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Urban Parterre Budapest

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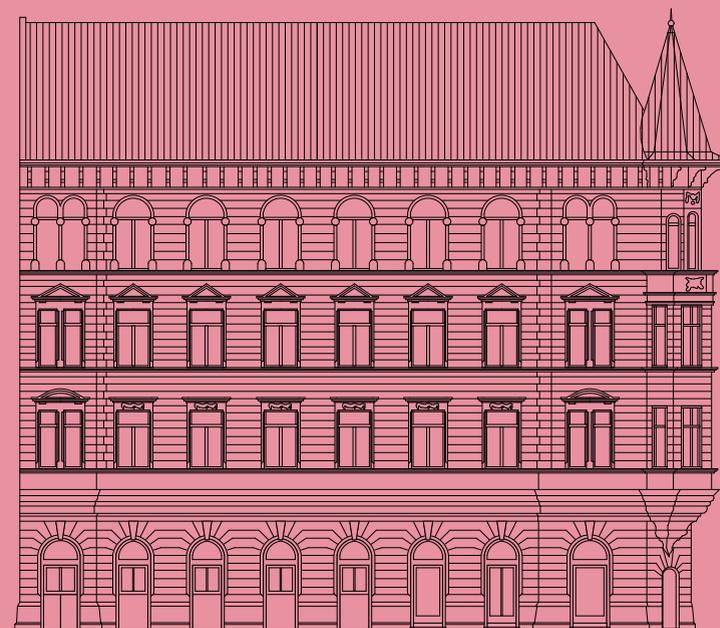
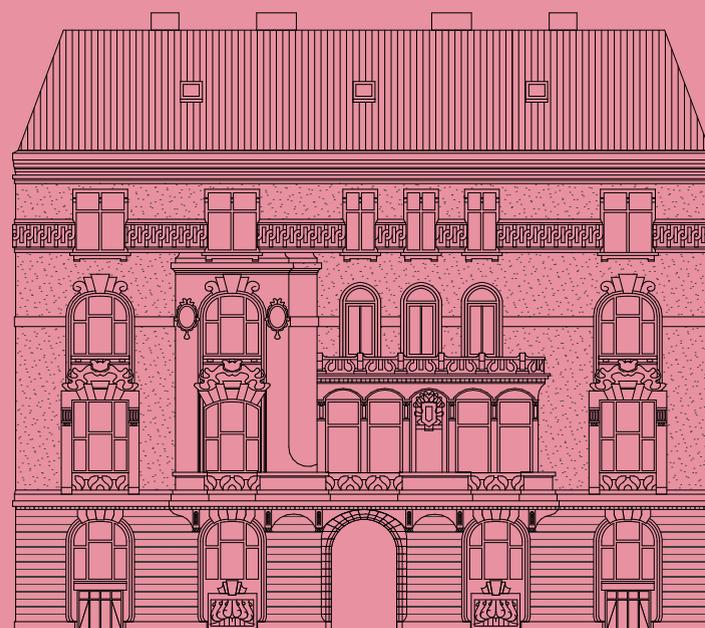
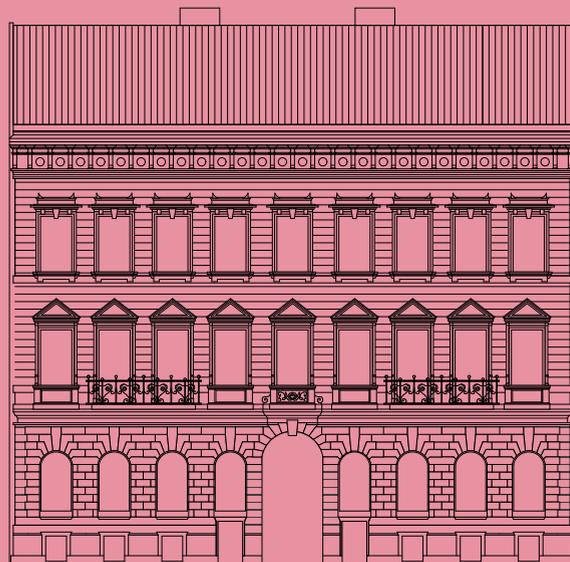
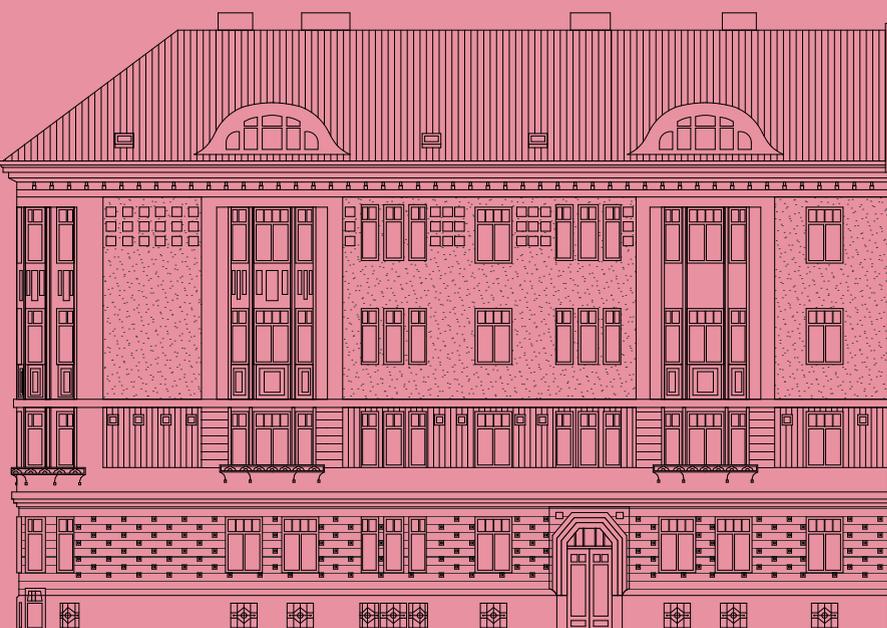
Wien, am 31.10.2019

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the historical city planning and architectural practice of Budapest
and their relevance in designing the streetscapes of tomorrow

abstract

1 Psenner 2012, 5

The early development of Budapest as a modern capital was defined by the transformation of the political, social and economic system in the 19th century. Industrialisation and urbanisation led to rapid population growth and in consequence to a certain lack in building structures. To address the high demand for immediate expansion of residential areas, solution methods were elaborated that are comparable, not only in metropolises of the Monarchy, but also in other European cities. Urban planning and architecture of that time have a major influence on the practice today, as they still make up a high percentage of the urban fabric. The understanding of the origin of these structures might help to find new methods of conversion and adaptation to current demands.

After the transition from manufacturing to the industrial age, transformation processes of the 20th century have affected the design practice, as well as the everyday life of the inhabitants of the city. The role of the Urban Parterre which includes the streets, the ground floor of the buildings and their inner courtyard, has changed.¹ Motorised individual transportation has become widespread in correlation with functional separation. With the decrease of semi-public functions, a smooth transition from public to private space has disappeared. Today, we are facing the consequences in the form of urban sprawl, ground floor vacancy and missing spaces for human interaction. There are already existing attempts to solve this situation. These are the return to small scale solutions, the switch to alternative transportation methods and the rehabilitation of existing urban areas. The question is, how can we redevelop the coherence of the Urban Parterre according to the current circumstances. The aim is to design streetscapes that are adaptable to the challenges of the future.

The aim of this master thesis is to answer this question, by investigating the historical development of Budapest, on different levels. It starts by analysing how socio-demographic transformation, as well as legislative decision-making have shaped the city, while the emerging instruments of urban planning have formed the city blocks and the districts. Comparing the findings to the Viennese situation allows the discovery of similarities and differences in the practice during the period of the Austro-Hungarian Monarchy and after, while reflecting on the overall European tendencies. Furthermore, a detailed level is added by examining how regulative and constructive solutions have created a characteristic building typology. The analytical method of the Urban Parterre Modelling has helped to understand the architectural design and the spatial program. The detailed three-dimensional model of historical structures is created in an adequate BIM software based on plan material that was provided by the Budapest City Archives.

kurzfassung

2 Psenner 2012, 5

Die Transformation des politischen, sozialen und wirtschaftlichen Systems prägte die frühe Entwicklung von Budapest im 19. Jahrhundert. Die Industrialisierung und Urbanisierung führten zu einem raschen Bevölkerungswachstum und zur Wohnungsmangel. Als Reaktion auf den großen Bedarf an einer sofortigen Erweiterung der Wohngebiete wurden Lösungen entwickelt, die nicht nur mit anderen Metropolen der Monarchie, sondern auch auf europäischer Ebene vergleichbar sind. Stadtplanung und Architektur dieser Zeit haben einen bedeutenden Einfluss auf die heutige Praxis, da diese noch immer einen hohen Anteil des Stadtgewebes ausmachen. Das Verstehen dieser Strukturen ist unerlässlich, um neue Methoden für Umnutzung und Adaptierung für den aktuellen Bedarf zu finden.

Die Folgen der Industrialisierung im 20. Jahrhundert beeinflussten sowohl die Entwurfspraxis als auch das Alltagsleben der Stadtbewohner. Die Rolle des StadtParterres, zu dem die Straßen, die Erdgeschoßzone und die Innenhöfe der Gebäude zählen, veränderte sich.² Der motorisierte Individualverkehr verbreitete sich im Zusammenhang mit der Funktionstrennung der klassischen Moderne. Zusammen mit den halb-öffentlichen Nutzungen verschwand auch der sanfte Übergang vom öffentlichen zum privaten Raum. Die Konsequenzen erscheinen heute in Form von Zersiedelung, Leerstand im Erdgeschoß und fehlenden Räumen für Interaktion. Es gibt bereits Lösungsansätze für diese Situation. Solche sind der Rückkehr zu kleinteiligen Lösungen im menschlichen Maßstab, der Umstieg auf alternative Transportmethoden, sowie die Rehabilitierung bestehender Stadtgebiete. Die Frage ist, wie wir die Kohärenz des StadtParterres entsprechend den gegenwärtigen Umständen neu gestalten können. Das Ziel ist, Straßenlandschaften zu entwickeln, die an die Herausforderungen der Zukunft anpassbar sind.

Im Rahmen dieser Arbeit wurde die historische Entwicklung von Budapest auf verschiedenen Ebenen untersucht. Es wurde analysiert, wie der soziodemografische Wandel und die Gesetzgebung die Stadt prägten und wie die neuen Instrumente der Stadtplanung die Gebäudeblöcke und Bezirke formten. Durch den Vergleich der Ergebnisse von Budapest mit der wiener Situation konnten Gemeinsamkeiten und Unterschiede der Praxis in der Zeit der Österreich-Ungarischen Monarchie entdeckt werden. Gleichzeitig wurde auf die allgemeinen europäischen Tendenzen reflektiert. Außerdem wurden regulative und konstruktive Lösungen und deren Einfluss auf charakteristischen Gebäudetypologien von Wien und Budapest verglichen. Die analytische Methode des Urban Parterre Modelling trug zum Verständnis der architektonischen Gestaltung und des Raumprogramms bei. Das detaillierte dreidimensionale Modell historischer Strukturen wurde in einer geeigneten BIM-Software basierend auf das Planmaterial erstellt, das vom Budapester Stadtarchiv bereitgestellt wurde.

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introduction

One of the main challenges of urban planning and architecture today is to provide affordable housing for the constantly growing demand in European capitals. However, we do not talk about a new phenomenon. The rapid population growth as well as the urbanisation that started during the industrial revolution required the expansion of cities in the 19th century. As a result of the accelerated transformation processes, structures were formed that still define the urban fabric today. Large-scale urban infrastructure projects and monumental architecture shaped cities, as well as their image essentially. Furthermore, residential building typologies were developed and constructed, creating new quarters and districts. Authorities operated with legal instruments that shaped the urban planning practice. As the prevailing tendencies affected cities similarly, comparable solution methods evolved.

Budapest developed to a modern metropolis as part of the Austro-Hungarian Monarchy. At the same time, Vienna became an influence and an inspiration on international level. The special situation of both capitals during the this period, called the Dualism made their correlation even stronger. Even though many legal and practical decisions show similarities, some of the fields of urban planning differed. This allowed the formation of unique elements. The formerly rural areas that were added to the cities under these circumstances, represent transformation processes of the era.

The fact that both 8th districts, as well as in Vienna and Budapest were named after the same monarch, Joseph II. appears to be more than a notable coincidence. Obviously, it shows that Josefstadt in Vienna and Józsefváros - especially the Palace Quarter - in Budapest originate from the same period. Nevertheless, there seem to be other levels of interpretation. Both of the areas are located directly connected to the Medieval city cores and started to develop as rural settlements before they became outskirts districts. Therefore, they experienced the effects of urbanisation with the transition from manufacturing to the industrial age. Holiday residences of the aristocracy were complemented with dense residential building structures that provided homes for many social layers of the population.

This way, these areas represented certain characteristic tendencies of the era. A vivid public life took place on the streets and daily necessities were approachable in walking distances. Residences often served as workplaces and homes at the same time. The characteristic tenement housing typologies provided generous spaces and allowed mixed-use. The ground floor zone served as a soft transition between public and private places. This coherence of the built and non-built environment on eye level evolved in this period. To describe the development of the parterre zone and reflect overall tendencies in the cities, we use the term Urban Parterre.

The paradigm of the 19th century changed with the appearance of motorised individual transportation. According to the principles of Modernism in the 20th century, functions were placed on the periphery, causing vacancy in city centres and a strong dependency on cars. Phenomena, such as the urban sprawl got awareness in the end of the past century. The process of rethinking begun with the demand for returning to a human scale. Instead of the functional separation, the aim became providing a mixed use and everyday necessities in walkable distances - again. Thus, this attitude can not be considered as a new intervention, much more as a return to the period before the automobile.

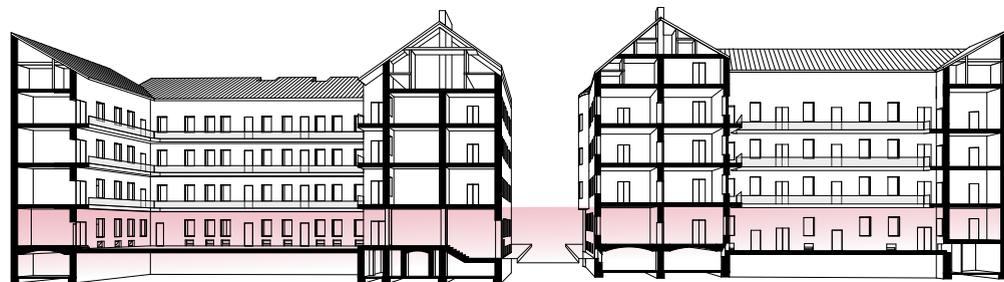
Nowadays, the state of the art in technology makes it possible to think of solutions in another dimension. Whereas globalisation can still be seen as the main force for driving economies worldwide, there is a growing movement claiming the return to small scale manufacturing. Furthermore, with predictable consequences of land shortage, the recycling of historical structures becomes more and more important. These factors are some of many that influence the current planning practice in Budapest. Professionals are not only searching for ways of infrastructure and housing optimisation, but also for opportunities to catch up on delays in competition to the European standard. Best practice examples of urban revitalisation show the importance of creating neighbourhoods in terms of developing a sustainable city and lowering the ecological footprint. The elements of the Urban Parterre play an important role in this development.

urban parterre

3 Psenner 2012, 5
translation
Psenner 2018, 2

“Built up as well as open areas—ground floor, street and courtyard—are considered as an entity; so that interrelations become apparent and can be analysed and handled accordingly. This approach is being conceptualised by the term StadtParterre.”³

The term StadtParterre was introduced by Angelika Psenner and originates from the French term *par terre*, which means *on the ground*, as well as from the German noun *Stadt*, which means *city*. It can be translated as Urban Parterre in English. When analysing the Urban Parterre, we are dealing with the encounter of interdisciplinary forces that determine the built and non-built environment. When we look at the ground floor zone, it gives us an image of the current tendencies in the city. The analytical method based on this approach helps us to develop a better understanding of public space.



research question

The transformation processes of the 19th century played an important role in shaping the cities. The decisions that were made during the period of the Austro-Hungarian Monarchy still define the urban structures of Vienna and Budapest. The first question is:

What large-scale interventions and planning instruments have influenced the transformation of the cities in the 19th century? How did they shape the Urban Parterre in Vienna and Budapest?

The 8th districts in both cities originate from the same era and show many similarities. The second part of the thesis analyses their development and searches for answers to the question:

What are the typical local characteristics and similarities of the Urban Parterre in Vienna and Budapest?

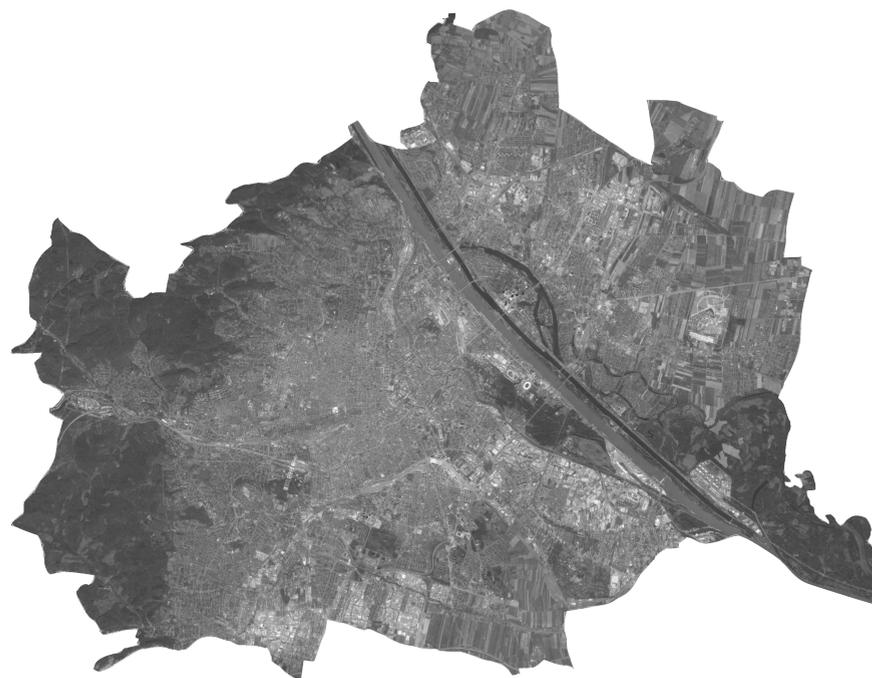
Finally, the third part of the thesis investigates the Urban Parterre on the smallest scale. A selected secondary street and eight buildings in Budapest are analysed in detail to find out:

What are the current tendencies and future perspectives of the Urban Parterre in Budapest?

method

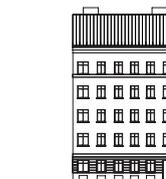
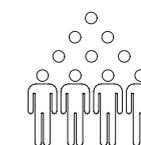
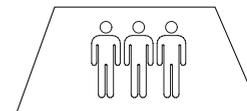
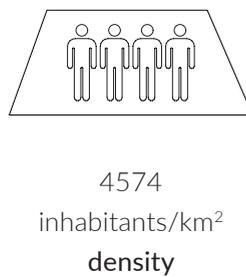
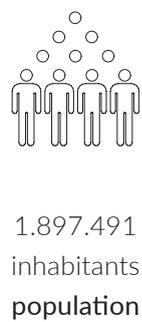
As part of a research group, I was able to build up a basic knowledge about the development of public space in Vienna and Budapest, as well as other European cities during literature colloquia, debates and presentations. During my research, I spent two months in Budapest and did a detailed site analysis with the help of city walks, mapping methods and a survey. Furthermore, with the help of historical plan material, provided by the Budapest City Archives, I was able to create an Urban Parterre Model⁴ of a selected street. The UPM is created in an adequate BIM Software, and gives a detailed image of the ground floor zone and the buildings.

4 Psenner 2014, 7



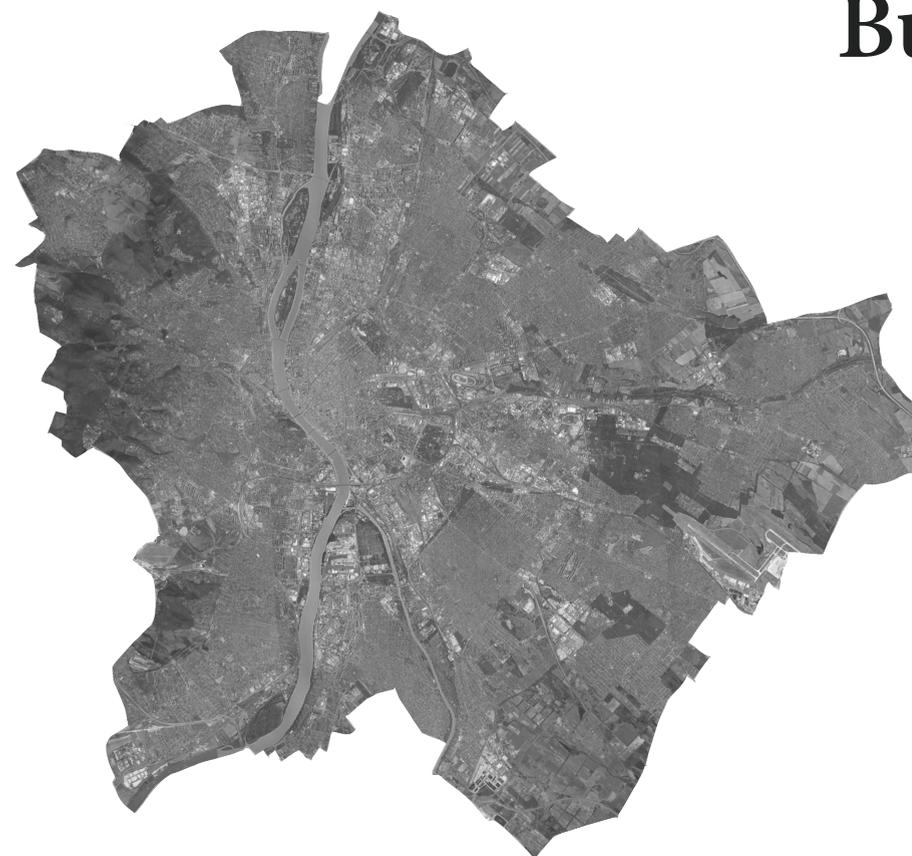
Vienna

capital of Austria



capital of Hungary

Budapest



01

the city

the early history of city planning

from the city foundation to the 18th century

the reform era

the early 19th century

the gründerzeit

a comparison between Vienna and Budapest in the 19th century

the urban parterre

the development from the 19th century until today

the early history of city planning

from the city foundation to the 18th century

The capital of Hungary has its origins in the Roman Empire. The city of *Aquincum*⁷, just like other settlements of the province Pannonia, continued to grow during the centuries of the Middle Age, while exposed to wars and being conquered by other dynasties. By taking over the city of Buda⁸, the Ottoman Empire occupied the Kingdom of Hungary, alike many other parts of Europe and Asia between the 16th and the 17th century. The liberation by the Habsburgs was followed by a substantial restoration of demolished settlements and a planned installation of new villages and cities. The first examples of documented city planning strategies originate in this era, mainly involving punctual interventions. The former structures of protection, such as the bastion was incorporated into the new buildings and infrastructure.⁹ Besides a spontaneous and organic growth that had already been dominating before, there has been an increasing demand for planned expansion, as well as for advanced safety regulations in terms of public security and fire protection in the 18th century.

The political, social and economic circumstances influenced the further development of the kingdom in the Habsburg realm. This era has shaped the by then still separate, royal free cities, Buda and Pest. Located on the banks of the Danube river, this metropolitan area has become an important centre for administration by the end of the early modern period.¹⁰ Figure 1 shows that the distribution of built mass mainly concentrated in the inner city of Pest and around the castle of Buda based on the 1793 site plan. A single bridge connected the two banks and the river flow was not regulated. The natural waterway, which has served as an important component of military strategy before, now provided a base for trade and economic growth. With the rise of population, the first outskirts districts started to evolve as rural areas around the inner city of Pest. A continuous growth followed in the North and the South, whereas the expansion directional to the East has been limited by the *Umfassungsraben*, which is the German word for the burrow around Pest. The development on the side of Buda has been made difficult by the natural landscape. Around the hills of the castle, more and more buildings started to appear but the forest areas in the West have stayed uncultivated for a long period.



Figure 1 Site plan of Óbuda, Buda and Pest in 1793

- 7 The city core originates from the area of the village Óbuda. The name can be translated to Altofen in German.
- 8 The name of Buda can be translated to Ofen in German, whereas the name of Pest cannot be translated. In the following, the Hungarian city names will be used.
- 9 Körner and Nagy 2002, 128
- 10 Both cities gained the title of royal free city in the year 1703, which brought certain privileges and a high political importance. However, none of them were capitals at that time. After the 13th century, the capital of the kingdom has first been Buda until 1541, followed by Bratislava between 1536 and 1849 and then Pest-Buda until 1873.

the reform era

the early 19th century

The spirit of politics and public awareness has increasingly moved towards the preservation of national identity and modernization in the early 19th century. Thus, technological and intellectual achievements have influenced societies and cities. Supporting the urban development by the construction of infrastructure and public buildings has been of national interest. Furthermore, the growing trade and industrial market has provided capital that was used by more and more investors to earn additionally by renting apartments:¹¹ Due to the rising population, the private building activity became increasingly widespread and has shaped the newly emerging districts of Pest and Buda.¹²

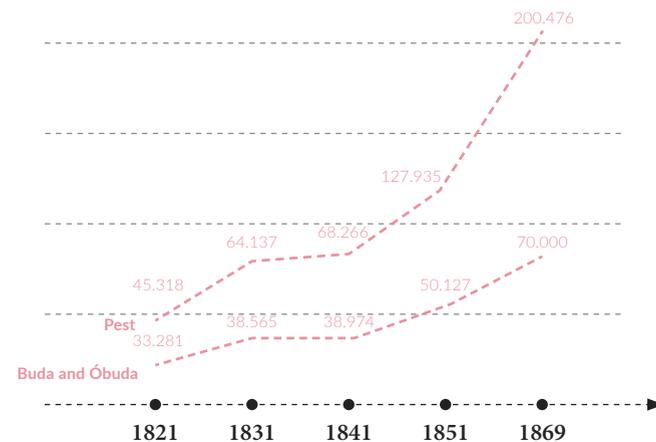


Figure 2 Population growth before the city unification

The level of administration and legislative regulation rose according to the needs of a growing urban region. Whereas the Baucommissio has served as the responsible authority overlooking the construction activity of Buda, the Beautification Committee has been its correspondent in Pest. The Committee accepted the first overall regulatory plan for the East river bank by János Hild in 1805.¹³ Concepts of earlier, small scale dedication plans, such as the Schilson Plan were adopted and upgraded. Although there were still no specifications about building heights or typologies, the plan can be considered innovative at that time. It did not only include suggestions concerning both the existing and new districts, but also ideas for shaping the area of the river bank.



Figure 3 The inner city of Pest on the Hild Plan 1805

The Hild Plan defines the sizes of the streets and blocks, as well as the parcelling of the latter. The adaptation of the plan did not take place one by one, but it had a major influence on the urban planning practice of the following years.

11 Körner 2010, 22-23

12 Budapest data Hungarian Central Statistical Office

13 Locsmándi 1998, 5-6

the great flood 1838

Due to the geographical location of Pest, the risk of flood was much higher than in the Vienna, where the river did not flow directly through the city. Despite of the early start of the partial construction of the river bank, the damage caused by the great flood in 1838 could not have been anticipated. The flood has covered most of the area of Pest. The smaller houses of the outskirts were completely erased, while multiple storey buildings of the inner city could resist the high water level. Consequently, the era of rebuilding began with modern urban structures that had to fulfil the requirements of the first building regulations of 1839.

14 Körner 2010, 92-93

The *Rákos* canal ran through the rural areas of Pest. Even though it was covered in the 19th century, its footprint has stayed visible during the following phases of city development. It has defined the shape of the great ring road in some areas as well as smaller streets.¹⁴

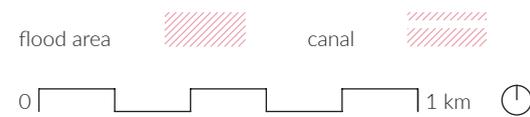


Figure 4 The ground figure plan of Pest during the great flood



flood area in the city of 2018

The comparison of the ground figure plans of 1838 and 2018 illustrates how the rural structures have been replaced by an urban grid. Figure 5 shows the area of the great flood on the 2018 ground figure plan. After the rebuilding process, these areas are results of the 19th century urban transformation.

