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Regulation of Urban Space in the Ottoman State: The Case of Istanbul (1820–1900)

Osmanlı İmparatorluğu'nda Kentsel Mekânın Düzenlenmesi: İstanbul Örneği (1820–1900)

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ABSTRACT

Starting with the declaration of Tanzimat Firman in 1839, a systematic transformation in different fields, such as administration, law, taxation, property rights, education, urban planning and public works was initiated, which triggered the regulation of urban space as a tool for achieving a modern state. This paper focuses on the formation of urban regulations in the 19th century and questions their reflection in the urban space based on the case of Istanbul, the capital of the Ottoman State. The period between 1820–1900 is chosen, during which nine regulations were enacted concerning the buildings and the streets. During this period, the building regulations were tried to be systematized and following the establishment of the necessary urban administrative bodies, they were able to be applied in some districts in Istanbul. Although the building regulations were enacted with the purpose to transform the whole city, they could only be implemented in certain areas, the most prestigious neighborhoods such as Galata and Pera, due to financial and administrative restrictions.

Keywords: Construction systems; Istanbul history; modernization; Ottoman history; urban history; urban regulation.

ÖZ

1839'da Tanzimat Fermanı'nın ilanından sonra yönetim, hukuk, vergi, mülki haklar, eğitim, kentsel planlama ve belediye hizmetleri gibi farklı alanlarda sistematik bir değişim başlamıştır. Bu durum, modern bir devlet oluşumuna bir araç olarak kent mekânını düzenleme sürecini de beraberinde getirmiştir. Bu makale, 19. yüzyılda kentsel düzenlemelerin oluşum süreçlerine odaklanmakta ve İstanbul örneği üzerinden bunların kent mekânındaki yansımalarını irdelemektedir. Bu inceleme için yapılara ve sokaklara yönelik dokuz adet düzenlemenin yayınlandığı 1820–1900 aralığı seçilmiştir. Bu dönemde, yapı düzenlemeleri sistematize edilmeye çalışılmış ve gerekli yönetim birimleri kurulması sayesinde İstanbul'un bazı bölgelerinde hayata geçirilmeleri mümkün olmuştur. Her ne kadar yapı düzenlemeleri tüm kente uygulanmak üzere yayınlanmışsalar da, finansal ve idari kısıtlamalar nedeni ile Galata ve Pera gibi belirli bölgelerde gerçekleştirilebilmiştirler.

Anahtar sözcükler: *Yapım sistemleri; İstanbul tarihi; modernleşme; Osmanlı tarihi; kent tarihi; kentsel düzenleme.*

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Introduction

The 19th century is distinguished with a period of change in the Ottoman State starting with the declaration of Tanzimat Firman in 1839, which granted equal rights to all Ottoman citizens, whether Muslim or non-Muslim. In this period, a systematic transformation in different fields, such as administration, law, taxation, property rights, education, urban planning and public works was initiated, which triggered the regulation of urban space as a tool for achieving a modern state. As a result, regulations on buildings and streets, codes on expropriation and land use were adopted.

This paper focuses on the formation of the urban regulations in the 19th century and questions their reflection in the urban space based on the case of Istanbul, the capital of the Ottoman State. The period between 1820 and 1900 is chosen, during which nine regulations were enacted concerning the buildings and the streets. In this paper, the contents of the regulations are evaluated and compared with each other according to urban elements (building types, building heights, construction types, building elements, street widths and planning regulations for unbuilt and fire-burnt zones) with an analytical approach to their underlying motives. Besides providing a holistic perspective on the formation and content of the regulations, their application is also discussed in this paper through some case studies considering different parts of Istanbul.

Before the 19th century, it is known that several imperial orders concerning the buildings were issued for several reasons, such as regulating the construction types, some building elements (roofs, eaves, terraces, oriels) and building materials in order to mitigate fire risks, and limiting the heights of houses according to ethno-religious origin to maintain social order. Starting from the beginning of the 19th century, the building regulations were tried to be systematized and following the establishment of the necessary urban institutions (i.e. the Municipality, Ministry of Public Works, Street Improvement Commission) they were able to be applied in some districts in Istanbul. Although the building regulations were enacted with the purpose to transform the whole city, they could only be implemented in certain areas, due to financial and administrative restrictions, which will be discussed further in this paper.

This paper is derived from a research conducted by the authors on the relation between the building regulations and urban form in Istanbul between 1700-1900 based on the interpretation of Ottoman archival documents and Mecelle.[1] There is an extensive literature on the 19th century urban transformation of Istanbul. One of the pioneers is the compilation of Mecelle and important urban actions in Istanbul by Ergin,[2] followed by Çelik who provides a comprehensive research on the urbanization process of the city.[3] Other important studies include the transformation of design and exterior space in Istanbul by Denel,[4] the westernization process of Istanbul by Borie et al,[5] the transition of Western urban elements into Ottoman urban realm by Tanyeli,[6] the motives of urban reforms in Tanzimat Period by Yerasimos,[7] the transformation process of Istanbul metropolitan area by Tekeli,[8] parcellation of Istanbul by Pinon,[9] the urban transformation of Galata and Pera by Akın[10] and the early planning applications of 19th century by Özcan.[11] Besides, there are numerous studies focusing on the development of municipal administration, which form the majority of the 19th century urban studies.[12]

This paper contributes to the subject by allowing us to comprehend this transformation process as a continuous development of urban planning in the Ottoman context. All the urbanization attempts prove the efforts of the Ottoman intellectuals to adapt the western urban elements into the Ottoman context. This research handles the urbanization efforts as the initial attempts to create generalized rules for the urban fabric, seeking the ideal urban form by regulating the space with a grid plan inspired by the Western examples. Throughout the paper, the difficulties faced in this process will be discussed through cases. The research also points out that the prestigious districts of today's Istanbul were generated via these regulations.

[1] The book of civil codes.

[2] Ergin, O. N. (1995) Mecelle-i Umur-i Belediyye, Istanbul, IBB Kültür İşleri Daire Başkanlığı Yayınları.

[3] Çelik, Z. (1986) The Remaking of Istanbul, Seattle and London, University of Washington Press.

[4] Denel, S. (1982) Batılılaşma Sürecinde İstanbul'da Tasarım ve Dış Mekanlarda Değişim ve Nedenleri, Ankara, ODTÜ.

[5] Borie, A., Pinon P., Yerasimos, S. (1989) L'occidentalisation d'Istanbul au XIXe siecle: rapport de recherche, Paris, Ecole d'Architecture de Paris-La Défense.

