Designing a mess

Contributing to vitality and functional diversity
in post-soviet city

Tomas Kalinauskas
Graduation project

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Graduation project report

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-Vilnius, Lithuania

Motivation

The subject of this thesis is the Calvary market located in the city center of Vilnius, Lithuania. One of the reasons for choosing the project site in Vilnius is the rich history of urban transformations of the city. The most recent socio-economic transformations are results of complex transitional period to free market economy and can be mainly characterized by collapse of industrial sector, rapid privatization and globalization (Bodnar, 2001). These changes have left a significant impact on the physical realm of Vilnius as well as many other post-soviet cities resulting in declining living qualities, abundance of massive industrial sites and urban sprawl (Stanilov, 2007). Recent attempts to improve the situation are targeted mainly towards reshaping and regenerating areas close to the city center. The area containing the Calvary market and the low density residential neighborhood is market as the expansion zone for the international business district. The plans are to replace the low density neighborhood with modern multistory housing and office units and redevelop the market into a modern shopping center. However, in many cases regeneration does not guarantee the vitality of these areas and success of the projects (Pagonis & Thornley, 2010). In case of Vilnius, poorly maintained and decaying area of Calvary market remains one of the most vibrant and diverse areas in the city, although the business district struggles to generate diverse and vibrant street life. The reality shows that there are things beyond the physical form of the city that makes it vibrant (Jacobs, 1961). The need to explore these aspects of vital city life as well as possibility to implement them to an alternative proposal for this area is the main motivation behind this project.

Scientific relevance

Since the expansion of European Union in 2004 many post-soviet countries became important parts of this political and economic realm. It is possible to state that in the last 10 years the academic interest in eastern European cities has been increasing (Musil, 2005, Stanilov, 2007, Sykora, 1999, Tosics, 2011). In order to comprehend challenges facing these cities, it is necessary to look for new insights on urban planning and design in post-soviet context. This can be achieved by combining the knowledge of east European context and international urbanism studies and experience. This track has already been set by number of master graduation projects in Complex Cities graduation studio, TU Delft, Faculty of Architecture (Buinevicius, 2011, Janusauskas, 2010, Muliuolyte, 2010, Rackauskas, 2013). Although the context of post-soviet cities is already quite well researched and documented, one could recognize lack of insights on the aspects of functional and social diversity and vitality in these cities (Rieniets,et all, 2009). This particular thesis aims to contribute to the mentioned subjects while researching the conditions of vital city life in post-soviet context as well as presenting the possibilities of using these conditions in urban regeneration project in Vilnius.

Social relevance

Vilnius as well as other eastern European cities is currently transforming from the soviet city to a modern European capital. This transformation is marked by emerging new urban development projects, such as new central business district 'Vilnius City'. Similar projects usually modeled after La Defense in Paris or Canary Wharf in London can be found in many post-soviet cities. One of the best known examples is 'Moscow City' international trading center in Moscow, Russia. These projects usually present new more international, prosperous and open image of the city (Pagonis & Thornley, 2010). However, recent history of such developments shows that they tend to neglect the existing complex social and economic structures and replace them with shiny developments (Vysniunas, et all, 2004). The extension of Vilnius international business district can be seen as a good example of such trend. There is evidence to assume that new developments are more likely to create lifeless monofunctional districts than vibrant and diverse areas (Vysniunas, et all, 2004).

Problem statement

Nowadays, the Calvary market has around 200 traders specializing in food, various domestic services and used car parts. Since its establishment in 1900 the market has been the largest food trading space in the center of the city and the only trading space available for small private entrepreneurs. Large variety of merchandise, possibility to buy fresh food directly from farmers and affordable prices attracts the visitors from the whole capital region. Vice versa, the guarantee of constant client flow makes the market attractive for local farmers and craftsmen. However, the municipality is planning to sell the land of the market to a developer which is planning to remake the market into "more modern shopping" place. The argument for such redevelopment is that the market is old and the conditions of the trading facilities do not meet the requirements for a modern trading area. While it is possible to agree that the market is in desperate need for changes, the plans to redevelop the market into a shopping mall can be argued. The aim of this thesis is to generate an alternative proposal to improve the current structure of the Calvary market.

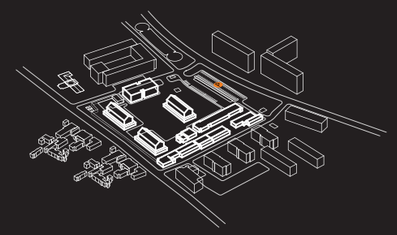
The plans of the municipality however have a slightly bigger agenda. First of all, Vilnius is facing a major sprawl issue. Almost 35% of current city population is residing in suburbs. This trend causes traffic problems, demands expansion of the city's infrastructure and consumes of the open green spaces surrounding the city. In order to solve these issues the city planners are proposing a solution – make the structure of the city center more compact. This can be achieved by densifying areas and redeveloping brownfields in the center of the city. The biggest redevelopment area is to the north of current CBD where the Calvary market is situated. It is proposed to make the urban fabric more dense and compact and create area that could form the new image of the city as a modern capital of Eastern European country. The market provides a contradiction to these plans as it is seen by the planners as an old relict of Soviet times, dirty, chaotic and associated with informality.

It is possible to agree on certain aspects of this new urban development agenda. The consolidation and densification of the current city fabric could indeed contribute to stop the urban sprawl. However, there are certain aspects of this agenda that can be critiqued and new insights can be added. First of all there are two documents regulating developments in the city center – Vilnius city masterplan (Vilniaus Planas, 2007) and Vilnius old town local action plan (URBACT, 2011). Both these documents focus on two zones – the international business district and the old town. The developments in the old town concern the preservation of the historical UNESCO protected heritage and the developments in the CBD concern building the new city image. However, these documents do not mention other parts of the city center which are struggling with vitality issues, such as the XVIII century center area which is currently a cluster of government institutions. What is more there are areas in the city center that can be potentially redeveloped into new residential zones with large housing capacity, however the masterplan mentions only the area north of the CBD. It is possible to conclude that the overall spatial vision, recognizing all the strategic areas and their potentials as well as development guides, does not exist. Since the spatial vision does not exist it is difficult to predict how these new developments will contribute to vitality of the city center. In this context the decisions such as replacement of the Calvary market are unclear and can be seen as potentially dangerous for vitality of the center.

The problem definition could be read as following: current plans of developing areas in the city center are fragmented and are not contributing to create the overall spatial vision for the center, or focus on social integration and creation of vital and diverse city life, instead the plans might trigger creation of lifeless neighborhoods and large scale retail centers that have negative impact on vitality of the city center.

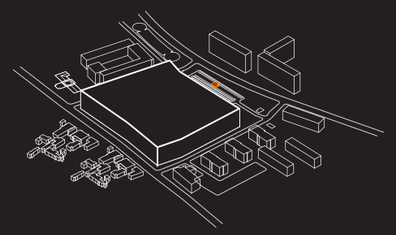
Problem definition mind map

1.



Calvary market is one of the most vibrant and diverse places in Vilnius city center...

2.



the market is about to be redeveloped into a new shopping center.

3.

The municipality thinks that the market is dirty, chaotic and doesn't really get well with the image of the new CBD which is just next to it.

IDEA !

4.

IDEA = $

The municipality plans to sell the land of the market to the developer which is planning to remake it into a new shopping center

5.

This is a pity because the market is one of the most vibrant places in the city. If there is something you need to buy and you don't know where to buy you will probably find it in this market. That is why people come from all over the city to this place.

6.

If the market is so nice, than why should it be redeveloped into something else?

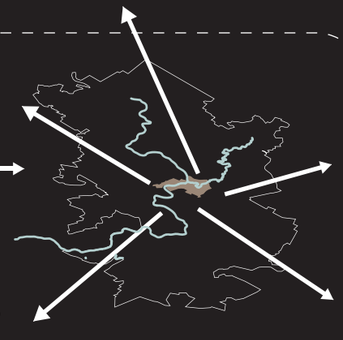
7.

Actually the city has a bigger agenda behind the redevelop-ment of the market.

8.

The city is sprawling.

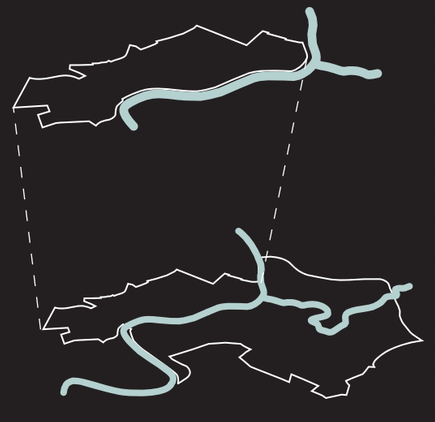
9.



It is predicted that in 2025 the population of the city will increase from 550.000 to 600.000. It is also estimated that till 2025 30.000 inhabitants will move to the suburbs.

10.

The planners are thinking that the north part of the city center is the area where space for new developments still exists. This is where the market is located. The city is planning to redevelop this area into new housing area -expansion of CBD.



SO... to propose counter measures for the sprawl problem the municipality wants to make the city center more compact and use the new developments as a way to improve the image of the city. The main development site is the area in which the Calvary market is located.

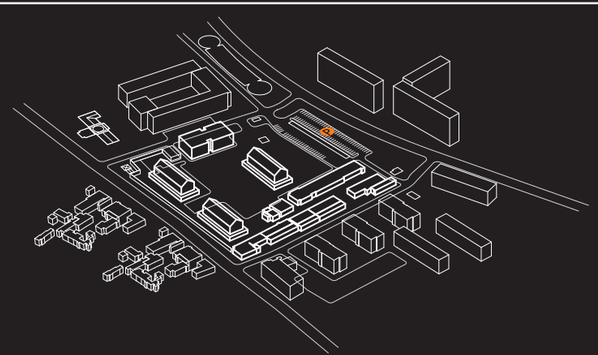
And actually that is not a bad idea..

But ...

New developments in the north of the city center...

...are supposed to form the new image of the city. Vilnius wants to look a bit like New York. However, Vilnius is not New York.
Recent attempts to create new yorks in Russia, Latvia and Lithuania end up with creating districts which are empty after offices closing hours.
They are usually very boring...

Current plans of developing areas in the city center are fragmented and are not contributing to create the overall spatial vision for the center, or focus on social integration and creation of vital and diverse city life, instead the plans might trigger creation of lifeless neighborhoods and large scale retail centers that have negative impact on vitality of the city center .



So maybe there is a possibility to develop the north of the center and the market while not making it very boring and lifeless. And maybe a market can help to do that???

How to develop areas in Vilnius city center ?

How to develop areas in the city center of Vilnius by integrating the Calvary market as a generator of vitality for new interventions?

How to generate vitality?

How to integrate the market into new developments?

Research question

How to develop areas in the city center of Vilnius by integrating the Calvary market as a generator of vitality for new interventions?

To simplify the research process the research question was divided into three parts

_How to develop areas in Vilnius city center?
In order to propose a design for a specific area in the city center it is important to define the context in which this project will be placed and how this new cell will contribute to the overall structure of the center and the entire city. To answer this question the investigation will be carried out in two scales: the city center and the metropolitan region.
First of all, the current urbanization trends of the city need to be investigated in order to identify the main urban development issues and their impact to the structure of the city. Also, predicted future development trends need to be analyzed to understand the future necessities, housing and job demands. The conclusion of the research in metropolitan scale will propose new development model for the city providing solutions to the main urbanization issues. In this new model the alternative redevelopment areas for the new housing program in the city center will be proposed in order to present alternatives for the sprawl.
The city center is analyzed to identify the mentioned potential redevelopment areas. Furthermore the urban conditions of the city center must be researched especially focusing on the aspect of vital city life in order to understand the measures that need to be taken in order to improve the living conditions in the city center and support the proposed alternative housing development areas. This research will be concluded with the vision of the city center. The vision will also provide new insights of the position of the Calvary market in Vilnius city center.
This research will be carried out mostly using empirical spatial analysis method.

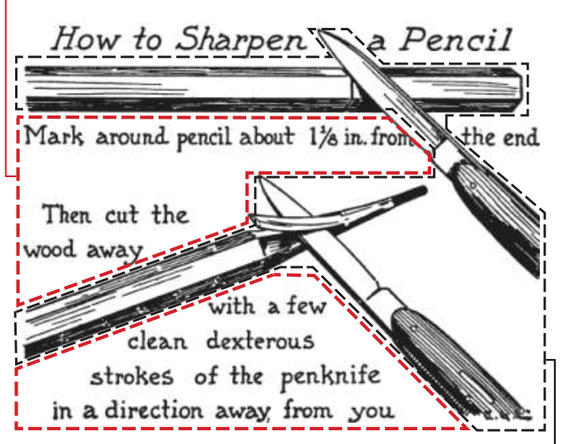
_How to integrate the market into new developments?
As mentioned before it is clear that the market needs changes. The new proposed vision of the city center will stress the importance of the market and its value. As the vision of the city center will propose changes to the physical structure of the city, it is necessary to identify how can the market be spatially integrated in the newly developed areas and stimulate the vitality? For this different models will be researched to find the best spatial configurations of the market and its surroundings. What is more, while comprehending the context of the market and its spatial configuration it is necessary to understand the possibilities the evolution of the market (functional and physical). For this the current structure of the market needs to be researched as well as programs and structures of other successful European markets.
This research will be done in several steps first of all spatial analysis of the market will be done. Second, case study of markets and their renewal projects will be done in order to propose more comprehensive program for the new market.

_How to generate vitality?
The introduction of this paper mentions that the biggest concern for the new developments in post-soviet cities is that these new developments usually create lifeless areas. As this project also aims to propose new developments in similar context it is necessary to investigate the conditions of vital city life in post-soviet cities.
This part of the research is a study of literature concerning subject of vitality. This study will form the core of the theoretical background of the project.

The structure of the project

The main product of this thesis is a design proposal for redevelopment of the market area. The supporting products will be the alternative development strategy for the city, vision for the city center and detail spatial model of the north part of the city center.
Although the project can be divided into research part and the design part there is no expectation that the research will provide all the solutions for the design. The research will prepare certain guidelines for the several design proposals (sketches) that later will be compared and evaluated. Following the results of the evaluation of the mentioned proposals and author's personal experience the final proposal will be generated.
The relation between the research questions, methods and final product is explained in the following diagram. ➔

Researching to know how and what to do.



Then trying different possibilities following the research conclusions...

... trying untill you get there

How to develop areas in Vilnius city center?
(empirical research)

Type of analysis: spatial analysis of the context (Vilnius City), spatial analysis of the city center.
Method: official planning document review (data and plans), mapping.
Sources: Vilniaus City Masterplan (Vilniaus Planas, 2007); Vilnius old town local action plan (URBACT, 2011);
Official documents will be reviewed in order to identify current structure of the city, main development plans and regulations, estimations regarding population fluctuation, job market and etc. The aim of this analysis is to understand the flaws of the current structure of the city as well as future development plans. The results of this analysis will help to position the subject in the structure of the city and city center, understand opportunities of this area and formulate certain parameters for design part of the project (such as density, number of inhabitants and program).
Mapping tool for the analysis of the city structure: mapping of the spatial structure of the city, mapping of the city street network, mapping of the city public transport network, mapping of the retail structure of the city, mapping housing development plans, mapping population densities.
Mapping tool for the analysis of the city center structure: mapping the spatial structure of the city center, mapping the street network of the city center, mapping public transport network of the city center, mapping of the landscape of the city center, mapping architectural typologies in the city center (office buildings, commercial buildings, education buildings).

How to generate vitality in post-soviet city?
(theoretical research)

Method: literature review.
The aim of this framework is to find the main conditions for vital city life in revitalized and newly designed areas in post-soviet city. The conclusions of this review will be used as guidelines for design part of the thesis.
As the conditions of vital city life were not thoroughly researched in post-soviet context this research was divided into two parts. First part discusses general conditions of vitality using the work of Jacobs (1961) as the main source, while enriching these ideas with more recent views of Campbell (1999), de Bois (2010) and Rieniets (2009). Second part of the paper focuses on adapting the results of the first part to post-soviet context. This is achieved by reviewing recent literature on post-soviet cities in order to find specific features of these cities that could be obstacles while trying to adapt conditions of vitality to post-soviet context (Goldhoorn & Sverdlov, 2009; Pagonis & Thornley, 2010; Stanilov, 2007; Vysniunas, et all, 2004). As a result four conditions for vibrant city life in post-soviet context were named.

↓

Type of analysis: historical analysis.
Method: literature review, mapping.
Sources: documents, maps and books relating history of the city (Drema, 2013; Grunskis, 2013; Vysniunas, Kirvaitiene , & Daunora, 2004)
This part of the analysis will review the historical development of the city, especially focusing on the Calvary market. This analysis aims to investigate historical development of the market and 'genius loci' of the market area. The results of this analysis will help to identify the vitality conditions that ensure that the market area is vibrant and diverse in contrary to other areas of the city center.
Mapping tool for the historical analysis: mapping historical development of the city.

How to integrate the market into new developments?
(empirical research)

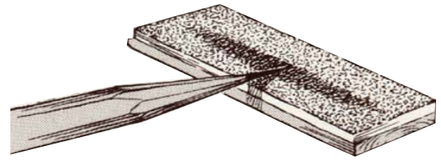
Type of analysis: spatial structure of market analysis.
Method: fieldwork, observation, mapping.
Source: photos taken during the site visit, sketch maps.
The aim of this analysis is to identify the structure of the market. It is necessary to recognize different sections of market (pavilions, kiosk zones, stall zones), their function, main utilities. Secondly, it is important to understand the logistics of the market, for example how the food is delivered to the market, where the food is stored. The results will help to establish pros and cons of the current structure of the market, identify which parts of the market need to be redeveloped and restructured.
Mapping tool for the historical analysis: mapping of the spatial structure of the market.

↓

Type of analysis: functional structure of the market.
Method: case study, mapping.
Source: Mercati generali market, Rome, Italy; (OMA, 2008); Market Hall, Rotterdam, The Netherlands (MVRDV, 2004); Santa Caterina market, Barcelona, Spain (EMBT architects, 2005);
The purpose of this study is to examine programs of different market. The results of this study will help to develop a comprehensive program for Calvary market.

↓

Type of analysis: comparison of several design proposals
Method: research by design.
Following the results of the analysis so far 4-5 design proposals (massing and program) will be designed, compared and discussed to comprehend the best sollution for the project.