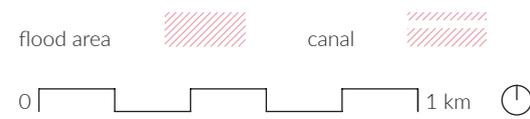


Figure 5 The ground figure plan of Pest in 2018





Figure 6 Regulatory plan of Pest after the great flood of 1838

street levelling after the flood

New buildings had to be constructed above the highest water level. According to the regulatory plan that was made after the catastrophe, some of the streets were levelled to the new reference altitude that transformed the former ground floor of the existing houses to their basement.¹⁵

15 Körner 2010, 28-29

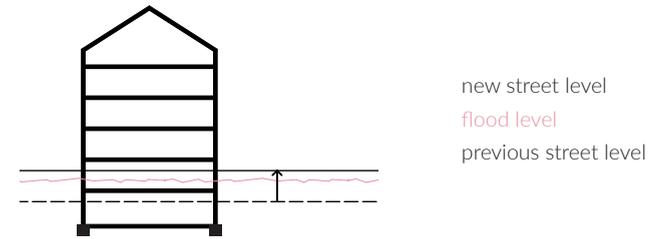


Figure 7 Diagram of the street levelling

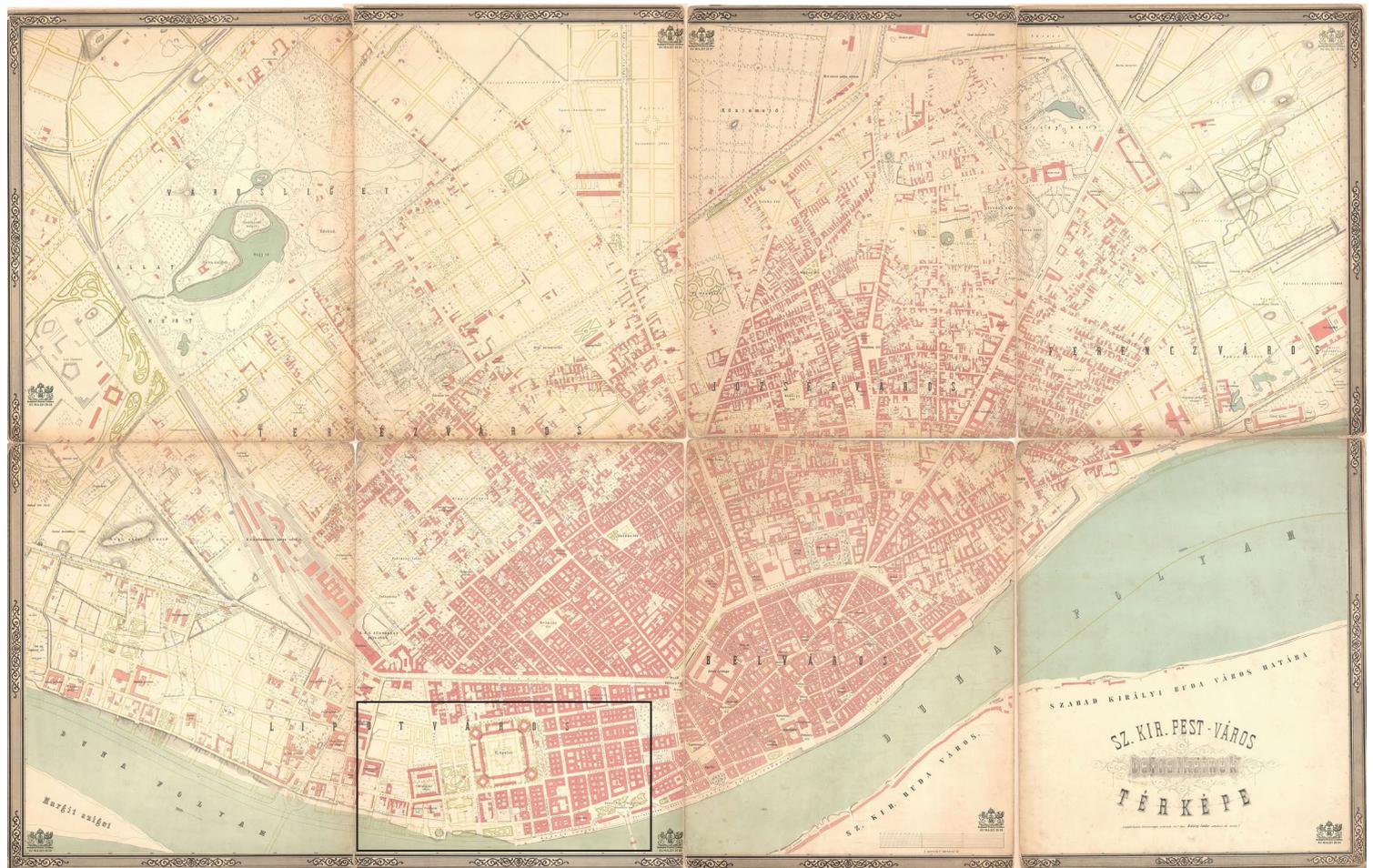


Figure 8 Regulatory plan of Pest 1872

river regulation

The debate about the Danube regulation started in the early 19th century. The first interventions for regulating the river bank were partial fillings around the new chain bridge that are displayed in the 1872 regulatory plan of Pest. The chain bridge was the first massive bridge between Buda and Pest, built between 1839-1849. The plan also indicates the area of the regulations that have been started in the year 1871 together with several other big scale operations that contributed to the process of the unification of Pest and Buda.



the gründerzeit

a comparison between Vienna and Budapest in the 19th century

The period of the Gründerzeit brought a significant economic, political and cultural change for Central Europe. On one hand, the term refers to an era that can be subdivided into three periods depending on the changing economic conditions.¹⁶ On the other hand, in the context of art and architecture, the term Gründerzeitstil is associated with the dominating style of the era, called Historism¹⁷. From the perspective of the urban planning and development, the term Gründerzeit seems to be the most adequate term to describe both aspects.¹⁸

Due to the *Grundentlastung*, the liberation of the peasants in 1848, farmlands became available on the market. As the population of Vienna grew rapidly, urban areas started to expand outside former city walls. The financial sector got stronger during the early period of uplift. The number of small trade and commercial enterprises grew, whereas previously substantial trades export, such as the silk industry experienced a decline due to Italian and French competitors. Although the amount of small businesses still dominated at the turn of the century, factories started to open in the suburbs, attracting more and more workers. The speed of building activity could not follow the increase of population. Consequently, about half of the inhabitants of Vienna did not have any individual residence and were forced to reside in different forms of flat sharing and subrenting.¹⁹ The amount of available inner-city plots has been decreasing due to housing investment and speculation by private building societies, and outskirts districts evolved into targeted areas for municipal projects.

The emergence of the Austro-Hungarian Empire and the city unification of Budapest marked the beginning of an essential transformation process of the capital. During the era of the Dualism, more international banks were founded in the Monarchy and became developers of new housing projects. At the same time the number of private investors - mainly nobles and the aristocracy before - grew by the raising number of financially potential craftsmen and merchants. However, plots of the inner city, along new ring roads and radial streets still belonged to the aristocracy. After the outbreak of the economic crisis, new investments were facilitated by mortgage loans by financial institutions.²⁰

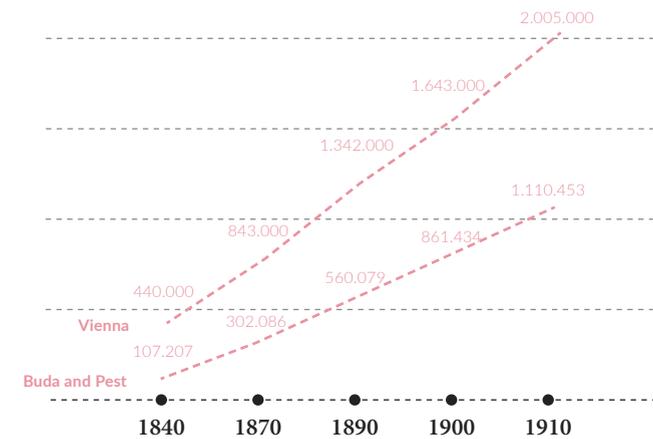


Figure 9 Population growth in Budapest and Vienna

Although the field of city planning was handled independently by the two cities, both Vienna and Budapest had to face similar challenges in the period of the Monarchy. Furthermore, it is quite likely that the actors, such as politicians, investors and architects, have been exchanging knowledge. This is the reason why the approaches and solution methods in the regulation and planning of infrastructure, public and private construction seem to be comparable.

In the following, aspects that had a major influence on the urban development of Vienna and Budapest in the 19th century will be discussed. In connection to the population growth, the area of both cities grew through multiple expansions.²¹ As a result, the urban infrastructure needed to be upgraded according to changing conditions. New authorities were created for the supervision of construction. These were responsible for the establishment of new planning instruments, as well as the development of building codes according to the rising standards. These factors have influenced the methods of private building activity and as a consequence, the residential architecture typology.

16 Bobek and Lichtenberger 1978, 31

Three periods:
early period: 1840-1870
high period: 1870-1890
late period: 1890-1918

17 Historism summarises the leading artistic styles of the 19th century that were created by imitating styles of previous eras.

18 Psenner 2018, 35

19 Bobek and Lichtenberger 1978, 39-40

20 Körner 2010, 43-45

21 Vienna data
Bobek and Lichtenberger 1978, 31

Budapest data
Hungarian Central
Statistical Office

Vienna



Figure 10 Vienna - Alserbachstraße around 1900 ÖNB



Figure 11 Budapest - Nagykörút after 1897 FSZK

Budapest

Vienna

phases of city expansion

1904

22 Diagram based on the Plan of Built Area Development of Vienna in: Csendes 2005, 40

23 The term *glacis* refers to the non-built part of the protected area outside the city walls.

Figure 12 shows a schematic diagram of the built areas of Vienna, as well as the borders of city expansions.²² The incorporation of the outskirts districts in 1850 provided the necessary conditions to facilitate further expansion of the city during the Gründerzeit. At the same time, the *Ringstraße*, as well as many apartment buildings, were constructed in the area of the former *glacis*²³. The second city expansion took place in 1890 by adding areas of the suburbs. Later on, a third expansion added more settlements. Today's city borders were defined in 1938 under the name of Great-Vienna.

- areas built before 1857
- areas built before 1904
- city area before 1850
- ▨ first city expansion 1850
- ▨ second city expansion 1890
- current city area



Figure 12 City borders and built areas of Vienna 1904

0 5 km

Budapest

phases of city expansion

1914

Figure 13 shows a schematic diagram of the built areas of Budapest before the city unification.²⁴ The city cores of Pest, Buda and Óbuda were densely built areas. The outskirts started to evolve around them, expanding to the city border step by step. Whereas the area of Vienna got expanded multiple times, the city border of Budapest did not change during the Gründerzeit. Figure 13 shows how the densely built areas grew significantly on the side of Pest. The city expansion, which defined today's borders happened later on, in 1950.

24 Diagram based on the Plan of Built Area Development of Budapest (attachment to the city development program) by Messik and Bicske 1933

- sporadically built areas in 1914
- densely built areas in 1914
- ▨ city area in 1914
- current city area

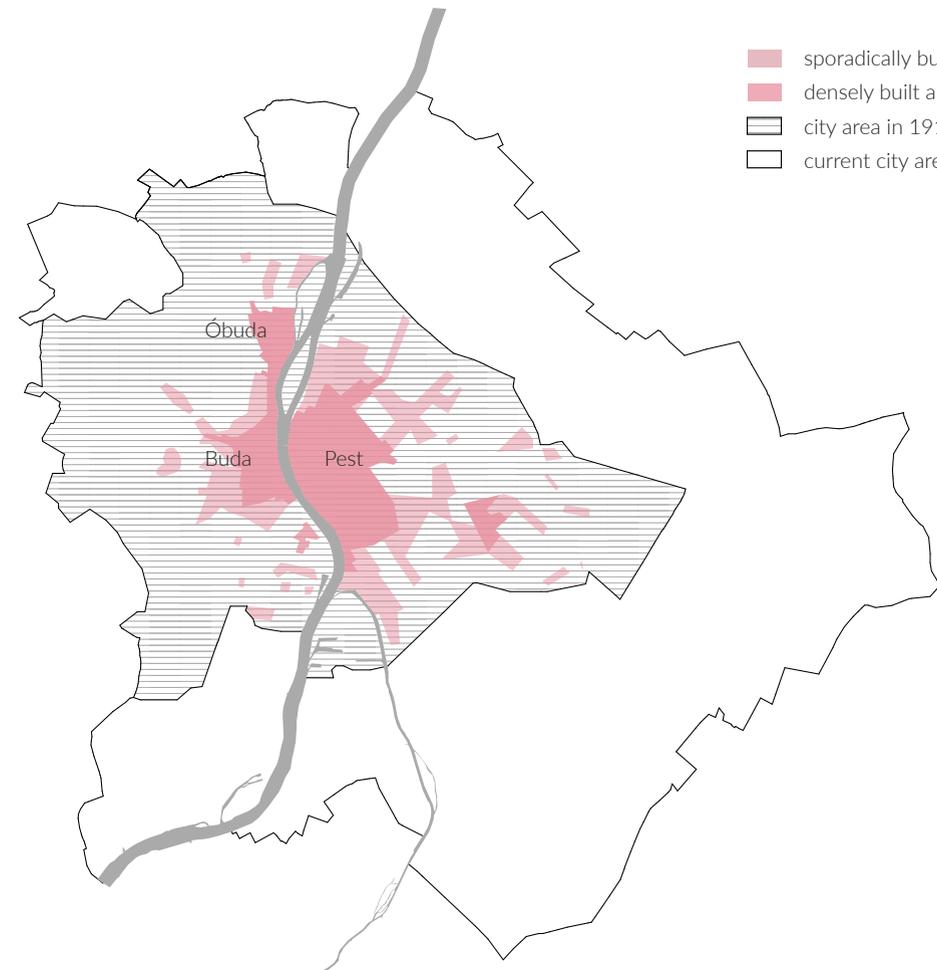


Figure 13 City borders and built areas of Budapest 1914

0 5 km

Ringstraße

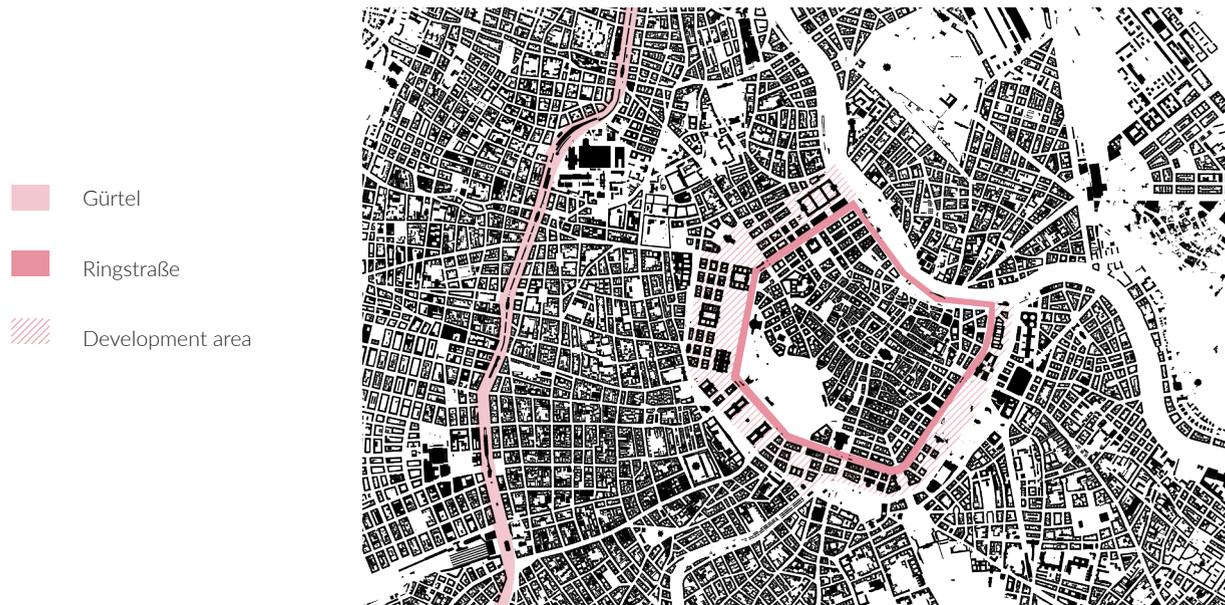


Figure 14 Ring roads of Vienna on the ground figure plan of 2018



25 Csendes 2005, 39

The development of infrastructure, such as railways and bridges, as well as radial streets, boulevards and ring roads became a priority in the 19th century. These interventions, along with the construction of monumental public buildings along the new streets were not only functional necessities, but also part of a beautification program with the aim of making the capitals competitive among other European cities. The realisation of the Viennese *Ringstraße* after 1858 served as a great example for urban reconstruction and had a huge influence on the international practice. After the first city expansion of Vienna in 1850, a double ring structure was defined as the replacement of the city walls and the *glacis*. The most important administrative buildings were built along the *Ringstraße*, whereas the *Lastenstraße* was designed for the main traffic. Figure 14 shows the area between the two ring roads that became a target of residential investment, which was a part of the overall project funding.²⁵ The apartment buildings along the ring were mainly built by aristocracy. Building societies emerged in this period and bought several plots at once. Thereby, overall planning concepts and innovative solutions could be accomplished, based on master plans.

Nagykörút



Figure 15 Ring roads of Budapest on the ground figure plan of 2018



Considering its location in relation to the city, the Budapest equivalent of the *Ringstraße* would be the *Kiskörút*²⁶. As Figure 15 shows, it is located around the inner city and connects representative areas.

But when it comes to other attributes, such as: the road length, the construction period and administrative methods of construction the *Nagykörút*²⁷ seems to be more adequate. Other than in Vienna, the importance of the road lies more in shaping the city structure than in representation, due to the lack of public institutions and monumental architecture in its area. An unrealised proposal for the development of a circular canal on the trail of the former *Rákos* canal (see Figure 5) had an influence on the alignment of the road.²⁸ The design of the road required the widening of existing streets. Moreover, the new connection required the demolition of some building stock and the expropriation of plots. This action got allowance by the capital city law.²⁹ Similarly to Vienna, new projects along the road were supported by governmental building tax exemptions for 30 years. However, plot owners did not only have to share 30% of the costs of expropriation, but also take part in financing the road construction, which was finished in 1895.³⁰

- 26 **Kiskörút**
engl. = small ring road
- 27 **Nagykörút**
engl. = great ring road
- 28 Vadas 2005, 79-80
- 29 Körner and Nagy 2002, 36-138
- 30 Locsmándi 1998, 9

Wiener Gürtel

31 Locsmándi 1998, 9

32 Bobek and Lichtenberger 1978, 6

The second circular road segment of Vienna, the *Wiener Gürtel* was part of several integrated planning concepts for the whole metropolitan area of Vienna, after the second city expansion in 1890. Due to favourable living and working conditions, as well as the special tax situation, suburbs around the line wall were continuously growing.³¹ The first municipal housing projects of the 19th century were planned for the workers of the city's industrial companies in the outskirts districts.³² Furthermore, new railway stations emerged around inner Vienna. Consequently, it became a necessity to demolish the old fortification (called *Linienwall*) that has not only served as a physical separation between the city and its suburbs, but also as a border for city taxation. As a result, one of the most important traffic connections, the *Wiener Gürtel*, was constructed step by step.

Figure 16 shows a part of the *Gürtel* between the 16th district, Ottakring and the 7th district, Neubau of Vienna. As we move further from the city centre - and by that from older to younger structures - it is visible how block sizes and shapes change from irregular and organic to the regular and planned grid that was typical in the *Gründerzeit*.

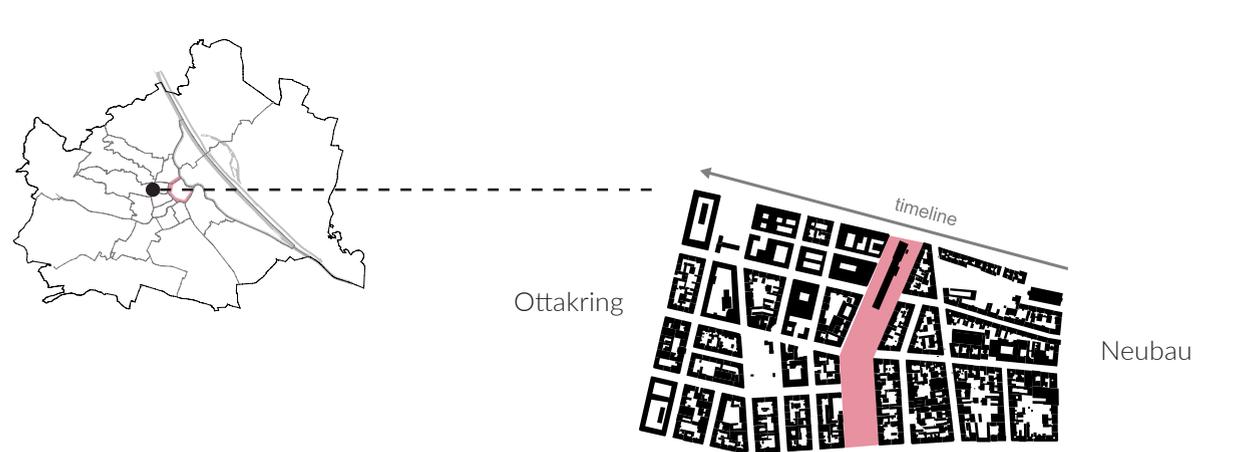


Figure 16 Wiener Gürtel



Nagykörút & Hungaria körút

The *Nagykörút* can be compared to the *Wiener Gürtel*, in terms of the arrangement of residential housing along it. The road runs across the areas that have been densified during the *Gründerzeit*. Figure 17 shows how blocks on the inner city sides of the *Nagykörút* have irregular shapes and sizes. They originate mostly from the middle of the 19th century - or later. During the high period around the turn of the century, buildings situated directly on the outer side of the road have been built in a regular grid. This means a similar tendency in both capitals.

Considering the road length and the role as a traffic connection, the *Hungária körút*³³ can also be compared to the *Wiener Gürtel*. Although the competition for the third ring road of Budapest has already been announced in *Gründerzeit*, the completion of the infrastructural undertaking lasted until the middle of the 20th century.³⁴ Serving as a realisation of Modernist ideas, the ring road has become a mono-functional area with the aim of serving as a bypass road for growing traffic.

33 **Hungária körút**
engl. = Hungaria ring road

34 Milóssy 1995

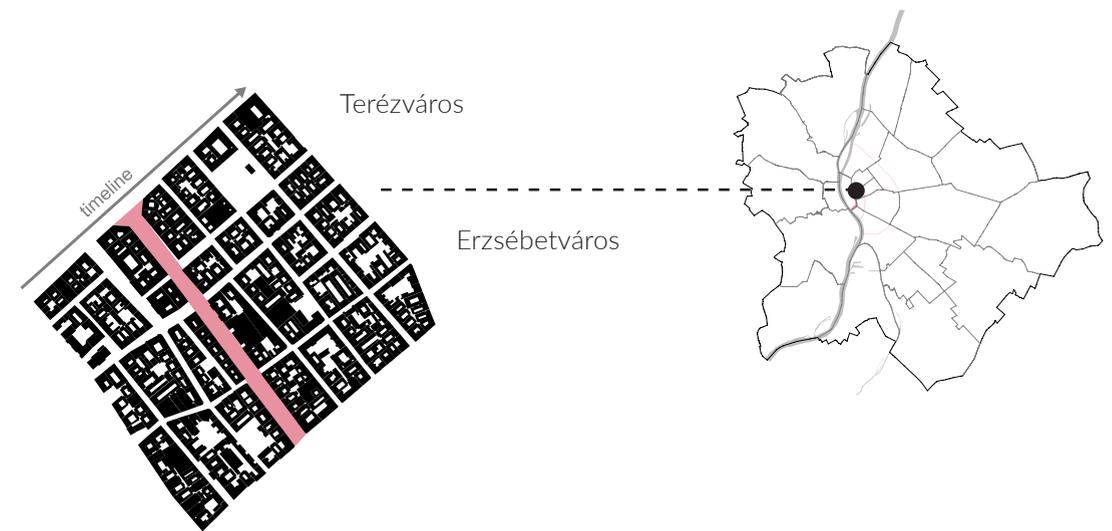


Figure 17 Great Ring Road



Vienna

planning instruments

35 building code 1868

36 building code 1883

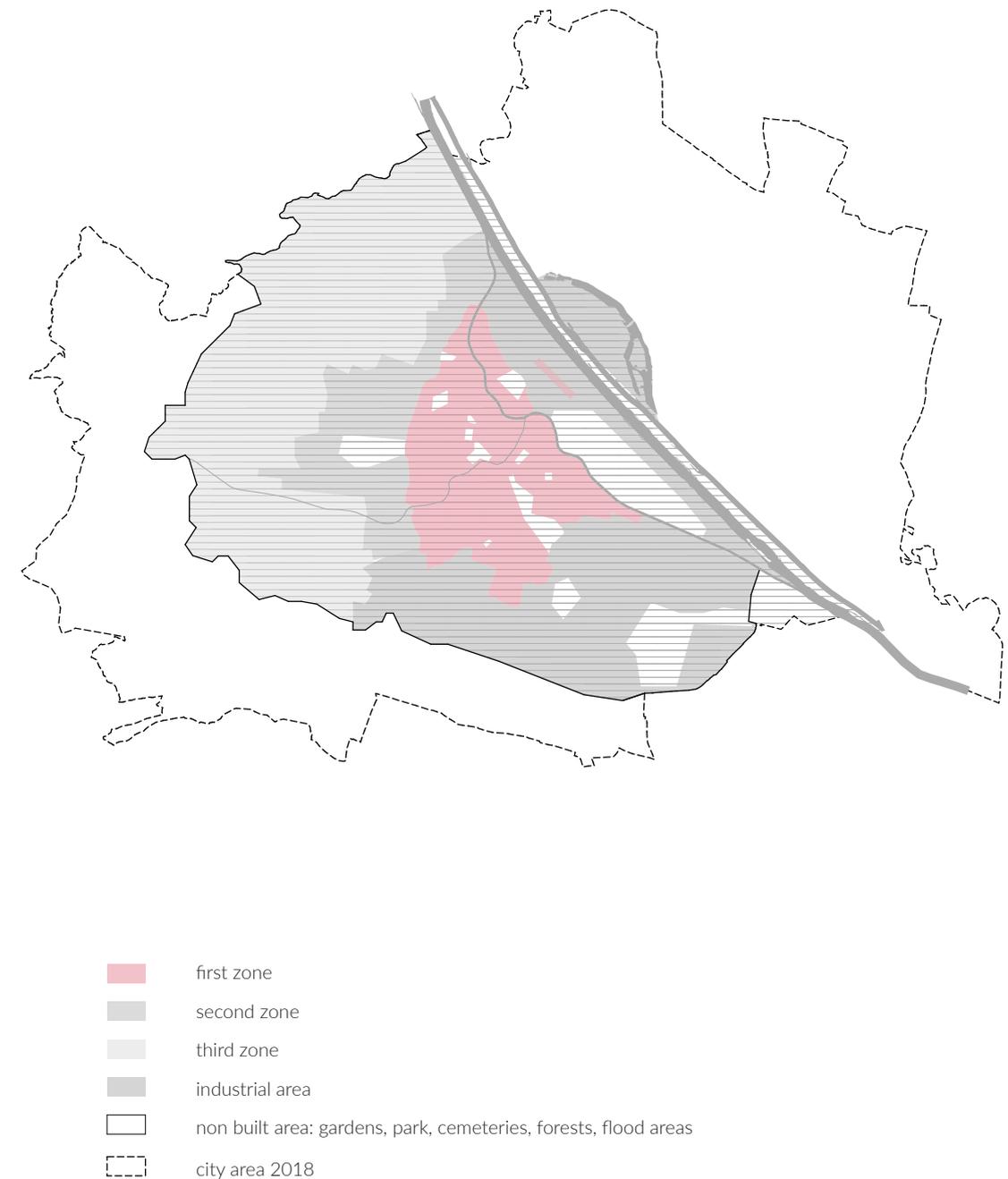
37 Csendes 2005, 47

38 Hagen 2015, 45-54

zoning plan

During the period of the Monarchy, the 1868 state law³⁵ of Vienna was expanded and enacted in a new form in 1883 as the fourth building code³⁶ that will be analysed in the following section. The municipal authorities were responsible for the handling and execution of these regulations. However, the definition of building heights, zoning lines and the inner parcelling of blocks required the approval of the city council. This is the reason why the cooperation of both authorities was necessary to create an overall zoning plan. Whereas the 1883 building regulations have just been applied to the city of Vienna inside the *Linienwall*, the amendment of 1890 was developed based on the second city expansion. Furthermore, it was synchronised to one of the first integrated planning methods, the first zoning plan in the year 1893.

Figure 18 shows a diagram based on the first zoning plan with four building zones.³⁷ The most important step was the definition of industrial zones in the plan, as well as the ban of factories in residential areas by adding multiple amendments that followed the 1883 regulations. The city council was trusted with the organisation of a competition for the creation of an overall regulatory plan. Although two of the fifteen designs were selected as winners after one year, neither the plan by Otto Wagner, nor the one by Josef Stübben was realized. The General Regulation Office was founded with the aim of elaborating the regulatory plan, which later had to include the area of the third city expansion of 1904. The plan has never been finished completely, only partially.³⁸



0 5 km N

Figure 18 Diagram based on the first Zoning Plan of Vienna 1893

Budapest

planning instruments

39 law article X. of 1870

40 Déry 1995

zoning plan

As soon as the strategical planning of the unification of Pest, Buda and Óbuda started three years in advance, the prime minister filed a proposal for a joint supervision. The government decreed the establishment of the Metropolitan Board of Public Works in the 1870 law article X.³⁹ The newly founded authority was trusted with the supervision of the Danube regulation, which included the construction of the promenade on both river banks, with the intention of building more bridges and docks. The terms and conditions of the funding as well as the schedule for the overall regulation were defined in the same law article. Besides, the Board was also responsible for overlooking the planning and execution of construction works in the capital as well as organising corresponding competitions.

The independent authority started to operate with temporary ordinance but had to face the denial of the city governance, which filed its own regulations at the same time. The dissonance ended with a program proposal in 1886. The official report about the operation of the Metropolitan Board of Public Works in 1870 included the main elements of the building regulations that will be analysed in the following section. Based on the principles of that document and by the redefinition of the jurisdiction of the Board and the city, the building regulations for Budapest were enacted in 1894.⁴⁰ Based on the written definition of zones in earlier regulations, a zoning system was visualised. Figure 19 shows a diagram based on the first zoning plan with the building zone assignment of Budapest with its four urban zones and the industrial areas. Since factories were banned in residential zones and building heights were depending on the zoning, the zoning plan had a huge influence on the city image.