[6] Tanyeli, U. (1992) Transfer of Western Urban Planning Concepts and Tehniques to Turkey (1718-1840), İhsanoğlu, E. (Ed.) Transfer of Modern Science & Technology to the Muslim World, İstanbul, Boğaziçi Üniversitesi: pp. 345-363.

[7] Yerasimos, S. (1996) "Tanzimat'ın Kent Reformları Üzerine" Modernleşme Sürecinde Osmanlı Kentleri, prepared by Dumont P. & Georgeon, F., İstanbul, Tarih Vakfı Yurt Yayınları, pp. 1-18.

[8] İlhan Tekeli, (1996) 19. Yüzyılda İstanbul Metropol Alanının Dönüşümü, prepared by Dumont P. & Georgeon, F., İstanbul, Tarih Vakfı Yurt Yayınları, pp. 19-31.

[9] Pinon, P. (1998) "The parceled city: Istanbul in the XIXth century," Rethinking XIXth. Century City, Ed. Attilio Petruccioli, The Aga Khan Program for Islamic Architecture, Cambridge, pp.49–54

[10] Akın, N. (1998) 19. Yüzyılın İkinci Yarısında Galata ve Pera, İstanbul, Literatür.

[11] Özcan, K. (2006) Tanzimat'ın Kent Reformları: Türk İmar Sisteminin Kuruluş Sürecinde Erken Plânlama Deneyimleri (1839–1908), Osmanlı Bilimi Araştırmaları VII/2, pp. 149-180.

[12] Ortaylı, İ. (200) Tanzimat Devrinde Osmanlı Mahalli İdareleri (1840–1880), Ankara, Türk Tarih Kurumu Yayınları; Ortaylı, İ. (1977) "İstanbul'un mekânsal yapısının tarihsel evrimine bir bakış", Amme İdaresi Dergisi, v.10, number:2, pp.95–96; Ortaylı, İ. (1973) "Türk belediyesinin denetim yetkisinin tarihi gelişimi ve günümüzdeki durumu," Amme İdaresi Dergisi, v.6, number 4, pp.14–24; - Toprak, Z. (1990) Tanzimat'tan Cumhuriyet'e Şehremaneti, Türkiye Belediyeciliğinde 60. Yıl Uluslararası Sempozyum Bildiri ve Tartışmalar, Maya, Ankara, pp. 75-84; Seyitdanlıoğlu, M. (2010) Tanzimat Dönemi'nde Modern Belediyeciliğin Doğuşu, Ankara, Türkiye İş Bankası Kültür Yayınları.

Background: Regulating Late Ottoman Istanbul

At the turn of the 19th century, Istanbul was divided into three areas: the intramuros –i.e. the Old City, the administrative, commercial and largest residential center- Galata-Pera –the commercial and residential center for non-Muslims and foreigners- and Üsküdar, an ancient settlement area on the Asian shore of the Bosporus. Other than these main centers, Eyüp, a sacred settlement center for Muslims outside the city walls, Kasımpaşa and Beşiktaş, settlement and maritime zones on the European shore, were the prominent districts. There were also few villages, mostly composed of agricultural areas and few residential complexes scattered on the shores of the Bosporus. Among these neighborhoods, Galata and its extension Pera stood out with their prestigious position, housing embassies and foreign commercial centers. This region was also the initiation point for urban transformation in accordance with the building regulations.

According to the engravings and chroniclers of this period, most of the urban texture of Istanbul was composed of timber buildings, except for public monuments, imperial residences and some commercial buildings. Timber construction was preferred by the public because of the abundance of the material made it affordable and it took less time and effort to build a timber-framed house compared to masonry.

Even though there were mixed neighborhoods, usually the residential districts were determined by ethnicity and religion. The distinction of Muslims and non-Muslims was visible in the urban realm, since the non-Muslims were not allowed to build houses higher than Muslims and were obliged to paint their houses in black.[13] The residential areas were also known to be low-rise, since the houses were usually one-two storeys high, rarely three storeys[14] (Figure 1). The street pattern was composed of organic, narrow, winding roads often ending in cul-de-sacs, forming an irregular pattern (Figure 2).

Before the 19th century, the fundamental motives for formulating the urban regulations were disasters and social values. Fires occurring frequently and burning down large areas in a short period of time caused some measures to be taken: One of the earliest of such measures was the imperial order of 1696, which stated that all new constructions in Istanbul should be made of masonry. In the 18th century, similar orders were issued[15] usually after a devastating fire and mostly listing measures for fire prevention,

Figure 1. Timber houses in the vicinity of Hippodrome, 1853 (SALT Research Online Archives, access code: AHTUR0018).

such as the obligation for masonry constructions, limitation of façade projections which block the already narrow streets, prohibition of wooden terraces and banning the construction of structures close to the city walls. Another primary urban motive for regulating the urban space was social values, due to the complex ethno-religious structure of Istanbul. The pre-19th century documents proved that many conflicts arose because of ownership and settlement issues.[16]

Issuing of Urban Regulations

In the beginning of the 19th century, the European institutions and urban planning moves in the European cities had a great impact on the Ottoman intellectuals who went abroad. These intellectuals later became the bureaucrats who would prepare the Tanzimat Firman and the law codes to regulate the issues stated by the firman, such as Mustafa Reşid Paşa. During one of his visits to London in 1836, he had written a letter stating that all Ottoman cities must be designed like European cities. He also mentioned that instead of timber buildings, masonry buildings must be constructed for fire prevention. In the same letter, Reşid Paşa declared that the new masonry houses and shops that would be constructed in a fire-burnt area

[13] Bozkurt, 1989, p. 19.

[14] D'Ohsson, 1788-1791, p. 198. Quoting from Divan-ı Hümayun notes, Altınay (1988b, p.83) states that the height limit was 6,75 m for non-Muslims and 9 m for Muslims.

[15] Imperial orders of 1718, 1719, 1743, 1795, and 1796, and 1726 firman (Ergin, 1995, v.2: 991; Altınay, 1988b, p. 66-67, 158; Şeriyye Registers, ISTANBUL, Vol. 21, page 519, registry no: 307; BOA, HAT.1414/57761, 1796).

[16] For various examples, see: Altınay, 1988a, p.53-54; Altınay, 1988b, p.30, 88-89; Aykut, 2006, p.20.

Figure 2. Intramuros Istanbul from Kauffer's Map, 1776 (SALT Research Online Archives, access code: APLKA01).

in Istanbul to set an example for the rest of the city, therefore some houses and shops should be constructed in the architectural fashion of Europe at the time, while organizing the streets wide enough for extensions and additions.[17]

Following the ideas of Reşid Paşa, the main target of urban administration in this period was to issue regulations for fire mitigation. In order to achieve this aim, the regulations proposed the fundamental urban planning principles of the period, i.e. wide streets, regular plots and parcels, and guidelines for construction techniques. During the period between 1820-1900 nine major regulations were issued by different actors (Table 1). A summary of the content of these regulations can be found in Table 2.