Main product - **design for the market area.**

Supporting product 1_ **alternative city development strategy.** → Supporting product 2_ **Vision for the city center.** → Supporting product 3_ **detail of the north part of the city center (urban design proposal)** →

The City

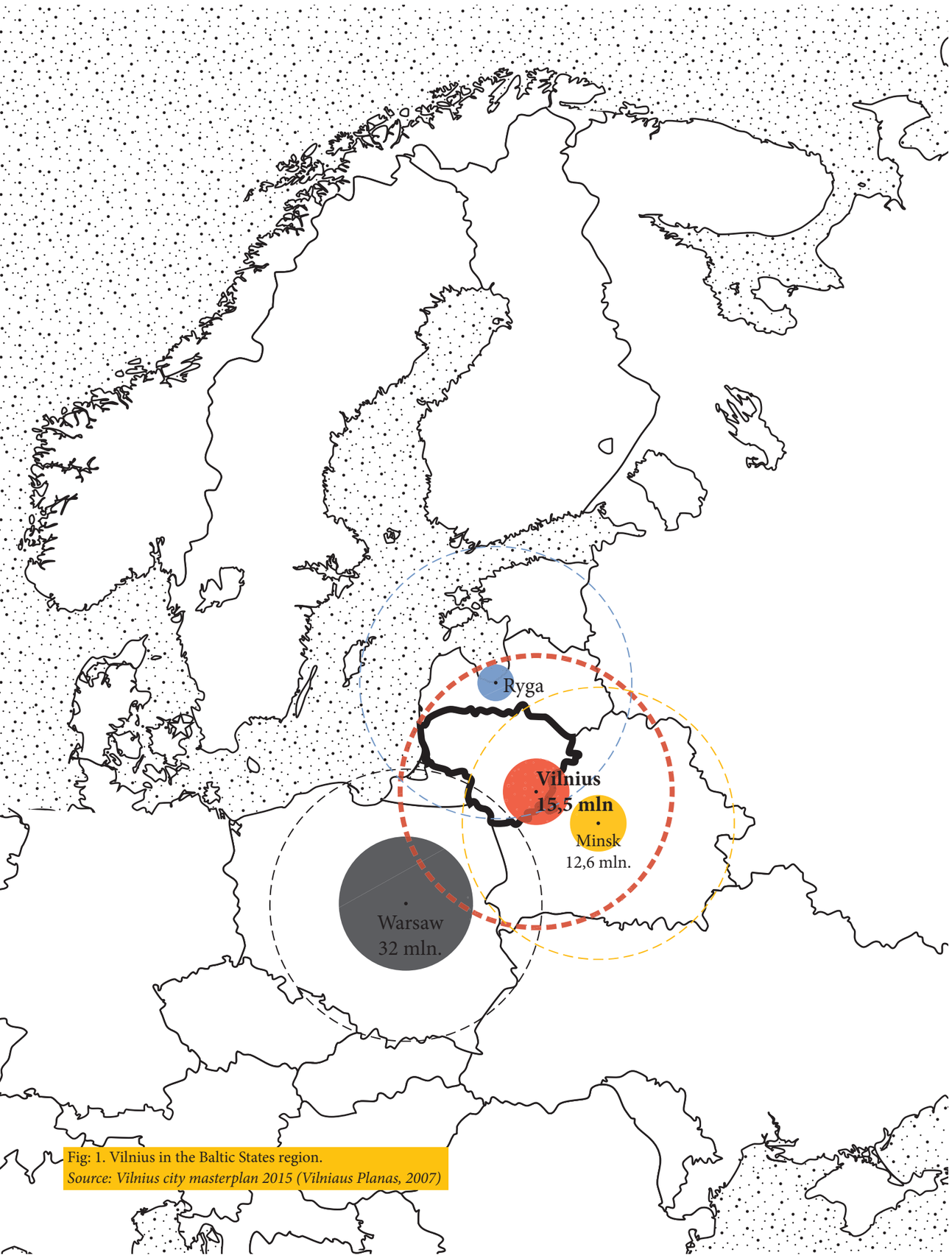


Fig: 1. Vilnius in the Baltic States region.
Source: Vilnius city masterplan 2015 (Vilniaus Planas, 2007)

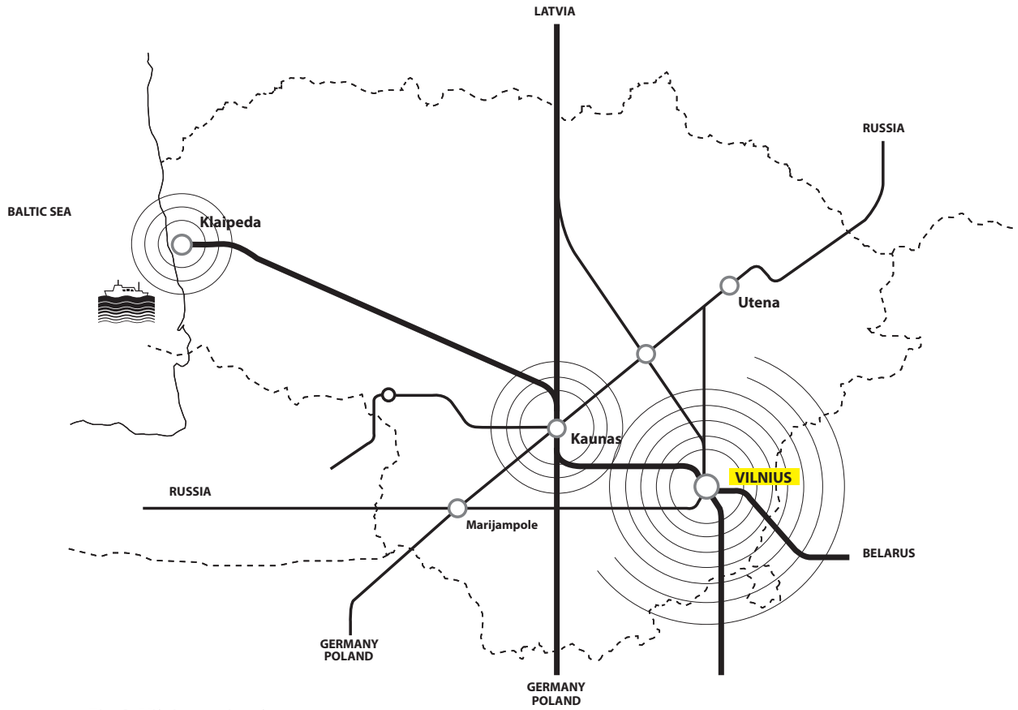


Fig: 2. Vilnius, national context
Source: Author's drawing.

Vilnius in the Baltic States region.

Vilnius is one of the most important economical centers in the Baltic States. The city is situated at the intersection of several major geopolitical, cultural and economic regions: Eastern, Northern and Central European (Vilniaus Planas, 2007). This geopolitical situation allows the opportunity for Vilnius to play important role as logistical junction connecting Central and East European markets such as Belarus and Russia. That is why the economic core of the city is mainly formed of logistical and service sectors. What is more, Vilnius region has one the largest markets in Baltic States with almost 15,5mln. people living in 300km radius around the city (Vilniaus Planas, 2007). Future plans of the government concerning the status of the city as the economic center of the region include high speed rail connection with Warsaw and Ryga (Latvia) for passengers and cargo as well as increasing capacity of the international airport to provide more accessibility opportunities for passengers.
In the national scale Vilnius is the largest city in the country with approximately 550.000 inhabitants. The city is a strong attraction node of the internal migration as it has one of the biggest job markets in the country as well as clusters of major educational institutions, and national health care institutions. Vilnius is just 100 km away from second biggest city in the country – Kaunas. Future ambitions are to merge the potentials of these two major cities in order to stimulate more competitive environment and provide basis for establishment of international European institutions and various economical formations .

Historical evolution

Historical analysis shows that since the establishment of the city in the 13th century the country was occupied 4 times which left a significant impact on its capital. Most important occupations were by Russian Empire in 1795 and by Soviet Union in 1944. During these two periods society was confronted with implementations of new social values, which were reflected in the new planning principles of the cities. The most recent Soviet occupation marks the urban expansion to the periphery of the city followed by establishment of 7 micro districts and vast industrialization (see fig. 3).
After independence in 1990 the country has taken a turn towards free market economy and western social values. Most significant socio-economic changes were almost complete collapse of industrial sector, liberalization and re-establishment of the private property, followed by privatization (Stanilov, 2007). These factors had an impact on the current structure of the city. Mentioned changes resulted in downgrading living standards in many areas of the city and especially the center. Furthermore, brownfields, especially in the center of the city, are consequences of collapsed industrial sector. Re-establishment of the private property and privatization has partly triggered migration to the suburbs and urban sprawl (Grunskis, 2013).
It is important to say that, some of these problems are followed by chain of other consequential issues. For example, urban sprawl caused intensive use of cities transport infrastructure and unsustainable car oriented development. In the next chapter current urban trends and the structure of the city will be further explained.

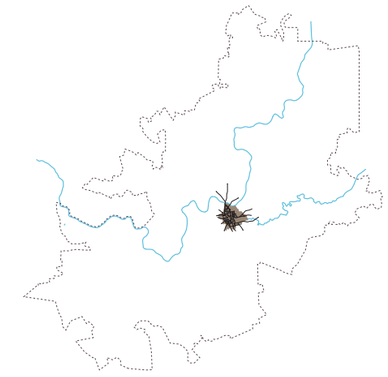


Fig: 4. XIII century
Source: Author's drawing

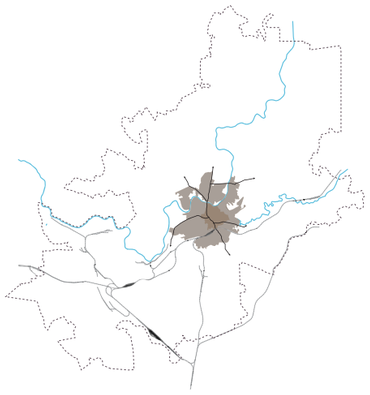


Fig: 5. XVIII century
Source: Author's drawing

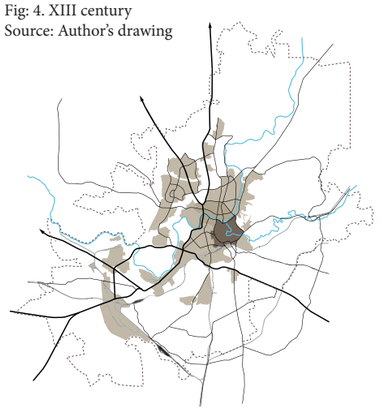


Fig: 6. After World War II
Source: Author's drawing

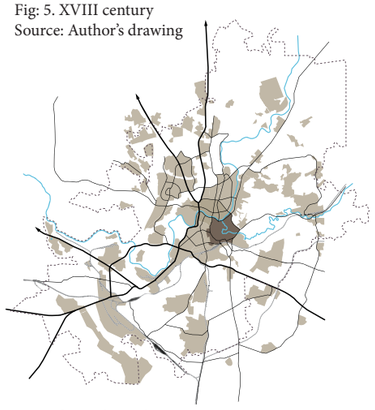
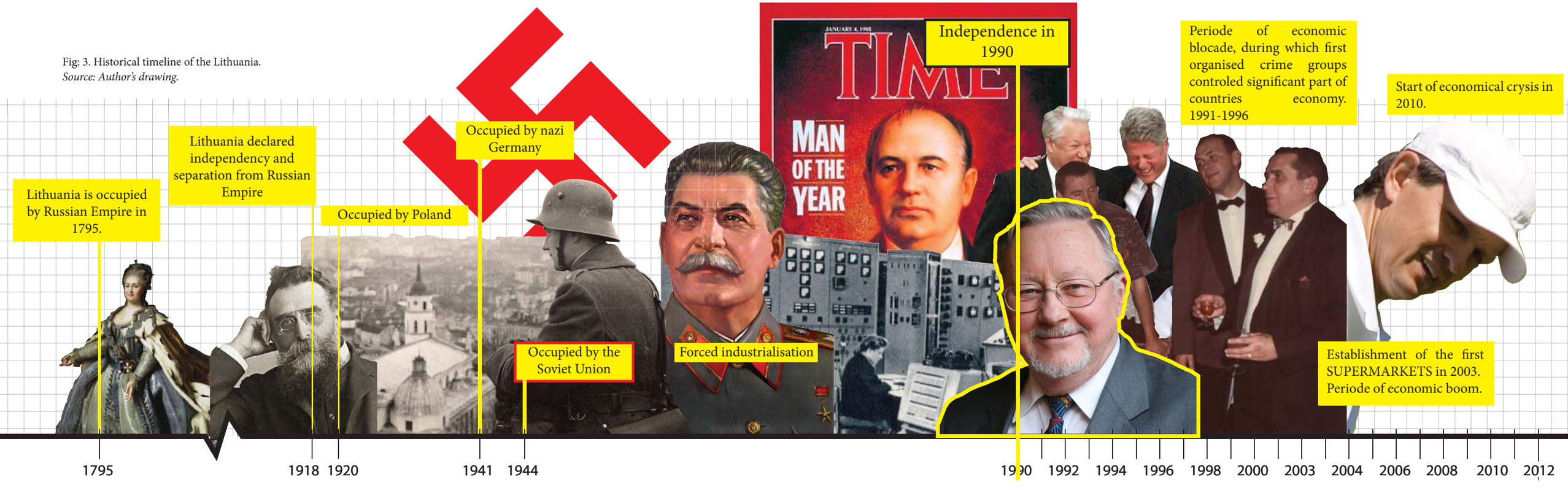


Fig: 7. After Independence
Source: Author's drawing

Fig: 3. Historical timeline of the Lithuania.
Source: Author's drawing.



The main elements of the city form and social structure

The structure of the city is composed of many layers. However, this thesis will focus only on several of these layers as they represent the most urgent issues or directly concern the redevelopment of the Calvary market. This chapter will name the main elements of the current city form and their interrelations.

Nowadays the city has developed into a polycentric structure with Soviet districts surrounding the city center. The center and Soviet districts form what is archetypically referred to as 'The City'. It is commonly thought so because of several reasons such as density of built environment, multifunctional character of the areas and etc. Important feature defining the area of "The City" is developed public transport and infrastructure network. Soviet era neighborhoods usually have centers clustering shops, educational and health care institutions. Spreading around the city are the sprawl areas - low density housing zones (Vysniunas, 2004). In contrary to the center or soviet districts suburbs are monofunctional and dependent on the city in terms of work, education and daily services. Important element of the city form is the green corridor extending from the south to the north. The green corridor is stretching along the river Neris connecting the main green public spaces of the city (two parks and a waterfront) with two large forest masses in the north and south of the city. The green corridor also separates the city center from the rest of the city and provides equal possibilities to access green spaces for the center and periphery residents.

The ethnical structure of the city is relatively diverse as 40% of the residents are not native Lithuanians. Currently there are 4 different ethnical minorities in the city with polish being the largest (20%). The biggest increase of the population was between the 1960 and 1990 during the Soviet occupation. Since then the population growth pace has decreased. Almost 50% of the current population is younger than 30 years .

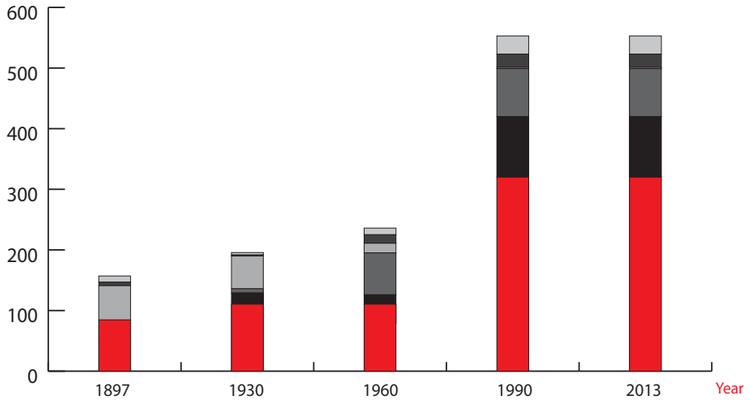


Fig: 8. Population and ethnical structure changes
Source: Departament of Statistics of Lithuania (LSD, 2007)

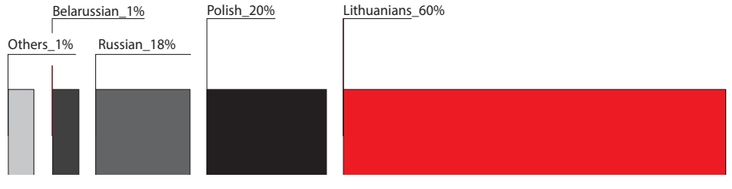
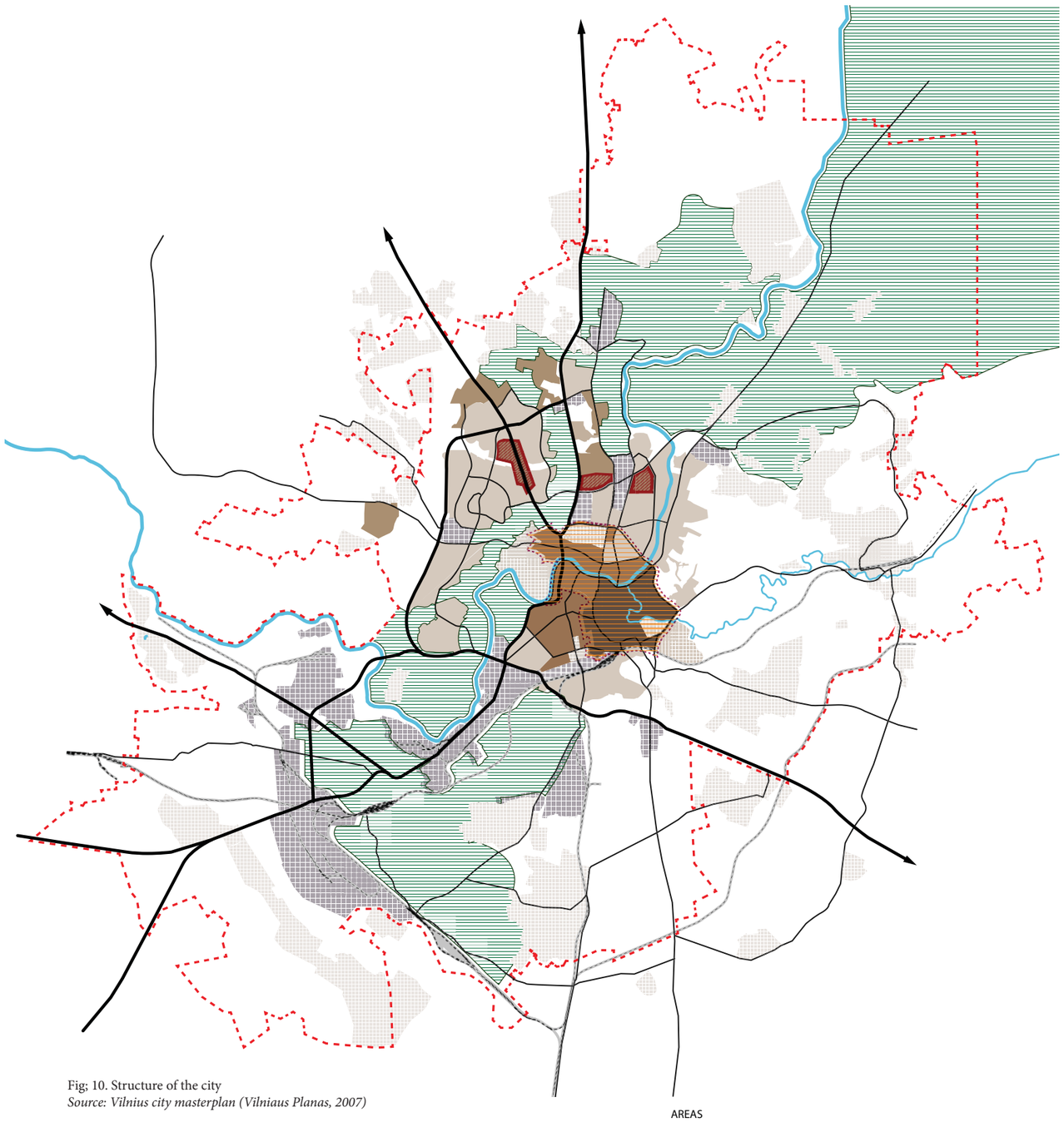


Fig: 9. Current ethnical structure.
Source: Departament of Statistics of Lithuania (LSD, 2007)



Fig; 10. Structure of the city
Source: Vilnius city masterplan (Vilniaus Planas, 2007)

Transport infrastructure network.

