, which means that any circulation and transfer of urban practices has the characteristics of site-specificity, highlighted by Nathan Rosenberg (1972, 1976) for explaining technological transfer. Moreover, the previous evolution of the urban space in Lisbon shaped the models of intervention. For instance, the renewal and regulating model of intervention was atomistic and dispersed, far from any massive urban renewal in the city centre, as occurred in other European cities at the time. This is another characteristic of cities, whose long-term evolution moulds their capability to

incorporate urban planning models in the built-up area, unless natural or man-made catastrophes generate some sort of “ground zero” clearing situation. Finally, and besides this long-term path dependency, these administrative interventions on the urban layout occurred at an historical juncture, traced in the previous pages. The 1891-1892 financial crisis defined the limits of the possible for the fate of the programme of improvement and embellishment of the capital. The three models of regulating urban layout was the legacy of the dramatic situation faced by the State and municipal treasuries in the late nineteenth-century.

**Map 1: Map of Lisbon (1871, but having in red all changes occurred until 1911)**



## Map legend

■ Axis 1 : Exit artery to the Northeastern areas (avenue *Avenida dos Anjos/Dona Amélia/Almirante Reis*)

■ Axis 2 : Exit artery to the Northwestern areas (avenues *Avenida da Liberdade* and *Avenidas Novas*)

1 – *Avenida da Liberdade*

2 – *Avenidas Novas* (this map only presents part of the project, which continued to the North)

3 – *Avenida dos Anjos*

4 – *Graça*

5 – *Monte*

6 – *Sapadores*

7 – *Rua da Palma*

8 – *Bairro Andrade*

9 – *Bairro dos Castelinhos*

10 – *Bairro de Campo de Ourique*

11 – *Baixa Pombalina*

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