[17] Baysun, 1960, pp. 124-127.

1826 Fire Prevention Regulation

In 1826, a fire starting from Hocapaşa district lasted for 36 hours and destructed a large portion of the Old City, including the Grand Bazaar and the Sublime Porte. This disaster triggered the issuing of a regulation in 1826 on fire prevention. This regulation was prepared before the Tanzimat, therefore while keeping the concerns of the 18th century; it acted as a pioneer for the following regulations.

The regulation was comprised of restrictions on construction of shops and houses. Since the fire zone included the commercial district of the Old City, the regulation set out detailed instructions for the shops according to their production types for fire prevention. One of the most basic prevention was the transferring of some shops, like bakeries, sawyers, lumber and riffle manufacturers which utilize

Table 1. Building Regulations issued in 19th century

Date of issue	Regulation tittle	Prepared by
1826	Fire Prevention Regulation (Men-i Harik)	
1839	Official Record (İlmühaber)	
1848	Building Regulation (Ebniye Nizamnamesi)	Supreme Council of Judicial Ordinances
1849	Building Regulation (Ebniye Nizamnamesi)	
1858	Regulation on Streets (Sokaklara dair Nizamname)	Sixth District Administration
1863	Street and Building Regulation (Turuk ve Ebniye Nizamnamesi)	the Council of Laws
1875	Regulation on Construction Methods in Istanbul (İstanbul ve Belde-i Selasede Yapılacak Ebniyenin Suret-i İnşaiyesine dair Nizamname)	the State Council
1882	Building Law (Ebniye Kanunu)	the Parliament
1891	Building Law (Ebniye Kanunu)	the Parliament

fire for production and shops which produce combustible materials, such as dyers, pharmaceutical and medicine shops, outside the Grand Bazaar. In addition, for shops utilizing fire, several measures, such as construction of high masonry walls, covering roofs with masonry vaults or ceramic tiles with mortar, cladding eaves with metal had to be applied (Table 2). This regulation also brought restriction on the use of timber elements, such as pergolas and benches in the khans as well.[18]

The building codes determined for the houses were more general when compared with the commercial buildings. Since this regulation was issued before the Tanzimat Firman, the heights of the houses were defined according to the religious origin: the maximum height allowed for Muslims was 10.5 m while for non-Muslims the limit was 9 m. The regulation also stated that the eaves should be made of dogtooth courses.[19] Although the height limit and the type of eaves were taken from the previous orders issued for fire prevention in the 18th century, there were new codes in this regulation, such as the limitation of the protrusions of terraces and cihannümas,[20] plastering the façades of the protrusions and obliging the construction of masonry fire walls between the houses. The projections to the street were an important matter, since the officers complained about how each building occupied a few centimeters of the street resulting in buildings from both sides to be touching each other, thus allowing the fire to spread more easily.[21]

1839 Official Record

The first urban plan of Istanbul was prepared in 1836-1837 by the German field marshal Helmuth Von Moltke in 1/25000 scale. Even though this plan was never applied, it acted as a guideline for the Official Record issued shortly before the Tanzimat Firman for the regulation of the urban morphology. In his memoir, Moltke mentioned that Istanbul was made up of thousands of weak timber constructions packed tightly and irregularly, therefore the city was vulnerable to fires.[22]

1839 Official Record was formulated according to Moltke's plan proposals as well as Reşid Pasha's views[23] on masonry constructions in Europe. The Record required the preparation of the city plan, the regulation of the urban space by the widening of main roads and opening of squares, as well as regulation of the built structures with suggestions on construction techniques,[24] therefore it was the first urban regulation which aimed to intervene not only on the built areas, but also on the open space.

From the maps prepared before Hocapaşa fire in 1826, it is known that the width of Divanyolu ranged between 4-6 m. Since Divanyolu was the main axis in the Old City, on which the sultan marched with his army, it is possible to estimate that the other streets were much narrower and had an irregular pattern. Therefore the regulations starting with 1839 Official Record focused on the regulation and widening of the street network. This record is almost parallel to Moltke's plan: The primary roads, such as Divanyolu, the road from Topkapı Palace to land walls on the west, coastal roads on both sides of the Golden Horn, would be 15 m wide with 3 m wide pavements and trees on both sides. Other than primary roads, the roads were divided into three more categories with a defined width. In addition, public squares would be constructed.[25] The consecutive regulations also categorized roads according to their widths, as summarized in Table 3.

Although issued just before the Tanzimat, 1839 Record reserved the Tanzimat ideals, promoting the construc-

[18] Ergin, 1995a, pp. 1086-1087.
[19] ibid.
[20] A penthouse room for enjoying the view.
[21] ibid, p. 1088.
[22] Moltke, 1969, p. 77.
[23] For a full account of his records on this issue, see Baysun, 1960, pp. 124-127.
[24] Ergin, 1995b, pp. 1240-1243.
[25] Ergin, 1995b, p. 1240.

Table 2. Summary of 19th century Building Regulations

Regulation title	Content Summary	Differences from the previous regulation
1826 Fire Prevention Regulation (Ergin, vol.2, pp. 1086-1087)	HOUSES • construction types: masonry houses • Fire wall: a masonry fire wall between the houses • building heights: 10,5 m for Muslims and 9 m for non-Muslims • eaves: dogtooth courses • terraces and cihannümas: not exceeding 45 cm, covered with plaster. SHOPS • shops that utilize fire: - construction of high masonry walls surrounding the shops - the height of side walls not exceeding the roof height - construction of timber walls forbidden. - Roofs: masonry vaults coated with lime mortar or covered with ceramic tiles embedded in mortar. - Eaves: cladding with metal - Obligations for the shop owners not wealthy enough: covering roofs with ceramic tiles embedded in mortar, coating the timber rafters with lime mortar, placing iron stanchions under timber eaves. - doors and shutters: metal - No protrusions from the façades. - shops such as goldsmiths: constructing brick/stone barriers in front of the shops; tin-cladding the wooden elements. - food shops: No rooms or mezzanine floors for residing.	fire prevention measures for houses and shops
1839 Official Record (Ergin, v. 3, pp. 1240-1243)	• Regularization and widening of streets, construction of public squares and quays • Promotion of construction of masonry houses • height of houses: 15m (maximum)	• building heights regardless of religious origin • street widths defined
1848 Building Regulation (Ergin, vol. 2, pp. 1032-1037)	HOUSES • construction types: masonry and timber for unsettled zones; fire wall between timber buildings • building heights: 13,5-16,5 m for timber, 16,5-22,5 m for masonry houses • width of eaves: maximum 45 cm) • façade projections: min. 3,75 m high from the ground, 0,75 m wide, supported with iron consoles and covered with metal roof • construction of terraces: allowed only if there is no projection/balcony, constructed with iron beams, floor covered with tin. • chimney constructions: made with iron tie-beams and brick, min. height 1,50 m COMMERCIAL BUILDINGS • construction types: Khans- no timber construction only minor repairs allowed in timber khans, major repairs require reconstruction in masonry. Annexes in courtyards are not allowed. Shops- Those manufacturing with fire must be masonry, others can be timber. • building heights for timber shops: 5,25 m single storey, 7,5 m shops with a room above. • eaves: maximum 45 cm wide, metal construction	• cases of forbidden constructions • building heights • expropriation