Historical analysis of the city reveals that the most significant expansions of the city were followed by comprehensive development of transport infrastructure. For example, the expansion of the city in the XVIII century was followed by vast development of the railway infrastructure which connected the capital city with some of the most important international economic centers (line Warsaw-Vilnius-Saint Petersburg established in 1850).
However, recent expansions of the city to the suburbs and establishment of the major logistical centers in the peripheral industrial areas of the city presented new challenges to the transport infrastructure. First of all, the number of passenger cars per 1000 inhabitants has increased from 190 in 1995 to almost 600 cars per 1000 inhabitants in 2013 (LSD, 2014). Also, cargo carriage by railway lines has significantly decreased due to lack of investment in railway infrastructure. As a result cargo carriage by trucks has increased almost 5 times since 1995 (LSD, 2014).
In contrary to most cities in west Europe, Vilnius does not have well developed ring road system directing heavy traffic away from the central areas of the city. Major highways connecting the logistic bases with the national highway system and suburban areas with the city center are crossing the city. Due to intense car usage, current transport infrastructure is not capable to support the growing number of cars. In response, municipality has launched the development of the city's ring roads to redirect the traffic. The ring road development will positively affect the cargo carriers, however if the city continues to sprawl in the same pace these measures might not be enough (Vysniunas, et all, 2004).

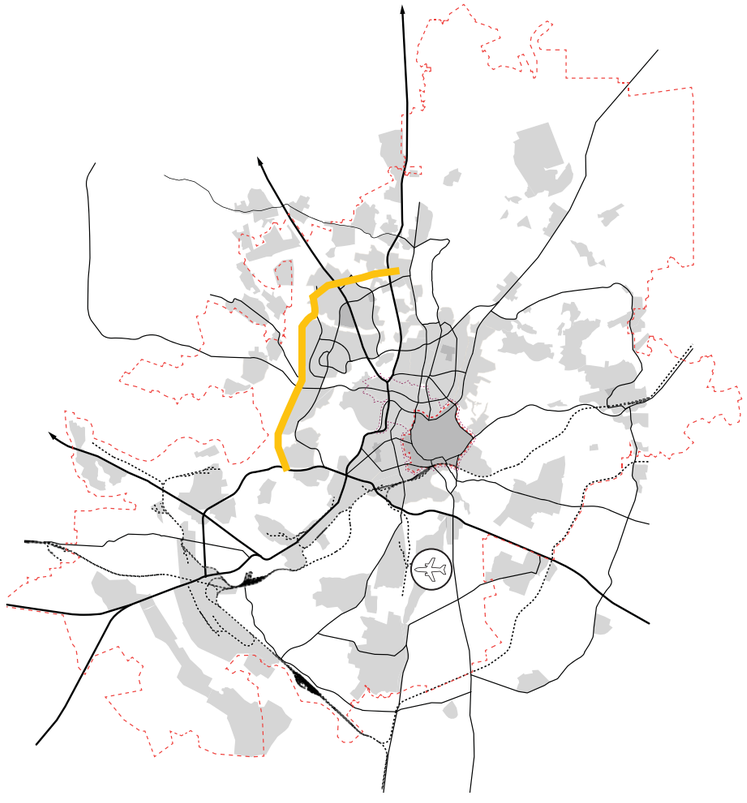


Fig: 11. Street and road network of the city.
Source: Authors drawing

Public transport

Currently the public transportation system consists of the bus and trolley bus networks. Bus network is more developed and connects the center with surrounding micro districts and several suburban areas. The trolley bus network is running on electricity and is only operational in the city center and its close proximity. Transport system is composed of several public and private carriers, which offer the passengers different services and connection alternatives. For example, some carriers offer lower passenger capacity vehicles providing express connections with the city center.
However, recent urbanization trends have raised new challenges for public transport network. First of all, the number of inhabitants increased from 450.000 in 1990 to almost 550.000 in 2014. Due to the lack of investment the network became infrequent and insufficient, which resulted in decrease of PT passengers and increase of car owners. Another drawback of the network is that it does not connect the new sprawl areas with the city which also results in increased car ownership.
New masterplan of the city sets up several improvements in the public transportation network in the city center. The most significant change is the replacement of old trolley bus network with the new tram network using the same electricity lines. However, no attempts to connect the city center with the sprawl areas have been made. This also means that if the city will continue to expand to suburbs the street system will become more and more crowded.

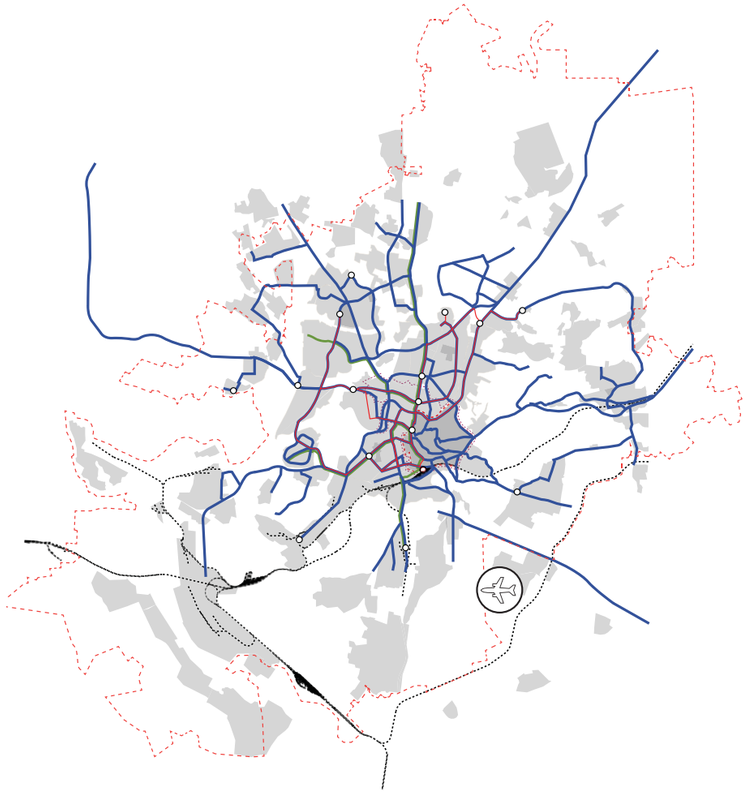


Fig: 12. Public transport network.
Source: Author's drawing

Recent housing trends in Vilnius:
_ **60 000** people changed their place of residence in 2012.
_ **11 000** came to live in **Vilnius** in 2012.
_ **1900** new flats have been built in Vilnius in 2012.
_The most popular are **65 m²** flats.
_**2000** flats sold in Vilnius in 2012.

http://www.swedbank.lt/lt/neigaliesiems/naujienos/view/1857

Urban fabrics

The subject of urban fabrics of the city is a topic that can be extended separately. This topic receives special attention from the planners and designers as it directly relates with housing, vitality of the city and image issues (Vysniunas, Kirvaitiene , & Daunora, 2004; Grunskis, 2013). This chapter will name the fabrics found in Vilnius.
It is possible to identify almost 6 different urban fabric types in the city. Significant characteristic of an urban fabric is the floor aspect ratio (FAR) and land coverage. These two factors help to define the housing capacity of the buildings and type of space created by them in certain areas.
Significant feature of Vilnius is that village type fabric is the predominant type and could be found not only in the suburban areas outside the city but also in several areas in the city center. This means that although the city is sprawling there are several areas in the center where the density has not reached values common to the city center of Vilnius and other centers of European cities. Another fabric type raising concerns of the city planners is the modernist planning soviet housing areas, which can also be found in several areas in the city center. At this moment it is rather difficult to separate public and private spaces in these neighborhoods as well as generate vitality of the public realm without proposing radical changes (Rieniets, et all, 2009).
The historical city block type fabric is seen as the most valuable and suitable for the city center as it helps to create condense spaces and vibrant city life (Vysniunas, et all, 2004). The current masterplan suggest consolidation of the current structure of the city center in order to stop the urban sprawl. This means that low density village fabric areas will be replaced by dense city blocks similar to those found in historical parts of the city.
Although it is possible to agree that consolidation of the current structure of the city center could contribute to prevent the sprawl it is also necessary to consider that variety of different urban fabrics also contributes to a diverse image of the city center. Furthermore in the design part of the project it is necessary to investigate the possibilities to maintain some fragments of the existing low density fabric type in the city center in order to create more diverse environment.

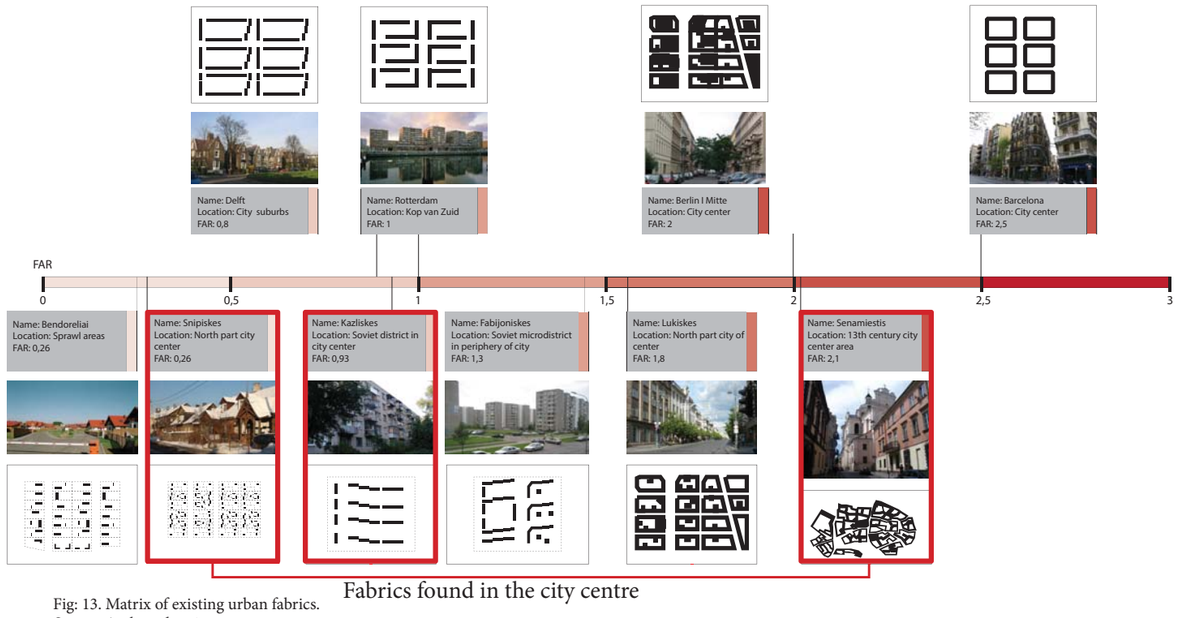


Fig: 13. Matrix of existing urban fabrics.
Source: Authors drawing

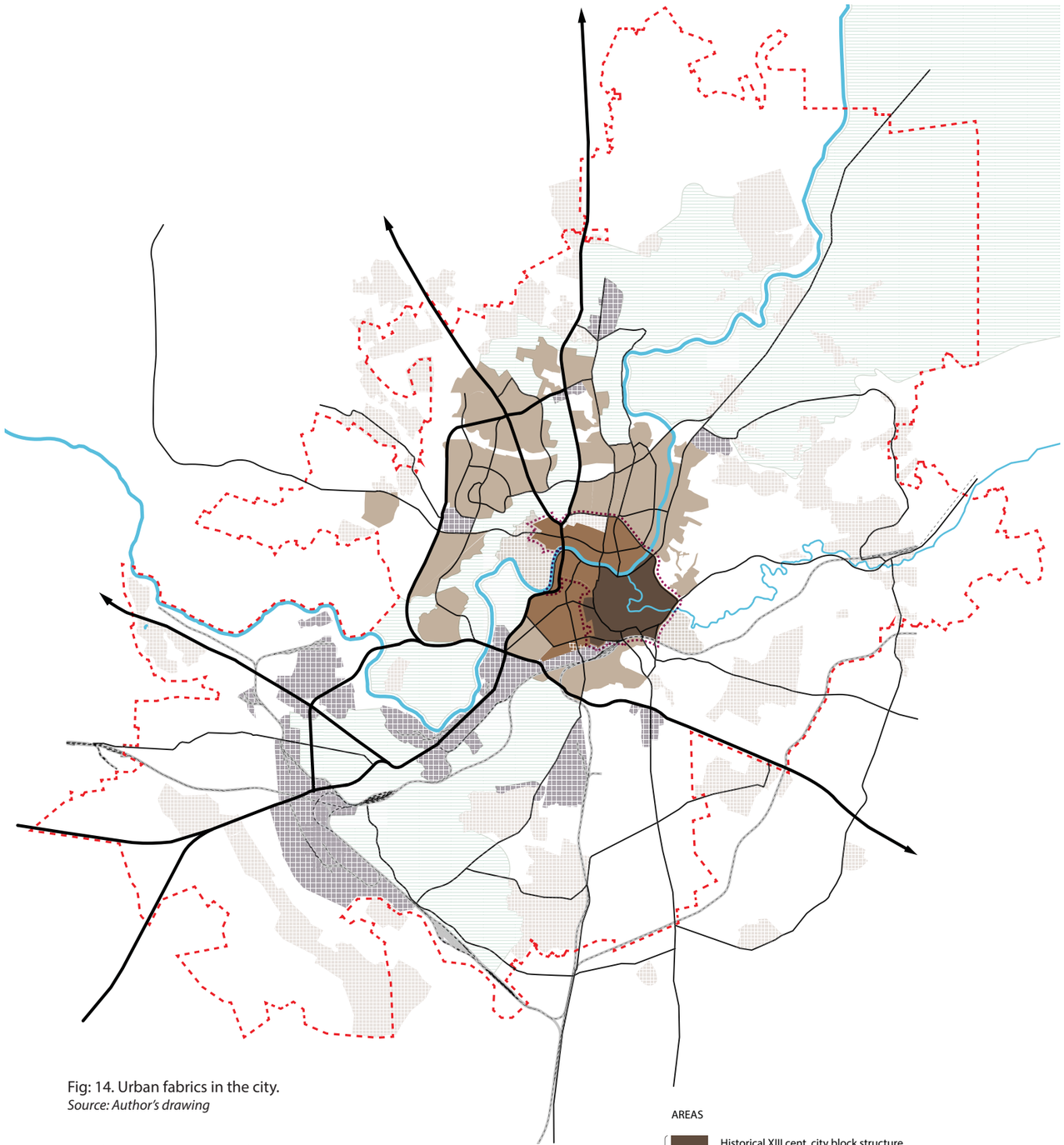


Fig: 14. Urban fabrics in the city.
Source: Author's drawing

Historical XIII city block fabric.
FAR: 2.1

Soviet housing block fabric
FAR: 1.3

Historical XIII city block fabric.
FAR: 2.1

Village type urban fabric
FAR: 0.2

Housing capacity

Currently Vilnius has around 550.000 residents. Almost two thirds of the residents are living in the city center and soviet housing areas surrounding it, one third of current population are residing in suburbs. The useful housing area has reached almost 23 m2 per capita in 2014 (Vilniaus Planas, 2007). It is estimated that the number of residents as well as the number of useful housing area will continue to grow in the next 10 years. There are several demographic trends allowing the prediction of the population growth: increased internal migration and positive natural birthrate in the city. It is estimated that in 2025 there will be around 600.000 people living in Vilnius.
The current masterplan of the city determines how the planned growth of the population will be distributed through the city. It is estimated that the total number of residents of suburban areas will increase from 150.000 to 180.000 in 2025. At the same time the number of residents in the center and soviet districts will decrease. This is rather disturbing considering the fact that there are currently no plans to expand the existing public transport infrastructure. These trends show that the city growth and expansion of the city will

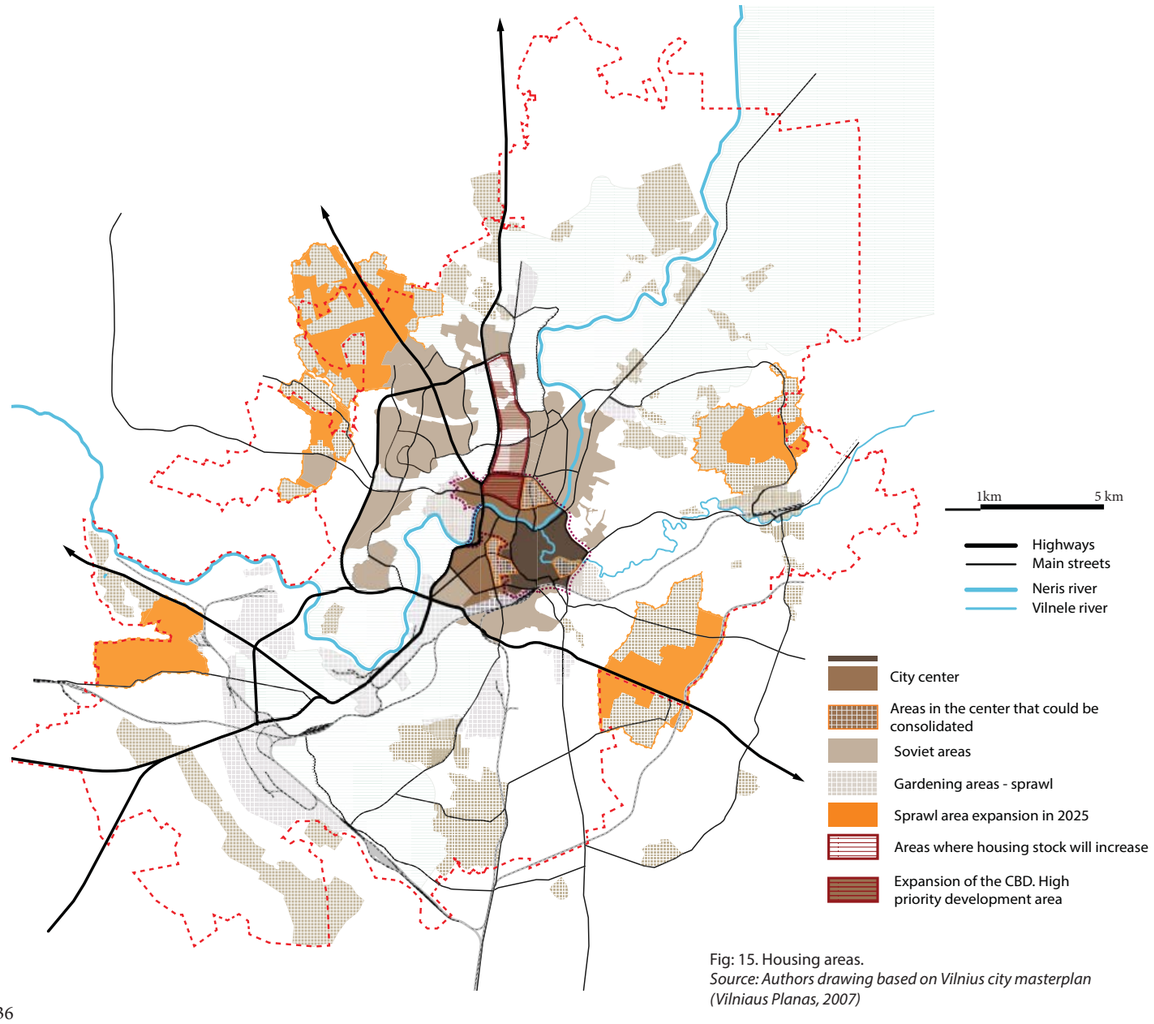


Fig: 15. Housing areas.
Source: Authors drawing based on Vilnius city masterplan (Vilniaus Planas, 2007)