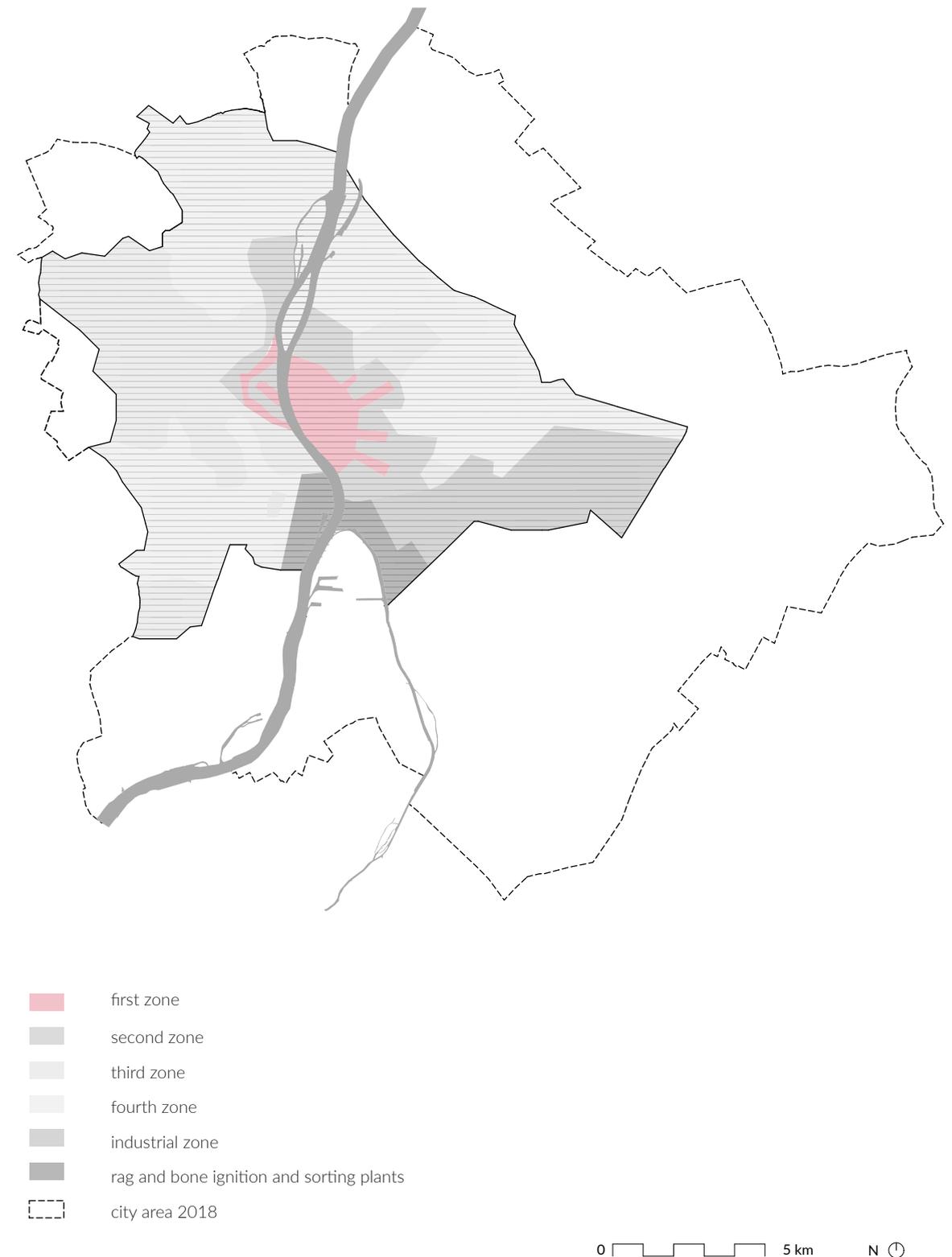
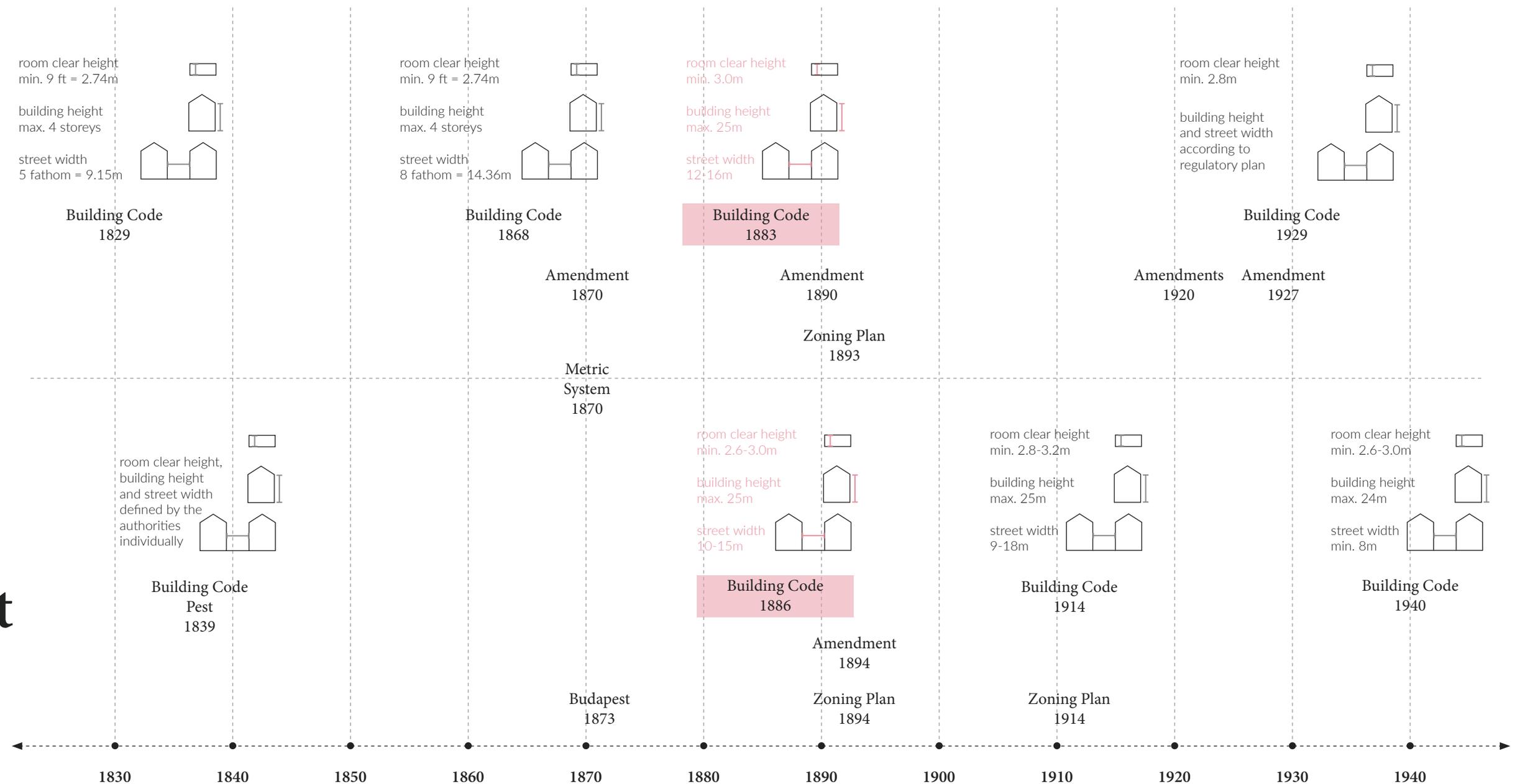


Figure 19 Diagram based on the first zoning plan of Budapest 1894

building regulations

Due to the process of conversion to the metric system in 1870, measurements are derived from *fathom* and *foot* units.

Figure 20 Overview of the regulations



Vienna

Budapest

Vienna

building code of 1883

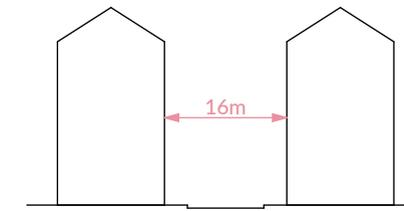
sections

Section I.	The specification of the construction line and the level for existing roads, alleys and squares
Section II.	The specification of the construction line and the level for new roads, alleys and squares and the division of a ground on building sites
Section III.	Land abandonment and street construction
Section IV.	The building permit
Section V.	The regulations referring to the construction
Section VI.	Buildings designed for a collection of people
Section VII.	Industrial buildings
Section VIII.	The construction of dwellings under facilitated conditions
Section IX.	The regulations to be observed after completion of the construction
Section X.	Transgressions of the building regulations and their punishment
Section XI.	The authorities appointed to implement the building regulations

street width

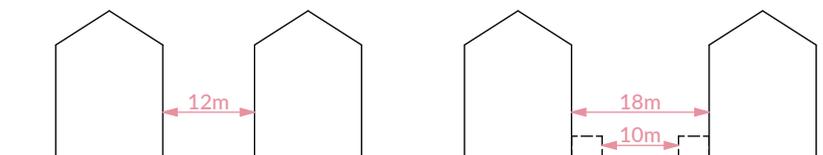
Section I.

The street widths were set in § 2. to 16m, in special cases 12m were allowed. Contrary to the Budapest regulations, there were no exact measurements setting the plot dimensions.



Section II.

§ 5. refers to situations, where the street is not a main road and the buildings on both sides only have a ground floor and a maximum of two-storeys with a 15m maximum upper ledge height. In these cases a 12m street width was allowed. Streets with houses that have a front garden could be constructed with 10m width, whereas the buildings themselves had to have an 18m distance.



building height

Section V.

The height of the houses was calculated according to § 42. from the final pavement level to the upper edge of the upper ledge, in downhill locations at the highest point of the terrain. Five storeys were allowed with a maximum of 25m and with the floor upper edge of the highest storey on maximum 20m above the street level.

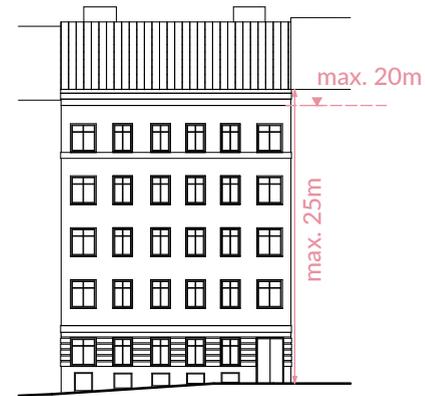
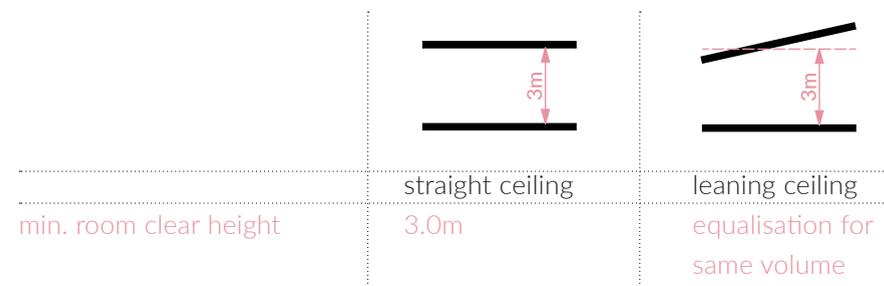


Figure 21 Schematic elevation

The five storeys included the ground floor as well as the mezzanin⁴¹ that counted as one full storey. The ground floor could be subdivided. A one-storey building is equal to a ground floor building in Austrian wording, whereas one-storey means ground floor plus first floor in Hungarian wording.



The room clear height was required at 3m or in case of a partially lower ceiling, the equalisation to reach the same volume. The minimum clear height of the rooms was set in general and not depending on the zoning.

courtyard and basement

§ 43. about courtyards and their sizes equals the § 42. of the regulations of Budapest. The size of the inner courtyard was defined by 15% of the plot area, with a minimum width of 6m. Atriums needed an area of 12m² and a width of 3m, except when they serve for the luminance of uninhabited spaces, in which case, 6m² were enough. Openings for ventilation needed a minimum intersection width of 1m.

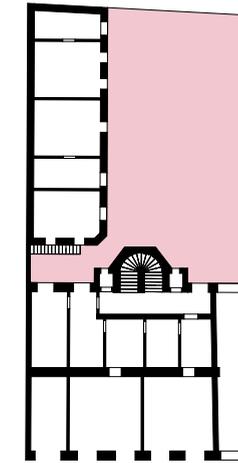
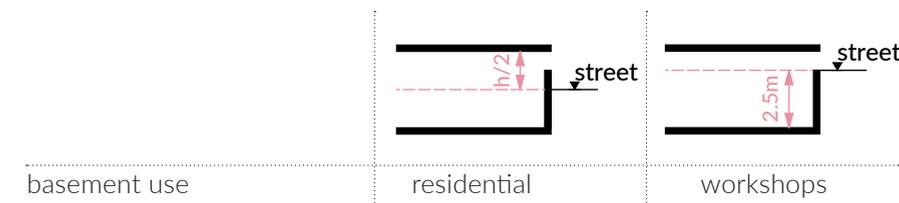


Figure 22 Schematic floor plan

The residential use of the souterrain⁴² was defined in six points in § 46. It was necessary to build half of the underground rooms' height above street level. The last point that describes underground workshops, equals § 53. of the regulations of Budapest. Workshops could not have been constructed with a floor lower than 2.5m below the street level.



Section VIII.

Some plots have been determined as suitable for facilitated building conditions by the authorities. According to § 84., these buildings can have a maximum of three storeys including the ground floor, with a minimum clear height of 2.6m.

⁴¹ The term mezzanin means an additional split level and originates from the Italian word mezzo, which means "half".

⁴² The term souterrain means basement and originates from the French term sous-terrain, which means "underground".

sections

Section I.	What to do before construction
Section II.	Demolition
Section III.	General regulations to consider during construction
Section IV.	Protection of neighbour rights
Section V.	What to do after finishing construction
Section VI.	Building zones and their construction methods
Section VII.	Building materials and constructions
Section VIII.	Building parts
Section IX.	Building parts above the construction line
Section X.	Factories and industrial companies
Section XI.	Building plots
Section XI.	Authorities

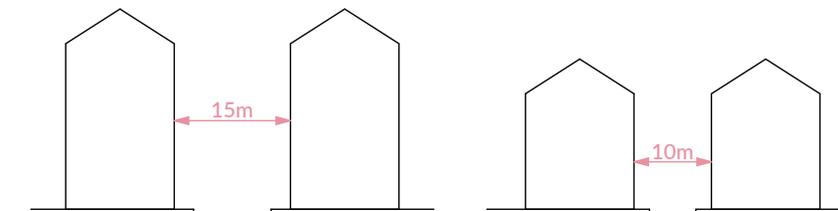
street width

Section VI.

According to § 30. – 31. the first building zone of the zoning plan 1894 (Figure 19) allowed construction as perimeter block⁴³ and only with fireproof, solid materials according to given parameters without exception. A one-storey building could only be built with the minimum height of 10m. It was required to build a basement, except if the ground floor space was designed to be a storage for heavy objects or a shop that dealt with such.

The second zone required perimeter block structures as well, but allowed to build ground floor buildings without basements. Villas of the third zone were allowed to be built with a minimum distance to the street of 5m, and were not allowed to exceed 3m distance from the neighbouring plot border. The fourth zone included the front yard building types, with certain exception areas.

Typologies were not only defined according to the zoning, but also according to the existing street widths. A one-storey building means ground floor plus the first floor in the Hungarian wording.



	one-storey	two-storey	three-storey	four-storey
max. height	12m	16m	21m	25m
min. street width	-	-	10m	15m

⁴³ The term perimeter block refers to the construction of buildings on the block edge in a closed row, directly connected to each other.

building height

Section VI.

The height of the houses was set in § 39. and was calculated from the final pavement level to the upper edge of the ledge, in downhill locations at the centre of the façade. The mezzanin, an additional level in between floors, was counted as equal to a full storey. A maximum of four storeys plus the ground floor were allowed.

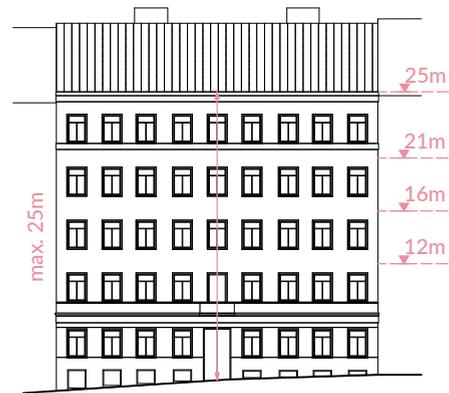


Figure 23 Schematic elevation

Room clear heights were defined according to the zoning plan.

min. room clear height	3.0m	2.8m	2.60m	2.60m

Ceiling heights were calculated depending on the way of construction. The caulted ceiling needed to be 3m at its highest point.

min. basement clear height	3.0m	2.6m

courtyard and basement

The size of the inner courtyard was defined in § 42. by 15% of the plot area, with a minimum width of 6m. Atriums needed an area of 12m² and a width of 3m, except when they served for the luminance of uninhabited spaces, in which case, 6m² were enough. Openings for ventilation needed a minimum intersection width of 1m. This section is equivalent to the Viennese regulations.

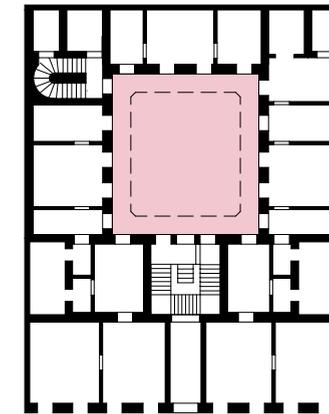
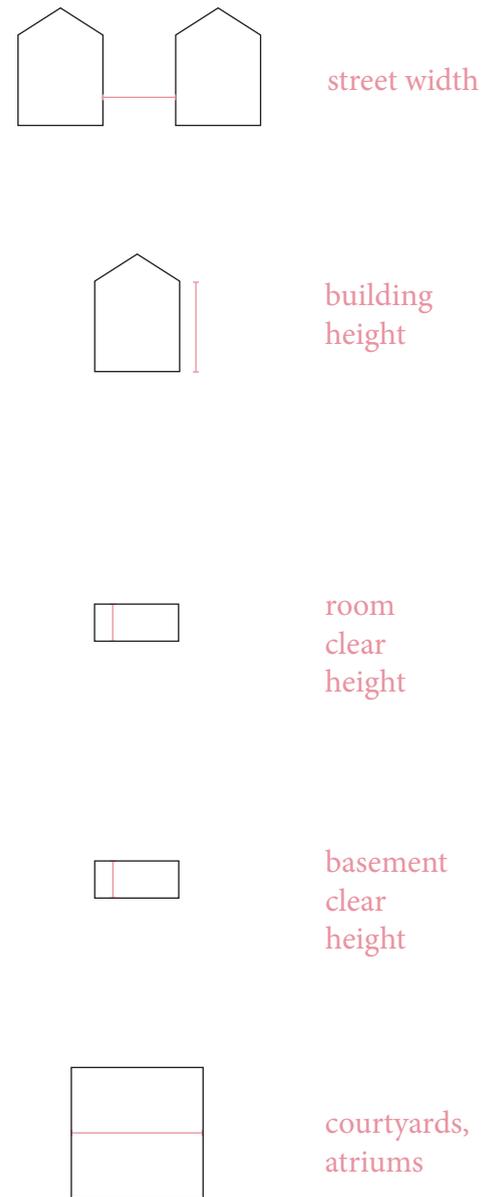


Figure 24 Schematic floor plan

Section VIII.

The residential use of the basement was forbidden according to §53. Except for buildings with a ground floor lifted up by 1m or more. In this case and if the floor lies 6.32m (20 feet) above the Danube level and above street level completely on one side or by half on both sides, building flats in the basement was allowed. Underground workshops could not have been constructed with a floor lower than 2.5m below street level.

basement use	residential	workshops



a comparison between the building codes

Street widths were similar in the two inner cities of Vienna and Budapest with the dimensions of 12m and 10m for secondary streets, as well as 16m and 15m for main streets. Ring roads and promenades were handled separately.

Whereas the wording of the building regulations might differ, in total a maximum of five storeys were possible in the inner city areas of both capitals. The upper ledge was fixed at 25m and the minimum clear height of the rooms was 3m in urban zones. The maximum position of the floor in the top storey at 20m was a requirement that appears in the Vienna regulations. Although there was no such requirement for Budapest, the total height was not bigger than in Vienna.

By applying the minimum requirements, the maximum building height could not be completely exploited. This is one of the reasons for characteristically generous and high spaces established in this period. Alterations and variations were possible, however the ground floor was distinctively made to an emphasized element with the most clear room height in both capitals. The minimum clear height was defined universally in Vienna, whereas in Budapest, it was set depending on the zoning.

Even if the basement was planned for residential use, which required half of the room height to be above street level, regular floors could be up to 3.5m high and the parterre up to 5m in both cities.

The regulations required a minimum of 15% of the plot area for courtyards with a minimum width of 6m in general, in both Vienna and Budapest. Later on, the dimension was raised to 20% in Budapest. The minimum sizes of atriums and ventilation openings were the same in both cities. However, the position and shape of the courtyards differed according to plot shapes and building typologies.

the urban parterre

the development from the 19th century until today

44 **Zinshaus**
engl. = townhouse
(tenement house)

The cityscape of both Vienna and Budapest went through a large-scale transformation process in the 19th century, due to public construction of infrastructure, such as the ring roads, bridges and railways. Monumental architecture, such as the parliament buildings in both cities, important railway stations and other significant public buildings originated in this era. The interventions that were made during the Gründerzeit had a huge impact on how the cities look today. Moreover, the transformation of the residential areas redefined the urban fabric by multiple small-scale interventions. Strategies of private investors and building societies had a major influence on architectural solutions. The characteristic apartment buildings, the *Zinshaus*⁴⁴ typologies were developed using the possibilities that were given by the zoning plans and building regulations. Each of the European capitals has been performing its own interpretations of the typology, which leads to many similarities internationally. As professionals had the opportunity to be trained in foreign countries, ideas and methods also went beyond borders. By learning from the experience that was gained by time, instruments of city planning got more advanced in the 20th century.

urban parterre

45 **StadtParterre**
engl. = urban parterre

The term parterre means the ground floor and originates from the French term *par terre*, which means "on the ground"

46 Psenner 2012, 5
translation
Psenner 2018

To understand the principles behind the characteristic tenement architecture of the 19th century and its role in shaping cities and society, the development of the Urban Parterre⁴⁵ will be analysed. The term, introduced by Angelika Psenner, refers to the coherence of the ground floor, streets and inner courtyard. As the streets were mainly used by pedestrians during the Gründerzeit, they became places for human interaction. As buildings were used for both living and working, they were suitable for a variety of spatial programs. Qualities evolved that make the townhouse adaptable to changing forms of usage until today. In the following, the parameters that shaped the elements of the Urban Parterre in Vienna and Budapest will be analysed.



Figure 25 Budapest - Nagykörút 1890 FSZK

"Although the buildings are said to be the prototypes of a profit-driven capitalistic idea, by performing the task of being use-neutral, they also convey in a rather consistent and resilient urban quality: Right from the beginning they served both as residences and workplaces. And to this day they accommodate uses as diverse as apartments, hotels, offices, nurseries, cinemas, churches, fitnesscentres... even boulder climbing halls are situated in Gründerzeit houses."⁴⁶

elements of the urban parterre

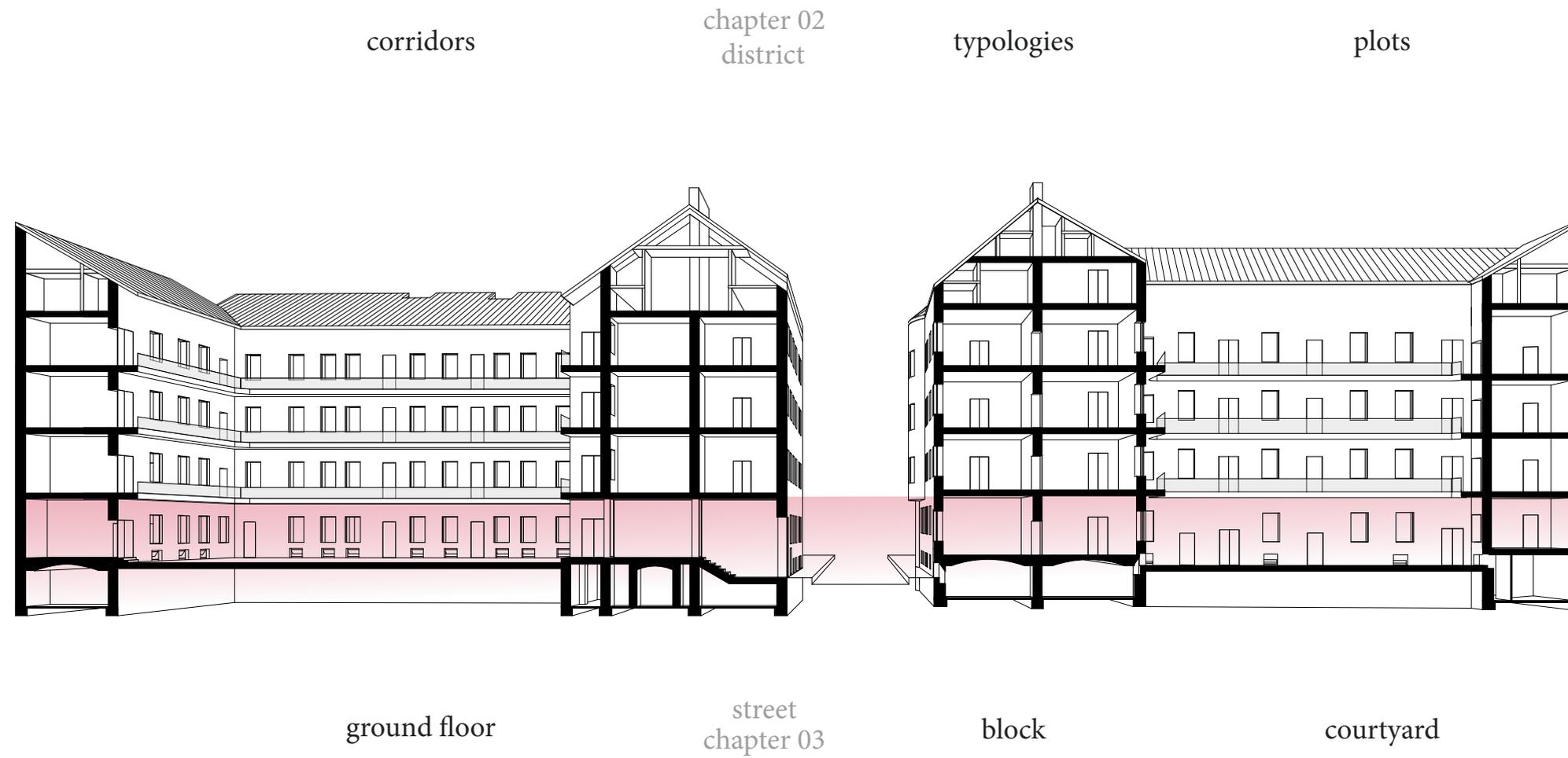


Figure 26 3D Section - Urban Parterre

ground floor and stairs

47 Psenner 2012, 8

By applying the minimum requirement of 3m for room clear heights, the maximum building height could not be completely exploited. This is one of the reasons for the characteristic generous, high spaces that were built in this period in both Vienna and Budapest. Raising the basement ceiling to ensure enough light and ventilation to basement workshops by 60cm according to the law still allowed the ceiling on regular floors to be up to 3.5-4m high. Alterations and variations were possible, however the parterre was characteristically an emphasized element with the most room clear height. The reasons for the high spaces were based on studies about the correlation between ventilation and better health condition, according to Viennese physicians. Furthermore, the *townhouse image* played a relevant role in defining the market value of a building. The value was calculated in correlation with the area of the façades.⁴⁷

48 Körner 2010, 152

49 Körner 2010, 142-143

The ground floor was generally raised above the souterrain except in the entrance areas. Courtyards and streets were connected by ramps or evenly, so that carriages could ride through to the backyard. Therefore, stairs were placed on the side of the entrance. However, some of the analysed examples of Budapest had staircases in the middle of the entrance corridor that only allow reaching the courtyard on foot.⁴⁸ Figure 27 shows examples for the positioning of staircases. Most of the times, we will find a main and a secondary staircase in these buildings. The connection to the rooms and flats is created with hanging corridors.⁴⁹



Figure 27 Ground floor plans of Gründerzeit buildings from Budapest

s 1:400

how hanging corridors disappeared from Vienna

50 Hagen 2015, 10

51 ordinance of 1882

52 building code amendment 1890

53 Bobek and Lichtenberger 1978, 70

54 The German term *pawlatsche* originates from the Czech word *pavlač*, which means "open entrance".

The development of the Viennese planning instruments led to multiple regulation amendments⁵⁰ at the end of the 19th, as well as the beginning of the 20th century. After the conflagration of the *Ringtheater* in 1881, new law articles⁵¹ were enacted to regulate the execution of new, as well as the maintenance of existing theatre buildings. Later, it became a necessity to synchronise the regulations to the zoning plan after the second city expansion. This happened by defining the newly added industrial zones and their building methods. With the amendment of 1890⁵², several paragraphs were complemented or changed.

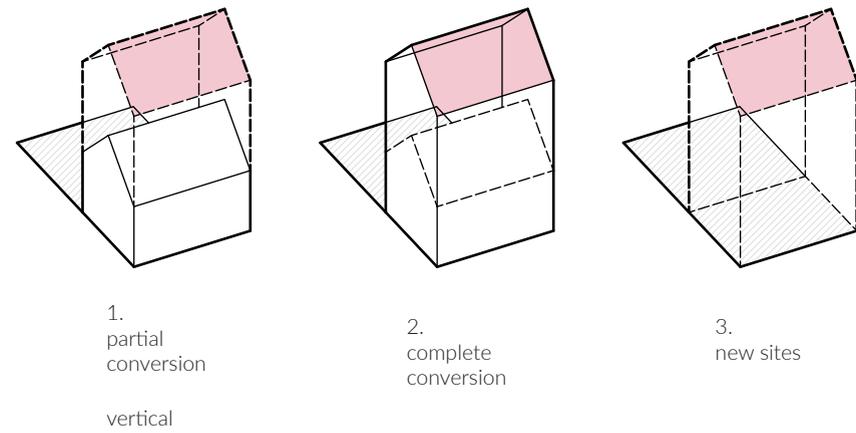
From the perspective of the comparison between Vienna and Budapest, one of the most significant decisions that influenced the townhouse architecture is the ban⁵³ of the *Pawlatschen*⁵⁴, which are hanging corridors on the courtyard façades of buildings. The early form was constructed entirely of wood, later on it turned into a part of the building with arcades. Whereas *Pawlatschen* became a significant element of the Budapest typology, they started to disappear from Vienna due to fire protection ordinations.



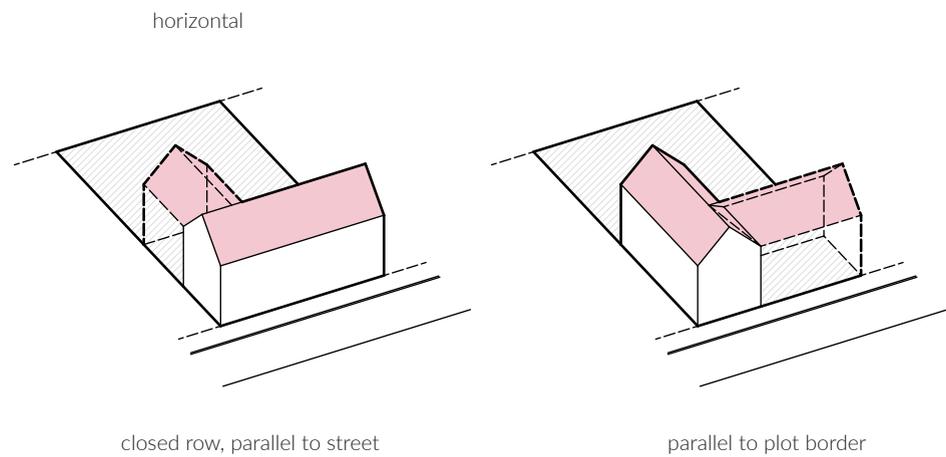
Figure 28 Hanging walkways of Budapest 1904-1910 FSZK



Figure 29 Hanging walkways of Budapest 1910 FSZK



forms of construction



forms of partial conversion

typologies

According to Bobek and Lichtenberger, the forms of private building activity in the 19th century Vienna could be categorised as: 1. partial conversion, 2. complete conversion, 3. developing new sites.⁵⁵ Körner defines the categories for Budapest similarly, but with the subdivision of the partial conversion into a. horizontal and b. vertical additions.⁵⁶ The reasons for the differentiation are the two possible positions of simple, one-storey buildings in rural areas in both capitals. Houses were either parallel to the street in a closed row⁵⁷ or parallel to the plot border⁵⁸ on one side. Additional floors and building parts were constructed accordingly to the original position first horizontally, and later also vertically with the aim of maximal utilisation of the plot area and allowed building height. The main differences between the typologies of Vienna and Budapest are depending on the formation of side-wings⁵⁹ and backyard wings⁶⁰, as well as the location and placement of staircases and corridors.