Table 2. Summary of 19th century Building Regulations (Cont.)

Regulation title	Content Summary	Differences from the previous regulation
1848 Building Specification (Ergin, vol. 2, pp. 1037-1044)	• Construction methods for masonry and timber houses • Categorization of masonry and timber houses • building heights: 10,5 m for timber, 15 m for masonry houses	• building heights • categorizing houses according to their area
1849 Building Regulation (Ergin, vol.2, pp. 1044-1049)	HOUSES • construction types: Varied according to the value of the house: Houses worth more than 500 coin sacs: masonry construction. Houses worth less than 500 coin sacs: masonry fire walls • building heights: 10,5 m for timber, 15 m for masonry	• construction types for shops • categorizing houses according to their value
	SHOPS • construction types: masonry. • Eaves and shutters: tin-cladding • Roofs: ceramic tiles embedded in lime mortar. • building heights for timber shops: 3,75 m single storey, 6 m shops with a room above. • Obligations for the shop owners not wealthy enough: masonry walls surrounding the shop, brick front façade, tin-cladding the eaves and shutters, fixing the roof tiles with mortar.	categorizing shops according to their position and wealth of the owner
1863 Street and Building Regulation (Ergin, vol.4, pp. 1863-1885)	• façade projections: min. 3,75 m high from the ground, support elements 2,25 m from the ground; length of projection 2/3 of the façade lenght. • Projections on adjacent houses: min. 3 m distance between them; if not possible 1,5 m. • building heights: 10,5 m for timber, 15 m for masonry houses	• categorizing 5 degrees for the roads • preparation of plans for new roads and fire-burnt areas
	SHOPS building heights for timber shops: 3,75 m single storey, 6 m shops with a room above.	
1875 Regulation on Construction Methods in Istanbul (Ergin, vol.2, pp.1052-1053)	construction types: Istanbul is divided into two zones. first zone: obligatory masonry construction second zone: timber construction under specified conditions.	determining construction types according to districts in Istanbul
1882 Building Law (Ergin, vol.4, pp.1716-1731)	• construction regulations for empty plots: separate conditions for fire-burnt zones and unsettled areas. • construction types: masonry timber only for outskirts and Bosporus • building heights: according to the street width • façade projections: only concerned with front façades, defined according to the street width, min. 3,75 m high from the ground, allowed for 2nd and 3rd floors • Projections on adjacent houses: min. 3 m distance between them; if not possible 1,5 m. • Fire preventions measures for houses and shops	• The first code for buildings and streets in detail • Principles of urban planning and practice
1891 Building Law (Ergin, vol. 4, 1700-1715)	• construction types: complete masonry, half masonry and timber in some parts of the Old City • building heights: according to the street width • other items are the same	determining construction types according to districts in Istanbul

Table 3. Width of streets as suggested in regulations (Ergin, vol 2, 1007-1008, Ergin, vol. 4, 1701)

Document	Street category				
	1st degree	2nd degree	3rd degree	4th degree	5th degree/ blind alley
1839 Official Record (only for Istanbul)	15 m	11.25 m	9 m	7.5 m	–
1848, 1849 Building Regulations	7.5 m	6 m	4.5 m	–	–
1863 Street and Building Regulation	11.25 m	9 m	7.5 m	6 m	4.5 m
1882 Building Law	15 m	11.25 m	9 m	7.5 m	6–4.5 m
1891 Building Law	15 m	11.25 m	9 m	7.5 m	6 m

tion of masonry houses regardless of religious origin. The heights of houses were limited to three storeys (15 m) only. There were also fire prevention measures, such as the obligation to build masonry houses in a fire-burnt zone for the wealthy owners and to construct masonry fire walls between timber houses for the owners who are not wealthy.[26]

1848 Building Regulation

In 1848 Ministry of Public Works was established in order to construct a central authority for urban planning and regulations.[27] In 1848 and 1849 two building regulations were issued, which were similar to 1839 Record with differences in only two subjects, building heights and expropriation. The latter one was a new concept, which allowed the widening of roads as implied by the regulations.

1848 Building Regulation defined rules both for streets and buildings (commercial and residential). The regulation prohibited the projections from the buildings; therefore it was not possible to get a building permit for a new construction unless the required distance was left for the street. If there was a damaged building or a public interest for demolishing a building and the government offered to pay its price, this regulation obliged the owner to sell or demolish the building. The regulation included the public buildings as well. When a public building existed in a fire-burnt area, in order to regularize the street lines during the reconstruction, the necessary space would be taken from the courtyard.[28]

The building specifications determined in 1848 Building Regulation included shops and houses that would be constructed in vacant or fire-burnt zones. For the buildings, construction types, building heights, widths of eaves, chimney constructions, projections (oriels and terraces) were defined, as seen in Table 2. The building heights seems to be an undecided issue: The regulation first limited the height of timber buildings to 16,5 m and of masonry buildings to 22,5 m, while in the last section it is implied that these limits were too high and should be reduced to 13,5 m and 16,5 m, consecutively (Table 4). Restricting the construction of façade projections was emphasized in this regulation, suggesting fire-proof materials for cladding the projections and limiting their dimensions to prevent spreading of fires. The Regulation also specified the conditions under which the constructions would be banned.[29]

The Building Council enacted a Building Specification soon after the issuing of 1848 regulation to define the specifications related to masonry and timber constructions. According to the text, the masonry buildings should be preferred because of their physical durability and fire endurance. Masonry buildings were categorized as complete or half masonry according to their construction technique, while timber houses were categorized into four degrees according to the area they occupy. The building heights were limited to 10.5 m for timber houses and 15 m for masonry houses, even lower than the limits of 1848 Regulation.[30] This specification also suggested some measures for fire prevention in timber houses, which were merely superficial solutions aimed to obtain a more fire-durable finishing for the façades, instead of introducing strict codes for prohibiting timber structures or elements.