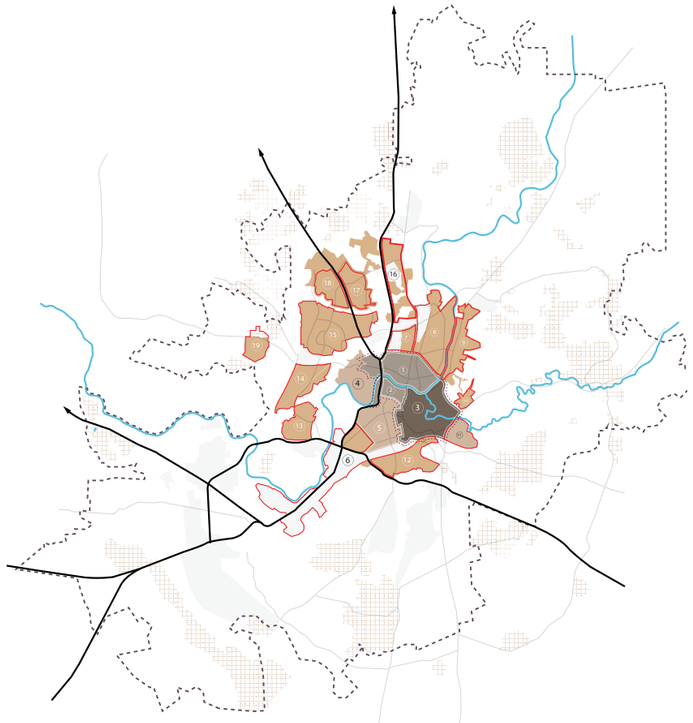


Fig: 16. Areas in the city
Source: Vilnius city masterplan (Vilniaus Planas, 2007)

Nr.	Name	2004	2015	2025
1	New Center	7.500	9.500	11.500
2	Center	7.200	6.000	5.000
3	Old Town	19.300	18.000	16.000
	Total	34.000	33.500	32.500
4	Zverynas	12.300	11.000	10.500
5	Naujamiestis	22.600	22.000	21.500
6	Vilkpede	18.600	17.500	16.000
7	Snipiskes	15.000	17.000	19.000
8	Zirmunai	44.800	44.800	45.000
9	Antakalnis	26.900	26.000	24.500
10	Belmontas	7.500	7.500	7.500
11	Rasos	5.200	5.000	5.000
12	Naujininkai	25.500	24.700	24.000
13	Lazdynai	32.400	30.200	28.000
14	Karoliniskes	31.400	28.600	27.000
15	Virsuliskes	53.000	51.000	49.500
16	Baltupiai	12.800	12.800	14.000
17	Fabijoniskes	36.600	35.000	33.500
18	Pasilaiciai	25.100	27.300	29.500
19	Pilaite	15.500	21.000	27.000
	Total	385.200	381.400	381.500
20	Suburban areas	132.800	151.000	186.000
	TOTAL POPULATION OF THE CITY	552000	576000	600000

Fig: 17. Population distribution in different districts 2004, 2015 and 2025.
Source: Vilnius city masterplan (Vilniaus Planas, 2007)

move further away from sustainability.
However, the masterplan also determines that several soviet microdistricts will be expanding. Also the mentioned low density area to the north of the current CBD is going to be redeveloped into housing area for 20.000 inhabitants. It is also necessary to mention that there are several unused brownfields and other conversional areas in the city center such as prisons that do not contribute to the city life and can be redeveloped. These strategic intervention areas will be discussed in the further chapters

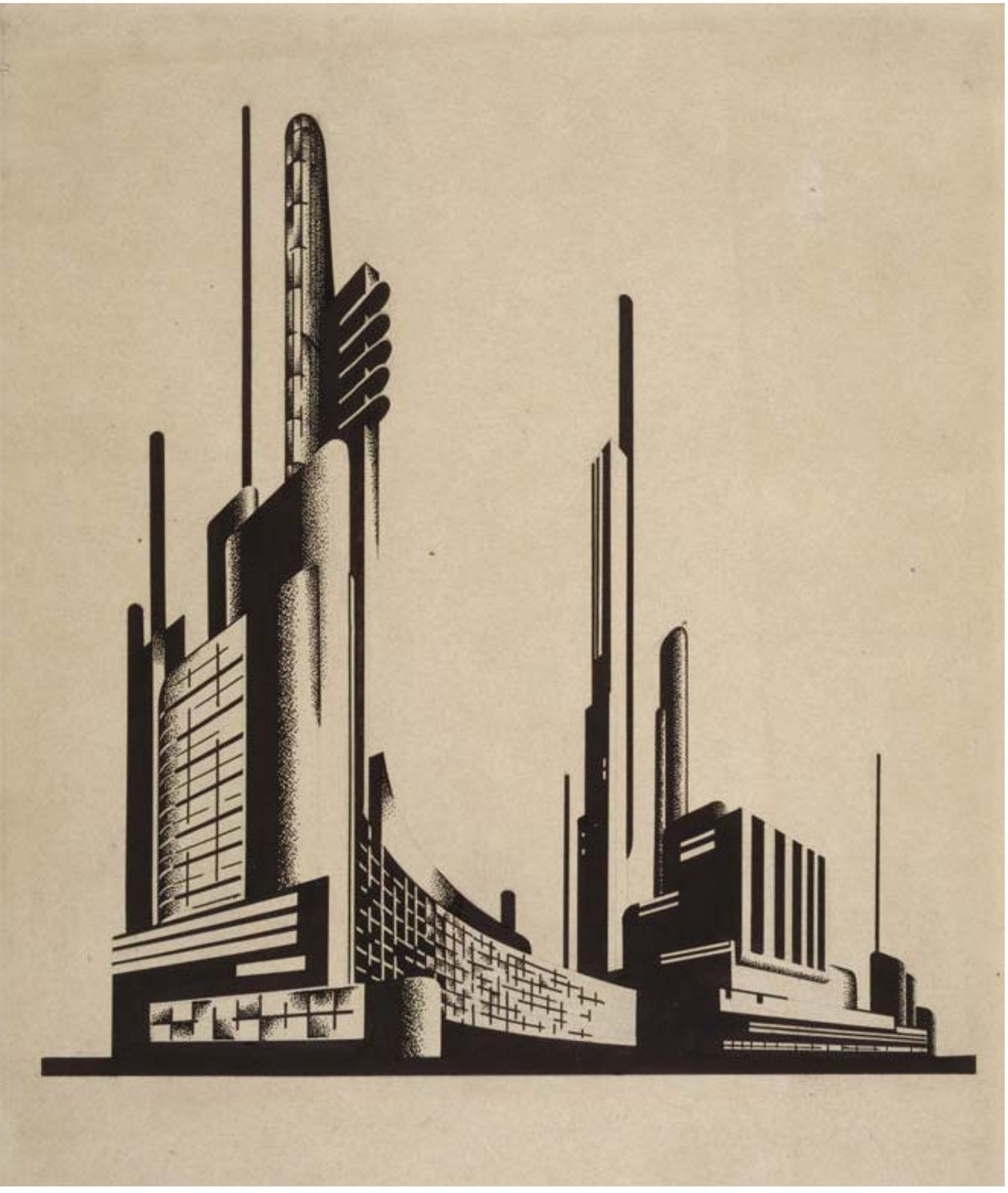


Fig: 18. Salaries and pensions
Source: http://www.stat.gov.lt/en/home

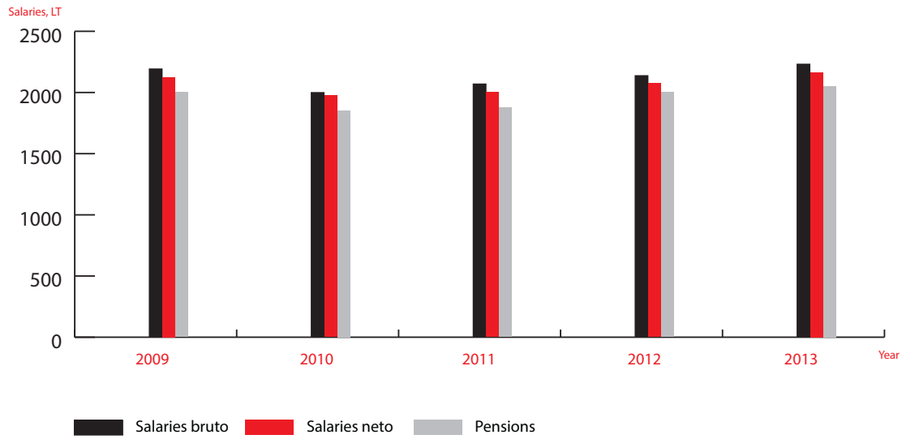
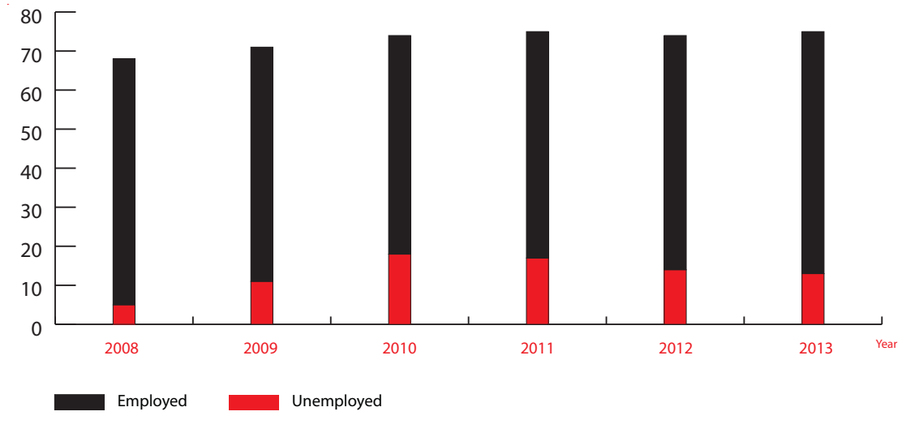


Fig: 19. Employment.
Source: http://www.stat.gov.lt/en/home



Jobs

As mentioned before Vilnius together with a second largest city Kaunas form the economical core of the country. Almost 40% of the national GDP is generated in this area. Sectors like logistics, service, administration, mediation and knowledge economy form the economical core of the city (Vilniaus Planas, 2007). In this chapter the relations between different industries and the spatial structure of the city will be elaborated.

Manufacturing industry.
During the Soviet occupation the economical core of the city was formed by manufacturing industry. Many major industrial areas were located in close proximity to the city center and railway line. Since the industrial sector suffered major collapse after declaring independence most of these areas in the city center are currently brownfields or closed compounds that do not contribute to vital city life in the center. These zones could be potentially converted into multifunctional structures combining variety of functions. It is also proposed to stimulate light manufacturing industry outside the city center in designated industrial areas. This sector will focus on assemblage of furniture, prefabricated building materials and etc. In the following 10 years it is planned to create around 8000 new working places in these peripheral industrial areas. These zones are planned within close range to the soviet housing districts in order to provide alternative mobility possibilities for the workers.

Science industry.
Current plans to improve the city's economic sector include reinforcement of two major knowledge clusters. One cluster located in the north of the city is related with medicine and bioengineering. This cluster is gathering all national hospitals, treatment facilities, pharmacy companies and related educational facilities. Another major knowledge cluster is located in the north east of the city and gathers campuses of three largest universities in the country. It is planned to build housing for 2000 students in the campus in addition to the existing housing program, it is also planned to build students housing in the city center (the numbers are not specified) (Vilniaus Planas, 2007).

Logistics industry.
The new masterplan determines several areas for expansion of the logistical sector. These areas are located close to the northern and western highways of the city, the international airport and the railway lines.

International business district.
The international Vilnius business district is established in the city center, on the northern bank of the river Neris. This project is seen as of national importance as it strongly reflects the image of the city and the whole country. Most of the property in the CBD is owned by the international companies mostly from Denmark, Sweden, Finland, UK and Russia. The current masterplan designates the expansion of the business district. The area will be expanded to the north, consuming the land of currently low density village type settlements. It is planed to create 20.000 new working places in the new CBD.

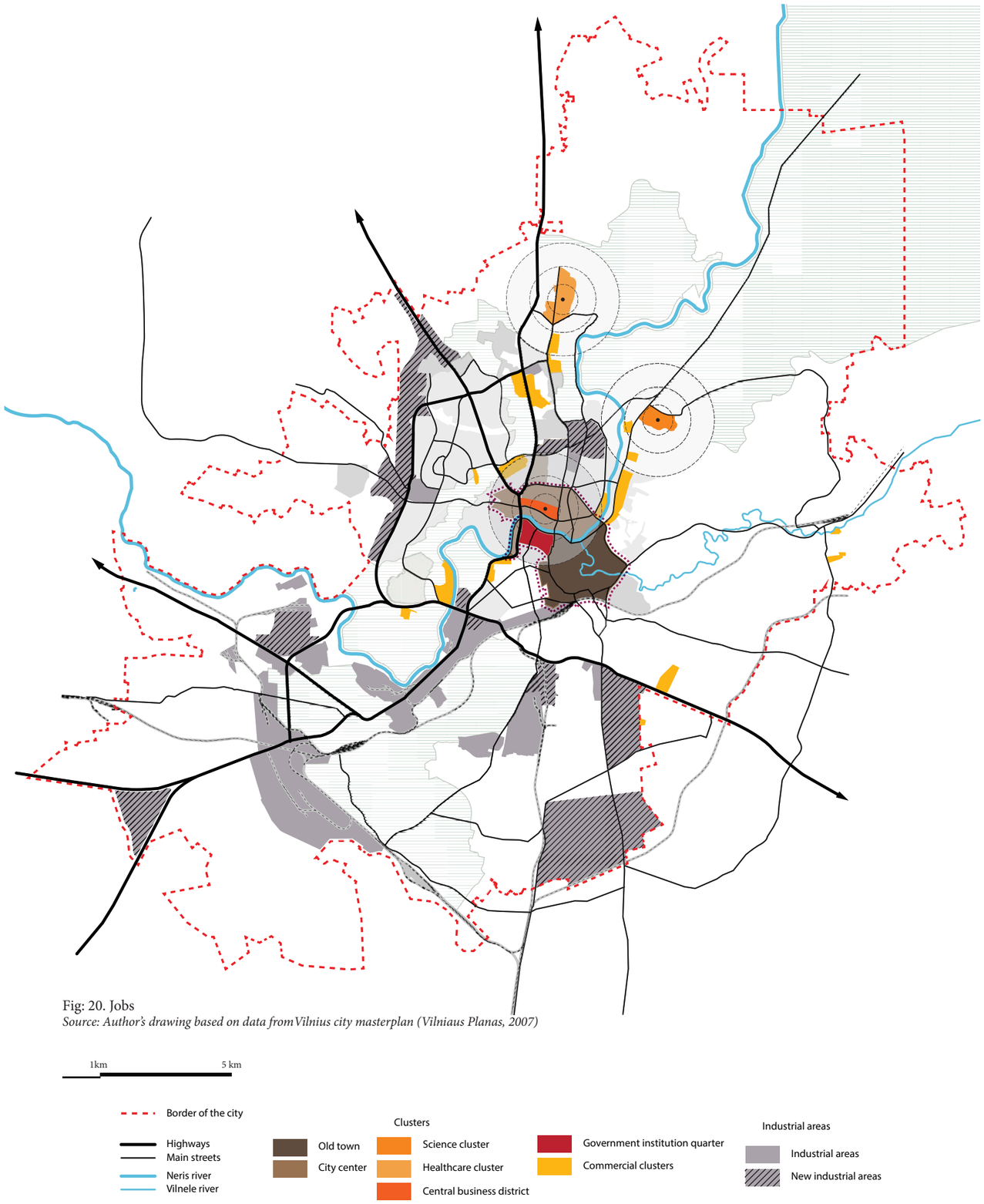


Fig: 20. Jobs
Source: Author's drawing based on data from Vilnius city masterplan (Vilniaus Planas, 2007)

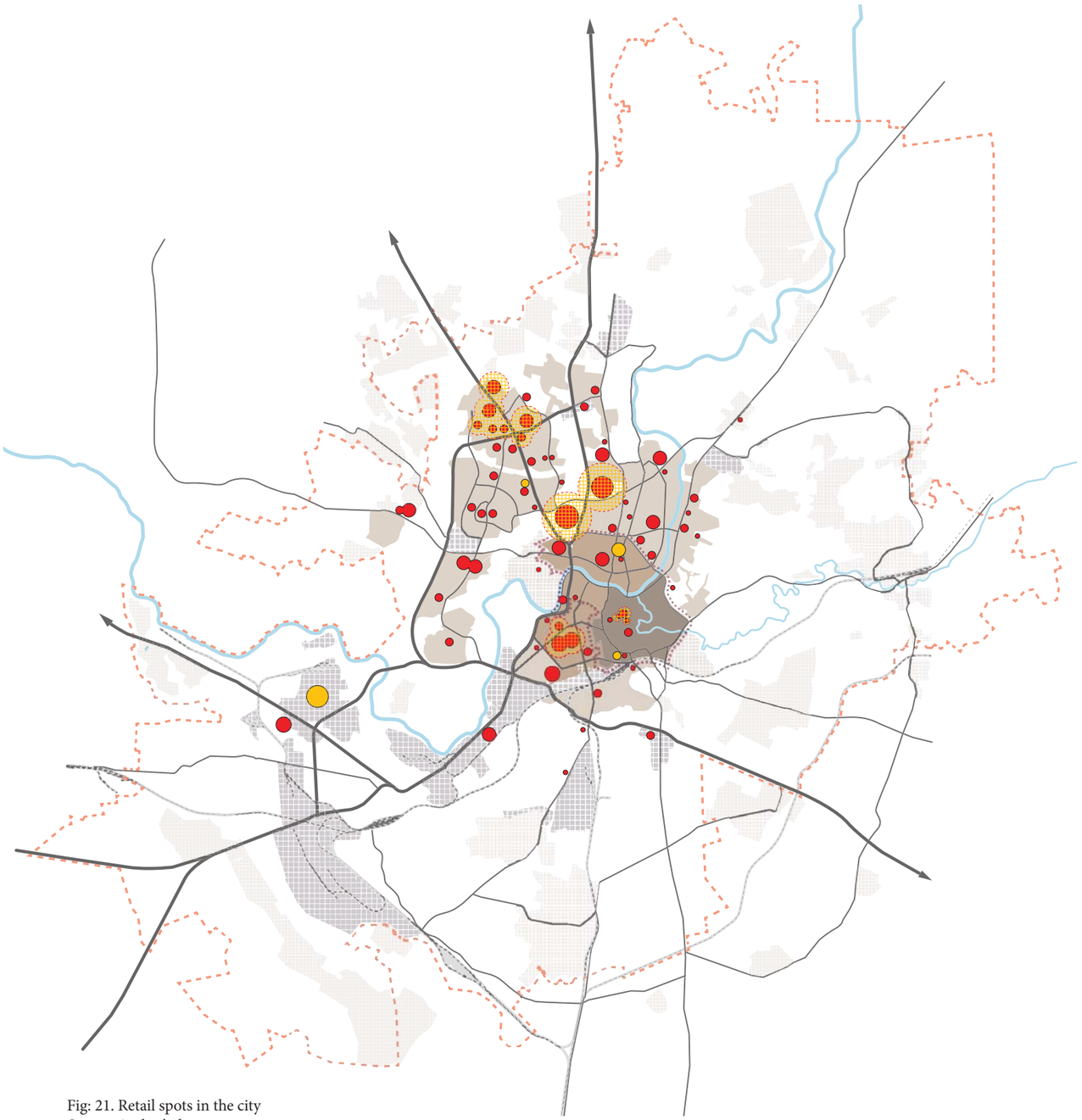


Fig: 21. Retail spots in the city
Source: Author's drawing

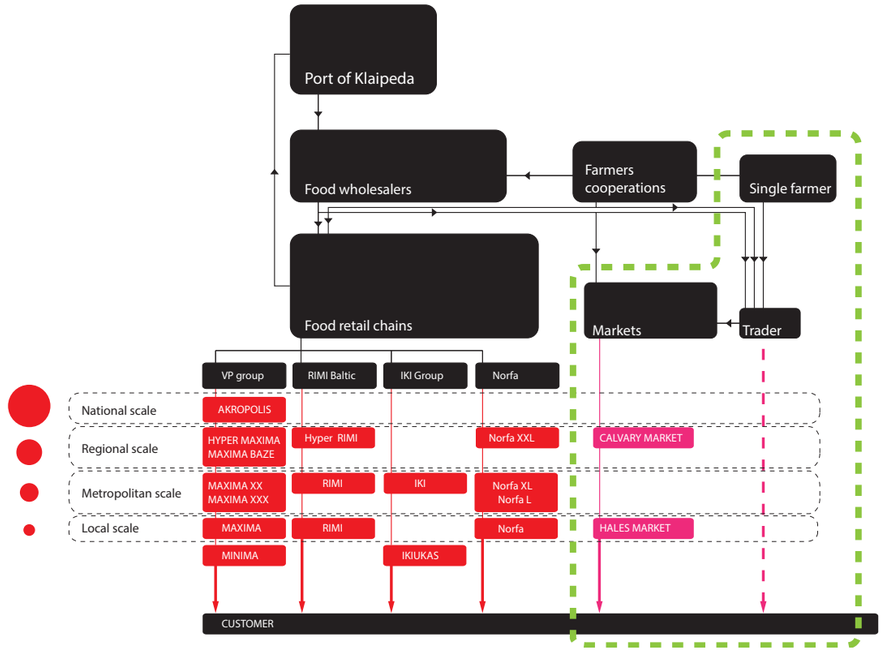


Fig: 22. Food retail market structure of the country.
Source: Author's drawing

Retail

Structure of retail and distribution of commercial activities has a direct influence to vital city life. As this thesis is more focused on the vitality of the city center, the following chapter will illustrate how the distribution of the commercial activities and the country's retail structure influences the vitality of this part.