⁵⁵ Bobek and Lichtenberger 1978, 68-69

⁵⁶ Körner 2010, 93-97

⁵⁷ **closed row**
ger. = geschlossene
Bebauung

⁵⁸ **parallel to plot border**
ger. = Bebauung an der
Bauplatzgrenze

⁵⁹ **side-wing**
ger. = Seitentrakt

⁶⁰ **backyard-wing**
ger. = Hoftrakt

plot sizes

Whereas the Viennese building regulations did not set measurements concerning plot areas and sizes, the regulations of Budapest included exact lengths and widths depending on the zoning. Figure 30 shows the measurements that were derived from the former *fathom* unit. However, these could only be applied in the case of newly developed sites. The parcelling of rural areas was influenced by already present structures that were results of earlier spontaneous or planned growth. Filling out the gaps in the urban fabric required adaptation. Therefore, plot sizes were set depending on the location. The tenement building blocks along *Ringstraße* (Figure 14) were designed this way, with square-shaped plots and u-shaped, connected courtyard buildings that influenced the further planning not only in the Austrian, but also in the Hungarian capital.

There is a connection between available plot dimensions and the development of apartment building typologies. Urban areas were constructed in a closed row in both cities, which means that the fire walls were directly connected to each other. Multiple storey townhouses left no empty space on the sides, only in their courtyards. Due to the varying ratio of plot width and length, different methods evolved to reach the maximum density. Due to the demographic and economic factors that were mentioned before, as well as the housing shortage and land speculation, density has become one of the main aspects in the planning practice. Even though the courtyard area was set as a minimum of 15% of the plot area in both Vienna and Budapest, there were similar initial situations when professionals of the two capitals reacted with different architectural solutions. Local conditions facilitated the three forms of private building activity: partial conversion, complete conversion and first construction. Depending on these forms, variations of the townhouse typology emerged. The aim of the following analysis is to give an overview of these correlations with exemplary situations in Vienna and Budapest. This analysis focuses on the typologies and situations that present the most relevant similarities and differences.

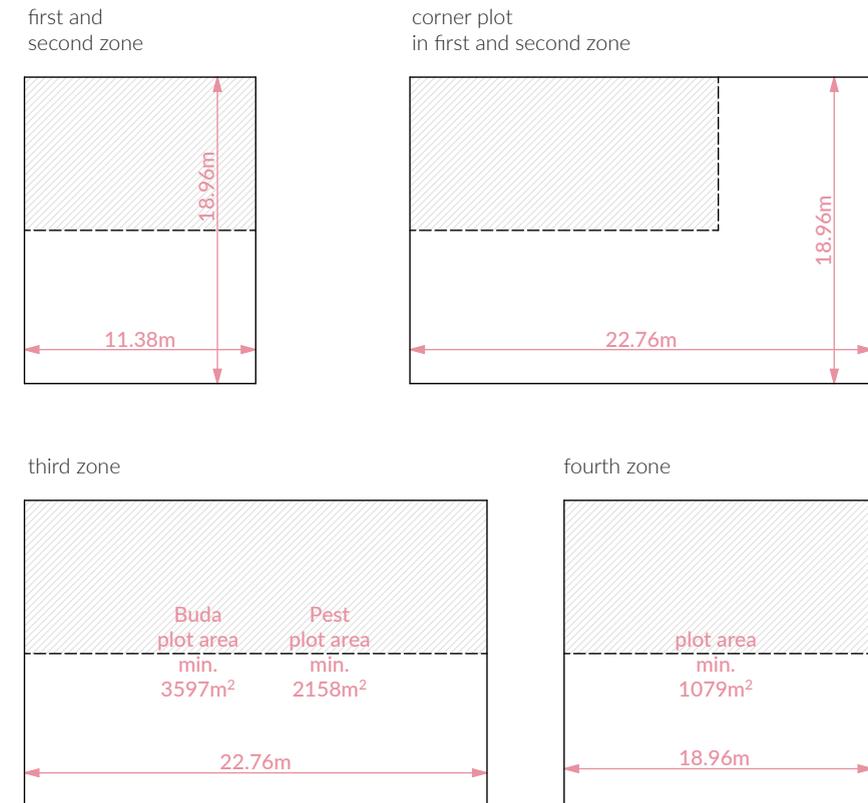
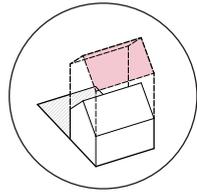


Figure 30 Budapest plot sizes 1886



partial conversion

61 Bobek and Lichtenberger
1978, 207-209

The origins of the partial conversion in Vienna lead back to the beginning of the 19th century. Consequently to the rapid population growth, subletting became a popular form of investment. Therefore additional floors and side wings were constructed on top of existing buildings and then connected with wooden corridors. The typology of the *Stützflügelhaus* is one example for this formation. It appeared during the transformation of the Biedermayer bourgeois residential building as the ground shape of the *Zinshaus*.⁶¹ After the *Ringtheater* fire in 1881, the *Pawlatschen* were banned in Vienna, but not yet in the suburbs, as they were only incorporated into the city and its legal area after 1890 (Figure 12).

Since there was no such regulation in Budapest, smaller buildings were topped up, and completed with side- and backyard wings. Besides the *Stützflügelhaus*, the *Hofhaus* typology became common ways of constructing. Partial conversion started characteristically in the outskirts during the transformation from rural to urban areas. Blocks on the inner sides of the *Wiener Gürtel* and the *Nagykörút* in Budapest are examples for partial conversion. The selected areas in the 8th districts have varying block and plot sizes that originate from earlier periods but were densified during the *Gründerzeit*. Therefore, they demonstrate the transformation process.

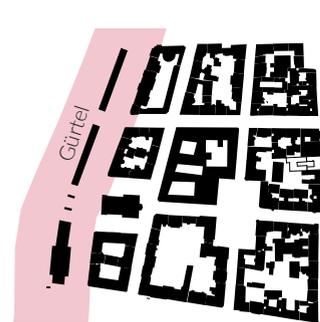


Figure 31 8th district Vienna
part of the ground figure plan S 1:10000

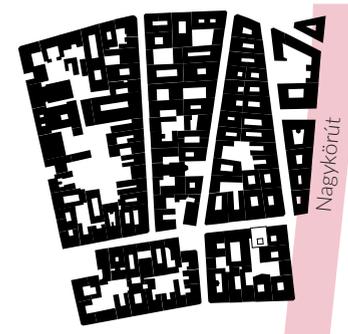
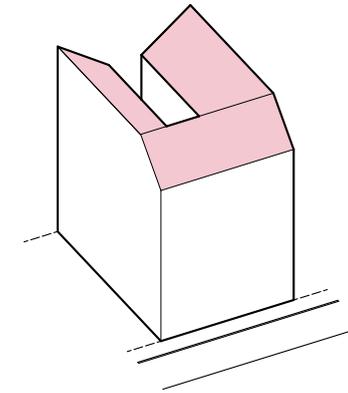


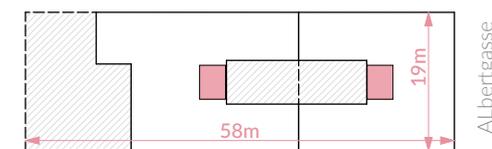
Figure 32 8th district Budapest
part of the ground figure plan S 1:10000

Vienna



Stützflügelhaus

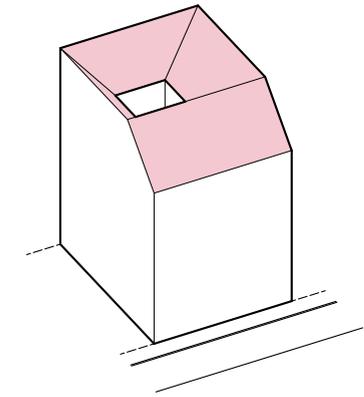
Two side-wings enclose an inner courtyard. In the case of deeper plots, this typology can be doubled to create a connected courtyard.



stairs

Figure 33 Stützflügelhaus schema
built between 1884-1918 S 1:1000

Budapest



Hofhaus

A common typology of Budapest with side-wings and a backyard wing around the enclosed courtyard.

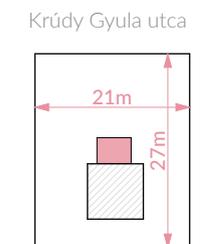
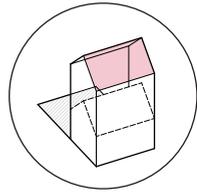


Figure 34 Hofhaus schema
built between 1876-1900 S 1:1000



complete conversion

62 Körner 2010, 98-99

In the process of complete conversion in Vienna, one-storey buildings were demolished and replaced by new multiple-storey apartment housing. New buildings had a maximum of 25m ledge height and five storeys in total, according to the regulations. As the plot sizes of demolished buildings mostly originated from the parcelling of farmlands, they had a long rectangular shape. To fill these areas, closed row buildings were doubled and connected by one staircase as a *Doppeltrakter*. One of the main reasons for complete conversion in Budapest was the great flood, which damaged most of the one-storey buildings in Pest.

The rebuilding of the affected parts of the city happened according to the regulations of 1839.⁶² Later on, with the construction of ring roads and expropriation of plots, complete conversion happened all around Pest. Similar to Vienna, building heights up to 25m and five storeys were allowed. However, the *Hofhaus* typology did not disappear. The area of deeper plots was used by planning double courtyards that were connected to one staircase with hanging corridors. The areas of complete conversion were similar to the ones with partial conversion. After the great flood in Pest, damaged one-storey buildings were replaced completely.

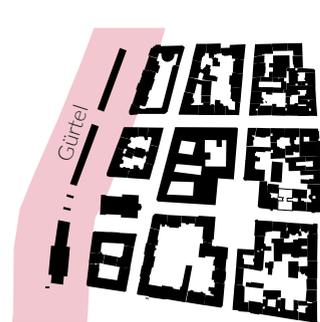


Figure 35 8th district Vienna
part of the ground figure plan S 1:10000

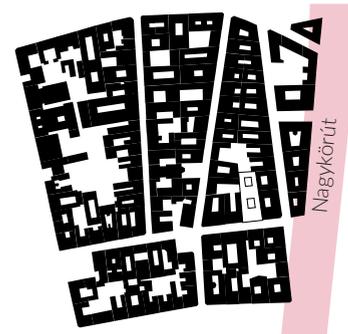
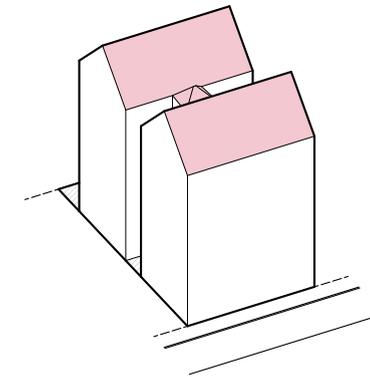


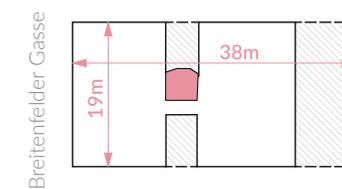
Figure 36 8th district Budapest
part of the ground figure plan S 1:10000

Vienna



Doppeltrakter

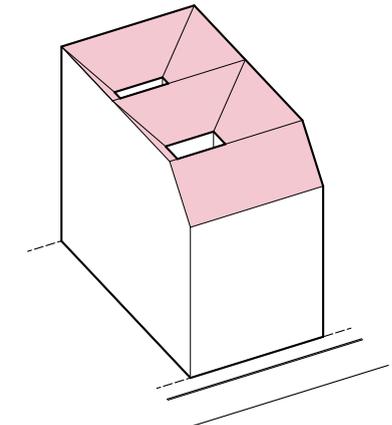
The main building and its duplicate were connected by one staircase in the middle. The two buildings do not fill out the whole plot area and leave free space for a backyard.



■ stairs

Figure 38 Doppeltrakter schema
built between 1884-1918 S 1:1000

Budapest



Hofhaus

Deeper plots were used to create multiple (private) courtyards in Budapest. Stairs were placed in the middle wing and connected to the flats with hanging corridors.

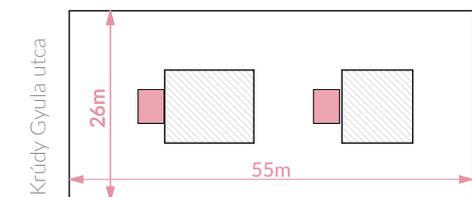
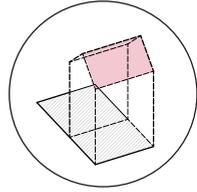


Figure 37 Hofhaus schema
built between 1876-1900 S 1:1000



new sites

The two extreme forms of first construction were luxury apartment buildings that emerged in the city centres for the aristocracy and small-apartment tenement houses that were mainly built in the suburbs for factory workers. These types show differences in spatial solutions, the most obvious example being the flat sizes. The most common form was in between: dwellings with multiple apartments that were either homogeneous for the bourgeois, or have contained an inhomogeneous mixture of flat sizes to satisfy the demand of each layer of the population.

63 Körner 2010, 111-113

In the case of planning new sites, building societies had the opportunity to execute building groups by owning more adjacent plots, which allowed simultaneous construction. Consequently, buildings like the emerging *Stutzflügelhaus* could be combined by mirroring the structures in order to create bigger courtyards. This method, called *Gruppenhof* has been used in the blocks of *Ringstraße* and served as an example internationally.⁶³ Budapest adapted this method later on in the 20th century. By the time of the high Gründerzeit period, new districts, such as the 5th district were constructed with the earlier form of the *Hofhaus*.

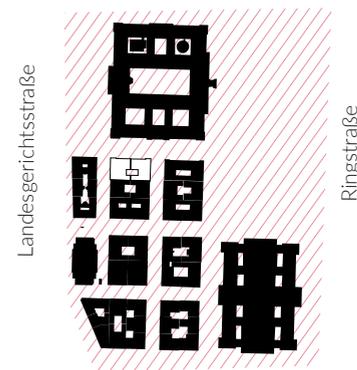


Figure 39 1st district Vienna part of the ground figure plan S 1:10000

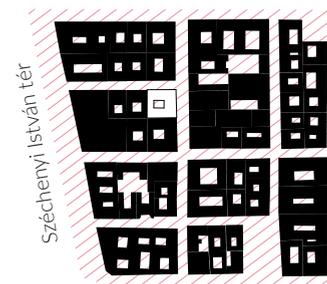
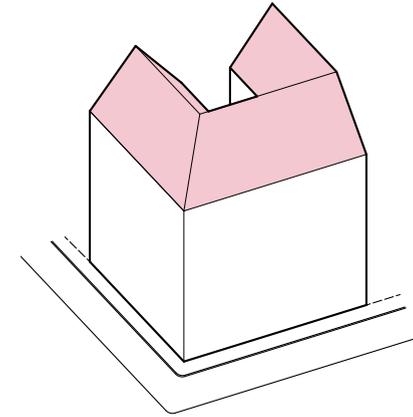


Figure 40 5th district Budapest part of the ground figure plan S 1:10000

Vienna



Stutzflügelhaus

The example along the Ringstraße shows that in the case of corner plots, principles were based on the regular *Stutzflügelhaus*. In this example, the block is the same width as the two connected buildings.

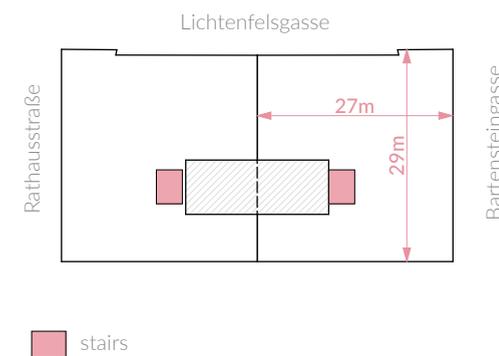
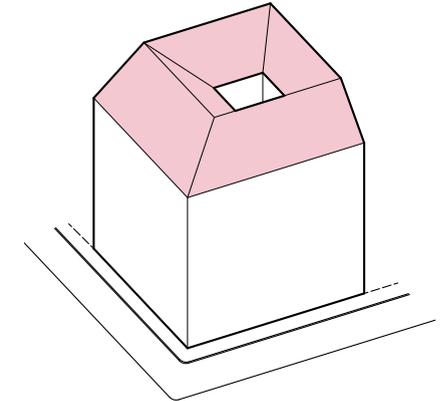


Figure 42 Stutzflügelhaus schema built between 1860-1918 S 1:1000

Budapest



Hofhaus

At the beginning of the Gründerzeit in Budapest, courtyards were enclosed, surrounded with side-wings and a backyard wing. Corner plots were designed accordingly.

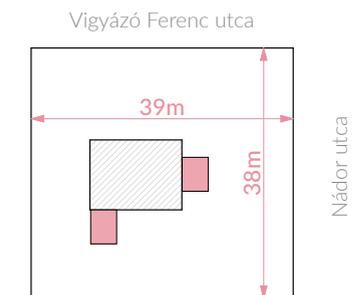
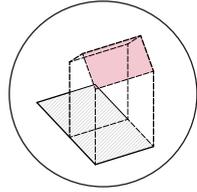


Figure 41 Hofhaus schema built between 1848-1867 S 1:1000



new sites

New sites were developed in the former suburbs outside the *Wiener Gürtel*, as well as in former outskirts districts outside the great ring road in Budapest. The 16th district of Vienna is a characteristic example for the typical Gründerzeit urban fabric. Similarly to the Cerda Plan for Barcelona from 1859 or the Commissioners' plan for Manhattan from 1811, this area was planned as a regular grid with equal block sizes. The method of a perimeter block construction provided an open inner courtyard. Some *Doppeltrakter* appear in these blocks, as well as buildings with one or two side-wings. However, the typology that is represented in this example is the so-called *Straßentrakter*. These buildings were constructed completely without wings, as one main part, sometimes with separate smaller buildings in the backyard.

The *Chicago* quarter in the 7th district of Budapest got its name after the rapid speed of urbanisation in the area outside the great ring road. Although there was no large-scale grid plan for Budapest during the Gründerzeit, this is one of the areas that seem to be comparable. It shows a certain degree of the homogeneity in the structures and the characteristic street grid, but varying block sizes. Even though some attributes appear to be similar, the adaptation of the perimeter block did not happen yet. At the end of the 19th century, the enclosed courtyard building, the *Hofhaus* still dominated. The transposition followed in the 20th century.

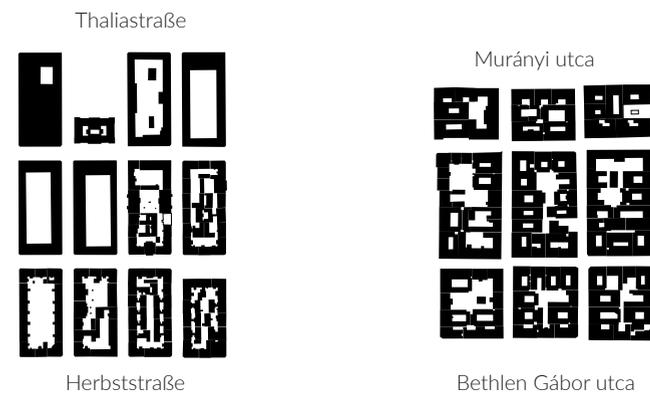
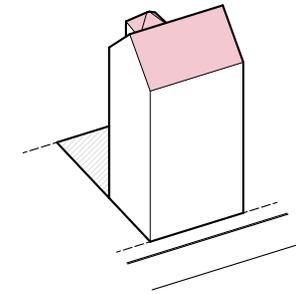


Figure 43 16th district Vienna part of the ground figure plan S 1:10000

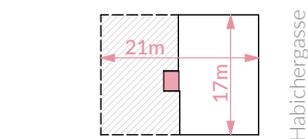
Figure 44 7th district Budapest part of the ground figure plan S 1:10000

Vienna



Straßentrakter

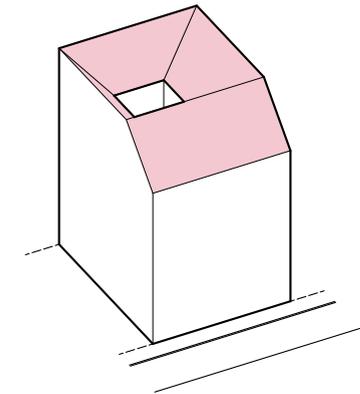
Plot sizes and buildings became smaller, and courtyards were connected inside a block.



■ stairs

Figure 46 Straßentrakter schema built between 1848-1918 S 1:1000

Budapest



Hofhaus

The enclosed courtyard typology dominated. Its variations were used, adapted to plot shapes and sizes.

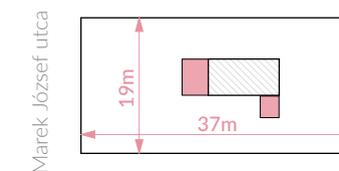


Figure 45 Hofhaus schema built between 1896-1898 S 1:1000

enclosed courtyards of Budapest

The Metropolitan Board of Public Works remained the responsible authority for the regulatory plan of Budapest, as well as for the expanded regulations that were enacted in the year of 1914. The building code included the updated zoning plan, in which eight building zones were defined. Peripheral zones and the growing industrial areas were described in detail. The regulations were expanded to 24 sections in total.⁶⁴ An important attribute was the growing size and changing position of courtyards in the 20th century, as visible in Figure 47. Whereas 19th century regulations first required 15%, and later on 20% of the plot area in Budapest, the size of the courtyards was set according to the building zones as well as building heights. This way, buildings with a maximum of 25m building height required 22.5% courtyard area with a minimum width of 9m in the first zone.

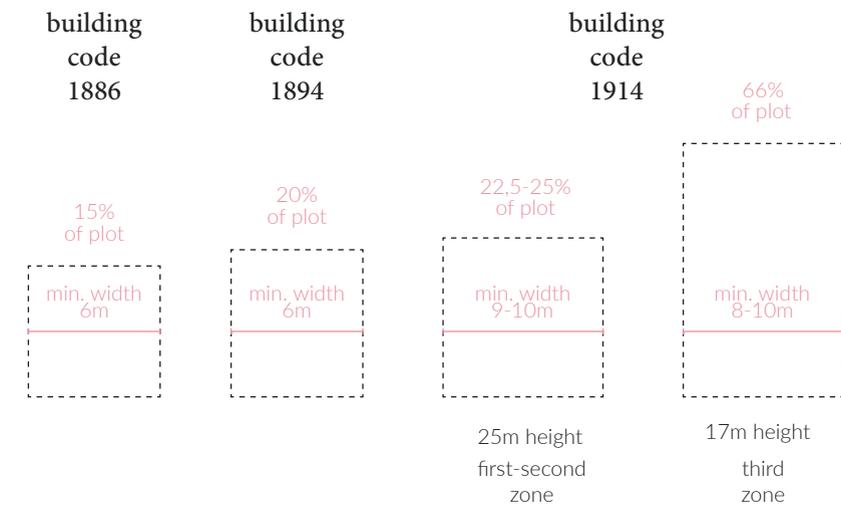


Figure 47 Minimum courtyard area according to building codes of Budapest

how the perimeter block appeared in Budapest

The satellite pictures in Figure 49 and Figure 48 show one significant difference between the 19th century urban fabric of Vienna and Budapest. The *Chicago Quarter* of the 7th district of Budapest was built in rapid speed between 1896 and 1898. Most of the buildings were constructed with side- and backyard wings. Although the blocks of *Ottakring* in Vienna were built in the Gründerzeit period as well, they were based on another principle, with contiguous inner courtyards. Perimeter blocks were constructed to ensure better illumination and ventilation. Although assigned courtyards were separated by fences, the situation was beneficial for all buildings.

As more and more metropolises started to design the city grid with perimeter blocks, the Hungarian capital took the necessary steps to follow. Target areas were defined separately in detailed regulatory plans at the beginning. One of the examples for these situations is visible in Figure 49. The marked block appears in the 1914 building code as a specific area. However, there was no legal instrument to ban side wings or backyard wings yet. An important step towards perimeter construction was made by the ordinance on building tax exemption of 1934, which gave the most preference to buildings with connected courtyards.⁶⁵ After these steps, side- and backyard wings were generally banned in areas outside the first zone, according to the 1940 building code.

65 Körner 2010, 97-102

66 Glaser 2011, 9

“There is no city without the block, without the block there is no city.”⁶⁶

Due to the large extent of private construction activity in the 19th century, today's urban fabric is still defined by the city grid that was created back then. Unless there was a large-scale intervention, only the replacement of individual buildings, block shapes and dimensions remained the same. Moreover, we will find blocks today that are completely made from the original buildings from the 19th century. The following analysis highlights the most important differences and similarities between the main attributes of perimeter blocks in Vienna and connected courtyard blocks in Budapest.



Figure 48 The urban fabric of Vienna, Ottakring the 16th district in 2019

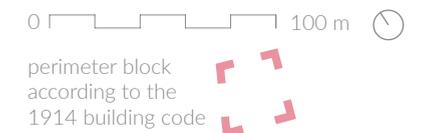


Figure 49 The urban fabric of Budapest, Chicago Quarter in the 7th district in 2019



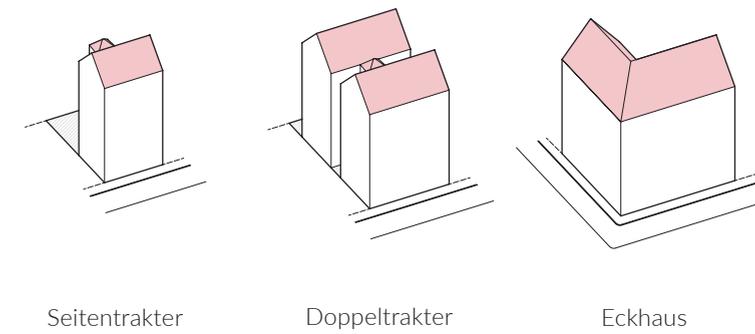
Vienna

blocks

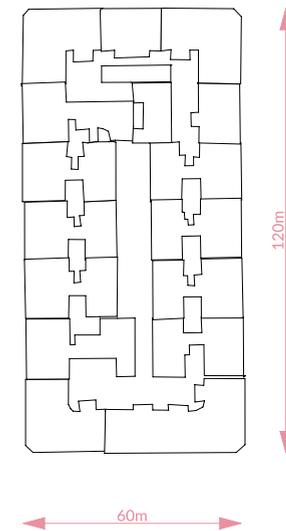
elements, dimensions and density of the block

67 Glaser 2011, 36

The example in Figure 50 visualises how the method of the perimeter block construction was applied in Vienna during the 19th century using mainly *Seitentrakter* and *Doppeltrakter* typologies. According to the detailed analysis made by Daniel Glaser, the typical *Viennese Block* has approximately 120m length and 60m width. The example block has an area of 6.960m² from what 75% are built areas and 25% are left for the courtyards. The block consists 16 buildings that have a maximum of four stories and have a gross floor area of 20.486m² in total. Therefore the density of the block, which is given as the floor space index results as 2,94.⁶⁷



Elements



buildings	16
block area	6960m ²
built area	75%
floor space index	2,94

Attributes

Figure 50 Block of Vienna



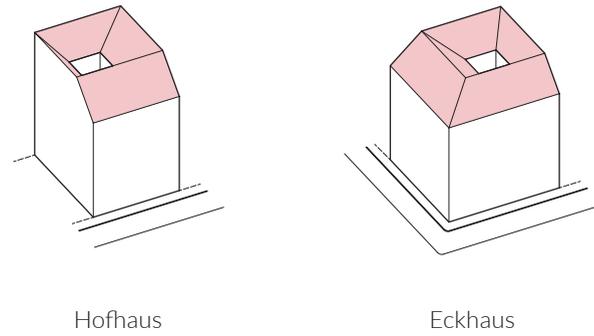
elements, dimensions and density of the block

68 Szabó 2011

As shown in Figure 51, the blocks of the *Chicago Quarter* were mainly built with *Stutzflügelhaus* or *Hofhaus* typologies in the 19th century. Due to the hanging corridors that were allowed in Budapest, additional wings did not necessarily require the construction of additional staircases. As Budapest adapted the Viennese example in its regulations, side wings were banned outside the first zone of the zoning plan. As a consequence, more and more *Straßentrakter* typologies were built in the 20th century.

To collect and compare attributes of historic blocks, the *Budapest Density Atlas* was created within a design studio, led by Árpád Szabó at the Budapest University of Technology and Economics between 2010 and 2011.⁶⁸ In the study written about the collected data, information about ten blocks of the 7th district are given.

Elements



Attributes

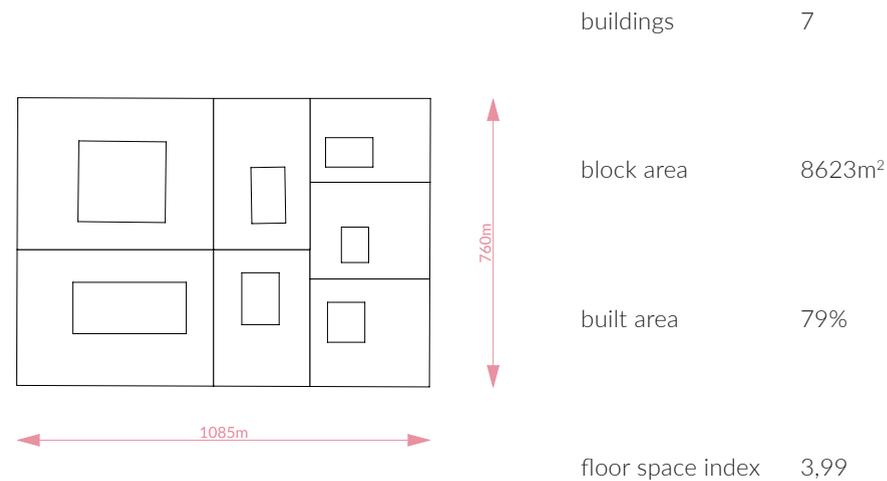


Figure 51 Block of Budapest

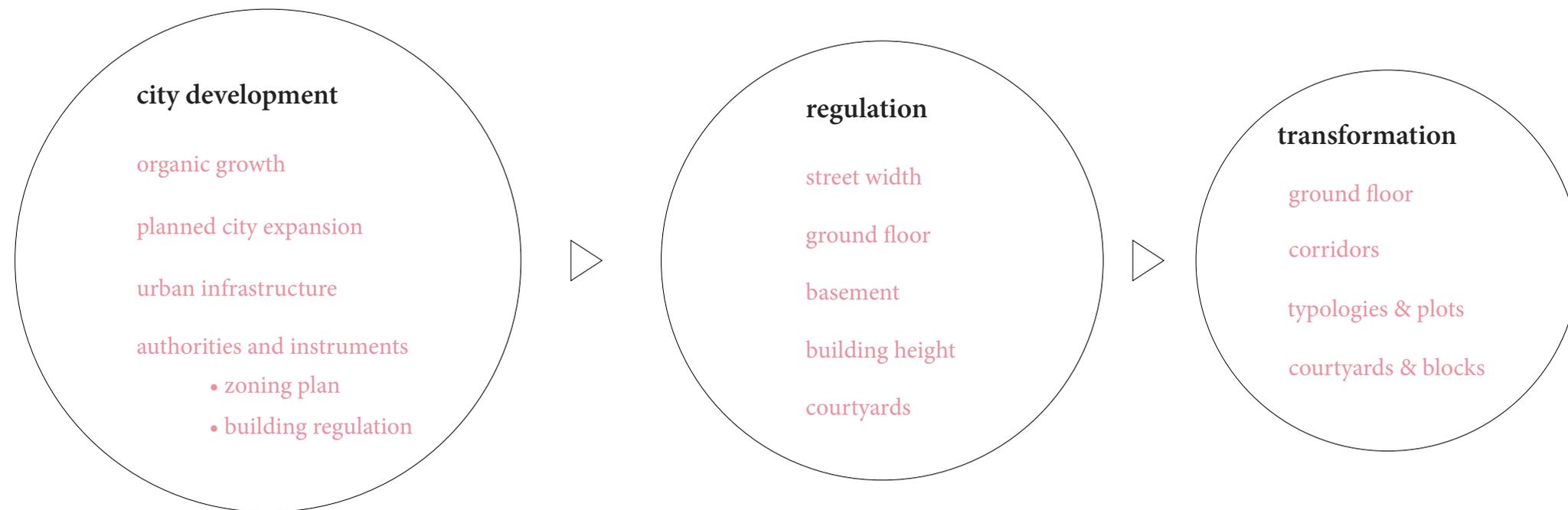
0 50 m



summary

In the period from the city foundation to the 18th century, we talk about the early history of city planning. Spontaneous and organic growth dominated this era, as the former cities Óbuda, Buda and Pest started to gain population. The planned, strategic expansion of the area started in the 19th century as a consequence of rapid demographic growth and the rebuilding process after the great flood of Pest. After the emergence of the Austro-Hungarian Monarchy, we can observe a parallel development between Vienna and the unified Budapest in terms of structural and legal decisions in urban planning. Following European trends, the city infrastructure and public construction projects show many similarities.