1849 Building Regulation

In 1849, the Building Regulation was re-issued with some minor amendments. One of the changes was the limit of building heights, which was lower than 1848 Regulation. Another change was related with the construction types of houses and shops. Although this regulation too emphasized the necessity of constructing masonry buildings to prevent fires, it categorized the construction type of houses according to their price. If a person was going to build a house worth more than the specified amount, then it was obligatory to construct masonry. If the owner is not wealthy enough and built a timber house, then it was necessary to build a fire wall adjacent to its sides.[31] This statement proves that the authorities were trying to

[26] ibid, pp. 1240-1243.
[27] Ergin, 1995a, p. 934.
[28] ibid, pp. 1032-1037.
[29] Ergin, 1995a, pp. 1032-1037.
[30] Ergin, 1995a, pp. 1037-1044.
[31] Ergin, 1995a, p. 1046.

Table 4. Building heights according to different regulations (Ergin, vol. 2, pp. 1032-1053; Ergin, v. 3, pp. 1240-1243; Ergin, vol.4, pp. 1700-1731, 1863-1885)

Regulation date	Heights of houses		Heights of shops	
	Timber	Masonry	Timber	Masonry
1839	15 meters		NA	NA
1848 Regulation	13,5-16,5 m	16,5-22,5 m	5,25-7,5 m	NA
1848 Specification	10,5 m	15 m	NA	NA
1849	10,5 m	15 m	3,75-6 m	NA
1863	10,5 m; 12 m (6th District)	15 m; 18 m (6th District)	3,75 m	6 m
1882	12-15 m	18-22,5 m	4,5-7,5 m	7,5 m
1891	9 m- 26,25 m		NA	NA

make the conditions more flexible for house-owners, since it was almost impossible for people with low income to build masonry houses.

According to this regulation, all shops should be constructed with masonry. As for the houses, if the owner could not afford the cost of masonry construction, then he must at least surround the shop with masonry walls and apply some specific measures,[32] as stated in Table 2.

While prevention of fire was one of the main motives of urban regulations, consecutive fires allowed the implementing of regulations. Application of 1848 and 1849 regulations was carried out after Aksaray fire in 1856. For reconstruction of the area, Italian engineer Luigi Storari proposed a grid plan scheme with regularized primary (9.5 m wide) and secondary (6-7.5 m wide) roads over the former ones which had an irregular pattern.[33] Two main arteries in this district were emphasized by two squares with chamfered corners formed at the crossroads[34] (Figure 3). This plan is especially important, because it was one of the earliest implementations of the building regulations and the first large-scale major intervention on the urban morphology in Istanbul. It also proved that it is difficult to accomplish an ideal grid plan in implementation, due to topographic constraints, ownership issues and the urban tissue before the fire; thus, as in this case, rectangular building lots with varying sizes can be obtained instead.[35]

1863 Street and Building Regulation

In 1855, the first municipality in Istanbul was founded, followed by the Municipal Commission in 1856, which established norms for streets, pavements, lighting, cleaning, garbage disposal, etc. With the establishment of these local administrative units, it became possible to realize the rules set out by the regulations. In 1857, Istanbul was divided into 14 municipal regions.[36] Among these, Sixth District Administration, which was responsible for the neighborhoods between Kasımpaşa and Pangaltı, including Galata and Pera, issued a regulation on streets in 1858 with the intention to define the management of streets in its district specifically. This regulation stated that, the streets would be regularized and widened according to their categories. The heights of the houses, the pavements, street lightning and construction of sewage ducts were the main subjects to be organized according to this regulation.[37]

The set of rules defined in 1858 were generalized for the whole city in 1863, with the Street and Building Regulation enacted by the Council of Laws. The regulation set out detailed regulations for streets and open areas, while the building codes were more or less the same with the former ones. Parceling and preparation of maps in burnt areas, as well as widening of streets and preparation of street maps were emphasized in this regulation. For maps of burnt areas, it was necessary to overlap the former street morphology with the proposed one. The proposed plans must be grid shaped and new plots must be in proportion with the area and front line of the old ones. The new plots must be square or rectangular shaped and distributed in accordance with the size and qualities of the former plots.[38]

As seen in Table 3, 1863 Regulation categorized streets into five degrees with a different width. The street width would be implicated by a plate placed on the street and therefore all the constructions would abide by this measure, because projections onto the street would not be allowed, with the exception of public squares, crossroads and the streets with only one side for construction.[39] According to the regulation, plans had to be prepared for every new road to be opened, whether in a built or un-built zone. For the construction of new neighborhoods, a map

[32] ibid, p. 1047.
[33] Çelik, 1986, p. 54.
[34] Ergin, 1995a, pp. 963-964.
[35] This constraint is even more obvious in Bosporus villages where orthogonal streets had to be formed with stairs due to the steep hills.
[36] Kuban, 1996, pp. 382-383.
[37] Ergin, 1995c, p. 1785.
[38] ibid, p. 1676.
[39] ibid, pp. 1673-1677.