The diagram above illustrates the overall food retail structure of the city. The similar diagram can be used to describe the distribution of any other product in any other city of the country. One can instantly see that food retail chains work with network of food wholesalers and distributors instead of purchasing supplies directly from farmers. What is more, there are currently 4 major food retail chains and 2 foreign chains planning to enter the market. Every retail group has divided its structure into different size stores working on 4 different scales. This wide network of different size stores allows the chains to monopolize the market. That is why large supermarkets can demand very low prices from their suppliers as they simply do not have the opportunities to sell their stock elsewhere, this allows the chains to offer relatively low prices which makes it impossible for the small scale traders and shop owners to compete.

This structure of retail impacts the city. Since 2004 the number of small scale shop owners has decreased almost 95%. This means that there are almost no grocery stores, butchers stores or bakery's left in the city. Furthermore establishment of national scale shopping malls in close proximity to the city center has negatively influenced the vitality of this area. Many shops that used to operate in what is now lifeless areas of the city center moved to these centers as they provided better accessibility options and possibility to be seen by large flows of customers.

In contrary to these trends there are several open air markets clustering small scale traders, entrepreneurs, farmers and craftsmen. The largest of these markets is the Calvary market. As mentioned before market provides a possibility to purchase stock directly from the source, negotiate the price and track where the food is coming from. This make the market a very unique alternative for the shopping mall.

Shopping mall

Seasonal 2-3 day markets

Shopping street

Open air markets

Problems

Although it is possible to identify number of issues concerning the structure of the city, this project will only focus on those that have a direct impact to the subject of the thesis – area of the Calvary market (market and nearby village). These problems are identified as the most prominent problems of the current city structure and can be separated into two groups.

1.Problems concerning vital city life.

Vitality problems related with the retail structure of the city.

Most immanent threat to the vital city life and especially diversity and vitality of the city center are large shopping clusters in the close proximity to the city center. These structures are better accessible than many shopping areas in the city center. In result the center is losing its visitors. Furthermore, the analysis of the food retail market structure shows that this sector is almost completely occupied by large companies that managed to drive out almost any small scale private entrepreneurs from the city which also has its negative impact on the vitality of public realm. These traders only exist in few open air markets, biggest of which is the Calvary market. Preservation of this trading form is vital to the city as these markets provide the employment opportunity for socially fragile groups, allow the possibility to purchase stock directly from craftsmen and farmers eliminating the middle chain of resellers. What is more, the markets usually have vibrant and diverse character that is relatively different from monotonic shopping malls.

Recommendation: The new vision for the city center and the design proposal for the market should create possibilities for small scale entrepreneurs and traders, encourage creation of clusters where small businesses can support each other and create synergy.

Vitality problems related with function of certain areas.

It is possible to identify several areas that fail to contribute to vibrant city life. These areas are referred to in the masterplan as the monofunctional clusters. For example, closed compounds like prisons and hospitals consume large areas in the city center, although their function does not contribute to vibrant city life. There are also several business districts and administrational areas, including the current CBD, which are occupied by buildings of institutions or offices. These areas do not have sufficient amount of inhabitants or mix of functions to generate vital city life.

Recommendation: In this academic project it is necessary to propose the relocation of compounds that functionally do not contribute to vital city life. It is possible to propose redevelopment of these areas in order to increase housing capacity and enrich lifeless areas with necessary functions.

2. Problems related with the structure of housing areas.

Almost one third of the city residents are living in the suburban areas. It is estimated that the number of suburban dwellers will increase from 150.000 to almost 180.000. As the migration to suburbs is quite rapid (almost 3000 people every year) the infrastructural network of the city including transport infrastructure, public transport, electricity networks, sewerage and water supply are not expanding fast enough to support this growth. That is why many suburbs do not have sufficient sewerage, road network or public transport connecting them with the city. What is more, these areas are completely monofunctional, residents living in the suburbs are dependent on the city in terms of work, education and other basic human needs. As mentioned before, this functional dependence between the suburbs and the city causes problems related with transport infrastructure.

Recommendations: It is necessary to look for possibilities to enrich the suburbs with function in order to contain the sprawl impact. Furthermore, it is necessary to look for the possibilities in the city center to propose alternative housing program.

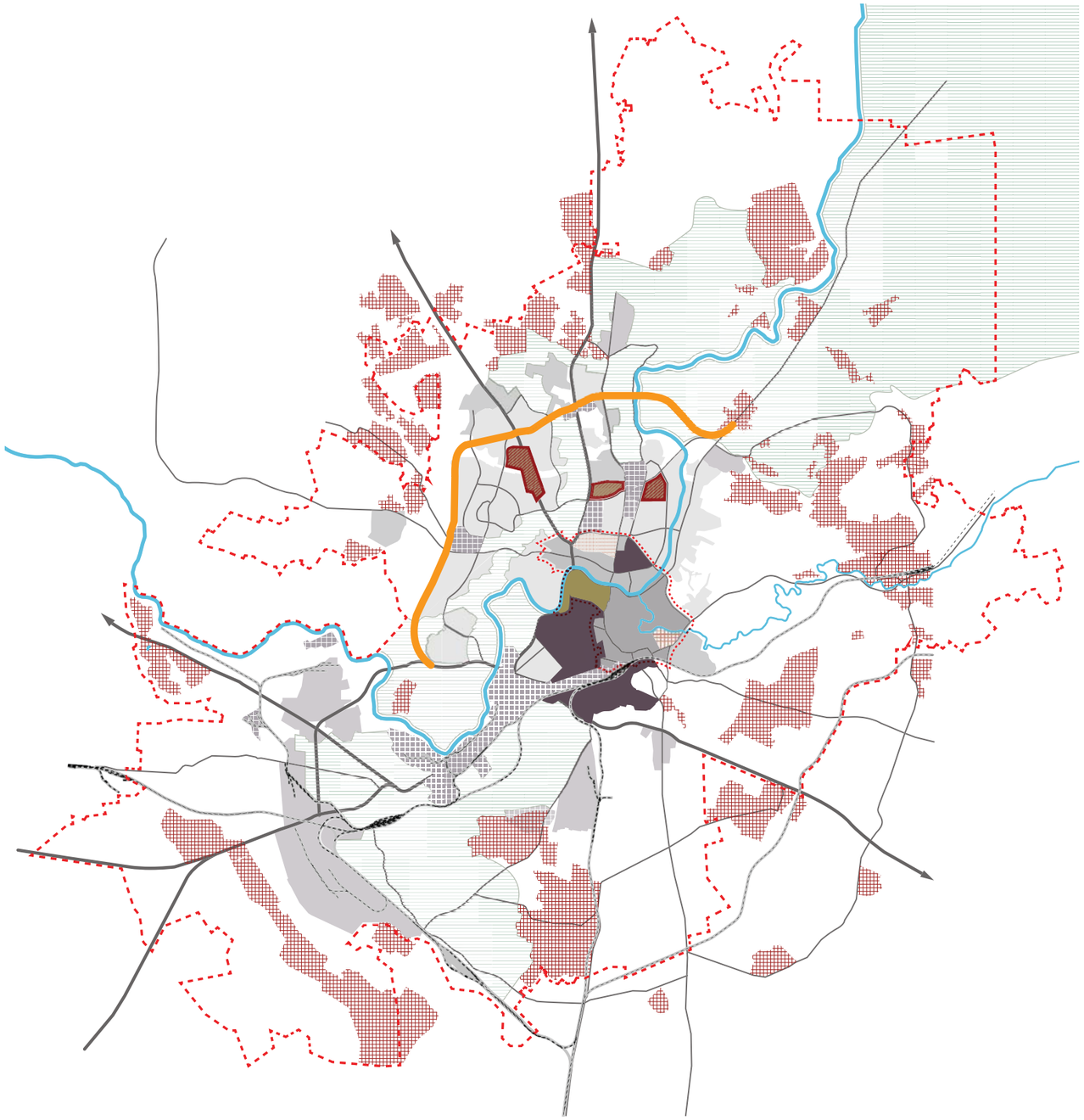


Fig: 23. Problematic areas
Source: Author's drawing

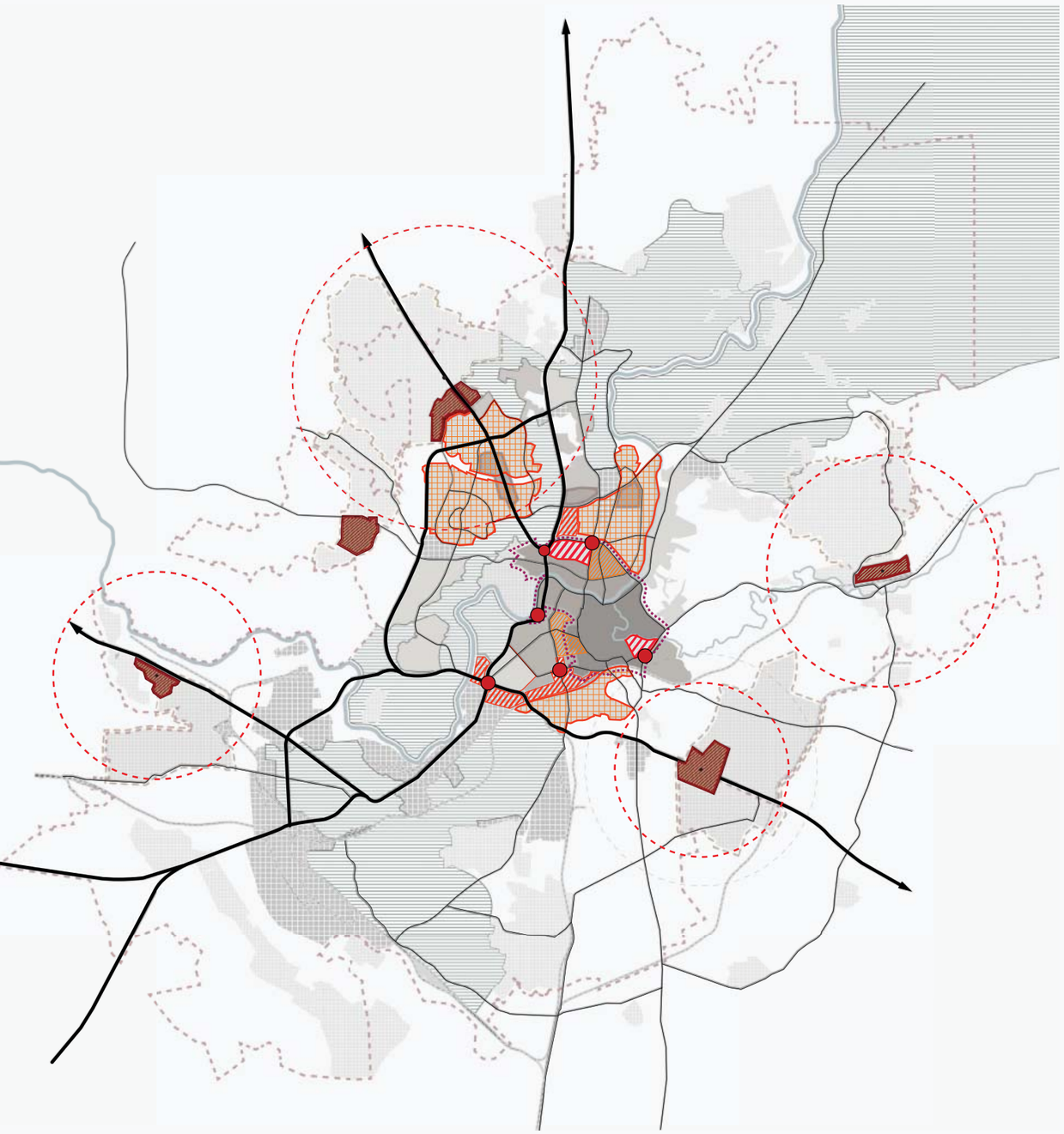


Fig: 24. Potential areas
Source: Author's drawing

Sollutions proposed by the masterplan.

Current masterplan of the city recognizes that the sprawl areas will continue to grow, it also recognizes that issues caused by this urban trend, such as traffic problems, need to be dealt with. There are several measures imbedded into the masterplan that could potentially stop the sprawl or at least slow its expansion.
The masterplan proposes these measures to reduce the impact of the sprawl to the city: development of ring roads and creation of multifunctional clusters in the sprawl areas. It is hoped that the clusters will provide suburbs with sufficient mix of functions and decrease the commuting to the city. The ring roads will most likely distribute the traffic and redirect the cargo carriers further away from the city center. What is more, it is planned to renew soviet housing areas improving the housing quality conditions, energy efficiency and parking. It is planned that as the living quality increases, these areas will become strong alternatives to the suburbs. The fourth measure is to consolidate and regenerate areas north to the current CBD (housing for 30.000 people). Increased fabric densities and new housing program will most likely provide strong alternative for those willing to live close to the old town and major business district.
Although it is possible to agree with most of the measures proposed in the masterplan, however there are strategic areas in the city center which potential was overlooked. Furthermore, the masterplan does not provide answers to the mentioned vitality issues.

Alternative proposal

It is possible to divide the city by function in three different areas: highly multifunctional city center, semi monofunctional soviet neighborhoods and suburbs. Soviet housing areas have their multifunctional clusters, providing neighborhoods with basic functions such as retail centers, kindergartens, health care centers and etc. However, most residents in these areas as well as those living in suburbs usually work in the city center. The city center is the major cluster for work, education and leisure although it is inhabited only by 4% of the total population of the city. At the same time the city center is not consolidated. In order to propose alternative city development model the redevelopment of brownfield areas, low density village type settlements, compounds and consolidation of soviet housing areas in the center must be considered. The masterplan predicts that the number of residents will increase by 50.000 till 2025. It also predicts that 30.000 new inhabitants will move to suburbs and 20.000 to new CBD extension. The alternative strategy proposes housing for all 50.000 new inhabitants in the city center.
Redevelopment of these designated areas could provide opportunities to propose countermeasures for the sprawl and enrich the functional structure of the city center and city life. As these strategic redevelopment areas are spread across the city center it is possible to create different neigbourhoods with different housing typologies and characters. This would provide alternative for those planning to move to the suburbs. The city center could offer a bigger variety of new housing with already existing infrastructure in areas close to the main work clusters where residents would be less dependent on the car. What is more, judging by the current masterplan, the city center is seen as combined of two parts – new CBD area and the old town. Developments on the old town area are more related with preservations and developments in the business district are more related with the creation of a new city image. However, recognition of the mentioned strategic intervention areas would allow to create more enriched vision of the city center and activate other parts of the center that are currently lifeless.
Also, it is necessary to recognize that the existing suburban areas could benefit from proposed establishment of commercial clusters and expansion of transport infrastructure.