At the same time, the urban fabric was expanded and shaped due to the booming private housing sector. Comparable instruments emerged to regulate this transformation process by local authorities. They had the main influence on the main properties new building typologies, the townhouses. The regulations defined the Urban Parterre and its elements similarly in the two capitals. However, both Vienna and Budapest possessed legal, cultural and structural specialties, as well as a different pacing in development. Therefore, the features, such as the hanging corridors of Budapest and the perimeter block of Vienna appear as different characteristics in the two metropolises.



02

the district

Josefstadt

origins of the 8th district of Vienna

Józsefváros

origins of the 8th district of Budapest

eight to eight

a comparison between
Josefstadt and Józsefváros

the district at eye level

the people of Józsefváros

Josefstadt

the 8th district of Vienna

69 The district was named after Joseph I.

Joseph I.
Holy Roman Emperor
Archduke of Austria
Reign 1690 - 1711

70 Bobek and Lichtenberger
1978, 283-284

The origins of Josefstadt lead back to the 17th century. The area developed as an outskirts district outside the city walls and got its name in the 18th century.⁶⁹ The land was mainly used for agriculture in the beginning, later on it became the popular summer residency of the aristocracy due to the amount of large plots that were still available during the first densification of the inner city. As a result of the population growth in the Gründerzeit, people of the middle class, students, as well as civil servants moved to Josefstadt. As part of the city expansion of 1850 (Figure 12), the suburbs *Strozzigrund* and *Breitenfeld* became parts of the district. Furthermore, areas of *St. Ulrich*, *Altlerchenfeld* and *Strozzigrund* were added.

As a consequence of densification, many summer palaces and generous courtyards were sold and subdivided into smaller plots. However, some of them were kept under the protection of the city. *Altlerchenfeld* and *Strozzigrund* have been suburbs characteristically inhabited by craftsmen. Due to the deep plots in this area, many *Doppeltrakter* (Figure 38) typologies were built here during the Gründerzeit. Northern part of the district were mostly living areas. As manufacturing functions got mainly concentrated in the South, near the area of the *Mariahilfer Straße*, the district Josefstadt was more and more transformed into a bourgeoisie living quarter.⁷⁰ The construction of the *Wiener Gürtel* (Figure 16) was a large-scale intervention on the border of the 8th district in the 20th century. Since there was no great damage during the world war, buildings remained in a good condition.

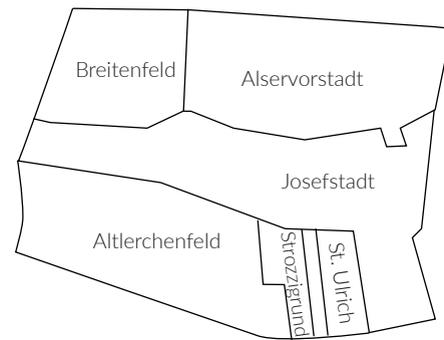


Figure 53 Vasquez Plan of Josefstadt 1830

Therefore, the architecture of the 19th century still determines the image of the district. Besides the change of the district borders in 1995, the 20th century did not transform the district significantly.⁷¹ The time capsule became a hotspot for the creative scene and intelligence. Many politicians, artists and writers choose Josefstadt as their homes still today.⁷²

71 state law gazette 1995

72 Panzer 2016



Figure 52 Ground figure plan of the 8th district of Vienna 0 1500 m



Josefstadt

the 8th district of Vienna

Die approbierte gedruckte Originalversion dieser Diplomarbeit ist an der TU Wien Bibliothek verfügbar.
The approved original version of this thesis is available in print at TU Wien Bibliothek.



Figure 54 Kochgasse around 1900 ÖNB



Figure 55 Strozzigasse around 1900 ÖNB

Józsefváros

the 8th district of Budapest

73 Józsefváros
ger. = Josefstadt

74 Pacsirtamező
ger. = Lerchenfeld

75 The Northern part was named after Joseph I.

Joseph I.
Holy Roman Emperor
King of Hungary
Reign 1687 - 1711

76 The great flood of 1838 destroyed 891 houses of the total 1255 in the district and damaged 115 of them.

The 8th district of Budapest, Józsefváros⁷³ is one of the first four districts that formed outside the Middle Age city core of Pest. The first inhabitants settled down between two main roads by the end of the 17th century. Due to the favourable location, the population started to grow in the 18th century. The outskirts started to expand outside the city walls as well as in the rural area of *Pacsirtamező*⁷⁴ before it was divided into two parts which then became the origin of today's 8th and 9th districts.⁷⁵ Directly connected to the inner city, Józsefváros developed from rural structures until it reached the tax border in the beginning of the 19th century. The damage of the great flood affected most of the fragmented one-storey buildings.⁷⁶ Their unavoidable replacement accelerated the transformation process. The rebuilding of many areas was planned according to the Hild Plan of 1805 (Figure 3). Urban areas appeared in the Gründerzeit along the radial roads, called *Rákóczi út* and *Üllői út* that define the Northern and Southern borders of the district. The first one leads to the Eastern Railway Station, which has been one of the most important traffic connections ever since the 19th century.

With the immigration during the Gründerzeit, the amount of tenement buildings was multiplied. The clients of the private building activity in *Pacsirtamező*, in the inner part of the district were aristocrats. Besides, the landlords of Józsefváros were craftsmen and tradesmen of the middle class as well. The district was inhabited by a population from different social layers. The area of the former tax border, which is located further away from the city centre, shows a mixture of 19th century and 20th century housing structures, as well as industrial areas today. Some of them were defined in the first zoning plan (Figure 19). These areas appear along with small scale structures on the district border, which is defined by the *Hungaria körút* (Figure 15).

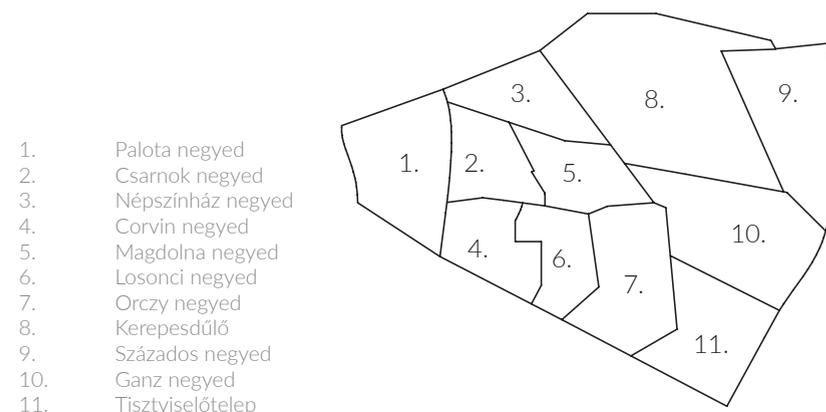


Figure 56 Plan of Pest 1850

77 Out of the total of 2130 houses, 1294 houses were damaged, 450 were heavily damaged, and 39 were destroyed in WWII.

More than half of the buildings of Józsefváros were damaged during World War II.⁷⁷ Despite the step by step rebuilding process after the war, the area was faced with social challenges and a bad reputation. With the city expansion of 1950 (Figure 12), Józsefváros almost doubled in size as large industrial areas were added to the district. However, it was still mainly inhabited by craftsmen who owned small enterprises. The inhomogeneity of the structures, as well as further damage caused by the Revolution of 1956, prevented the acceleration of urban rehabilitation. The first upswing started with the construction of the subway line in the 1970s, as well as through the large housing investments of the 1990s. The most important examples for new projects are in the *Corvin*, *Magdolna* and *Orczy Quarters*.

Today, more and more tourists are choosing the 8th district as a cheaper alternative for accommodation due to the proximity and expanding public transport connections to the inner city. At the same time, it has become a popular residency for students due to the many educational institutions that are located in the area. Besides large new housing projects that increase the risk of gentrification in some parts of Józsefváros, there is more and more attention being paid to urban rehabilitation. This is supported by bottom up as well as top down strategies. Józsefváros shows huge differences in each of its quarters in terms of the social situation and building substance. The district is subdivided into three main parts, which are the inner district, the middle district and the outer district. Furthermore, these are divided into 11 quarters.



Józsefváros

the 8th district of Budapest

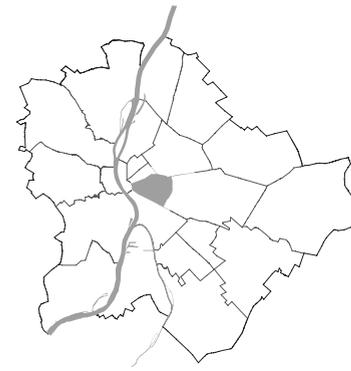


Figure 57 Ground figure plan of the 8th district of Budapest

The different periods of district growth are depicted in the areas between the ring roads that divide Józsefváros. There are four district quarters located in the West and the East side of the *Nagykörút* (there is more information about the great ring road in Figure 17) which consist structures that mainly originate from the 19th century or earlier. These quarters are numbered 1-5 on page 94. Their names can be translated to *Palace Quarter*, the *Theatre Quarter*, the *Hall Quarter*, *Magdolna Quarter* and *Corvin Quarter*.

eight to eight

a comparison between Josefstadt and Józsefváros

The metropolises Vienna and Budapest were expanded and transformed during the Gründerzeit. Since they did not only follow prevailing European trends, but were also capitals of one Monarchy, they show many similarities in urban development. Therefore, it seems questionable that the 8th districts of the two cities would wear the same name only by accident. The previous historical introduction of Josefstadt and Józsefváros reveals some of the facts that confirm that these areas are a worthy representation of the changes that happened during the Dualism. Furthermore, analysing the Urban Parterre of these areas helps us reflect on the different paths the cities have taken during the 20th century. Finally, the investigation helps us to understand why streetscapes of the cities look the way they do today.

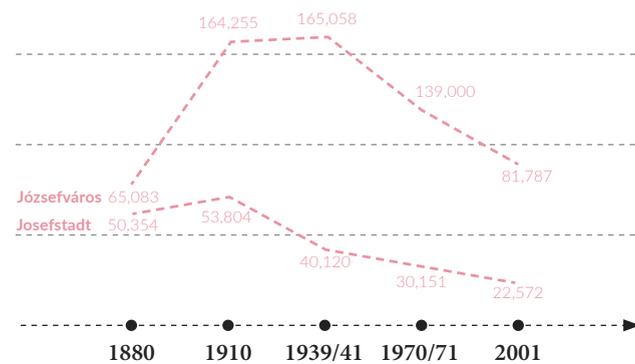


Figure 58 Population growth in Józsefváros and Josefstadt

The origins of both districts lead back to the 17th century, when they started to gain population outside the Middle Age city walls. Both of them developed spontaneously in the outskirts, as rural areas with agricultural activity. The districts were named after the same Monarch, Joseph II. the Holy Roman Emperor, who was the Archduke of Austria and the King of Hungary until the 18th century. The 8th district of Vienna was soon inhabited by the aristocracy, who built summer residences and palaces. Besides the *Palace Quarter*, areas of the 8th district of Budapest were mainly inhabited by workers. Later on, the strengthened social layer of the bourgeoisie appeared in both districts during the Gründerzeit.

At this point, it is important to mention that some of the typical characteristics of the Gründerzeit period are not represented in these districts. This means that the urban fabric of these areas does not follow a strict rectangular grid, such as parts of *Ottakring* in Vienna (Figure 43) and *Lipótváros* in Budapest (Figure 40). On the contrary, Josefstadt and Józsefváros stand for showing many layers of transformation in one area. We will find the representative townhouse typologies, such as the *Hofhaus* (Figure 37) of Budapest, as well as the *Doppeltrakter* (Figure 38) of Vienna in these districts. The *Ringstraße* and the *Wiener Gürtel* (Figure 14) are the borders of Josefstadt, whereas the ring roads of Budapest (Figure 15) divide Józsefváros. A direct connection to the first district is given in both cases.

The development of the population (Figure 58), which was similar in both cities during the Gründerzeit, was not only influenced by migration.⁷⁸ The borders of Josefstadt were only changed two times in the 20th century, whereas Józsefváros grew multiple times by large areas. The main functions of these areas differ strongly, which is why it is a challenge to create a unified identity for the district. Each quarter appears to be very unique, with local characteristics and specific potentials. Some of them are defined by transportation or industrial areas. After the following description of the key facts concerning Josefstadt and Józsefváros, the analysis area of this thesis will be narrowed down to selected quarters in Budapest. The main focus will lie on the *Palace Quarter* and its surroundings to keep the investigation areas of the both cities at a similar size.

In the following, the results of the site research will be illustrated. The elements of the Urban Parterre, the streets, ground floors and courtyards of both districts represent unique qualities and similarities. The aim is to understand how public space functions today in surroundings that are strongly defined by the heritage of the Gründerzeit and have been influenced by the ideologies of Modernism in the 20th century. The main topics are the streetscapes and green areas, as well as the handling of automobile and public transportation. Some of the cities current rehabilitation and development strategies, as well as citizen initiatives will be introduced.

78 Vienna data
Statistics Austria

Budapest data
Hungarian Central
Statistical Office

demography

1.09km²
area

25,466
population

23,363/km²
density

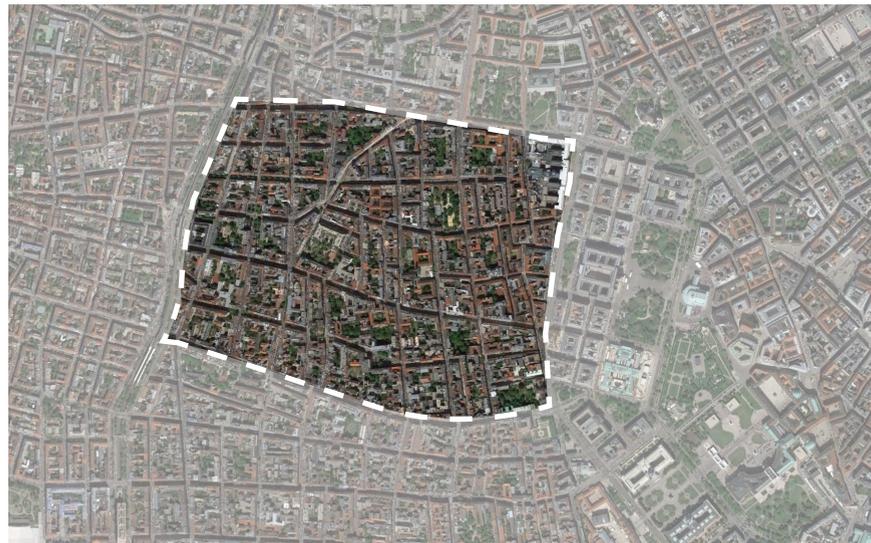
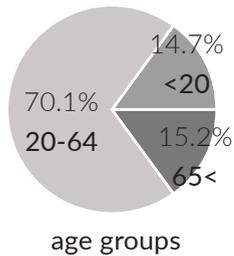


Figure 59 Satellite picture of the 8th district of Vienna 2019 0 500 m

There are significant differences concerning the dimensions and the demographic attributes of the two districts. Josefstadt in Vienna comprises an area as small as 1.09km² and has 25,466 inhabitants today. The population density is 23,363 inhabitants/km². Józsefváros in Budapest comprises an area of 6.85km² with 84,300 inhabitants, resulting in a density of 12,307 inhabitants/km².

The age group between 20 and 64 years has made 70.1% of the inhabitants of Josefstadt in 2011, whereas the same age group was represented with 64.4% in Józsefváros in the same year. More precisely, the largest age groups were those between 25 and 29 years in Josefstadt (10,4%) and those between 30 and 34 years in Józsefváros (10,1%). The 8th district, which is the smallest district of Vienna, has always been an attractive residential area for the elite. Almost half of the district's population (43.5%) had a degree in higher education in 2011. The situation in Józsefváros is different. With a more inhomogeneous composition of the population, high school graduation appeared in the largest percentage (32.4%) in 2011, followed by higher education (25,3%). Inhabitants of a non native origin were at 25,6% in Józsefváros and at 33% in Josefstadt in 2011. ⁷⁹

⁷⁹ Vienna data
Statistics Austria

Budapest data
Hungarian Central
Statistical Office

demography

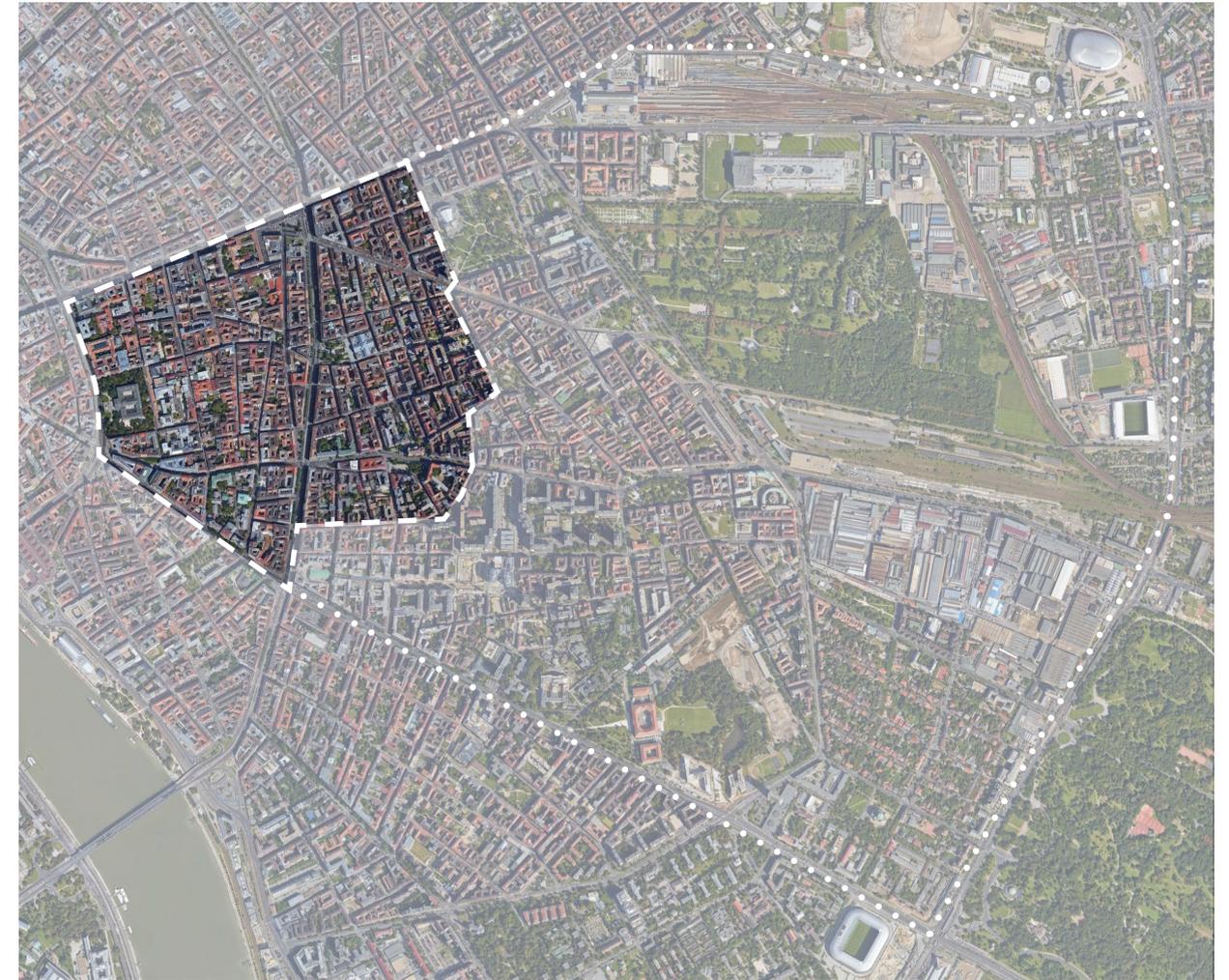
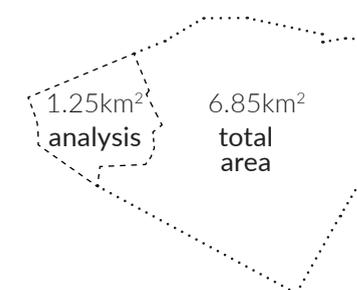
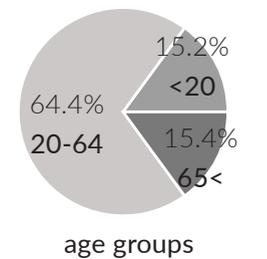


Figure 60 Satellite picture of the 8th district of Budapest 2019 0 500 m



84,300
population

12,307/km²
density



building stock and green areas



Figure 54 Ground figure plan of the 8th district of Vienna 0 500 m

80 MA23 2016, 34-37

81 Census Budapest 2001

82 Council of the 8th district of Budapest 2017, 11

According to the data of 2015, 75% of the buildings of Josefstadt were built before 1919.⁸⁰ The urban fabric and the image of the district are strongly defined by the dense building stock of the 19th century. Although Józsefváros was expanded by modern areas in the 20th century, the percentage of the buildings built before 1919 was still 78% in 2001.⁸¹ This number is influenced by the dense building stock in the inner parts of the district.

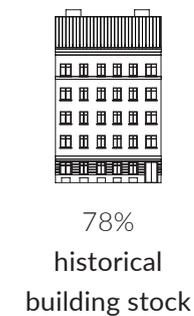
According to the same study of 2015, Josefstadt in Vienna is an urban area with only 1.8% or 2ha green areas. Green areas in Józsefváros appear in a much larger percentage, accounting for 15% of the total district area, which is 104ha. As the *Cityscape Image Guide* further describes, public parks make up 20ha of the total green area.⁸²

building stock and green areas



0 500 m

Figure 59 Ground figure plan of the 8th district of Budapest



Josefstadt

the 8th district of Vienna

ring roads and public transportation

- subway line u2
- subway line u6
- Ringstraße
- Gürtel



Figure 54 Ground figure plan of the 8th district of Vienna 0 1500 m

The ring roads of Vienna and Budapest have been introduced in the first chapter. They serve as the most important North-South traffic connections at the borders of the 8th district in Vienna. Josefstadt is framed by the *Wiener Gürtel* and the *Ringstraße* (Figure 14). The district can be reached both by car, as well as by public transportation on these two axes. The two subway stations, from two different lines, *Josefstädter Straße* and *Rathaus* are located along these roads.

The ring roads of Budapest (Figure 15) divide the district area. Similar to Josefstadt, these roads are the main routes to take for cars to reach their destination in Józsefváros. Most of the subway stations of the three subway lines around the 8th district are located along these ring roads or on the main radial roads that serve as the Northern and Southern borders of the district.

Józsefváros

the 8th district of Budapest

ring roads and public transportation



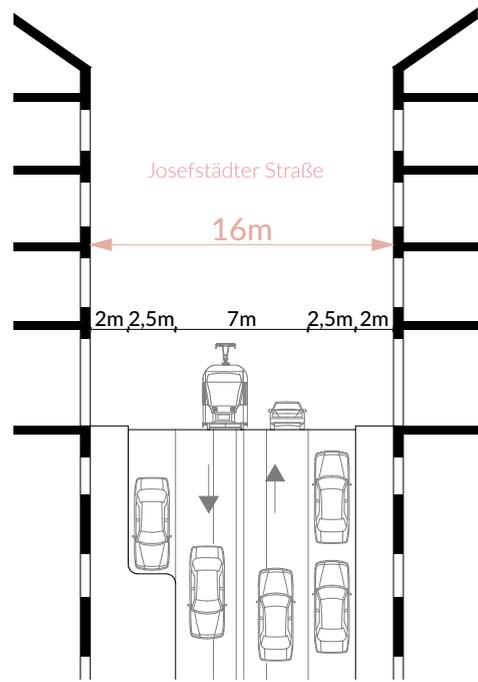
Figure 59 Ground figure plan of the 8th district of Budapest 0 1500 m

- subway line m2
- subway line m3
- subway line m4
- Kiskörút
- Nagykörút
- Hungária körút

Josefstadt

the 8th district of Vienna

main streets



Alser Straße
Josefstädter Straße
Lerchenfelder Straße



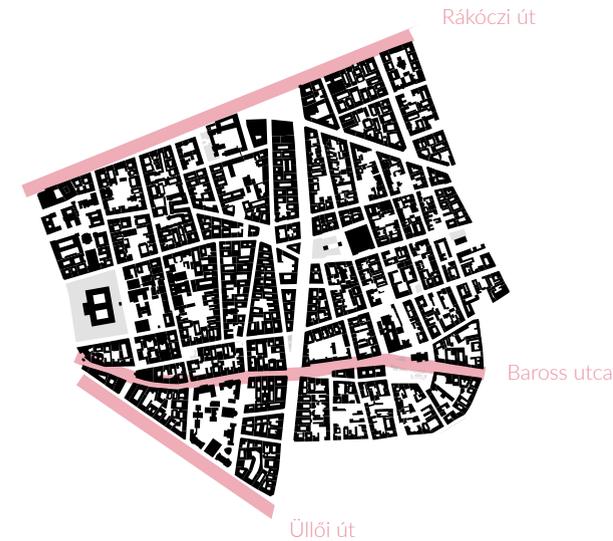
Figure 54 Ground figure plan of the 8th district of Vienna

Main East-West connection axes serve as the borders of both districts. In Vienna, tram lines and buses drive mainly through these streets, connecting the 8th district with its surroundings. The *Alser Straße* and the *Lerchenfelder Straße* are streets that are 16m or wider. The *Josefstädter Straße* is mostly 16m or wider as well, but as we come closer to the inner city, some parts of the street are only around 12m wide. Secondary streets form the rest of the road network with a width between 10-13m. The small size of the district supports the development as a neighbourhood. Within a radius of 500m, most parts of the district are easily accessible not only by public transportation but also on foot.

Józsefváros

the 8th district of Budapest

main streets

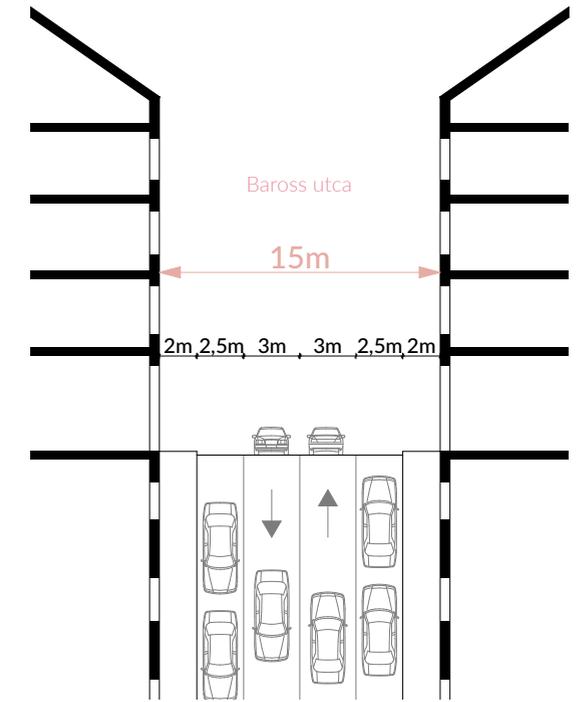


Rákóczi út
Baross utca
Üllői út



Figure 59 Ground figure plan of the 8th district of Budapest

The analysis area in Budapest consists of the whole *Palace Quarter* and parts of the *Hall*, *Theatre* and *Corvin Quarters* that have an urban fabric originating mainly from the 19th century or earlier. The two radial roads *Rákóczi út* and *Üllői út*, which have been important structural elements since the formation of the city, are the North and the South borders of this area and also serve as district borders. These roads have a width of up to 30m. The *Baross utca* is another important axis inside the district, which is similar to the *Josefstädter Straße* in Vienna is 15m wide. Secondary streets have a varying width, mostly around 10m. The analysis area in Budapest is comparable in size to the Viennese 8th district. Within a 500m radius, most of this neighbourhood is accessible on foot.