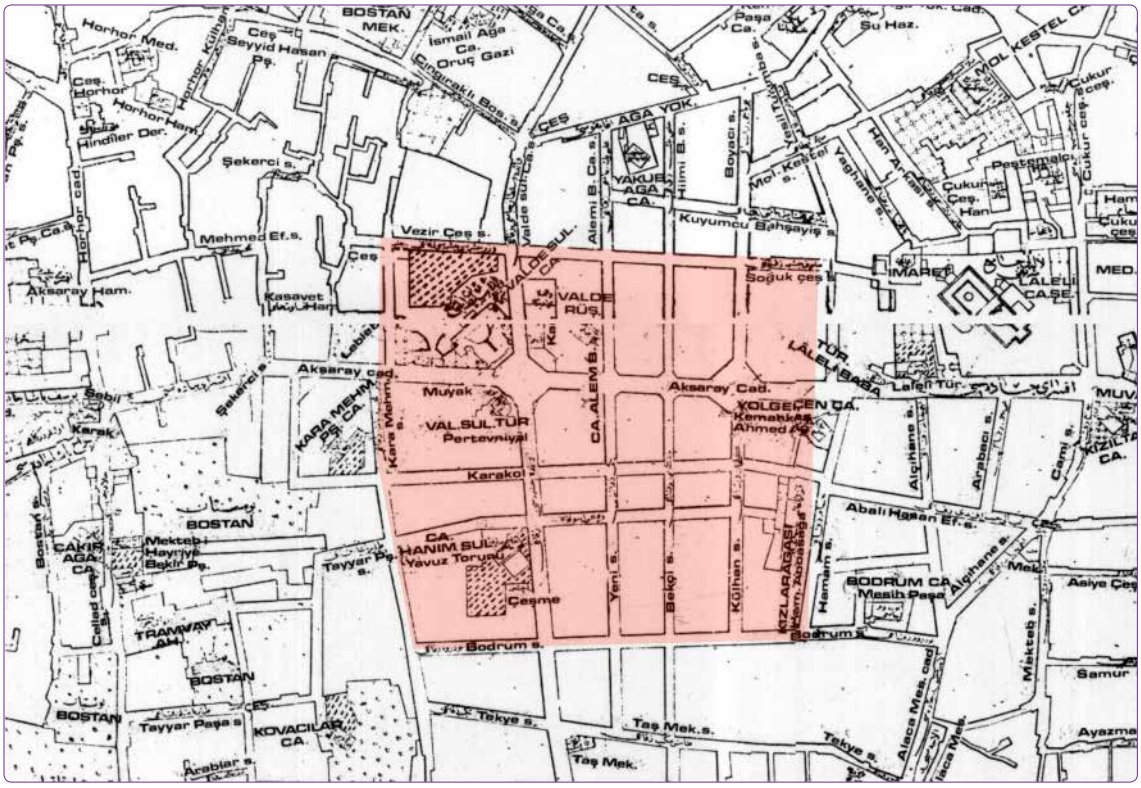

Figure 3. Plan of Aksaray after the reconstruction in 1850s (Ayverdi, 1958, map no. C3 and C4).

must be prepared and presented to the Ministry of Commerce.[40]

In order to prevent the streets from narrowing, all protrusions onto the street were prohibited with this regulation. For the street façades, the projection limits of building elements, such as door sills, window sashes and shutters, gutters, canopies, window frames and canopies for shops, and even the lanterns were defined.[41] These rules prove that this regulation aimed to obtain a clear street network, since it was only concerned with the street façades.

In 1865, another devastating fire occurred, starting from Hocapaşa and burning down almost one-third of the Old City.[42] After the disaster, Street Improvement Commission was established for the planning and re-building of the whole area according to 1863 Regulation. Handling financial and legal issues, allocating the new plots was among the responsibilities of the commission.[43] Property ownership was an intricate matter and the lack of clear boundaries and quantitative records for the plots made it even more difficult for the commission to re-distribute the land after the fire.

The commission's most urgent task was the widening of the roads, because it was not possible to transfer the building materials to the construction site. The enlargement of roads meant expropriating some portions of the building plots, which caused ownership and financial problems. Therefore, the commission had to be scrupulous when dealing with such matters. There were also many complaints due to the distribution of land plots, because the new ones would not have the exact same qualities as the former ones.[44] This commission is especially important in the planning history of Istanbul, since it was the first "local" attempt to actually implement the enacted codes.

1875 Regulation on Construction Methods in Istanbul

Being the capital, managing and regulating the urban space of Istanbul were the primary pursuits of the Ottoman State. Therefore, special regulations concerning Istanbul could be issued, like the one in 1875 on the construction methods. This regulation, restricting the timber constructions, was enacted by the State Council, because contrary to the consecutive regulations issued, the majority of the city still consisted of timber structures.

According to this regulation, Istanbul was divided into two zones. All new constructions in the first zone, which included eastern part of the intramuros Istanbul, Galata-Pera, Beşiktaş, Dolmabahçe, Ortaköy and Nişantaşı, had to be masonry, without any exceptions. In the second zone, which included the rest of the Bosporus settlements, Tataavla, Kasımpaşa, Kadıköy and Princes Islands, masonry

[40] Ergin, 1995c, pp. 1673-1677.
[41] ibid, pp. 1677-1680.
[42] Çelik, 1986, p. 27.
[43] Ergin, 1995a, pp. 938-939.
[44] Ergin, 1995a, pp. 938-942.

construction was only mandatory for fire-burnt areas and the streets which were widened, while timber constructions were allowed under some conditions.[45] It is interesting to note that with this division, the most prestigious and densely populated areas of the city were included in the first zone, which were going to be subject to further developments in the first decade of the 20th century.

1882 Building Law

Enacted in 1882, the Building Law, which set out the urban planning principles and their practice, became the main code for urban planning until 1956.[46] With this law, it became possible to resolve the administrative and fiscal issues that could not have been solved before. The municipalities were given the responsibility for preparation of the maps for new streets and its announcement to citizens. If a new plan was prepared for regularization of a street according to the preset widths, the plan must be placed on the street for the new constructions to follow. When opening up a new neighborhood was planned, it was mandatory to present its map with a place assigned for a police station and a school. In addition, it was necessary for the owners to build the sewage and a certain amount of money should be allocated from the sale of new plots to the municipality for the construction of pavements.[47] The planning of new neighborhoods in un-built areas became an important matter with the increased flow of immigrants as a result of the land losses in Ottoman Europe and Africa.

Similar to the former regulations, the Building Law included items for regulating the fire-burnt areas. Areas with at least ten buildings burnt would be categorized as an empty field to be re-organized. In order to indicate the proposed new plots and streets, the former plan would be drawn with the proposals juxtaposed on it in red color. The allocation of new plots would be realized according to the size of the former ones; in addition, the gardens and even cul-de-sacs would be re-distributed.[48]

The street widths defined in the Building Law were the same as 1839 Official Record's (Table 3). According to the law, some major avenues could even be as wide as 30 m, according to their location, although this was never realized. When widening a street, equal amount of land should be taken from its both sides. The law also defined the limits of façade projections, same as in 1863 regulation.[49]

For construction systems, the law required that in a fire-burnt zone, if the streets were regularized or there are masonry constructions on both sides, the new constructions must be masonry. However, in some outskirt districts, even if the streets were regularized, the constructions could be timber if the owners could not afford masonry. Also the buildings at the Bosporus coast, kiosks in vineyards could be timber.[50]

Table 5. Building heights in 1882 Building Law (Ergin, vol.4, pp.1716-1731)

Street width	Building height	
	Timber	Masonry
6–7,5 m	12 m	18 m
9–11,25 m	13,5 m	21 m
>11,25 m	15 m	22,5 m

Table 6. Building heights in 1891 Building Law (Ergin, vol. 4, 1706-1707)

Street width	Building height
6 m	9–13,5 m
7,5 m	11,25–15 m
9 m	15–18,75 m
>11,25 m	18,75–26,25 m

With the enactment of this law, the urban space was conceived as a whole for the first time, defining the interrelations of the streets, open areas and buildings. In accordance with this fact, the building heights were determined in relation to the street width (Table 5), instead of their construction types as in the former regulations.