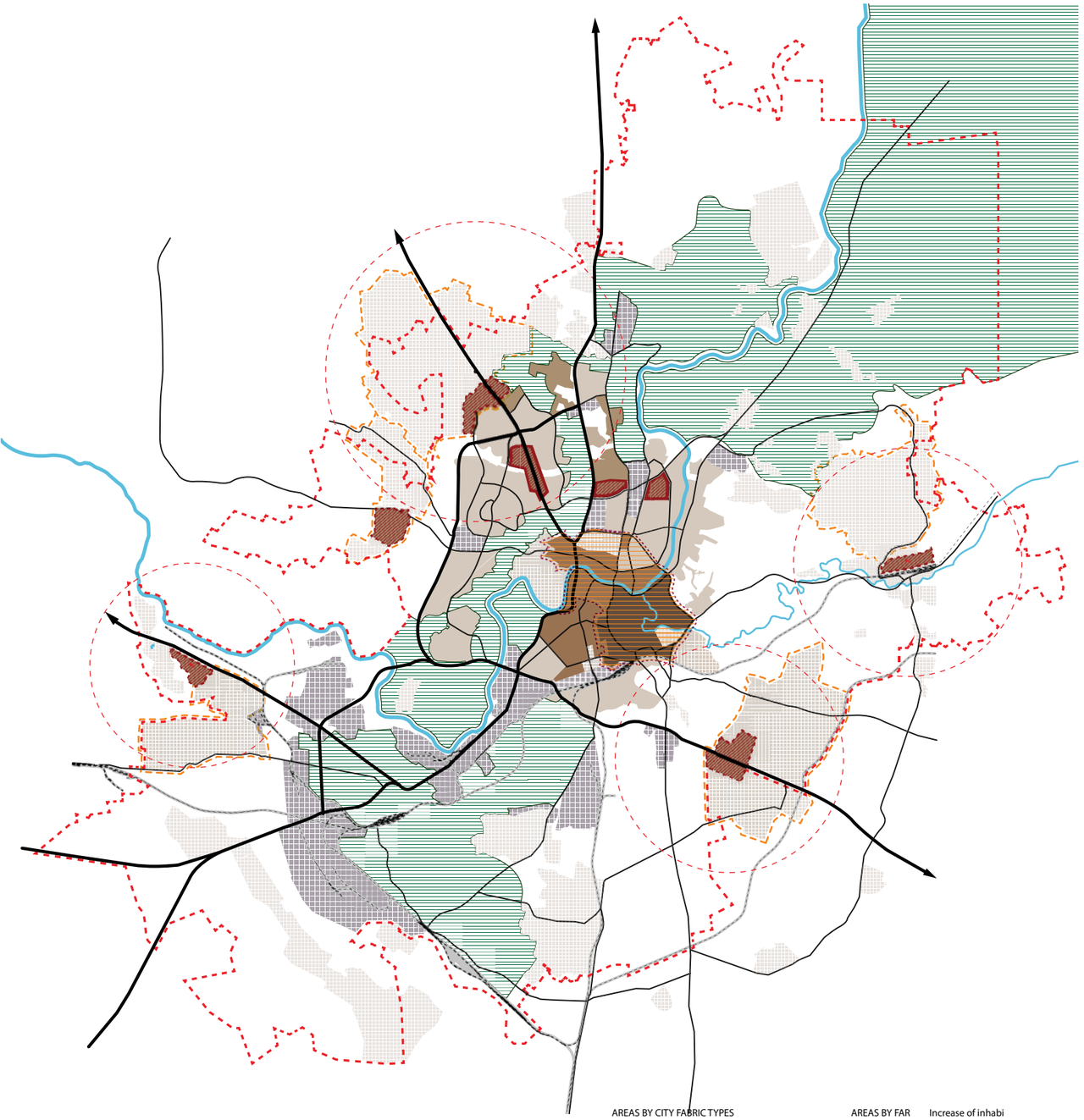


Fig: 25. City structure in 2025. Masterplan drawing
Source: Vilnius city masterplan (Vilniaus Planas, 2007)

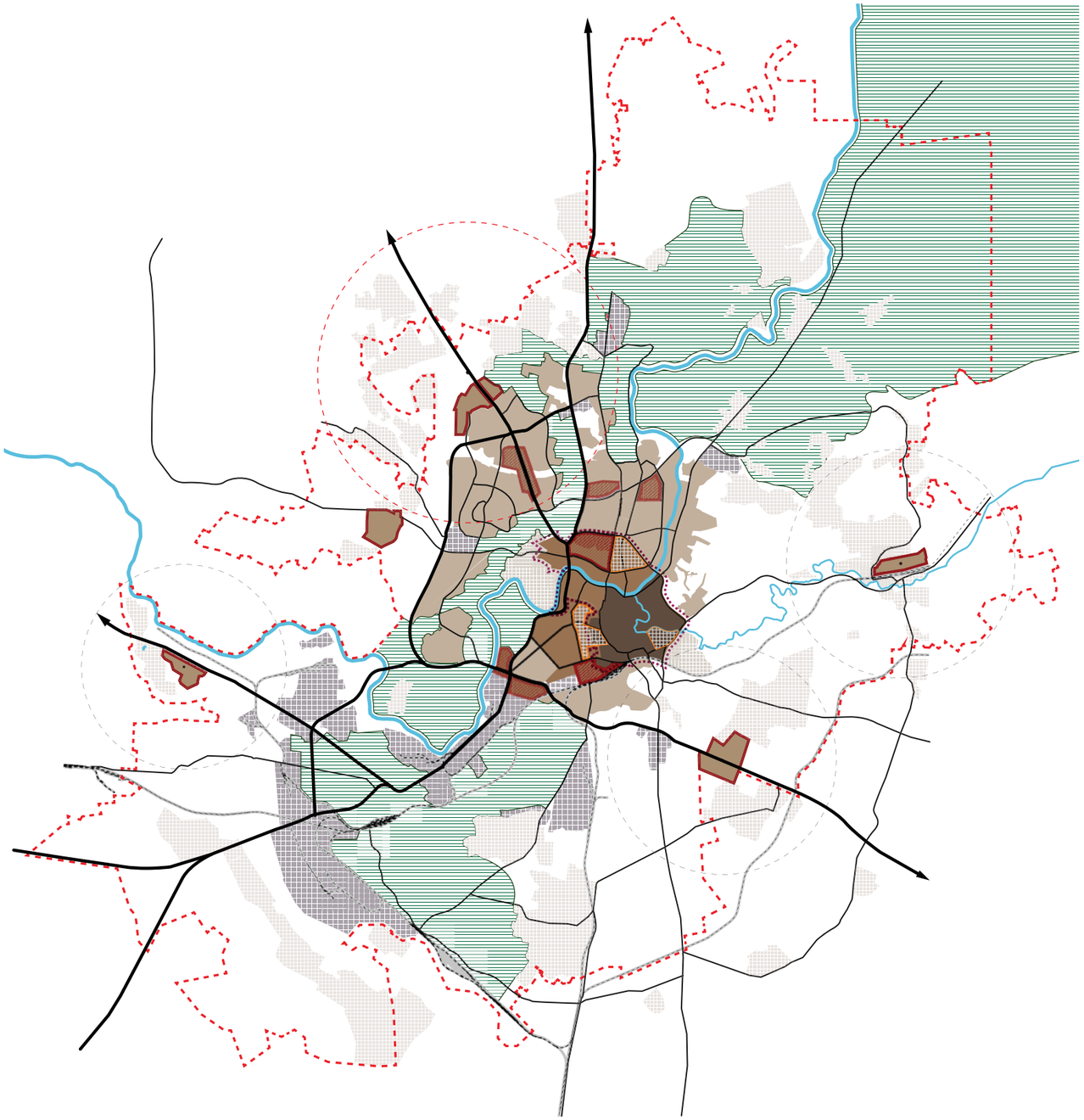


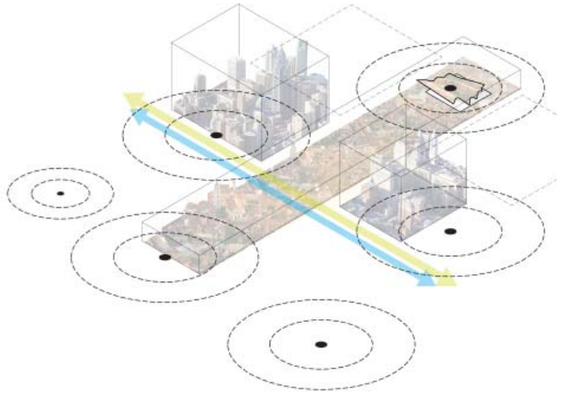
Fig: 26. Alternative proposal for growth till 2025.
Source: Author's drawing

The Center

City center vision ideas

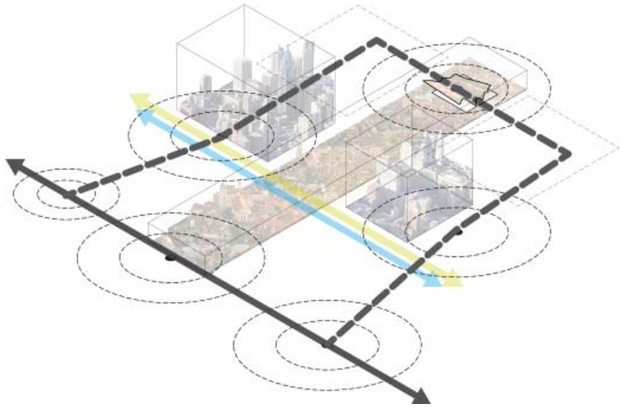
Currently the city center is seen only as the old town and the business district.
What about the other parts?

Recognizing the river and the green corridor.
Enriching waterfront with functions.

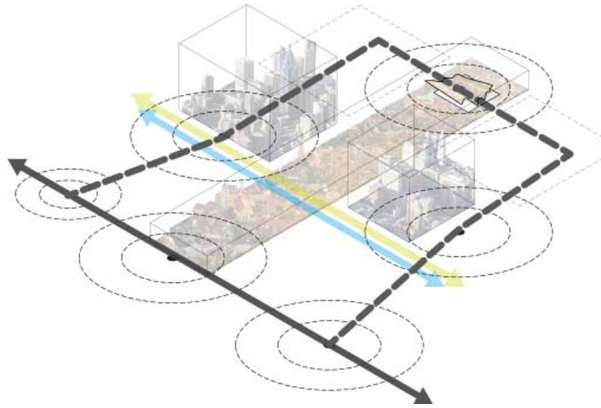


Recognizing vitality clusters.

Connecting the old town with the XV century center part to create more diverse structure.



Connecting different clusters with network of public spaces.



Providing access points to reach the city with car, leave it in the parking lot and explore the city by foot.

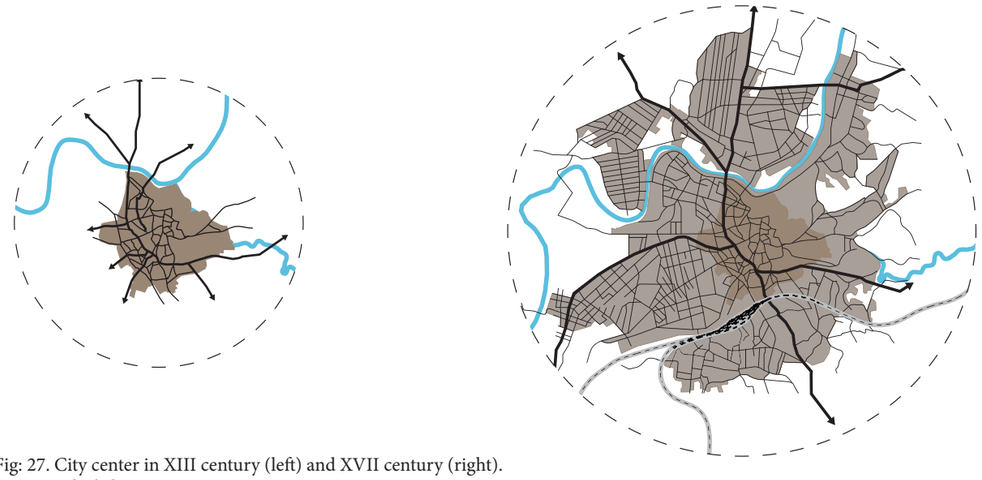


Fig: 27. City center in XIII century (left) and XVII century (right).
Source: Author's drawing.

Structure of the city center.

The city center is historically divided into several parts. Currently the city planners are mainly focusing on 13th century part (UNESCO protected), 17th century extension of the city center and CBD district on the northern bank of the river which was started to be developed around 2002. Soviet housing district and the village located in the north are also considered as parts of the center. Although the structure of the these areas (fabric, densities, public spaces) is not typical to city centers in western European countries, the existing of such structures is rather common to most post-soviet cities like Vilnius, but also Riga or Moscow. They can be seen as evidences of chaotic city development influenced by almost constant shift of planning ideas and social values. These different central areas will be further called environments and described more detail in the following chapters.

One of the main problems of the city center is vitality (Vilniaus Planas, 2007). Although the old town (13th century) still remains the main attraction area for the city visitors and locals, the establishment of the new shopping malls close to the center resulted in the shift of some main commercial functions to these new nodes. Lifelessness of some areas in the center can be explained not only by poor mix of complementary functions. For example as there are no clear distinction between public and private space in the soviet housing structures it is rather difficult to create vibrant environment in the north part of the center. However, the Calvary market is a powerful generator of vitality in this area as it attracts not only the local community but also people from the whole city region. The market is not only a place for trading but also a meeting point for local community members.

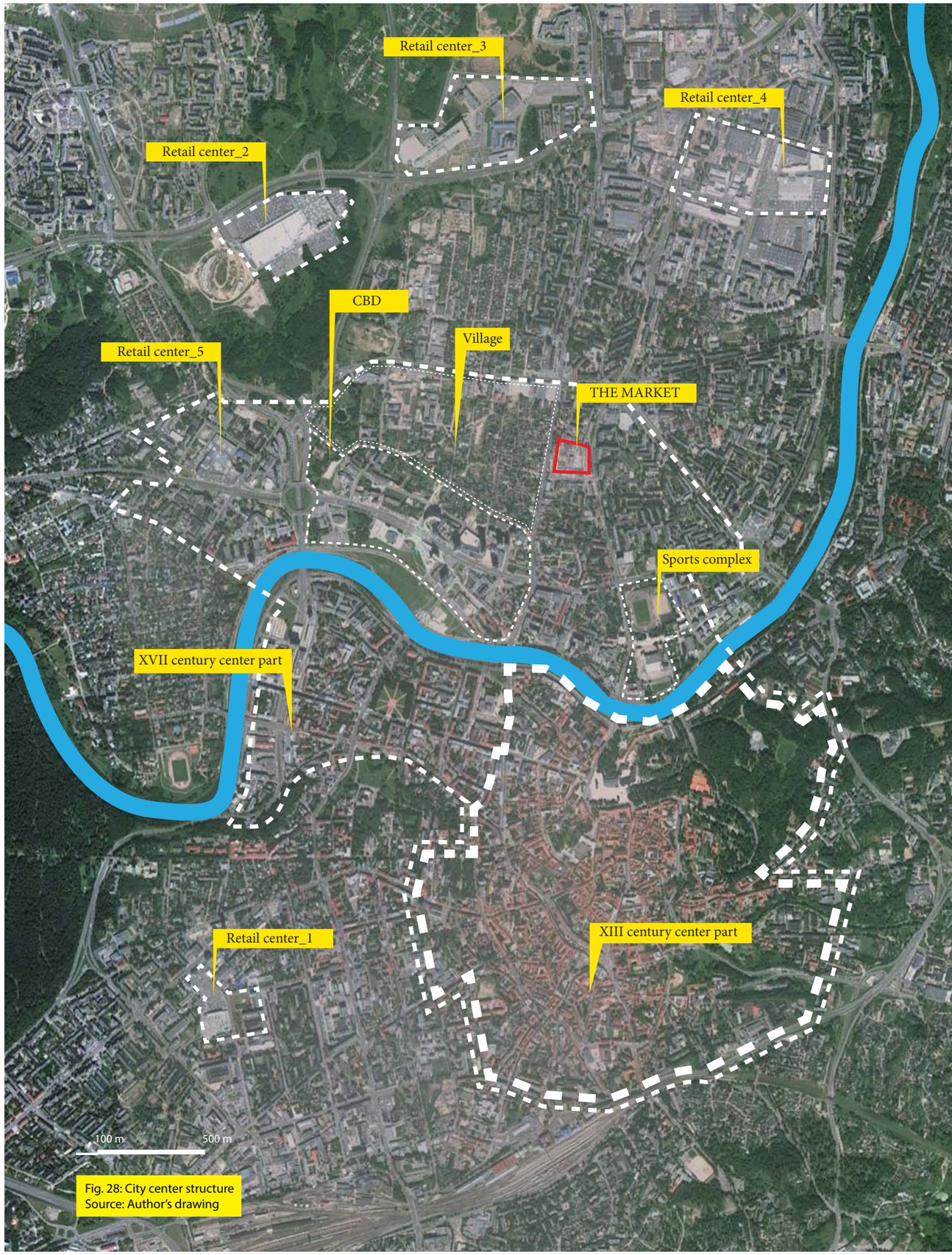


Fig. 28: City center structure
Source: Author's drawing

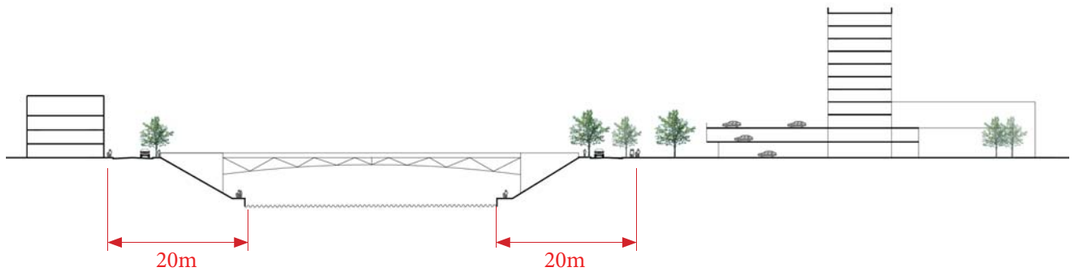


Fig: 29. Section of the riverbed terrain.
Source: Author's drawing.

Landscape

Vilnius is situated in the valley of rivers Neris and Vilnelė. The intersection of these two rivers marks the location of the first structure built in the city – the castle of Vilnius. The city center is located on the lower level of the terrain surrounded by three hills. Development and protection of natural areas are regulated by the city masterplan and local action plan. In this chapter only those regulations concerning the project location will be discussed.

First of all, three hills surrounding the city center present three observation points of the old town and its surroundings. These views are considered valuable to the image of the city as they present authentic sceneries of the XIII century old town uniquely embedded in its natural environment. In order to protect these panoramas, the masterplan of the city sets up a high rise development zone on the north part of the city center called the "Vilnius urban hill". This means that the high rise buildings in the city center can only be built within the boundaries of this area and only if they do not exceed the 143m height limit. This regulation sets up density and height limits to the new CBD expansion area as well as area around the Calvary market.

The masterplan also sets the Neris river protection zone which restricts any developments on the edges of the river that are not related with protection or maintenance of the natural landscape. This regulation prohibits any permanent constructions on the waterfront such as buildings, sheds, bowers and etc. This regulation presents a certain obstacle for developing the river banks. The riverbed configuration is quite deep (almost 8m) and the pedestrian walkways along the river are relatively difficult to access. What is more, the waterfront is not supported by any functions and is quite lifeless. It is possible to present an alternative solution to develop the banks of the river combining it with protection of the natural landscape.