Josefstadt

the 8th district of Vienna

secondary streets

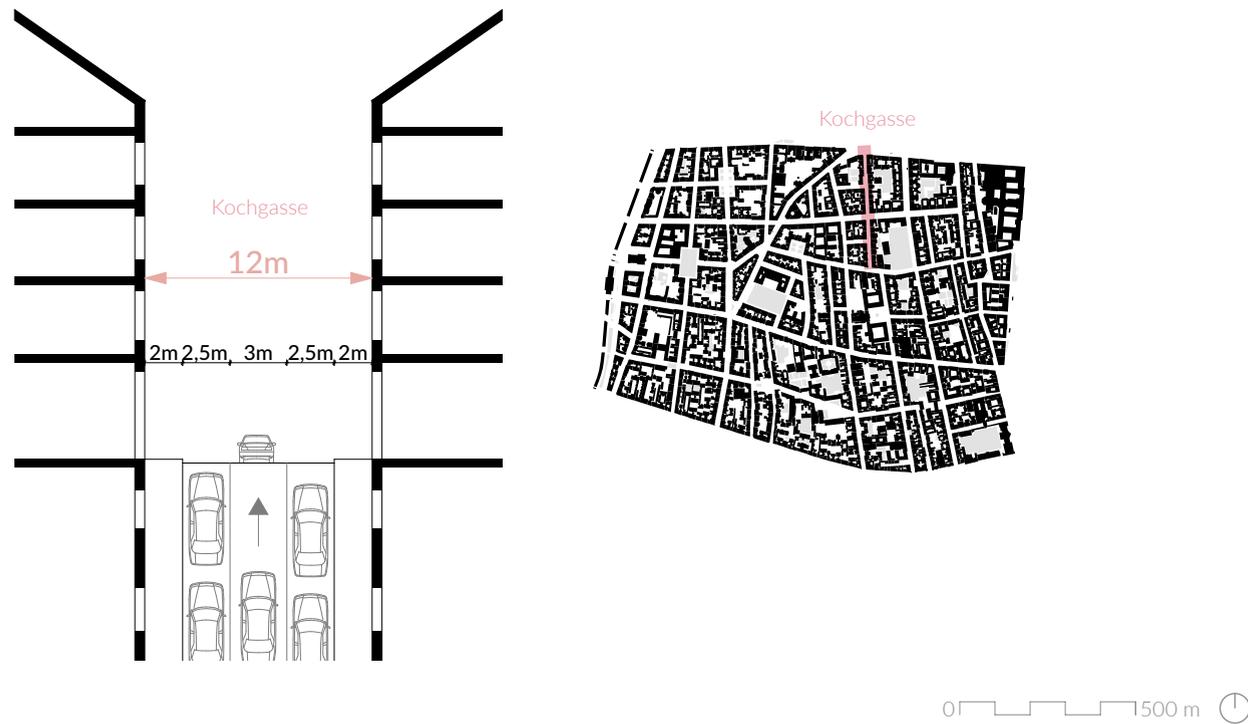


Figure 54 Ground figure plan of the 8th district of Vienna

83 Psenner 2011, 1

“The list of potential users of Vienna’s street-level environment is extensive and highly diverse. What is striking is that currently there is only one single primary user: the greatest part of open and built-up space is currently occupied by moving and stationary traffic.”⁸³

As we zoom in further, we see that besides the already introduced main streets and roads, the smaller, secondary streets are also dominated by motorised individual transportation. Secondary streets are mainly one-way streets leading to one of the main connections. The narrow street widths which originate from the 19th century building regulations do not allow for buffer zones. According to the Modernist ideas of the 20th century, these spaces were shaped in favour of the car. Since most of the street space is occupied by moving or parked cars, there is not much of it left for pedestrians. The sidewalks with around 2m width only provide space for moving pedestrian traffic but not for staying.

Józsefváros

the 8th district of Budapest

secondary streets

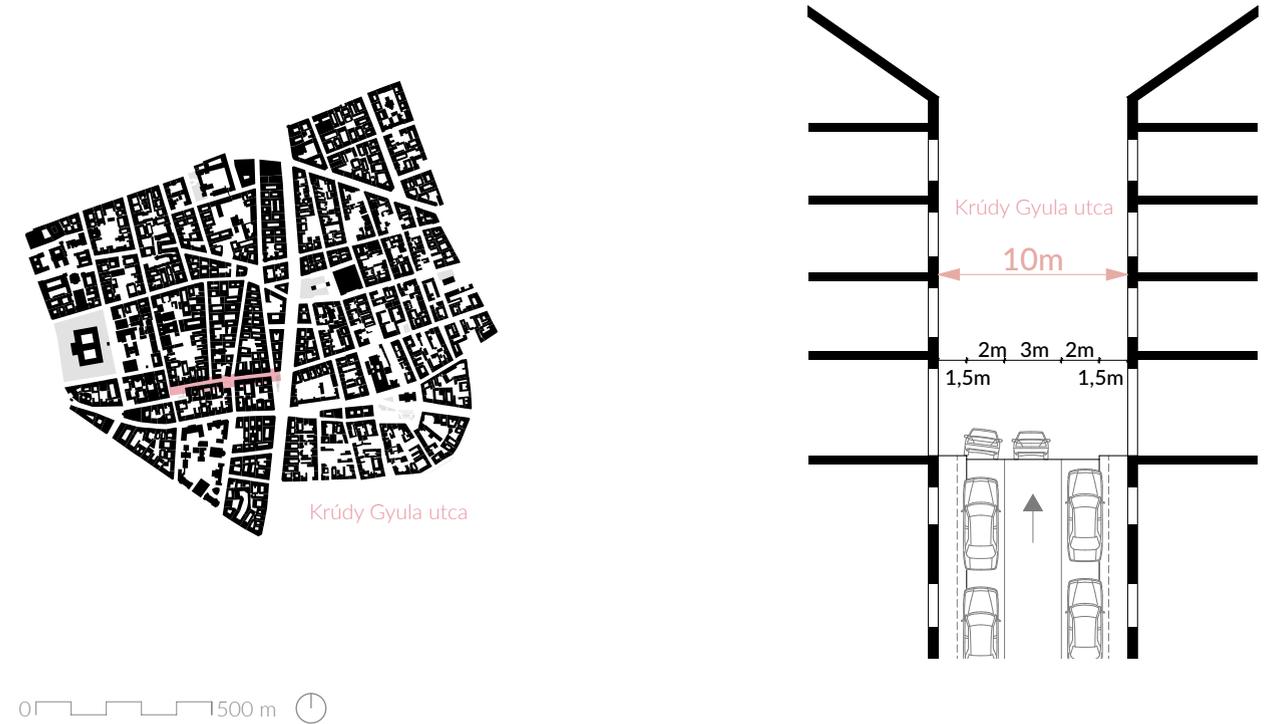


Figure 59 Ground figure plan of the 8th district of Budapest

84 Psenner 2011, 4

We face a similar situation in historical areas of Budapest. The 19th century building regulations set 10-15m street width. Areas built in this period have characteristically narrow streets in both cities. Due to the height of the townhouses built along these streets, which could be over 20m, a feeling of disproportion appears. Both the luminance of these streets, as well as the inner courtyards are limited and in most cases, trees or any greenery are completely absent.⁸⁴ These disadvantages of the historical urban fabric lead to challenges in both cities today. However, the 19th century building stock provides a great potential for the Urban Parterre due to its use-neutral building stock and generous ground floor height (Figure 26). According to how they have functioned before, these areas are suited for (re)creating shared spaces. Rehabilitation programmes have already been completed or are currently in progress, such as the reorganisation of the *Lange Gasse* in Vienna, as well as the rehabilitation of the *Palace Quarter* in Budapest.

Josefstadt

the 8th district of Vienna



Figure 61 Secondary street in Josefstadt, Vienna 2019

The concept of a *Schanigarten* is a popular method in Vienna during summer to expand the spaces of restaurants, cafés and bars with an additional garden on the street. These gardens are created by furnishing the area of one or more parking lots. The approval requires disability access and leaving at least 2m space for pedestrian traffic. Although this is a great way for gaining back public space from stationary traffic, the stay in these areas is connected to consumption.

Viennese sidewalks are widened at crossings with parts called *Ohrwaschln*. Their shape which reminds of the human ear gives back some of the space to the pedestrians on the street corners. Still, the sidewalk serves the function of pedestrian traffic and not of staying.⁸⁵



Figure 62 Secondary streets in Josefstadt, Vienna 2019

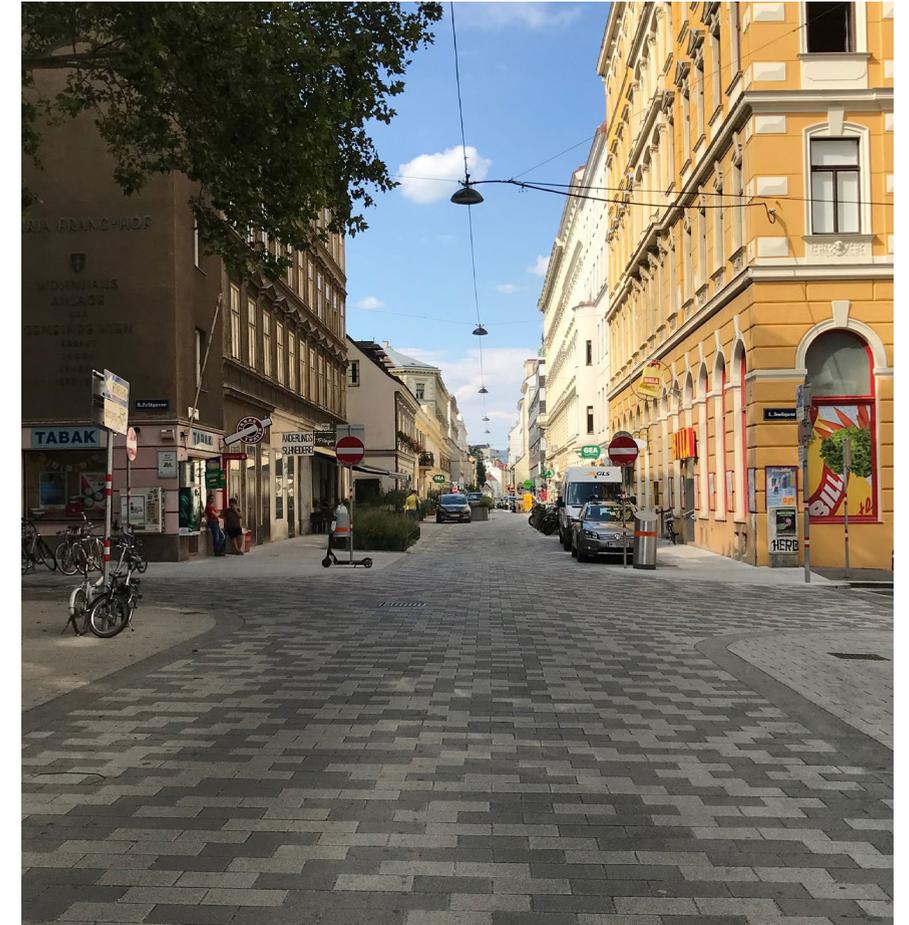


Figure 63 The Lange Gasse in Josefstadt, Vienna 2019

The transformation of the *Lange Gasse* to a *Begegnungszone* was completed in 2018. This form of a shared space was added to the federal law in 2013 that describes it as: "In shared spaces, the drivers of vehicles may neither endanger nor hinder pedestrians, have to keep a lateral distance from stationary objects and facilities corresponding to the traffic safety and are only allowed to drive with a maximum speed of 20km/h."⁸⁶

⁸⁵ Psenner 2014, 138

⁸⁶ federal law gazette 2013



Figure 64 Shield of a shared space 2019

Secondary streets in historical areas of Budapest, such as many of Józsefváros can have as little as 10m width. Due to the building heights, there is not much sunlight in these streets. Similar to Vienna, the one-way streets are most suitable for driving and parking cars.



Figure 65 Secondary street in Józsefváros, Budapest 2019



Figure 66 Secondary street in Józsefváros, Budapest 2019



Figure 67 A traffic-calmed secondary street in Józsefváros, Budapest 2019

The preparations for the *Palace Quarter Urban Renewal Program* in Budapest started in 2007 by the council of the 8th district. The aim was the adaptation to socio-economic changes, as well as the sustainable development of the inner part of Józsefváros (Figure 59). The financial basis could be provided by the growing tourist activity in the inner districts of Budapest. An important part of the program was the rehabilitation of public parks, monuments and historical areas, as well as connecting the hotspots through a more advanced infrastructure. Inhabitants of the area had the opportunity to participate in the planning process within the context of forums. With the co-financing provided by the European Union, the first phase was finished in 2012. As a result, the street network was expanded by 1,600m² pedestrian and 10,900m² traffic-calmed streets. Traffic-calmed streets influence the micro-climate by being less polluted. However, they are not necessarily providing more space for pedestrians. The secondary street visible on Figure 67 is a pleasing space for a walk due to the low speed of cars and the trees alongside, but a large proportion of it is still occupied by stationary traffic. Similar to Vienna, spaces are designated for cars.

87 URL1

88 URL2



According to the responsible organisation called Rév8 Ltd., the *Palace Quarter Urban Renewal Program*⁸⁷ continues with two more phases. Competitions were held with the aim of the quarter rehabilitation by the TÉR_KÖZ⁸⁸ Budapest. One example representing the phases is the Gutenberg square. The surrounding streets and the plaza itself were already reconstructed. In the next phases, the renovation of apartment buildings of the 19th century will follow. Due to the age of the townhouses, which are more than a hundred years old, as well as damages originating from the World War II., buildings must be renovated. Besides structural measures, the competitions focus on supporting civil cooperation. An important step is building communities in the diverse environment of Józsefváros. Supporting local businesses is also a key action for the revival of the historical semi-public function of the Urban Parterre.

0 1500 m



Figure 68 Gutenberg square in Józsefváros, Budapest 2019



Figure 69 Gutenberg square in Józsefváros, Budapest 2019

Josefstadt

the 8th district of Vienna

ground floor and souterrain

89 Psenner 2012, 25

In contrast to the situation during the Gründerzeit, the ground floor area no longer serves as a semi-public zone anymore. As small manufacturing disappeared and housing became the main function of the buildings, façades lost the certain permeability they had before. The role of the ground floor is strongly influenced by the function of the streets. As moving traffic became a priority in the 20th century, the overall understanding of the ground floor changed as well. Furthermore, with a lack of parking lots, garages were placed inside the ground floors of historic buildings.⁸⁹

These current tendencies influence the Urban Parterre in the case of Josefstadt in Vienna. Although the ground floor of the main roads fulfils public or semi-public functions, they are also experiencing a heavy traffic. Secondary streets are mainly dominated by stationary traffic. Except for the *Schanigärten* in summer and the small squares and plazas, the parterre zones remain transit zones in secondary streets. The building stock of the Modernist era even strengthens this effect through its completely closed ground floor. This is the reason why the shared space of the *Lange Gasse* can serve as a great example.

The souterrain spaces of the 19th century buildings often had an additional entrance from the street to the basement level, which facilitated the loading of basement storages and connected the underground level with the parterre. This has a great potential that remains quite unused in Josefstadt. We will find a few functions in these spaces, but only in a negligible proportion.



Figure 70 Secondary street as transit space in Vienna 2019



Figure 71 Secondary street as shared space in Vienna 2019

ground floor and souterrain

The cultural diversity of the district Józsefváros also appears in the structures of the analysis area as well. Similar to Vienna, the ground floor faces challenges caused by dominating traffic on the streets. Especially in historic areas of Budapest there are vacant lots that are used as parking areas. To support more sustainable means of transportation, traffic-calming measures and designing new pedestrian areas are supplemented by the newest subway line that was completed in 2014. In the target areas of the city and district council development programmes, new functions started to appear besides the already existing ones. The 0-24h open mini-markets are characteristic elements of the parterre zone in Budapest. Instead of multinational companies, smaller, local or national chains are represented by these, whereas stores of larger companies are mainly located in peripheral areas.

90 URL3

Parallel to the already introduced top-down methods of the city and the district council, the local community started to organise itself. The events organised by Midspace⁹⁰ to name one example, take place in different ground floor locations or in the local market hall with the aim of connecting the inhabitants of the neighbourhood. These activities help strengthening the identity of the area, which makes it more appealing. As a consequence of both top-down and bottom-up strategies, more and more cafés and restaurants are opening in this upcoming area. Contrary to the Viennese situation, souterrain spaces are quite often open to the public. We will find more or less attractive designs and a variety of functions, such as small shops or gastronomy in the basements.



Figure 72 The ground floor zone of Budapest 2019

inner courtyard

92 URL4

As already introduced in the first chapter, the *Pawlatschen* were first banned in the inner city of Vienna and later on, in the outskirts as well. The remaining few buildings that have hanging corridors originate from the era prior the Gründerzeit. One of them is located in the *Lange Gasse* in Josefstadt. Although the building only has three floors in total, its courtyard looks similar to the enclosed courtyards of Budapest. Unlike many of the inner courtyards, its unsealed surface serves as a green garden.

The comparison between Figure 48 and Figure 49 on page 79 has shown, how Viennese typologies and block structures developed differently than the ones in Budapest. Therefore, the possibilities for opening the courtyards for a semi-public use are given in many cases. The perimeter block allows solutions, such as the *Planquadrat*⁹² in Vienna, which required the connection of multiple courtyards. The result is a community garden was created and is maintained by the inhabitants of the block.



Figure 73 Pawlatschen in Vienna

inner courtyard

93 URL 5

The enclosed courtyards of Budapest have a characteristic image with the *Pawlatschen*. Due to the height of the buildings and the sealed surfaces, gardening is not always an option in these courtyards. Inhabitants use them as a community space in some cases. However, they have a lot of unused potential that was shown in the 2018 event of Budapest100. During one weekend, hundreds of people visited the Gründerzeit townhouses and filled their courtyards that were open for the public in that time.

Due to the building typologies, connecting the inner courtyards of multiple buildings is not an option in Budapest. Therefore, community areas developed differently than in Vienna. The *Pawlatschen* did not only serve as the main connection between the flats, but also as semi-public balconies where people would sit, meet the neighbours and chat. During the visits in some of these courtyards, it was noticeable, how the inhabitants wish for more greenery. In many cases they planted many plants in these spaces.



Figure 74 Pawlatschen in Budapest

categories and questions of the survey

- personal questions

1. What is your gender?
2. How old are you?
3. Where is your permanent residence?
4. What is your profession?

- questions about the relation to the 8th district

5. How regularly do you stay in Józsefváros?
6. What is the reason for your stay?

- questions about mobility and consumption habits

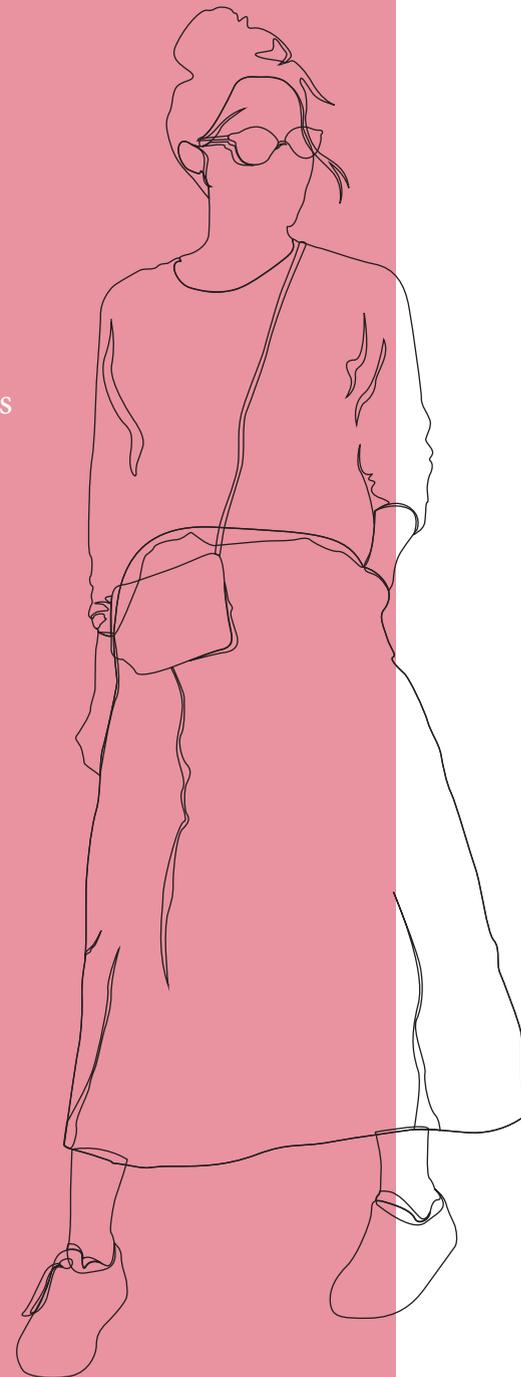
7. What kind of transportation do you use the most often in Budapest?
8. What kind of transportation do you use the most in Józsefváros?
9. Where do you buy your groceries the most often in Józsefváros?

- questions about satisfaction in general

10. How satisfied are you with the districts'...
 - ...security
 - ...green areas
 - ...cultural offers
 - ...gastronomy
 - ...public transportation
 - ...parking
 - ...walkability

- feedback

- +1. Comments and suggestions



the district at eye level

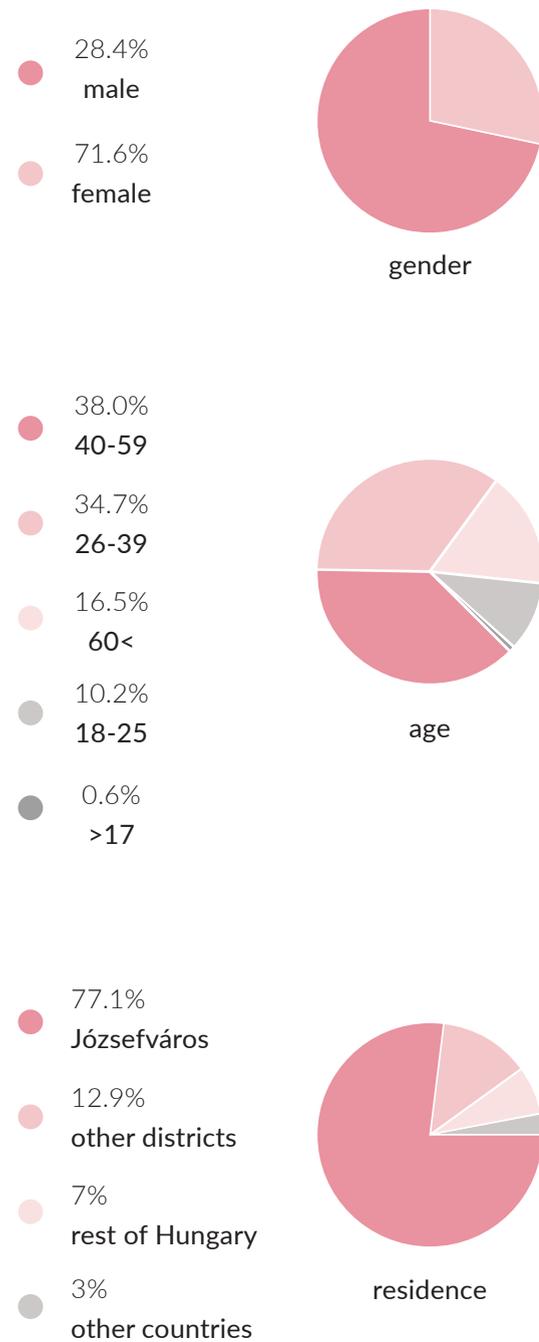
survey analysis in the 8th district of Budapest

The comparative site analysis of the past pages is based on a literature research, as well as additional morphological analysis, observation and mapping. Since none of these methods provide a personal contact to the people, who are directly affected by the transformation processes in the 8th district of Budapest, an additional survey was created. The aim of this direct approach was to collect first-hand information, from the inhabitants themselves or from those, who regularly visit Józsefváros. The online questionnaire consisted of 10+1 questions and was filled out by 363 people between August 2018 and February 2019. All answers were anonymous.

The structure of the survey was divided into 5 categories, starting with personal data, questions about the relation to the district, mobility and consumption habits, followed by questions about the inhabitants' and visitors' satisfaction in general and asking for further comments and suggestions. The answers given to these questions help to form an overview of the current weaknesses and strengths of the district and how they affect the Urban Parterre. This analysis refers to the whole district area, not just the specific area of the comparative analysis, since its borders would be hard to define without misunderstanding.

Many of the answers met the expectations, nevertheless, there were surprising findings as well. The most striking results were definitely the +1 non-obligatory comments and suggestions. 78 people answered either briefly or up to a length of 300 words, telling their experiences, stories and wishes. Some of them answered with humour and optimism, whereas others responded with criticism and a demand for further development. In the following, the survey results will be analysed in detail, sorted according to the importance of the individual topics.

people

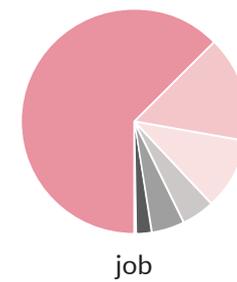


Based on the responses about personal data, 71.6% of those who filled in the survey are women and only 28.4% men. There was a possibility to fill in another gender, but nobody took the opportunity for that.

Being the age group represented by the majority, 38% is between 40-59 years. The oldest age group with 60 years or more is represented with 16.5%, whereas the youngest group with 17 years or less make up only 0.2%. Young adults between 18-25 years are at 10.2%.

280 of the participants, 77.1%, have their permanent residency in Józsefváros. Of those, who are not living in the district, 9.6% visits Józsefváros multiple times a week and 1.9% at least one time a week.

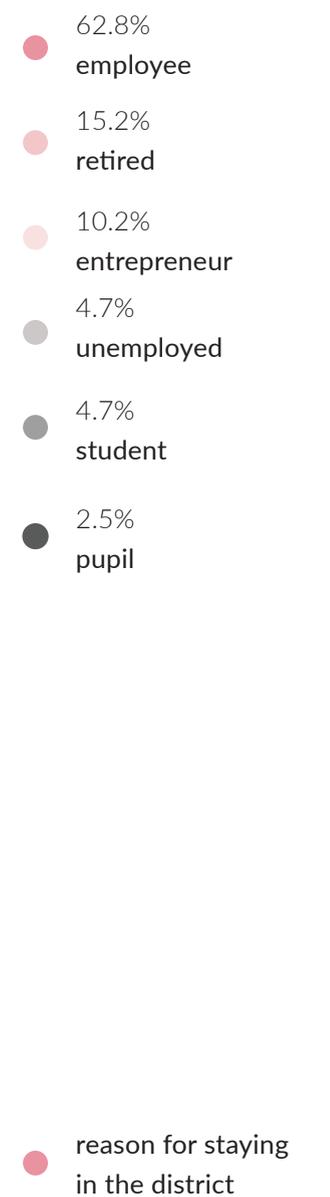
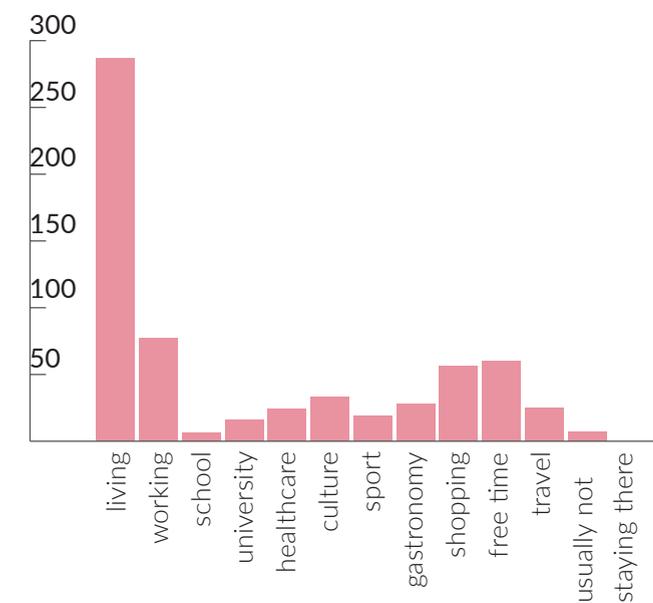
profession & habits



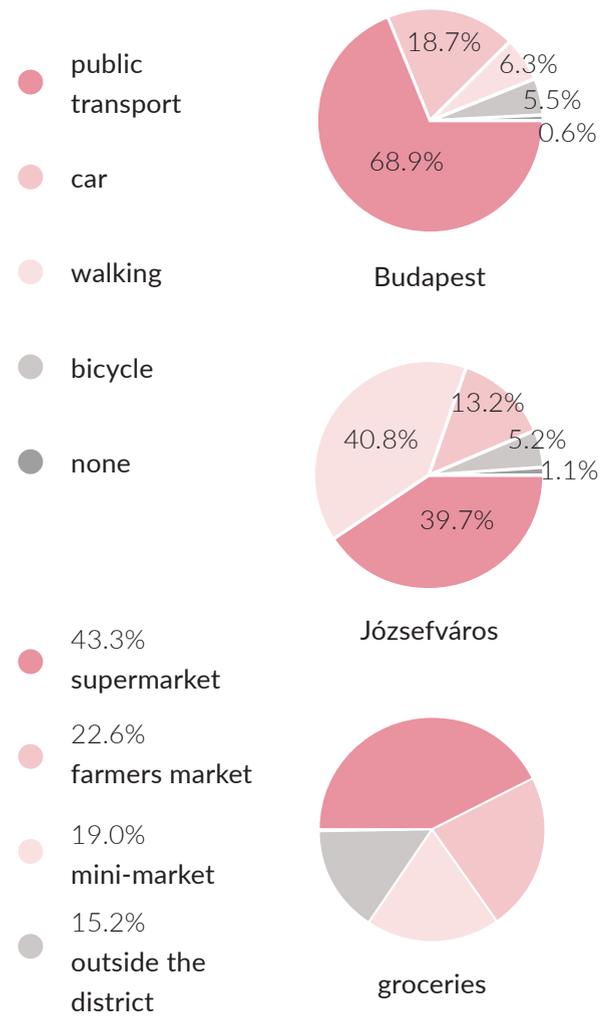
Concerning professions, the majority of, 62.8% are employees, followed by 15.2% pensioners and 10.2% entrepreneurs. Unemployed people and students make up 4.7% each.



When they were asked about the reason for staying in the district, most of the people answered that the reason was to live there. Further reasons are working and free time activities, whereas shopping is on the fourth place.



transportation & activities



The majority is satisfied with the gastronomic and cultural offer, as well as the security in the district. The biggest dissatisfaction, as stated by 101 people, is connected with the quality and amount of green areas.

In terms of transportation, 250 people mainly use public transportation in the capital, who gave 68.9% of the answers. Only 18.7% uses a car.

When it comes to transportation inside the district, almost half of the answerers, 40.8%, are pedestrians and get around on foot. A similar percentage, 39.7% use public transportation and only 13.2% use their car. The reason for this might also be the relatively new subway line and multiple bus and tram lines that run across the district.

When it comes to grocery shopping, most of the people, 43.3% go to the supermarket to get their everyday necessities. However, 22.6% prefer to go to the farmers market in the local market hall.

103 people marked the public transport possibilities of the district as very satisfying and 199 people as satisfying. 169 people are satisfied with the walkability of the district, whereas parking possibilities are mostly seen as neutral.

comments and suggestions

Ten out of the total 78 comments and suggestions are either neutral or cannot be evaluated. Although the remaining 68 have varying topics, there are some issues that appear repeatedly. The most praising comments were written by seven people, who talked about how they notice development in the district and that they like to live there.



“The thinking of the district should be changed. I’ve noticed many times that the old picture still lives in public mind.”