In 1891, the Building Law was re-issued with some changes. Similar to the former law, the building heights were determined according to the street width (Table 6), but it was also emphasized that the position and the prestige of the streets would be taken into account as well. Here, at the turn of the century, we see the final evolution of defining street widths: First, very wide avenues were proposed with the imported vision of "modernized" cities of the West in the initial regulations; then more realistic measures were defined according to the present condition of street network and topography, and finally the position of the street within the city context was taken into account with the Building Law.

In addition, parallel to 1875 Regulation, this law declared the construction techniques in Istanbul according to neighborhoods. The majority of the Old City, especially the houses on the main routes, could be constructed in complete masonry, half-masonry or timber, with specifications concerning the materials and thickness of the walls.[51] Interestingly, prominent neighborhoods outside

[45] Ergin, 1995a, pp.1052-1053.
[46] Özcan, 2006, p. 171.
[47] Ergin, 1995c, 1716-1719.
[48] Ergin, 1995c, p. 1720.
[49] ibid, pp. 1716-1722.
[50] ibid, p. 1729.
[51] Ergin, 1995c, pp. 1713-1714.

the Old City, such as Galata, Üsküdar and Kadıköy, were not mentioned in the given item. It is known that the new constructions in Galata and its extension Pera were usually masonry, with the zealous efforts of Sixth District Administration after the disastrous fire in 1870. In addition, the Bosporus mansions, as always, were exempt from all regulations for building heights and construction types.

Results and Discussion

With its roots dating back to the 18th century, the modernization move in the Ottoman State was more generalized and disseminated in the 19th century, generating changes in many aspects, ranging from social life to urban formation. Especially starting with Tanzimat, a series of efforts were made to put the urban form in order, which was continuously exhausted with fires. These efforts were the initial attempts to create generalized rules for the urban fabric, contrary to the building orders of the 18th century that were based on cases. The regular urban fabric, as proposed by Mustafa Reşid Paşa, with wide roads in a grid plan surrounded by rectangular or square building plots filled with masonry buildings became the ideal urban form of the reformist bureaucrats.

To summarize the evolution of 19th century regulations, we can categorize them into different phases: The period between 1826-1848 was the preparatory phase, taking preliminary steps to urban intervention; while 1848-1882 was the maturing/elaboration phase, during which the context of urban realm was re-defined and post 1882 period was the integration phase, which considered the city as a whole.

1826 Regulation was the predecessor of the 19th century regulations, with detailed proposals for fire-proofing the commercial and residential buildings, however missing the requirements for open spaces and streets. Therefore, it could be considered as a "transitional" shift to more comprehensive regulations that followed. 1839 Record, reflecting Moltke's plan proposals and Reşid Paşa's ideas, was the first step towards formulating a model of intervention on the urban realm, on which the subsequent regulations were based. However, the urban administration was not ready to implement this order, lacking the necessary institutions and finance. The regulations issued in 1848 and 1849 evolved a more comprehensive approach, while the continuous fires gave a chance for their implementation, since the cramped texture of existing urban fabric, with cul-de-sacs and torturously winding narrow roads almost made it impossible.

With the establishment of the municipality, urban administration was re-organized and new bodies were founded to deal with fiscal and bureaucratic issues. However, with the majority of timber houses and flexibility of

Figure 4. Masonry houses of Pera with regularized streets and the timber fabric behind, late 19th century (SALT Research Online Archives, access code: AHISTDIV0016601E1).

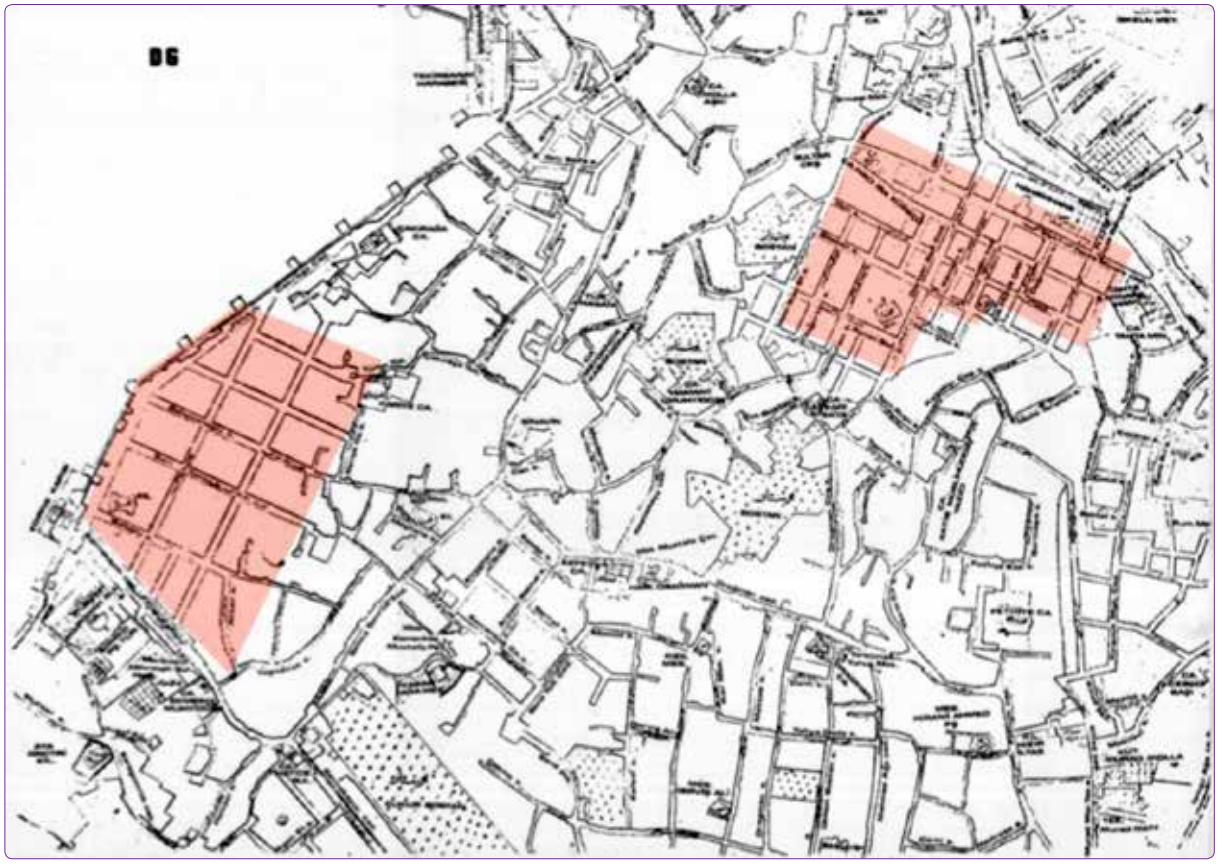

Figure 5. Piecemeal regularized fabric around the city walls, Edirnekapı (Ayverdi, 1958, map no. D6).