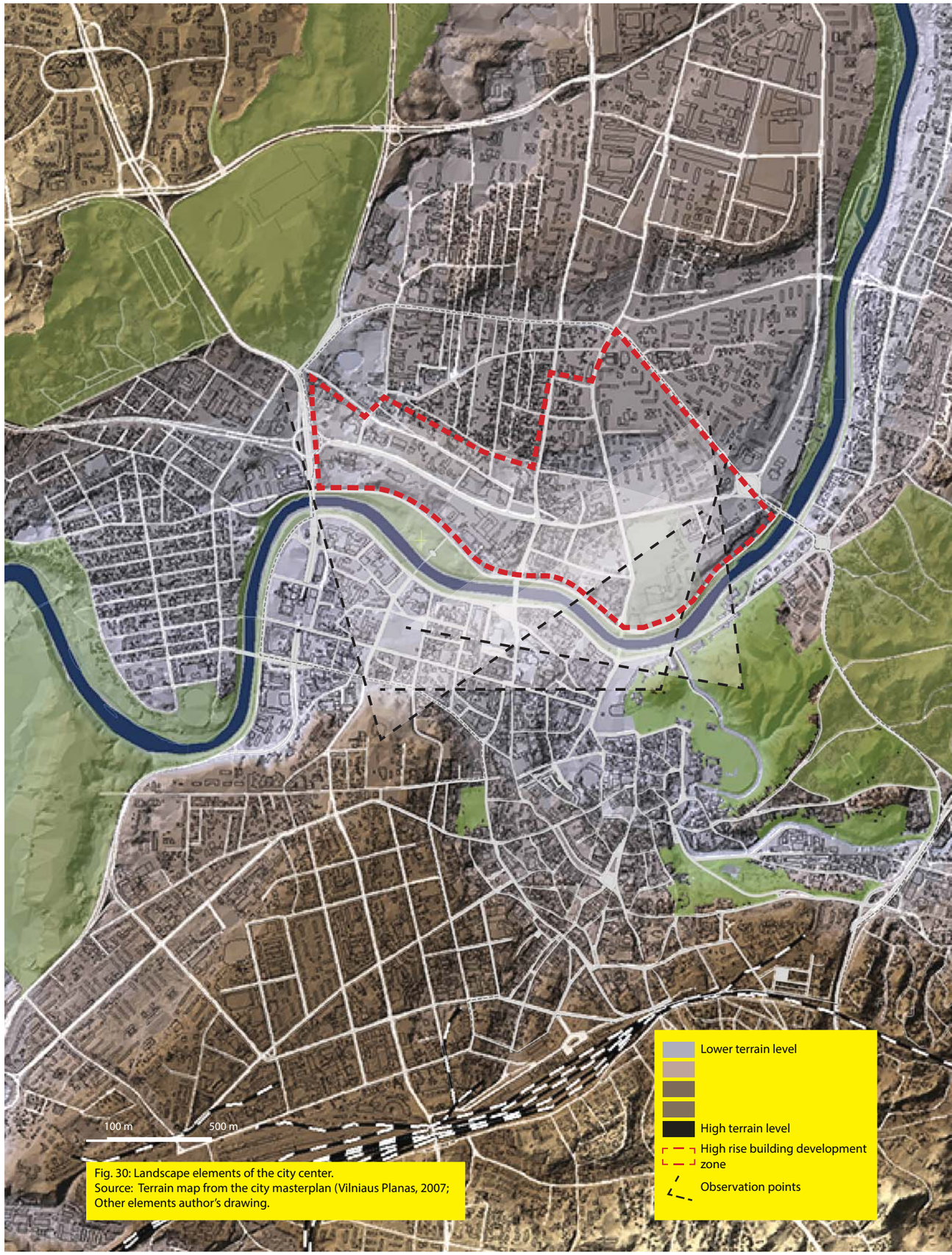


Fig. 30: Landscape elements of the city center.
Source: Terrain map from the city masterplan (Vilniaus Planas, 2007; Other elements author's drawing.

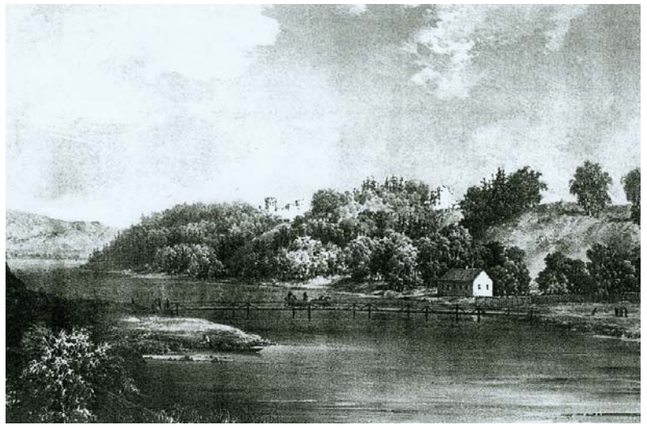


Fig: 31. Drawing of landscape in the current city center.
Source: XVII century litography. Author unknown.

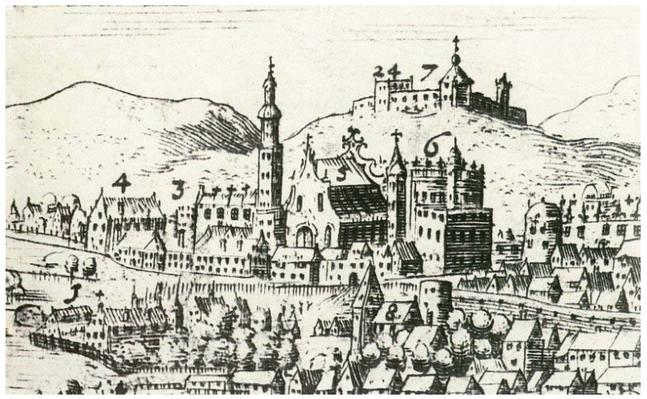


Fig: 32. Drawing of landscape in the current city center.
Source: XVIII century litography. Author unknown.

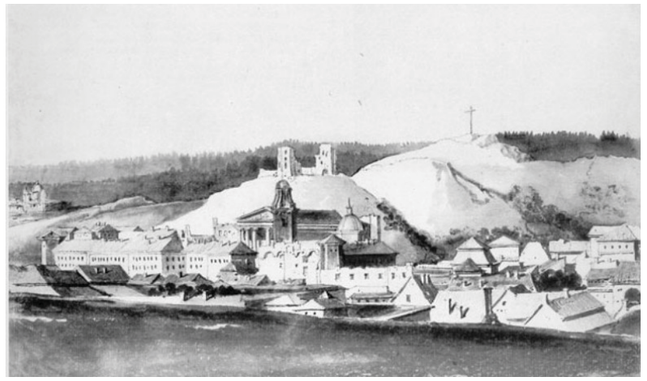
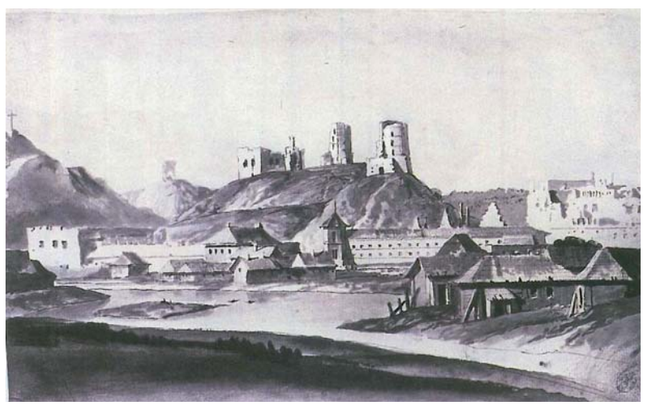
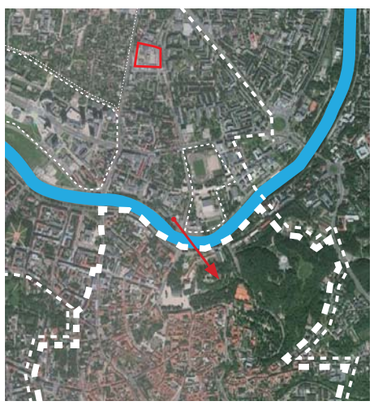


Fig: 33. Drawing of landscape in the current city center.
Source: "Castles of Vilnius". P. Smuglevicius 1785

Fig: 34. Drawing of landscape in the current city center. *(Below on the left)*
Source: "Gediminas castle". P. Smuglevicius 1782

Fig: 35. Location of the drawings.
Source: Author's drawing.





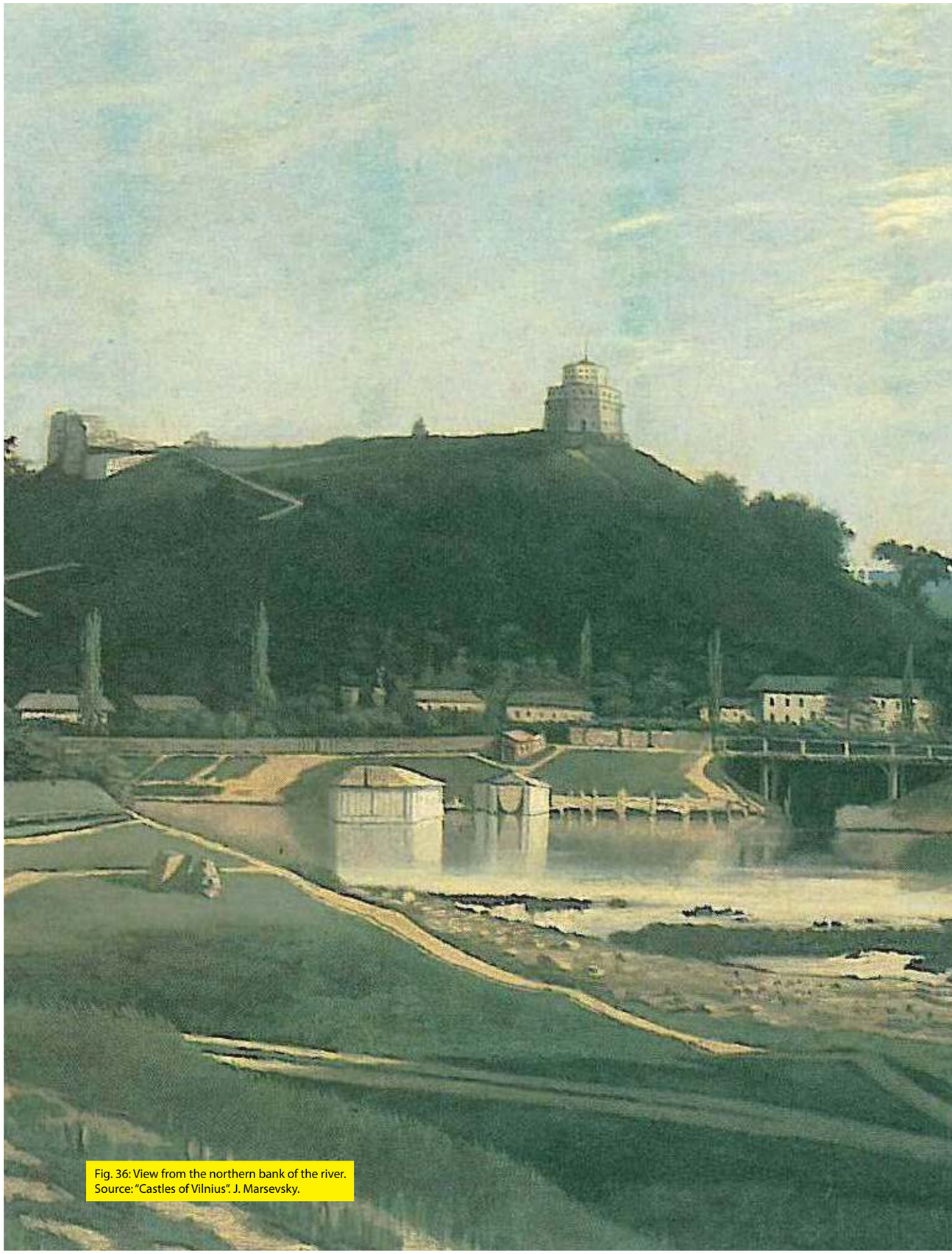


Fig. 36: View from the northern bank of the river.
Source: "Castles of Vilnius". J. Marsevsky.

Mobility and accessibility

The city center is surrounded by high capacity streets and is well reachable by car. However, due to increased commuting from the city center to suburbs some streets are heavily jammed during the rush hours. Another major issue concerning the car traffic in the center and especially in the old town is parking. The old town is quite compact and there is not enough space for high capacity parking infrastructure. At the same time the public transport in the city is referred to as insufficient, slow, infrequent and not connected with the suburban zones.
In order to solve accessibility issues related with public transport the municipality is launching a project to develop the tram network in the city. The tram could potentially introduce more frequent and sufficient alternatives to the current public transport systems and the car. What is more, the planners are looking for possibilities to establish high capacity parking areas close to the city center.

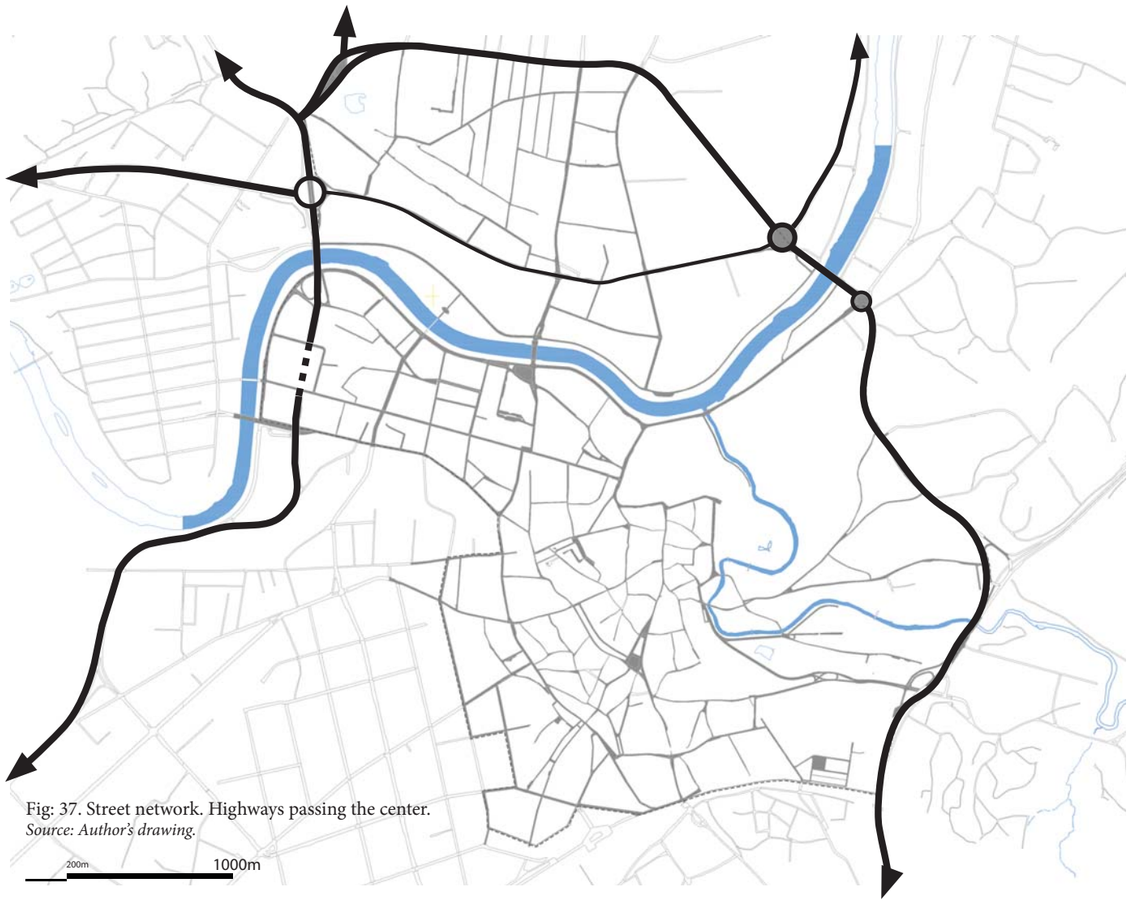


Fig: 37. Street network. Highways passing the center.
Source: Author's drawing.

Fig: 38. Intensity of the street use.
Source: www.sviesoforai.lt/traffic

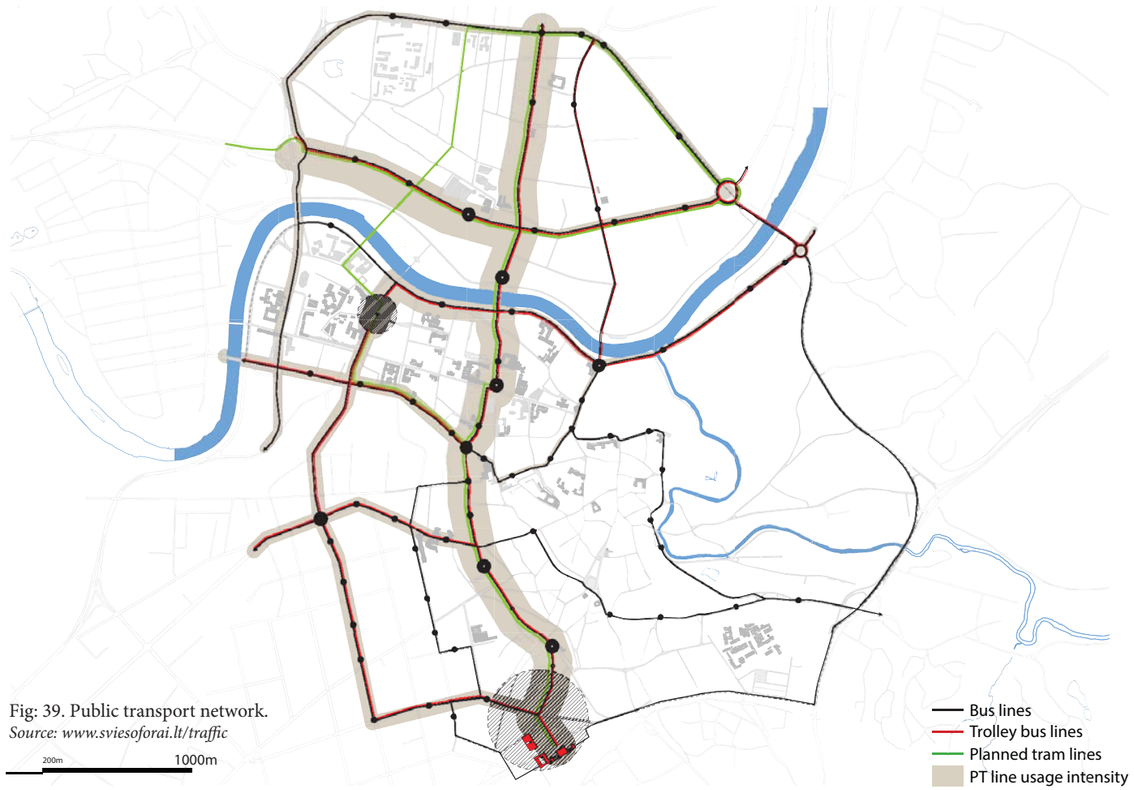
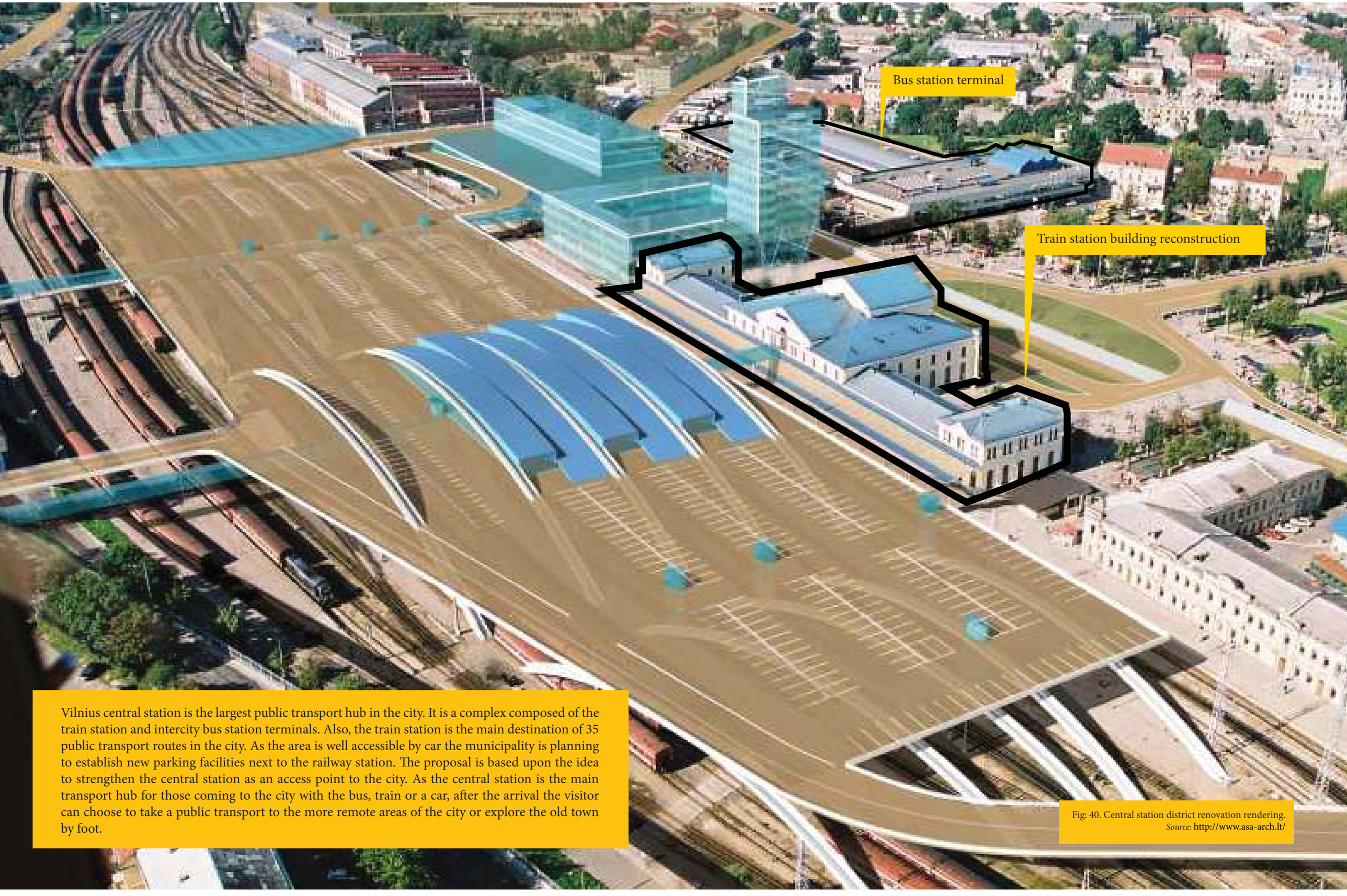


Fig: 39. Public transport network.
Source: www.sviesoforai.lt/traffic



Vilnius central station is the largest public transport hub in the city. It is a complex composed of the train station and intercity bus station terminals. Also, the train station is the main destination of 35 public transport routes in the city. As the area is well accessible by car the municipality is planning to establish new parking facilities next to the railway station. The proposal is based upon the idea to strengthen the central station as an access point to the city. As the central station is the main transport hub for those coming to the city with the bus, train or a car, after the arrival the visitor can choose to take a public transport to the more remote areas of the city or explore the old town by foot.