The concept of the rehabilitation of the *Palace Quarter* appears as a good example. However, waste management and street cleaning are criticised even in this area. 22 people mention the lack of cleaning as a huge problem. Public toilets in parks are missing as well. Seven people mention the poor quality or lack of green areas in their neighbourhood.



“The renovation of public areas is moving at a slow pace...”

comments and suggestions

Missing security in the streets is a problem that was mentioned by eight people. Four criticised the loud noise of night-life and people who are consuming alcohol, as well as drug use in public spaces which was mentioned by eight people in total. Furthermore, ten people talked about the issue of the homeless living on the streets, as well as the difficulties that different ethnic groups have living together.

“There is an urgent need for action against the noise at night and dirt on the street... together with developing public security of course...”



94 Census Budapest 2011

30 272 inhabitants were physically disabled out of the total population of 1 729 040

Although the developing public transportation appeared as a strength throughout the survey, there were six comments wishing changes in tram and bus connections as well as the location of the stations. Missing disability access was mentioned by one person but considering the percentage of the disabled in the capital in general, this comment seems to be highly relevant.⁹⁴

“I’m handicapped. My partner used to help me go out for a walk or shop. I am in a wheelchair and the roads are pretty bad in many places.”



comments and suggestions

Finally, there were four people, who criticised the unbalanced development. The construction of new housing and business quarters might lead to a lot of improvement in general, but also to a certain gentrification, whereas their surroundings often remain without renovation. One of them even emphasised the ground floor zone in this context.



“Personally, I am bothered by the vacancy, condition or lack of space in the business premises without the tenant and that the city image is not always looked after.”

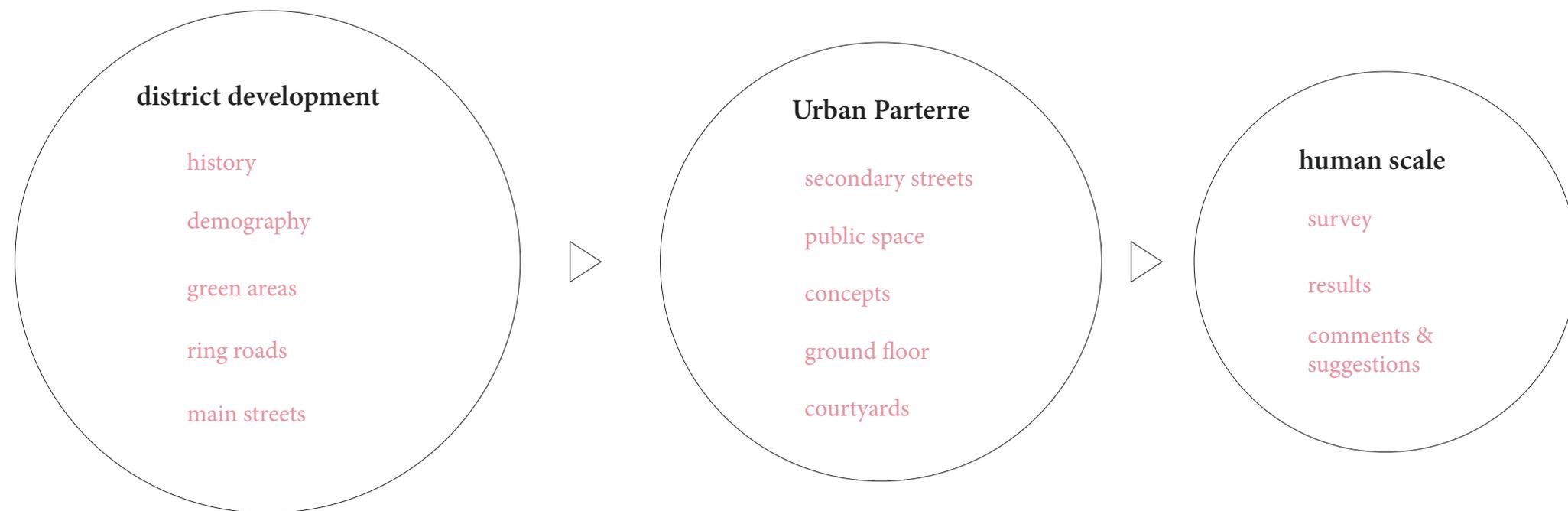
To summarise the results, it can be said that many people ask for a further improvement in the district. The answerers wish for a better street cleaning, more green spaces and a higher level of security. Furthermore, there is a demand for organisations that provide accommodations for the homeless, as well as programmes that ensure the integration of different ethnic groups. Although streets of the *Palace Quarter* and the inner parts of *Józsefváros* are being reconstructed, the development needs to extend to the outer parts of the district. New construction should happen simultaneously to rehabilitation, and empty ground floor spaces should be filled. Of course, the situation is much more complex in reality than the brief overview of these results. A deeper analysis from an economical, as well as sociological point of view would be necessary to understand all layers of the problem. However, these would go far beyond the scope of a master thesis.



summary

The processes of city development that started with the rapid urbanisation are also reflected in the processes at the level of the two districts. The 8th districts represent the different paths the cities Vienna and Budapest have taken since the dissolution of the Monarchy. However, when it comes to the role of public space today, Josefstadt and Józsefváros are facing similar challenges caused by the moving and stationary traffic in an environment that was mainly built in the 19th century. Most of the streets in these areas are secondary streets with a width according to the building regulations of the Gründerzeit. Their dimensions were defined in accordance with a human scale, in an era when horse drawn carriages were used for transportation. As a consequence of increased automobile use in the 20th century, the role of urban space was changed and adapted to a different demand. Later on, as the negative effects of motorised individual transportation were

recognised, the cities as well as the districts started to take the first steps to provide a more sustainable and healthy way of living and getting around. Following the example of Copenhagen and Venice, supporting cyclists and pedestrians became the European trends of the 21st century. Besides having a public transport which is well-known for its high quality, Vienna adapted to these new trends soon. The neighbourhood-like development is characteristic in the small area of Josefstadt. The 8th district of Vienna provides best-practice examples for a pedestrian friendly urban planning with concepts, like the *Schanigarten* and the shared spaces. Despite the emerging top-down, as well as bottom-up initiatives that have already made a significant impact on the streetscapes, many inhabitants and visitors of the 8th district of Budapest wish for further development spreading from the inner to the outer parts of the district.



03

the street

Krúdy Gyula street

secondary street in the 8th district of Budapest

building biographies

eight historical buildings

strategies

current tendencies and a future perspective

conclusion

summary and evaluation



Krúdy Gyula street

secondary street in the 8th district of Budapest

The 19th century urban fabric is significant in the city structures of Budapest today. The first chapter was written with the aim of giving an overview of its historical development on a large-scale, whereas the second chapter analysed the current tendencies affecting the selected area, the 8th district. Budapest was compared to Vienna to reflect European tendencies and to understand distinctive local features. The last step of zooming in requires a high level of detailing. The following analysis of a selected secondary street in the 8th district of Budapest is based on a field study, as well as on the Urban Parterre Modelling of a street segment.

Krúdy Gyula street

secondary street in the 8th district of Budapest

The *Krúdy Gyula street* is located in the *Palace Quarter* in the inner part of the 8th district of Budapest. Its origins lead back to the era of spontaneous development before the 18th century. It appeared on the first maps showing the growing outskirts *Józsefváros* under the German name of *Frühlingsgasse*, which means spring street. It crossed the *Rákos* canal, a waterway with a small bridge running into the Danube.⁹⁴ The canal was covered in the following years, but its footprint remained visible in the urban structures that were built in its area later on.⁹⁵

Figure 76 shows the regulatory plan that was created one year prior to the city unification. The shape of the street and its surroundings adapted the shape of former farmlands, the waterways and existing built elements, due to the structural permanence.⁹⁶ After *Józsefváros* developed from a rural to an urban area, more and more buildings emerged as a result of partial or complete conversion.⁹⁷ In the maps that were made after the great flood of 1838, the street was named *József street*, similar to the district itself. The former *Statio street* that is called *Baross street* today is also visible in the regulatory plan. Since it has developed into a main road across the district, our selected street remained a secondary East-West connection.⁹⁸

At the turn of the 19th century, the part that was closest to the city centre got separated under the name of *Reviczky street*. After the construction of the *Nagykörút*, the great ring road of Budapest, the street was divided into an inner and an outer part under the same name. Between 1942 and 1947 the inner part of the street was named after monk Béla Bangha and since 1947, after the famous Hungarian writer Gyula Krúdy, who lived in the district most of his life. The *Krúdy Gyula street* became a protected street along many others in the *Palace Quarter* in 2012. According to the submission made by the mayor for the district council: “*The street plays an important role in the quarters’, as well as the districts’ development.*”⁹⁹

94 see Figure 4 on page 22

95 Körner 2010, 92-93

96 Raith 2000

97 see page 134

98 see page 107

99 submission for the district council 2012

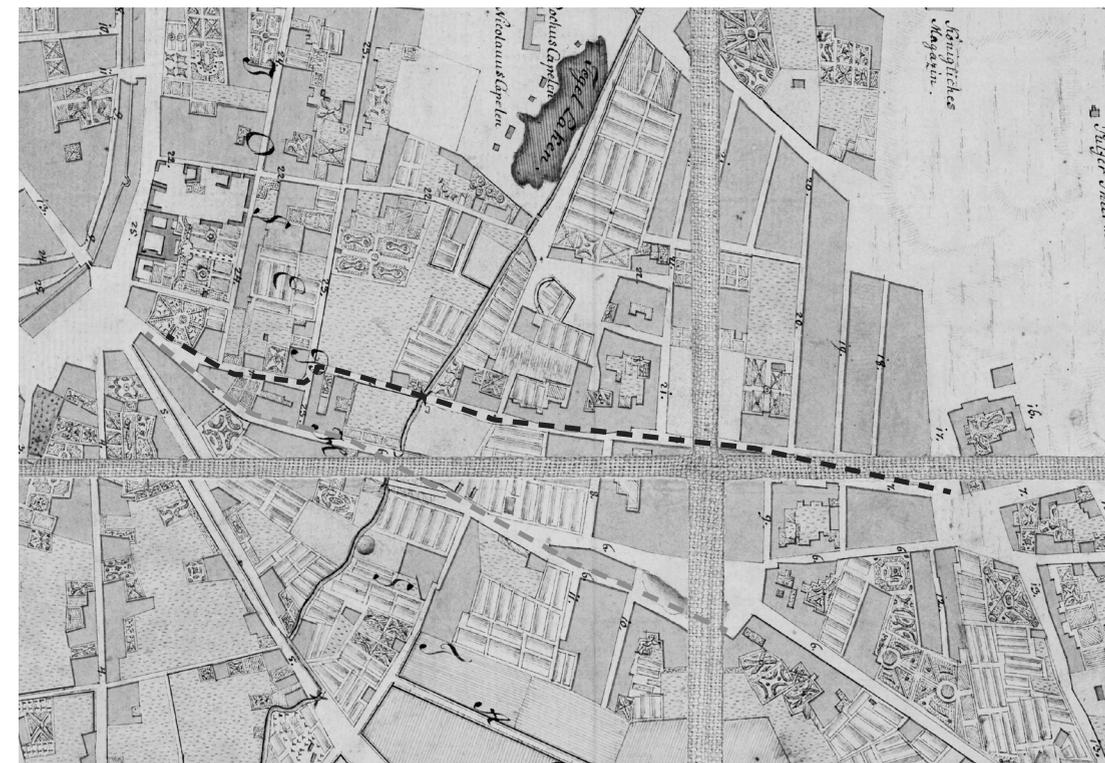


Figure 75 Site plan of Óbuda, Buda and Pest in 1793

--- József street

--- Baross street



Figure 76 Regulatory plan of Pest 1872

the street and its surroundings today

- ① **Reviczky street**
125m street length, 10m street width, 10 buildings
- ② **Mikszáth Kálmán square**
approx. 1500m², 7 buildings
- ③ **Krúdy Gyula street**
250m street length, 10m street width, 19 buildings
- ④ **Lőrinc pap square**
approx. 670m², 3 buildings, 1 church
- ⑤ **József street**
600m street length, 10m street width, 48 buildings
- ⑥ **Mátyás square**
approx. 8000m², 18 buildings

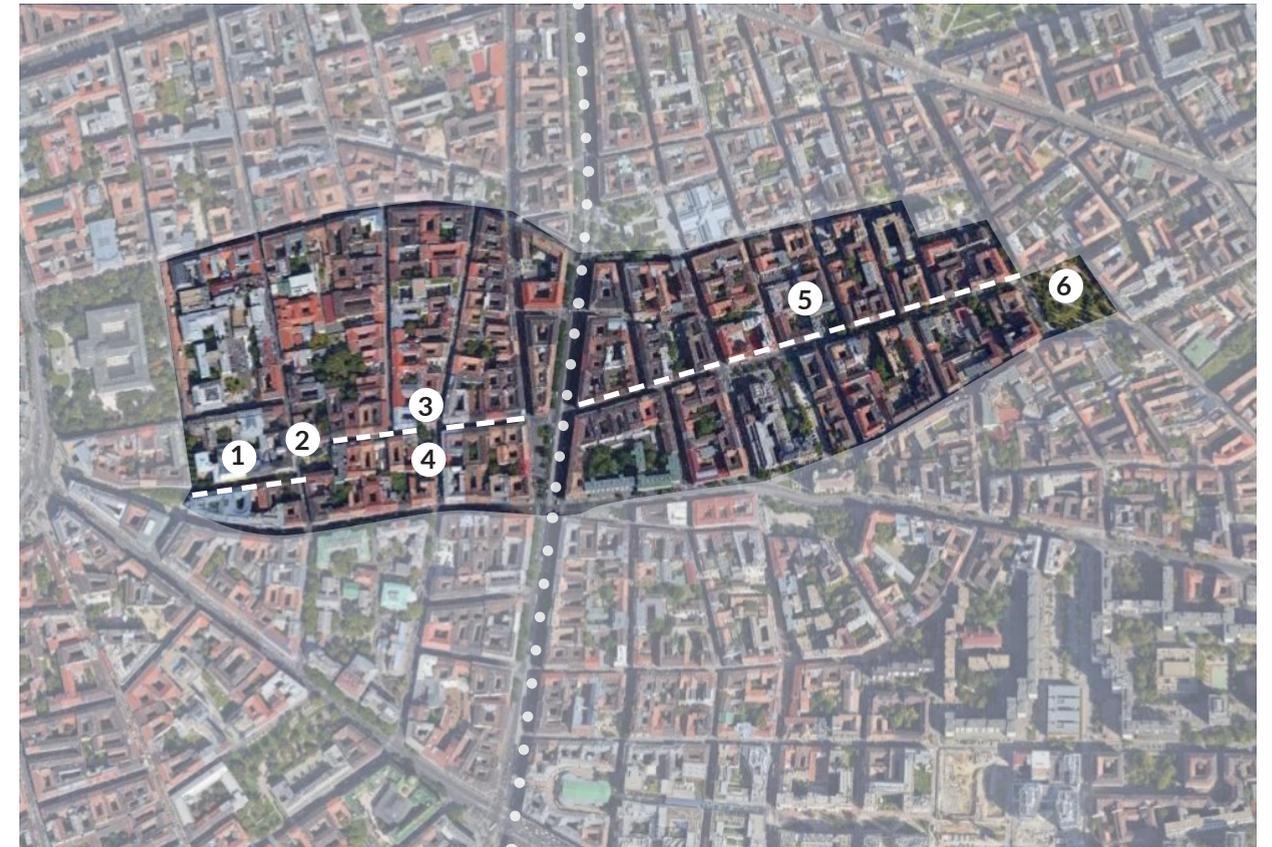


Figure 77 Satellite picture of the selected street and its surroundings

0 250 m

Segment A

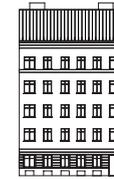
The *Krúdy Gyula street* can be divided into two parts, according to the phases of development. Segment A is located between two squares and is already a target area of the *Palace Quarter Urban Renewal Program*. In the first two phases of the program, not only the street, but also some of the building façades were renovated.¹⁰⁰ Despite the stationary traffic on one side, pedestrians gained back more public space on the other side. The newly planted trees are growing and restaurant terraces serve as a lively ground floor zone. This project made Budapest appear as a best practice example among Scandinavian projects in 2016.¹⁰¹ In addition to the four restaurants, one mini-market and two bars that already existed in this section of the street in 2018, one new bakery, one clothing store and one new restaurant opened until 2019. The *Mikszáth Kálmán square* is located at the end of this segment, which is a hotspot for students who visit the library or the medical university building. In 2019, a renovated Gründerzeit building was opened as an additional building of the Catholic University.



Figure 78 The selected street and its surroundings in the 8th district analysis area



Figure 79 Photos of Section A of the Krúdy Gyula street



Segment A

10/11 historical buildings

ground floor functions	2018	2019
gastronomy	4	6
mini-market	2	2
bars	2	2
stores	2	3
art gallery	1	1



Plaza

Mikszáth Kálmán square

ground floor functions	2018	2019
gastronomy	2	2
university	1	2
bars	2	2
pharmacy	1	1
tabak store	1	1

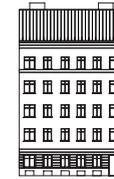
102 see "comments and suggestions" on page 125

Segment B

Segment B of the *Krúdy Gyula street* is the opposite of Segment A. The image that we see when we turn around on the *Lőrinc pap square* shows us a completely different situation of the Urban Parterre. This part, similar to the previous one, was also built during the Gründerzeit and then transformed in favour of the car in the 20th century. Since the rehabilitation program has not reached this segment yet, we face an inactive ground floor zone, dominated by stationary traffic. Parking lots are even partially painted on the sidewalk, leaving only about 1.5m to the pedestrians. There is no bike lane and there are no trees on this part of the 10m wide secondary street. According to the survey results, many wish for the development to spread from the *Palace Quarter* beyond the ring road.¹⁰² This street has a great potential for connecting the upcoming areas of the inner segment with the outer areas. The three-dimensional model that was created of the eight Gründerzeit buildings of this street section facilitated the analysis of their origin. It shows current challenges and potentials of the Urban Parterre.



Figure 80 The selected street and its surroundings in the 8th district analysis area



Segment B
8/8 historical buildings

ground floor functions	2018	2019
gastronomy	1	1
mini-market	1	1
bars	2	2
offices	1	1



Plaza
Lőrinc pap square

ground floor functions	2018	2019
gastronomy	2	2

Figure 80 Photos of Section B of the Krúdy Gyula street

Krúdy

the selected street

ground floor 1910

- Nr.12**
basement workshop
flats on the ground floor

- Nr.13**
basement storage
residency on the ground floor

- Nr.14**
basement storage
flats on the ground floor

- Nr.15**
basement workshops
flats on the ground floor

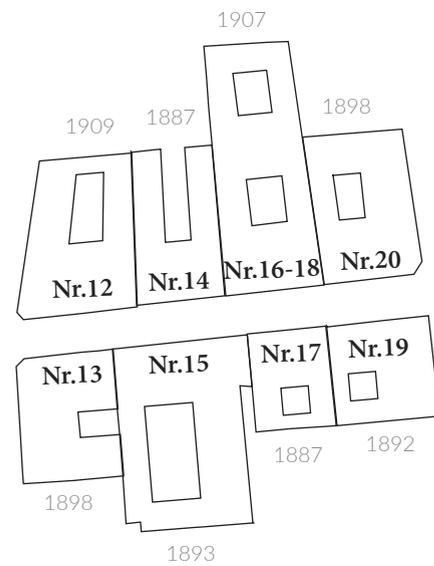
- Nr.16-18**
basement workshops
flats on the ground floor

- Nr.17**
basement storage
flats on the ground floor

- Nr.20**
basement storage
store on the ground floor

- Nr.19**
basement storage
store on the ground floor

The buildings of Section B were built between 1880 and 1910 and therefore had to fulfil the requirements of either the 1886 building code or the amendment of 1894. When analysing the use of the ground floor and basement in the Gründerzeit, we will find a mixture of living and working. The original plan documents show, that semi-public functions, workshops and other services were often placed in souterrain, with a lifted ceiling. A separate entrance served as a connection from the street to the basement. The upraised ground floor, the *Hochparterre* served for living in these cases. House Nr.13 was built for Countess Zichy, her family and personal staff with a vine cellar in the basement as well as a horse barn in the backyard. Nr.19 and Nr.20 are located along the ring road and were planned with a permeable facade for stores. Nr. 16-18 and Nr. 17 were planned as tenement housing with storage in the basement, but both basements were reconstructed for semi-public workshops later on.

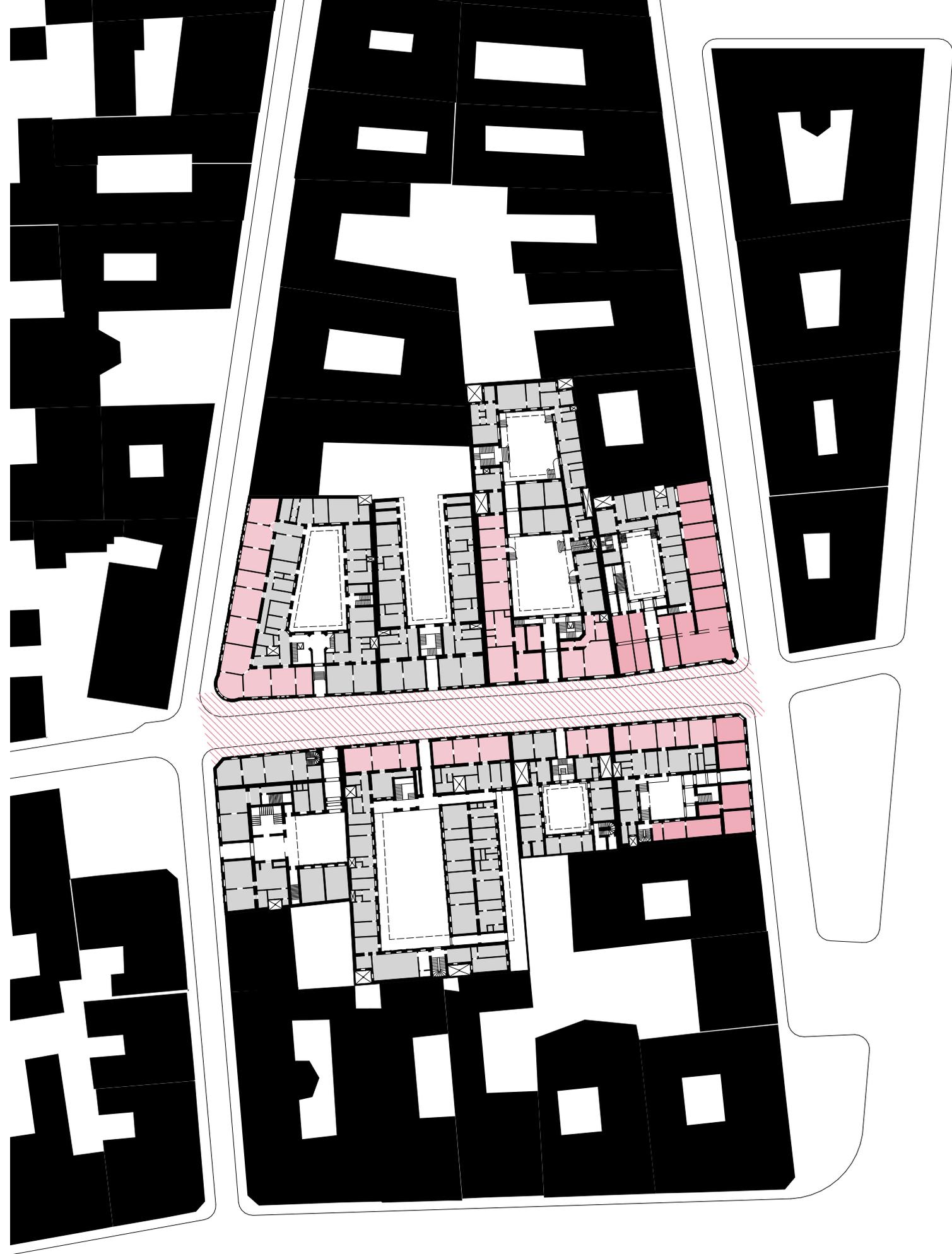


- public space on the street

- semi-public ground floor and basement storage

- Hochparterre and semi-public basement

- private living areas on the ground floor and basement storage



Krúdy

the selected street

ground floor 2019

Nr.12

hostel in the basement,
(offices and ordinations
throughout the building)

Nr.13

hotel

Nr.14

basement storage
flats on the ground floor

Nr.15

basement storage
flats on the ground floor

Nr.16-18

basement storage
(offices, yoga studio and
other semi-public functions
throughout the building)

Nr.17

basement bar
flats on the ground floor

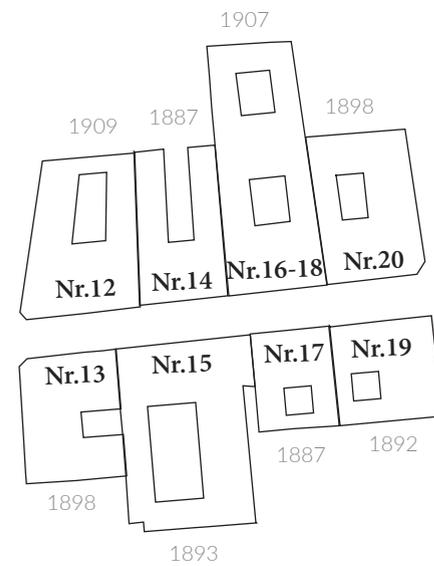
Nr.20

basement storage
restaurant and market
on the ground floor

Nr.19

basement storage
bar and hairdresser salon
on the ground floor

After more than a hundred years, we still find the same buildings in this street. Small changes were made, flats got divided, canalisation and sanitary units got improved. In some cases, additional floors were added. Even though there was no remarkable structural intervention, what can be noticed immediately is the change of public space. As shown on page 107, stationary traffic dominates the street. This example is even an extreme, since parking lots are printed partially on the sidewalks, leaving pedestrians only a 1.5m wide space for walking. Some of the semi-public functions disappeared from the basement and their separate entrances are closed now. The ground floor spaces along the ring road have provided rooms for stores, butchers, restaurants and offices throughout the years. Today we find a Turkish restaurant and a mini-market in house Nr.20. Vis-à-vis in the Nr.19 building we find a hair salon and a bar in the basement, as well as one on the ground floor. We will also find many other semi-public functions throughout the buildings.



-  public space on the street
-  semi-public ground floor and basement storage
-  Hochparterre and semi-public basement
-  private living areas on the ground floor and basement storage

0 250 m 



corridors

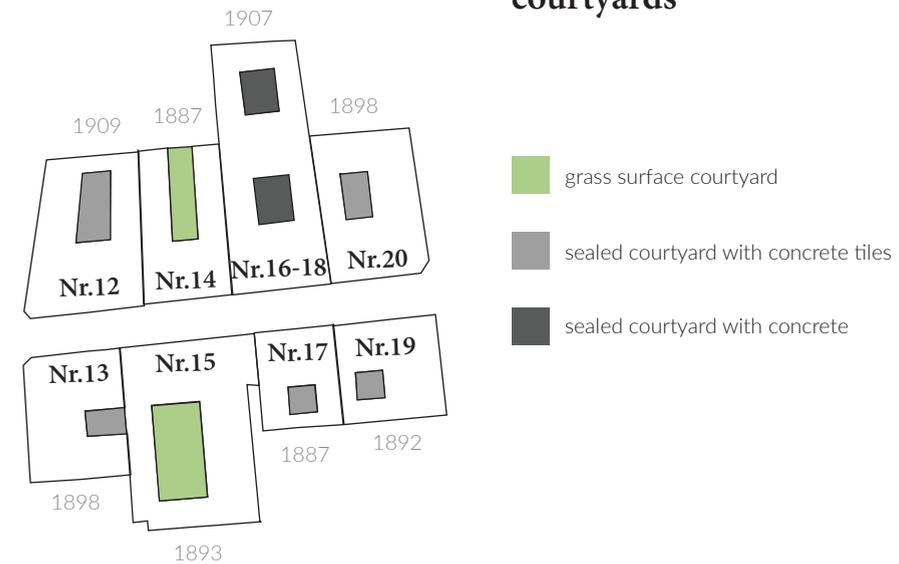
The hanging corridors, the *Pawlatschen* are important structural elements of the building typology. They provide the necessary circulation as they often serve as the only connection between the flats and the staircases. Due to the enclosed courtyards which were set at a minimum 15% of the plot area after 1886 and 20% after 1894, there is only little sunlight that reaches the ground floor.



Figure 81 Pawlatschen

The hanging corridors are on a higher level and have more light. Furthermore, as people walk to their own flats, it is unavoidable to pass by in front of the others. Under these circumstances, the *Pawlatschen* developed as a semi-public area, where people would sit and chat with each other. It became a meeting space that inhabitants furnish, decorate and maintain for themselves. Unlike the perimeter block in Vienna, the courtyards of Budapest cannot be joined to create a common garden. Based on the typological differences, the courtyard spaces developed differently despite the similar regulations of the 19th century.

courtyards



The surfaces of the inner courtyards are covered with concrete tiles. The situation is similar to Vienna, where courtyards are often completely sealed with concrete. The consequence a lack of greenery as well as a negative effect on the microclimate.¹⁰³ However, the concrete tiles are easier to remove. This was done voluntarily by the residents of one of the buildings, who created a common garden in the inner courtyard.

103 Psenner 2012, 84



Figure 82 Sealed courtyard surfaces

permeability of the façades

104 Psenner 2012, 88-89

Due to the building-, and therefore also the window heights, glass surfaces of the Gründerzeit served for a high transparency. The entrances of basements with semi-public functions were open, giving the signal of an access permit. The permeability that was given is the basis of building a soft edge between public and semi-public areas. This puffer zone disappeared in Vienna due to the closed and patched windows of vacant ground floor spaces. As a consequence of the construction of garages in these spaces, pedestrians walk along closed walls of the buildings today.¹⁰⁴

The Danish architect Jan Gehl developed a categorisation where he distinguishes between interactive and passive façades.¹⁰⁵ The Gründerzeit buildings were planned according to the prevailing street life with interactive and open façades. As streets got subordinated by traffic, the permeability decreased and façades became passive. Furthermore, there is another reason for that. Public security in Budapest is still lower than in Vienna. Leaving the doors open would be at risk of robbery in this area. Therefore, multiple electrical door-closing systems are installed.