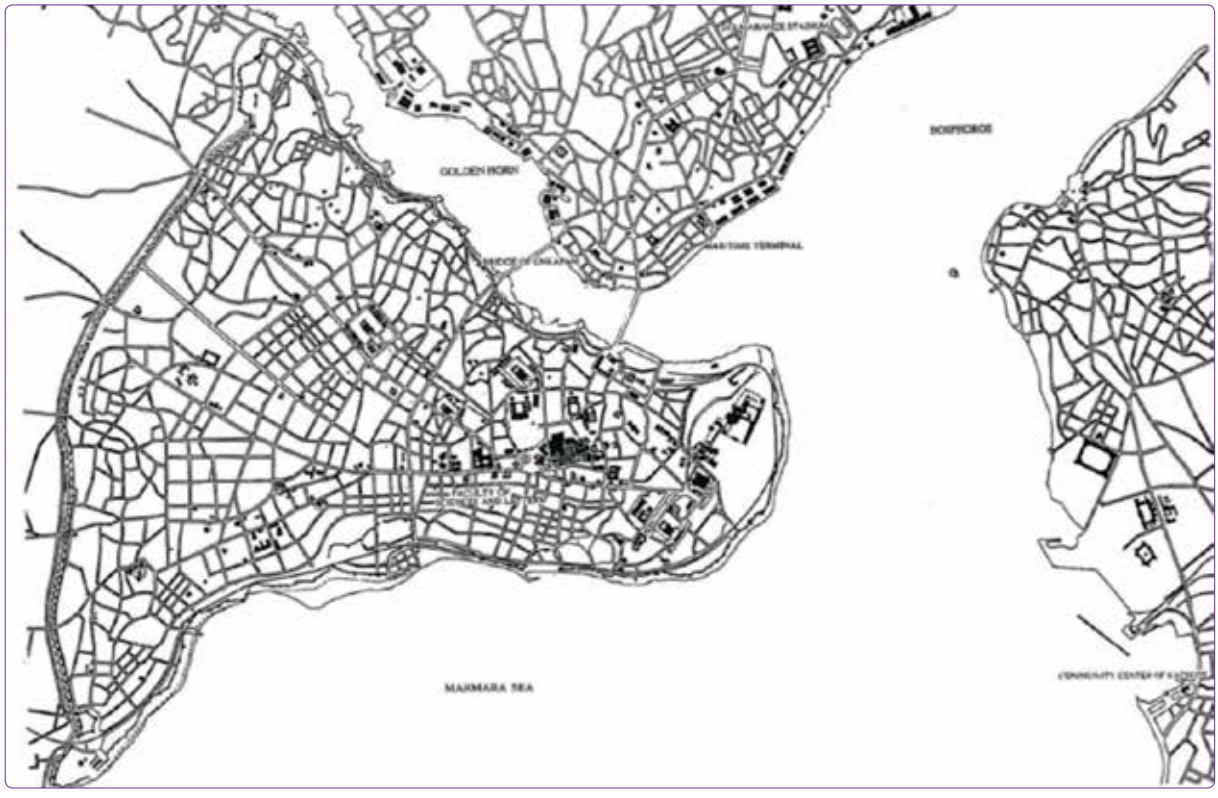

Figure 6. Istanbul's street network and major monuments, 1789–1878 (Kuban, 1996, p. 377).

regulations –such as giving options for house owners to construct in timber or offering superficial solutions for fire-proofing the façades of timber houses- as well as intricacies in ownership, the implementation of the regulations were limited to local cases. In a fire-burnt neighborhood, the existence of a monumental structure, the allocation of new plots in accordance with the size and qualities of the former ones generated problems in planning, while the financial incapability of the residents and expropriation of plots to enlarge the former streets created implementation difficulties.

1863 Regulation was a pioneer among the other regulations, since it adopted a systematic approach to urban planning in the modern sense, requiring the preparation of maps in a fire-burnt zone, public announcement of new plots, and aiming to obtain a clear street network. Finally, with the Building Law enacted in 1882, the urban space was conceived holistically, defining the relations between the open and closed spaces, the buildings and the roads.

With the intention to create a fire-resistant city with a grid, regular layout, urban planning principles from Europe were interpreted in the Ottoman urban system. However, interpreting the regulations proved that the regulations were mainly concerned with the street façades, allowing the owners to act freely on other façades. The varying dimensions in building heights and street widths defined in each regulation did not help in creating a uniform look, either. Thus, unlike the European urban principles, the Ottoman urban administration was not concerned with the aesthetics of the cityscape, not implying any architectural styles or a typology of building elements.

Similarly, categorization of construction types was based on different criteria, such as the location, the owner's welfare, the building value and the building area instead of strict prohibitions for timber constructions. Thus, prestigious parts were not created haphazardly, the surroundings of the imperial residences in Dolmabahçe, the foreign trade center Galata, the seat of embassies and foreign residences in Pera, the new luxurious residential neighborhood Harbiye and Nişantaşı were filled with masonry buildings intentionally (Figure 4). Whereas in the other regions, in the Old City, along the shores of the Golden Horn or in the Bosporus settlements –which were always kept exempt from all regulations, thus preserving a sea-side summer resort environment- timber buildings were in majority, except for monumental or public buildings.

Considering the relation of urban regulations and the (trans)formation of urban space in the 19th century Istanbul allows us to comprehend the process of formulating urban regulations in the Ottoman State. Fires, while being the greatest threat to the urban tissue, created a chance for implementation of the regulations. However, due to the conflicts in the codes, the difficulties in the application and the lack of regulatory sanctions, Istanbul was far from being regularized at the end of the 19th century, displaying a vast architectural diversity, which stayed unchanged until 1950s. Studying the maps of the period indicate that only fire-burnt zones could be intervened, which stand out with their grid plans in the organic urban pattern (Figures 5 and 6). This proves that with the exception of certain neighborhoods, like Galata and Pera, the urban regulations could only be implemented locally.

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