105 Gehl 2010, 78

- semi-public ground floor and basement storage
- Hochparterre and semi-public basement
- private living areas on the ground floor and basement storage

Nr. 19

Nr. 17

Nr. 15

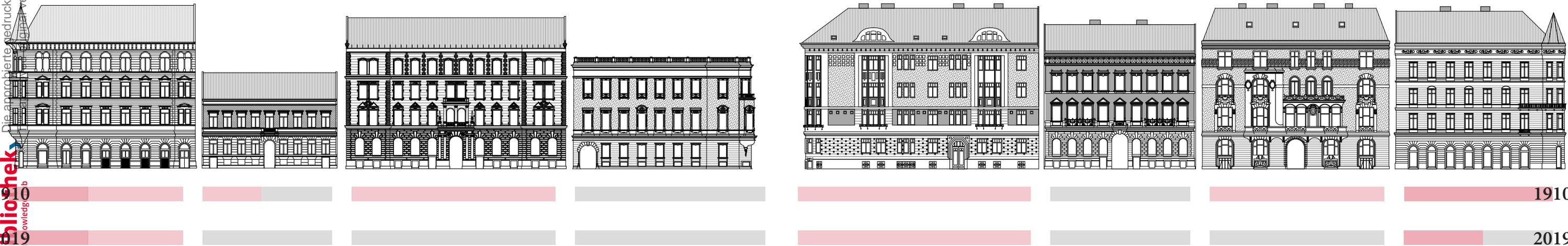
Nr. 13

Nr. 12

Nr. 14

Nr. 16-18

Nr. 20



1910

2019

Krúdy Gyula street 12.

1909

architect

Hoepfner Guido and György Géza

client

Hayek Kálmánné Reitter Gizella

built

1909

number of storeys

three

typology

Hofhaus / enclosed courtyard building on the street corner

number of courtyards

one

basement functions

heating, wood and coal storage

ground floor 1910

living

ground floor 2019

living

further construction

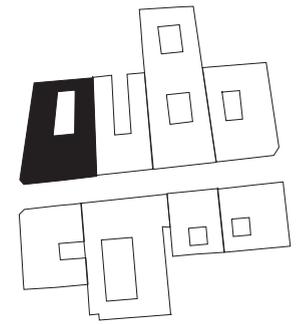
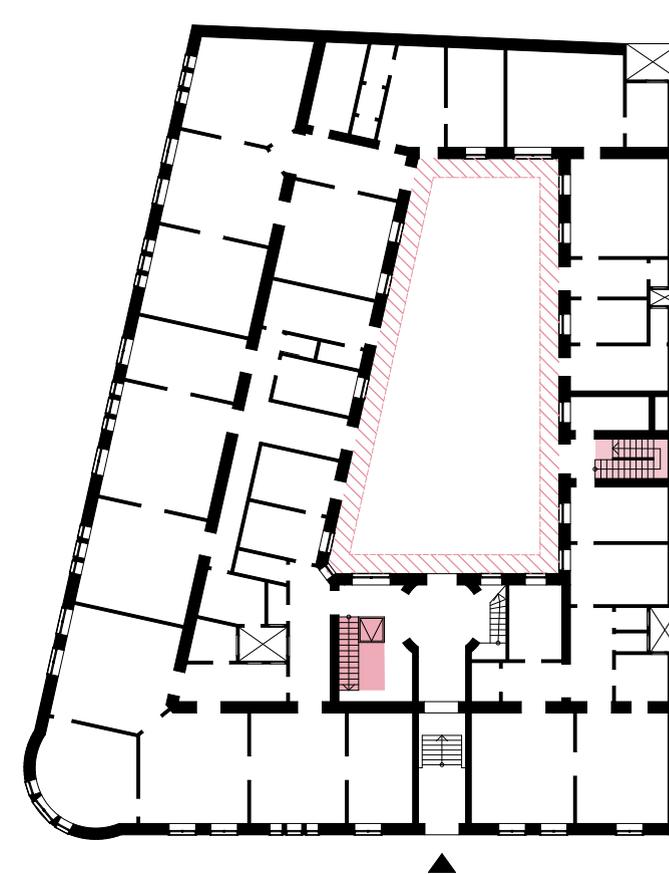
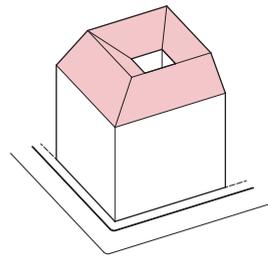
reconstruction of an atelier flat 1977

client: Gerzson Pál architect: Ruzsin Győző

reconstruction of the basement into offices 1990

client: Variflex Construction and Official Company

architect: Vonnák János Team 82



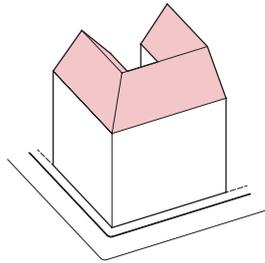
floor plan

s 1:400



elevation

s 1:300



Krúdy Gyula street 13.

1898

architect

Hauel Lipót

client

Countess Zichy Livia

built

1897-1898

number of storeys

three

typology

Stutzflügelhaus / side-wing building on the street corner

number of courtyards

one

basement functions

personnel, heating, vegetable and vine cellar

ground floor 1910

residence of the countesses family

ground floor 2019

hotel building

further construction

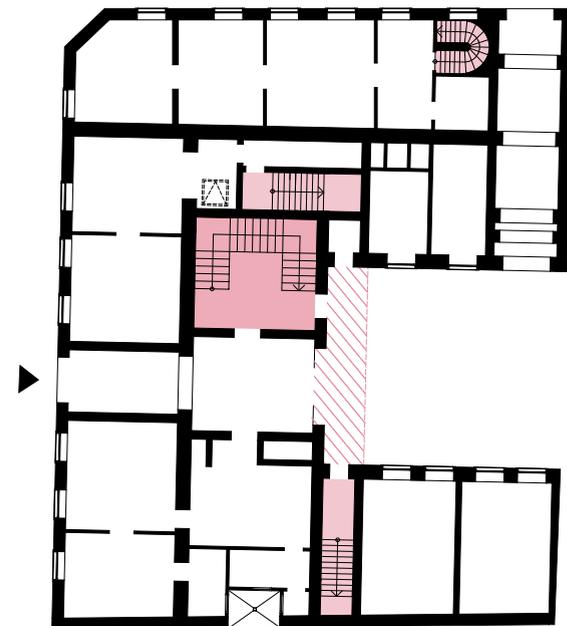
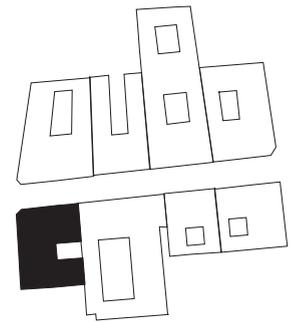
building in an elevator in 1905 client: Count Zichy Nándor

reconstruction of the second storey in 1935

client: Countess Károlyi Emma architect: Abos Bruno

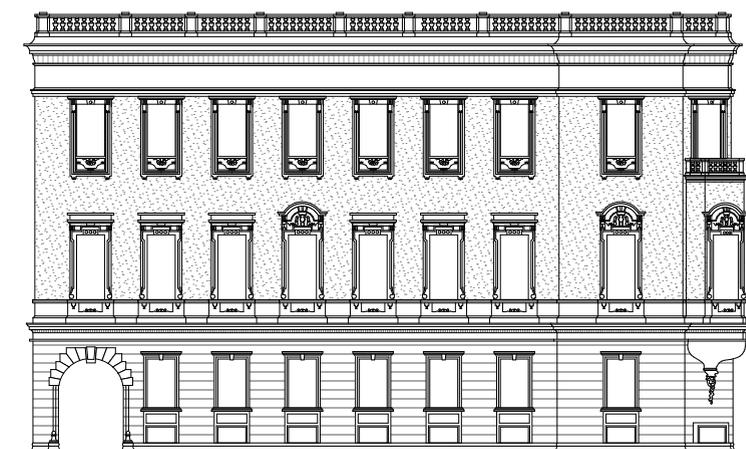
changes in canalisation system in 1970

client: Balogh József architect: Foytough István



floor plan

s 1:400



elevation

s 1:300

Krúdy Gyula street 14.

1887

architect

Baumann and Kölber

client

Steinberger Manó

built

1887

number of storeys

three

typology

Stutzflügelhaus / side-wing building

number of courtyards

one

basement functions

storage

ground floor 1910

living

ground floor 2019

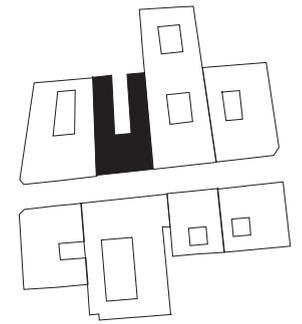
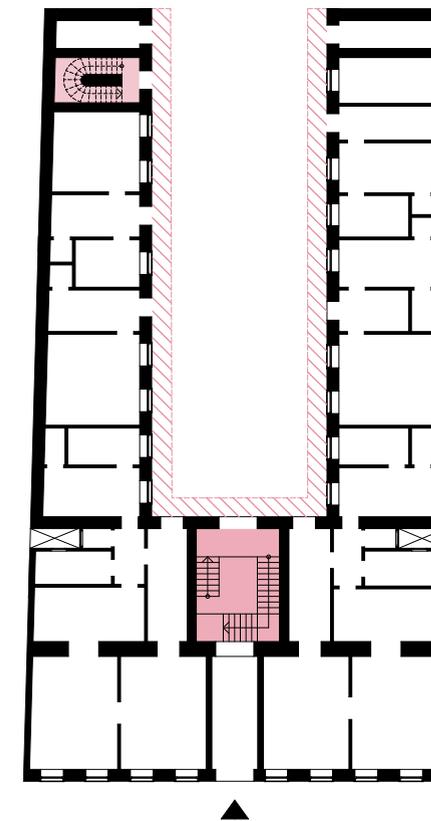
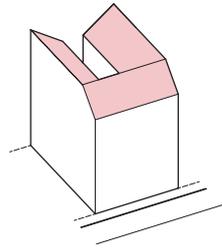
living

further construction

construction a new staircase in the side-wing 1998

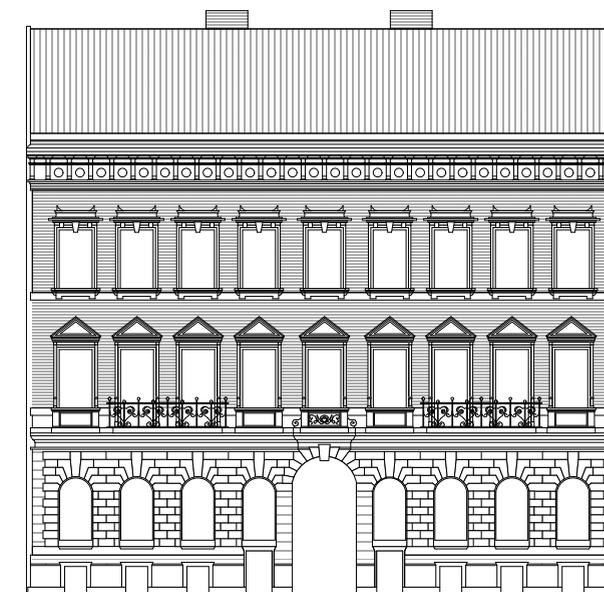
clients: Countess Mikes Zsigmondné and Dr. Van Royen Gyula

architect: Lendrich Antal



floor plan

s 1:400



elevation

s 1:300

Krúdy Gyula street 15.

1893

architect

Hauel Lipót, Fort Sándor

client

Reitter József

built

1893

number of storeys

three

typology

Hofhaus / enclosed courtyard building

number of courtyards

one

basement functions

workshop and storage

ground floor 1910

living

ground floor 2019

living

further construction

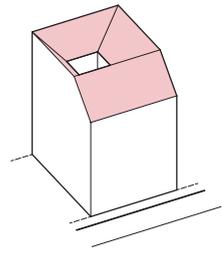
reconstruction of the basement into a workshop in 1960

client: PIÉRT (paper and office equipment sales company)

architect: Zalatnai Lajos

building up a weight lifting machine in the basement in 1970

client: PIÉRT company engineer: Kádár Imre

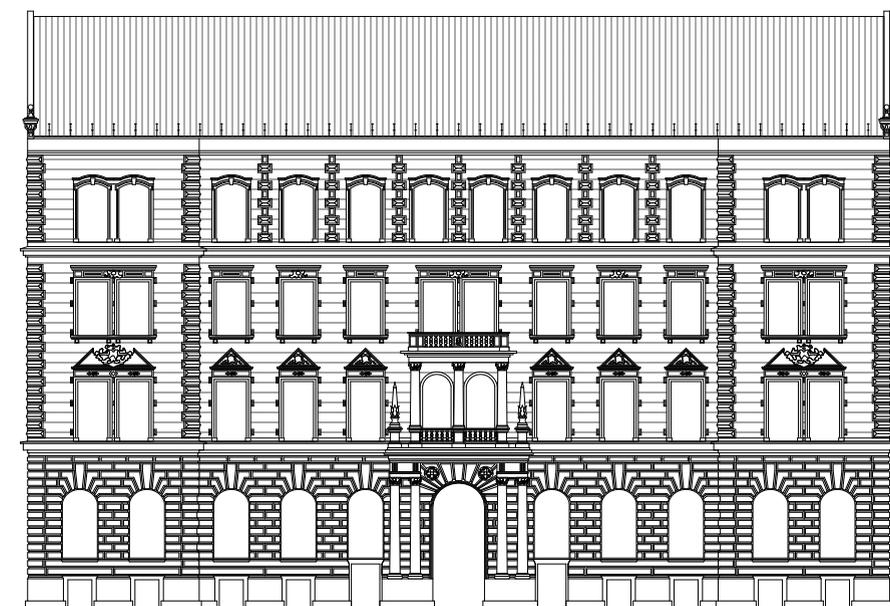


floor plan

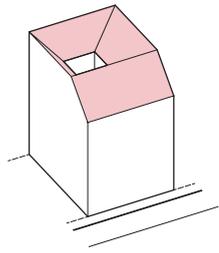


s 1:400

elevation



s 1:300



Krúdy Gyula street 17.

1887

architect

Klein H. János

client

Reinboth Béláné

built

1887

number of storeys

three

typology

Hofhaus / enclosed courtyard building

number of courtyards

one

basement functions

storage

ground floor 1910

living

ground floor 2019

living

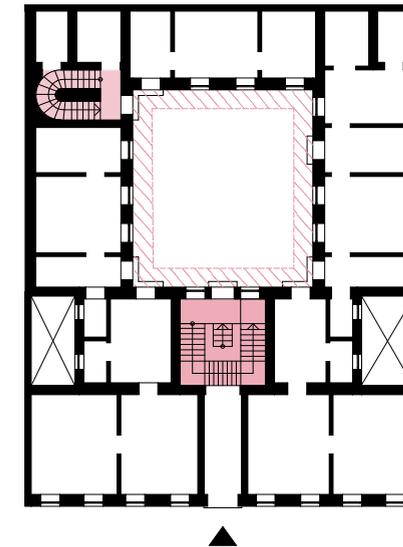
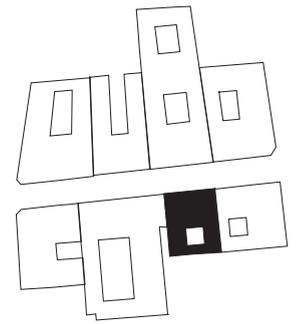
further construction

addition of one more storey in 1942

client: Balassa István architect: Kemény Sándor

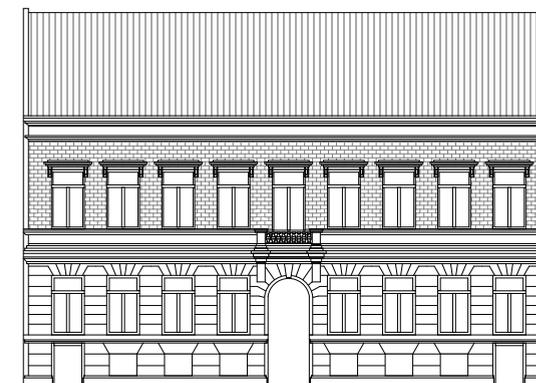
reconstruction of the basement in 1987

architect: Harangozó E.



floor plan

s 1:400



elevation

s 1:300

Krúdy Gyula street 16-18.

1907

architect

Schubert and Hikisch

client

Count Festetich Léone

built

1906-1907

number of storeys

three

typology

Hofhaus / enclosed courtyard building

number of courtyards

two

basement functions

storage

ground floor 1910

living

ground floor 2019

living

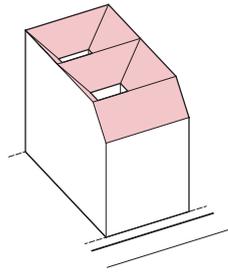
further construction

reconstruction of the basement into a bookbinder workshop 1978

client: bookbinder cooperative architect: Máté

installation of a paper cutting machine in the basement 1984

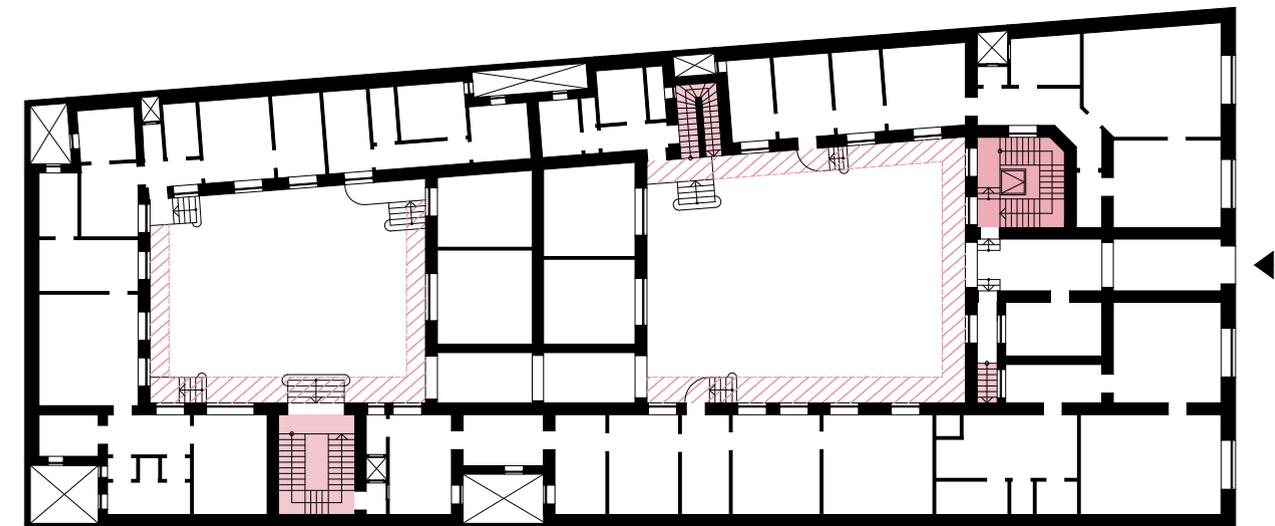
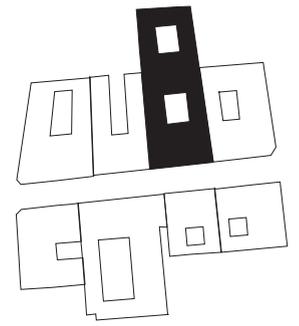
client: bookbinder cooperative architect: Kákonyi



main staircase

staff staircase

Pawlatschen



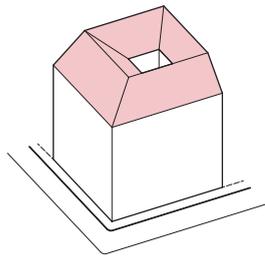
floor plan

s 1:400



elevation

s 1:300



Krúdy Gyula street 19.

1892

architect

Majorossy Géza

client

Kopf Dávid

built

1892

number of storeys

four

typology

Hofhaus / enclosed courtyard building on the street corner

number of courtyards

one

basement functions

storage

ground floor 1910

store, living

ground floor 2019

pub

further construction

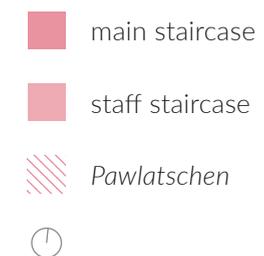
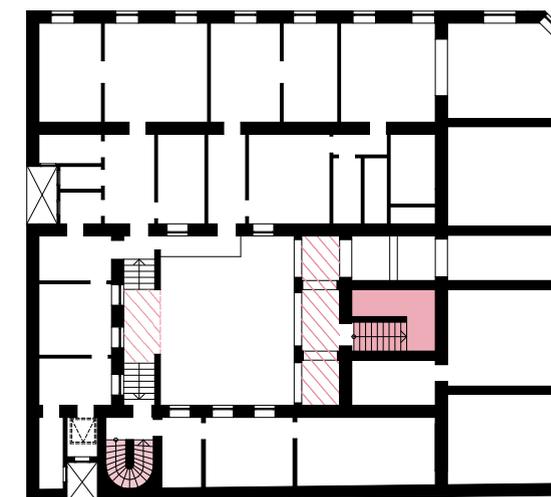
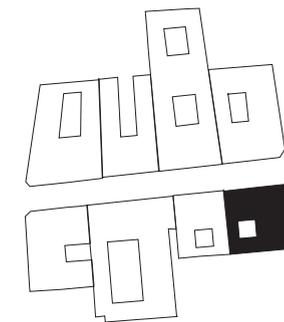
basement reconstruction, function: restaurant in 1977

client: Kelet-Pesti restaurant architect: Kabdebó Zoltán

ground floor reconstruction, function: office and butchers shop in 1985

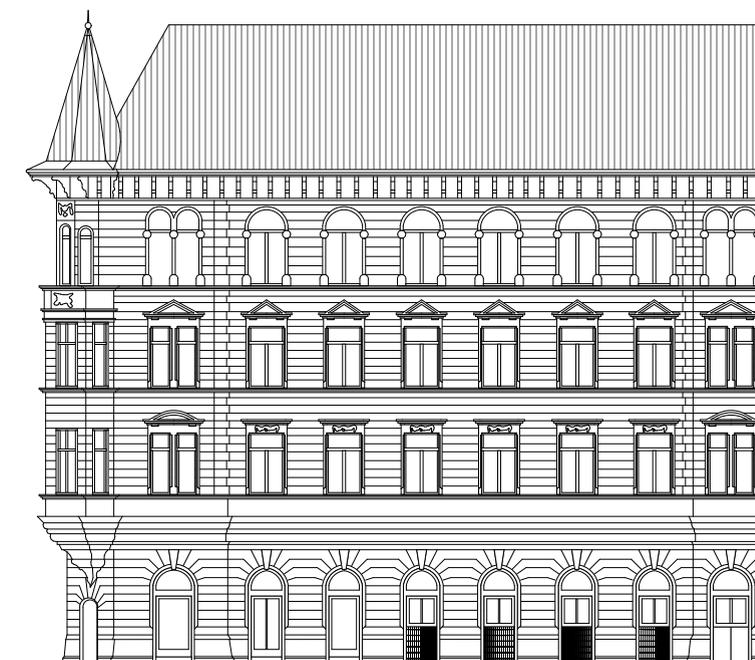
architect: Csizmadia

building in an elevator 1988



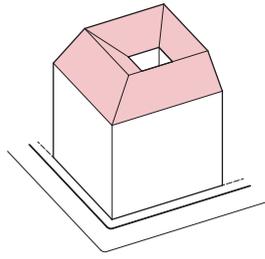
floor plan

s 1:400



elevation

s 1:300



Krúdy Gyula street 20.

1898

architect

Höfler József

client

Höfler József

built

1898

number of storeys

tree

typology

Hofhaus / enclosed courtyard building on the street corner

number of courtyards

one

basement functions

storage

ground floor 1910

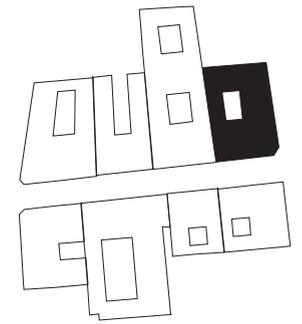
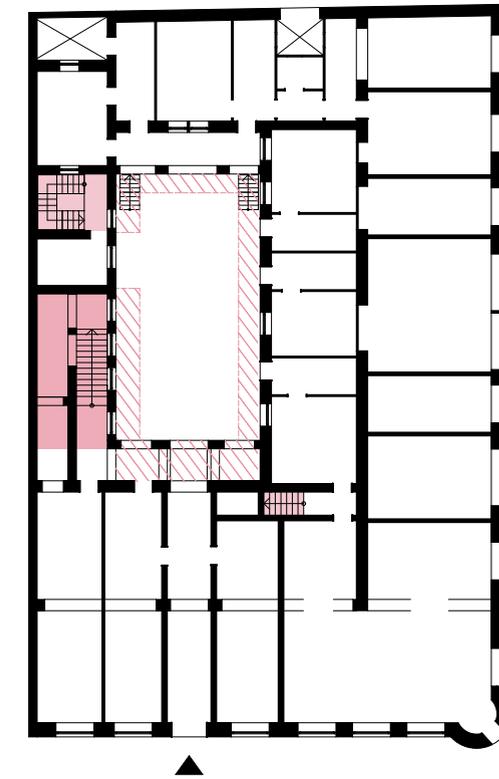
store

ground floor 2019

mini-market

further construction

no information



floor plan

s 1:400



elevation

s 1:300

strategies

current tendencies and a future perspective

106 URL 7

"The most important environmental objective of the development program of the palace quarter is that the public spaces and buildings of the district should provide an appropriate environment for the socio-economic changes of the renewed quarter."¹⁰⁶

107 Further statements about the topic of gentrification would require the detailed analysis of rental prices, which was not a part of this analysis.

The *Palace Quarter Urban Renewal Program*, which is now in its third phase, seems to have a positive effect on the inner part of the 8th district of Budapest. With the measurable increase of ground floor premises during the one-year investigation period, the activity on the streets has increased as well. Inhabitants have recognised the urban development and its benefits. The quarter is also attracting more and more tourists. However, gentrification can be a possible challenge in this area.¹⁰⁷ There are multiple development projects besides the one in the *Palace Quarter*, which focus on outer parts of the district and face challenges of criminality, homelessness and poverty. Although the inner development can slowly radiate to the outer parts, there is still a huge polarisation between the inner and the outer district that should be taken into consideration.

108 URL 8

Fundings from the European Union that enable programmes like the *Palace Quarter Urban Renewal Program* are neither related to the leading political party of the country, nor the party that is in the majority in the city council. Therefore, the program can continue independently from the results of the communal elections in 2019. However, one of the candidates applied with a green political program, which is important to mention in this context. The program, *Walking Budapest*¹⁰⁸ is a pioneer program, which was created by 70 interdisciplinary volunteers, will definitely shape the future of the city, independently from the election results. In addition to calling for greater transparency in governance and the improvement of social services, the program proposes methods to address the current challenges of urban planning of the city. It postulates the reduction of car use to a minimum in the inner city and the creation of a pedestrian area inside the *Nagykörút*. Following the best practice examples of Copenhagen or Seville, Budapest could be heading into the direction of becoming a *city for people*.



Figure 83 Renewal Röck Stilárd utca

conclusion

summary and evaluation

109 55% of the population lives in cities today, according to UN data

The complex structures of the cities are created by the interplay of interdisciplinary components. The built environment is an essential one of the layers, shaping the urban life which now affects more than half of the population.¹⁰⁹ Other components like the demographic, socio-economic factors and legislative decisions shape the non-built environment. The way people inhabit the architecture is shaping the way buildings work and the buildings themselves can shape the behaviour of the people as well. This is what was meant by Jan Gehl when saying:

“First we shape cities - then they shape us.”

The concept of the Urban Parterre deals with this complexity of the city at eye level. The environment that evolved during the urban transformation in the 19th century still makes up a significant percentage of the urban fabric of both Vienna and Budapest. Its ground floor zone which was planned in favour of pedestrians is still able to be reused in its original function today. The reasons for that are based on the building typologies that evolved during the conversion from rural to urban areas. Prevailing regulations provided possibilities for creating a long-lasting architecture with flexible room models, generous room heights and use-neutrality.

Despite the many similarities in the building codes, Vienna and Budapest developed tenement housing typologies with distinctive local features. The origins of the regulations differed depending on the risks the cities were exposed to the most. Fire protection ordinances influenced the early Viennese planning instruments, whereas the first regulations in Budapest were subordinated to flood protection. The hanging corridors, the *Pawlatschen* got banned in Vienna, whereas at the same time they influenced the architectural design in Budapest. As a consequence, the urban fabric of the two metropolises developed with different block structures and densities.

Both 8th districts represent the changes that happened to the capitals in the last hundred years after the dissolution of the Monarchy. They went through a transformation process according to the trend of the motorised individual transportation. Today, these areas are experiencing another paradigm

change. What we now look for are sustainable solutions, considering the human scale in urban planning, with the assumption that most of us will live in cities soon. Best practice examples have already proven the environmental benefits of the switch to alternative transportation methods.¹¹⁰ With the concepts of shared spaces and low speed areas, Vienna and Budapest are already on the right track. We can detect these tendencies in the selected street in the 8th district of Budapest. The effects of city rehabilitation are visible and measurable in the *Krúdy Gyula street*. However, this area is not representing outer parts of the district yet that are fighting social problems. There is a need for a strong, well organised combination of top-down and bottom-up strategies. Concepts that are already state of the art in Vienna, should be adapted in Budapest. The high-quality public space and transportation, as well as the digital infrastructure are some of the many best practice examples that Budapest can learn from.

In order to cope with the rapid development of technologies, smart research tools are constantly improving to facilitate the practice of urban planning. The three-dimensional Urban Parterre Model was created of a selected street segment, based on plan material provided by the Budapest City Archives. The eight buildings were modelled focusing on the architecture, especially on the ground floor zone in the Software Autodesk Revit. The model helped to understand historical construction solutions, to track structural changes, to list functions and to collect detailed information about the buildings. The model has a high potential of further improvement in an interdisciplinary team. All the benefits that are provided by Building Information Modelling could also be used in historical structures. Furthermore, this would facilitate not only house automation, but also the care and preservation of buildings. Taking part in a group seminar between 2018 and 2019 helped the exchange of knowledge about the tendencies that affect the Urban Parterre in different European cities. Comparing the situation of Vienna, Barcelona, Rome, Prague and Berlin allowed to gain a better understanding of the situation in Budapest. It would also be interesting to learn about other metropolises as well. Moreover, creating models of other street segments, and streets in different urban areas in a follow-up study would give us further information about the potentials of the ground floor zone in Budapest.

110 Carbon emission was reduced by 42% since 2005 in Copenhagen, according to the Guardian

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city maps

ground figure plan of Budapest

Schwarzplan von Budapest
2019

ground figure plan of Vienna

Schwarzplan von Wien
2019

figure references

diagrams	made by the author
schemas	made by the author
photographs	made by the author
BFL	Budapest City Archives <i>Budapest Főváros Levéltára</i>
ÖNB	Austrian National Library, Vienna <i>Österreichische Nationalbibliothek</i>
FSZK	Metropolitan Ervin Szabó Library, Budapest <i>Fővárosi Szabó Ervin Könyvtár</i>

statistics

Vienna	Statistics Austria <i>Statistik Austria</i>
Budapest	Hungarian Central Statistical Office <i>Központi Statisztikai Hivatal</i>

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thanks

danke

köszönöm