Fig: 40. Central station district renovation rendering.
Source: http://www.asa-arch.lt/

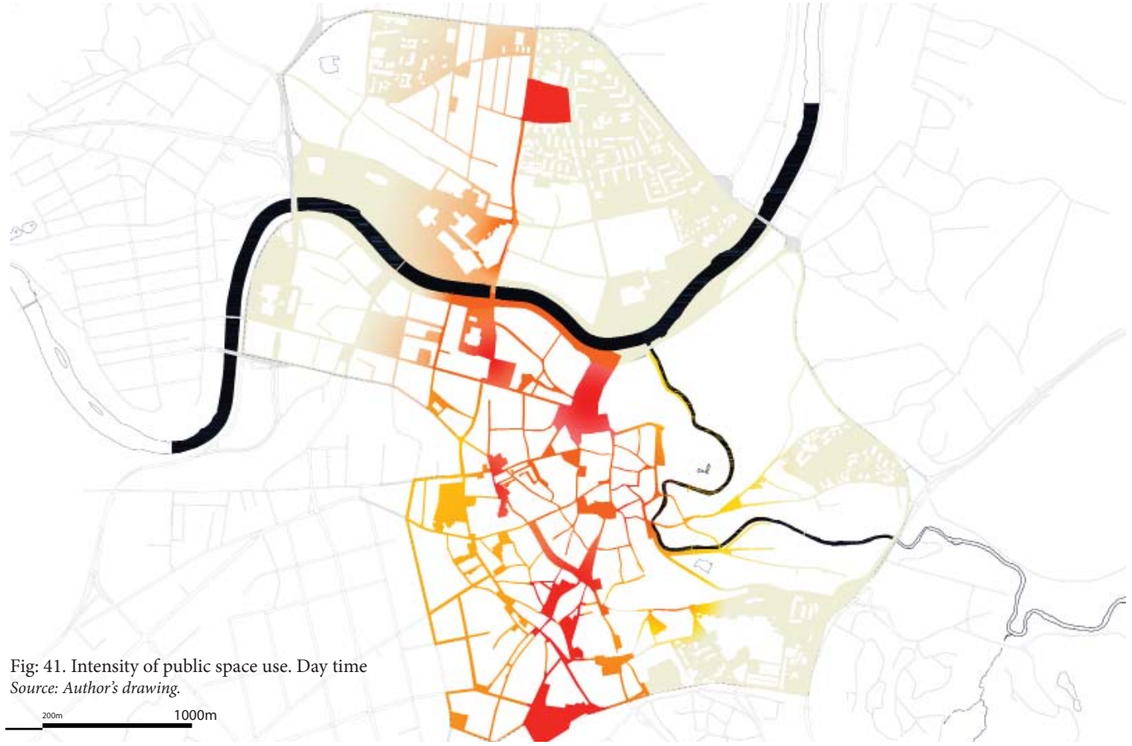


Fig: 41. Intensity of public space use. Day time
Source: Author's drawing.

Fig: 42. Intensity of public space use. Night time
Source: Author's drawing.

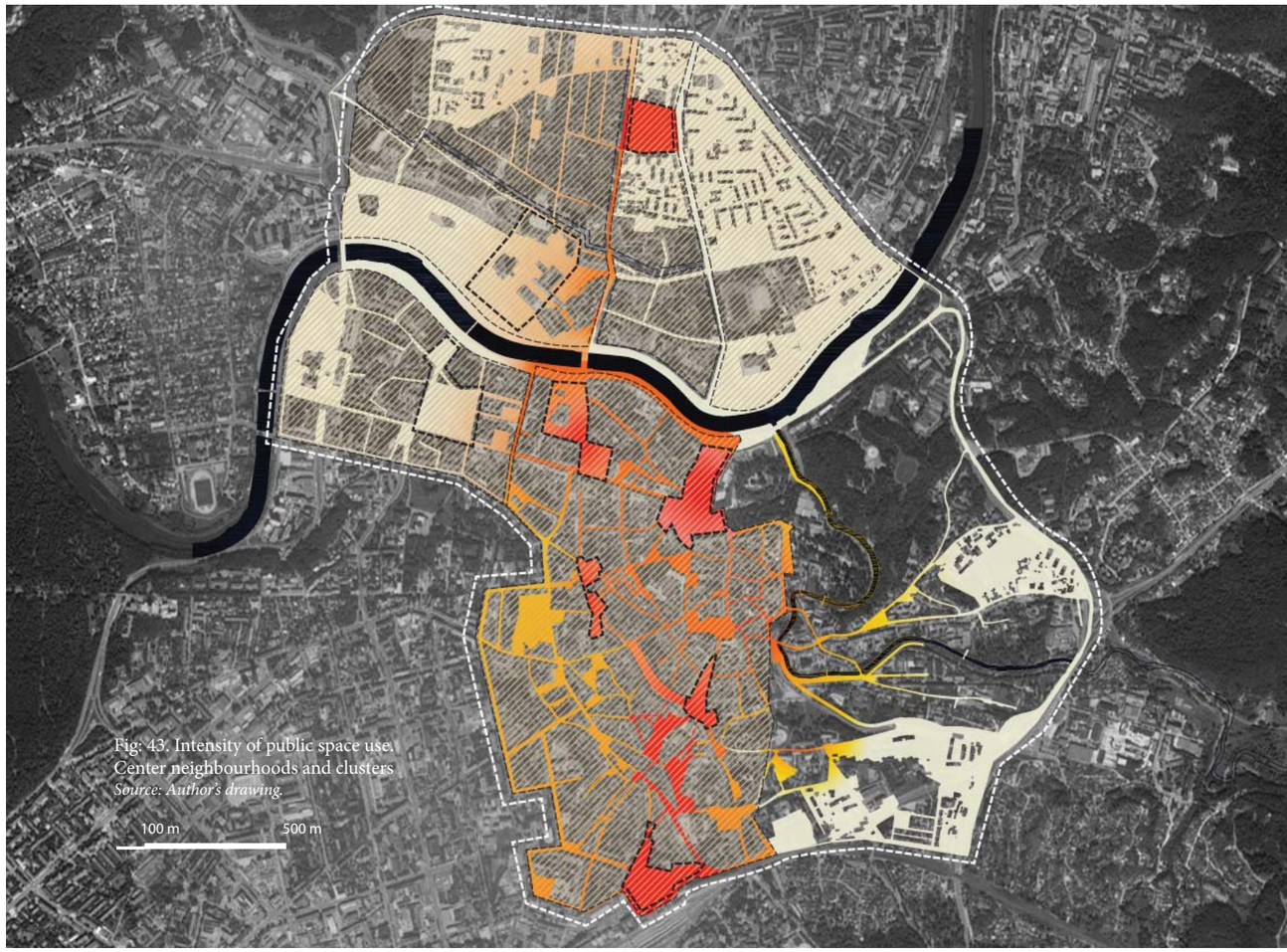


Fig: 43. Intensity of public space use. Center neighbourhoods and clusters
Source: Author's drawing.

Usage of public spaces

Observations of public spaces during daytime and nighttime allow identification of lifeless areas in the city center. The most vibrant area of the center is the old town stretching from the central station to the river. The north part of the city center has several areas where during the daytime public spaces are as vibrant as the ones in the old town. These areas are the Calvary market and part of the current central business district. However, during the nighttime active public spaces can be found only in the old town.
What is more, it is possible to identify clusters in the city center where the street life is generated. The clusters are usually rich with mix of different functions. Areas where public spaces are not vibrant enough are usually neighborhoods that have weak cluster or do not have them at all, for example the XVII area. Also, one can see that vibrant streets are usually those connecting active clusters.
The vitality of the public spaces has a strong relationship with urban fabric. For example, the most vibrant zone – the old town has high density street network, presenting variety of possibilities to navigate and explore the area. The north part of the city center also has several pockets of vitality, however the space is composed of large free standing buildings and wide streets, which makes the street life much more dispersed and scattered.

Environments

The aim of this study is to identify different environments in the city center. The environments are places of different character, territories that functionally and morphologically are different from one another. In Vilnius city center these areas can be designated by their historical background, function and fabric type. By overlapping this study with the research on vital public spaces it is also possible to select vitality status for each area which more or less represents the general atmosphere of environments.
Dominant environments are the old town and the central business district, as most of the new projects and investments are currently located in these two areas. The old town is seen as the most multifunctional and vibrant. There are other areas in the center that, like the old town, have elements of historical city block structure and similar types of spaces (XVII century and XV century area). Although these areas have similar fabric structure, the XV and XVII century parts are relatively monofunctional. Soviet housing area and the village to the north of the CBD are commonly perceived as compounds. Which means that people that are not residing in these areas know their boundaries but cannot identify what is inside them (Vysniunas, et all, 2004).
The study presents conclusions that several spaces in the city center could be vitalized. XVII century area is well connected with the old town, however it could be functionally diversified. Other mentioned areas could benefit from improved connections with the old town and other parts of the city center.

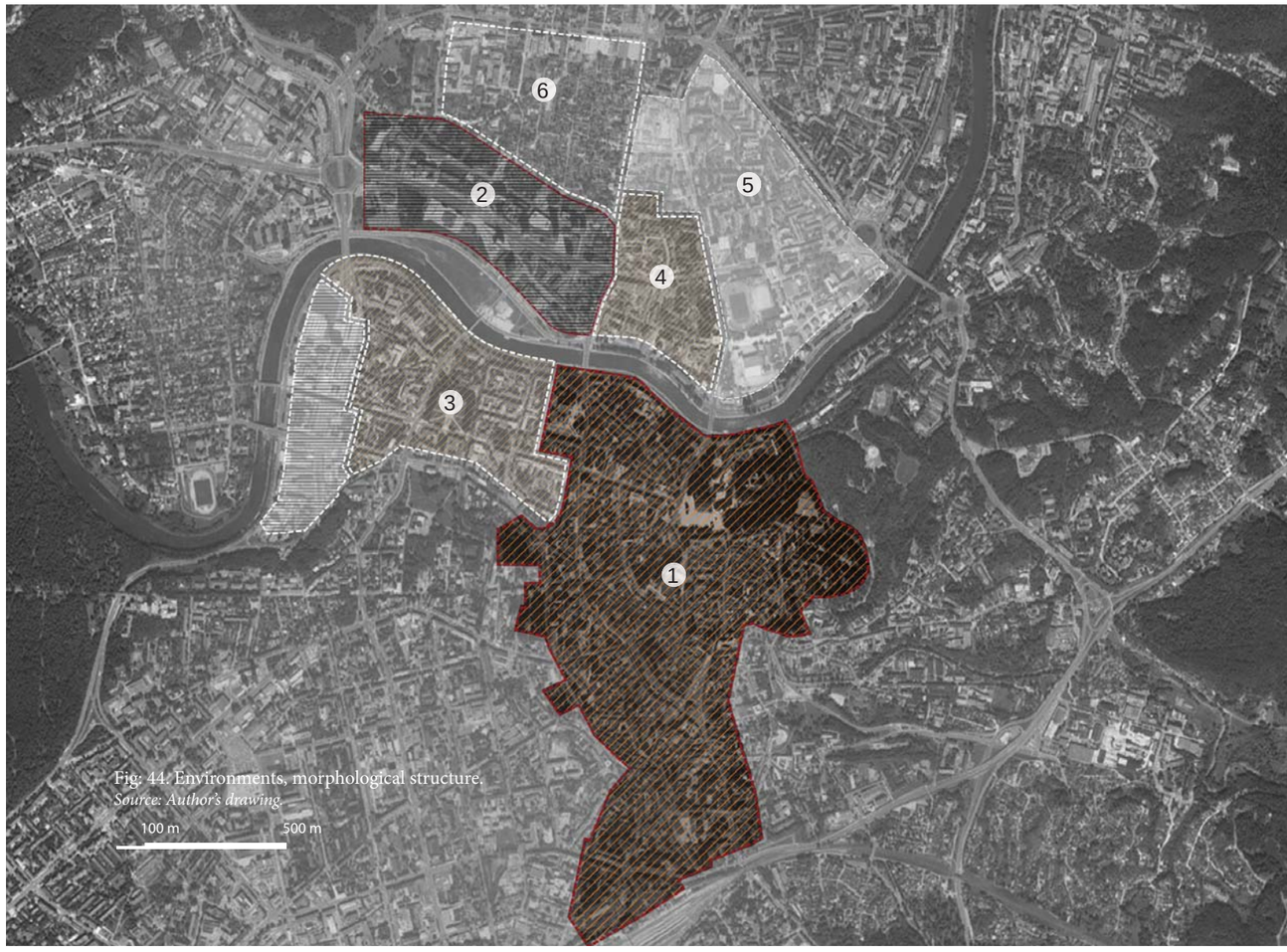


Fig. 44. Environments, morphological structure.
Source: Author's drawing.

800 m

Central business area

Age: 2004 — XIII century. — Now
Functions: Commercial, Cultural, Office, Housing
Vitality: Vital cluster of commercial and cultural functions

Inhabitants 6.000
Fabric type High density blocks
FAR 5

Old town

Age: XIII century. — Now
Functions: Commercial, Cultural, Office, Housing
Vitality: Vital

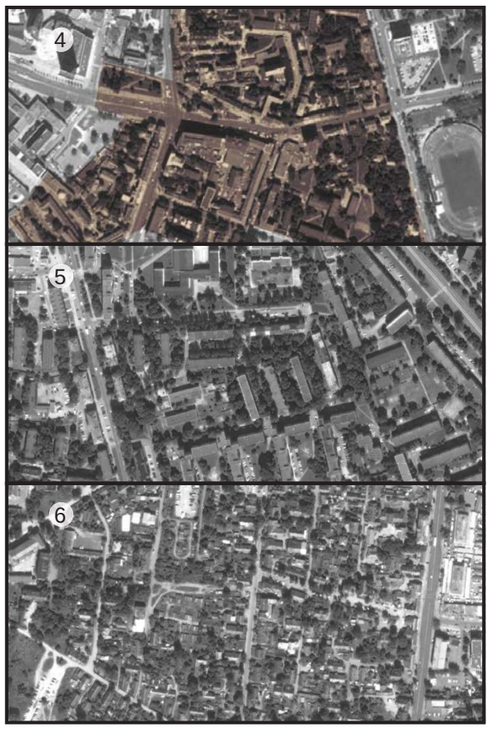
Inhabitants 7.500
Fabric type Compact blocks
FAR 2,4

XVII century area

Age: XIII century. — 1960 — XVII century. — Now
Functions: Housing, Commercial
Vitality: Very little street life.

Inhabitants 6.000
Fabric type Compact blocks
FAR 1,8

800 m



XV century area

Age: XIII century. — XV century. — Now
Functions: Housing, Commerce, Culture, Office
Vitality: Mixed use areas with vital cultural and commercial nodes

Inhabitants 1.300
Fabric type Compact block
FAR 1,3

1960 area. Russian district

Age: XIII century. — 1960 — Now
Functions: Housing, Commercial
Vitality: Very little street life. Vital market area

Inhabitants 18.000
Fabric type Free standing housing units
FAR 1,3

Village

Age: XIII century. — around XV century. — 1960 — Now
Functions: Housing
Vitality: Very little street life

Inhabitants 10.000
Fabric type Single family house blocks
FAR 0,25

Prisons. Currently there are 2 prisons in the city center. These compounds consume relatively large territories, however functionally they do not contribute to the vital city life. At the same time, these facilities have reached their sufficient capacities and have to be relocated outside the city. These areas can be potentially redeveloped.

Factory. During the soviet occupation several factories where established in the city center. Currently these areas are brownfields

Train station logistical area was first developed around XVII, currently logistical facilities area relocated outside the city center leaving this industrial legacy vacant.

Incomplete city blocks are also areas providing possibilities to propose new developments.

Fig: 45. Old town from above
Source: http://www.lietuva.lt/vilnius

Possibilities

The spatial analysis identifies main elements and development disorders of the city center. The developments in the city center are regulated by the Vilnius city masterplan (Vilniaus Planas, 2007) and Vilnius old town local action plan (URBACT, 2011). Although these documents set up main restrictions and development guidelines, the overall spatial vision for the city center does not exist. Furthermore, the analysis conclude that although the masterplan presents the old town and the new CBD as the main elements of the city center, there are other environments that need to be considered in order to present comprehensive vision for the center. The analysis also recognizes that main problems of the center are accessibility and vitality of certain areas.

The alternative city development strategy proposed to develop areas in the center in order to present alternative for the sprawl. The goal was to find areas in the city center that could potentially house 50.000 people until 2025. As these areas are essential for creating spatial vision for the center, the inventory was done in order to make estimations on their potential housing capacities. The study was done by identifying areas that could be redeveloped (brownfields, monofunctional complexes, unfinished urban blocks and soviet housing units). Designated zones are divided into consolidation (yellow) and redevelopment (red) territories. Redevelopment areas are brownfields and compounds that do not contribute to city life and should be relocated (such as prisons). These structures are not suitable for conversion or refitting that is why in order to build new housing these areas must be cleared. Another type of areas for development is called consolidation zones (soviet housing district, empty factories and unfinished urban blocks). These areas have already fully formed environments that can be enhanced and current structures can be reorganized and refitted to develop new housing.

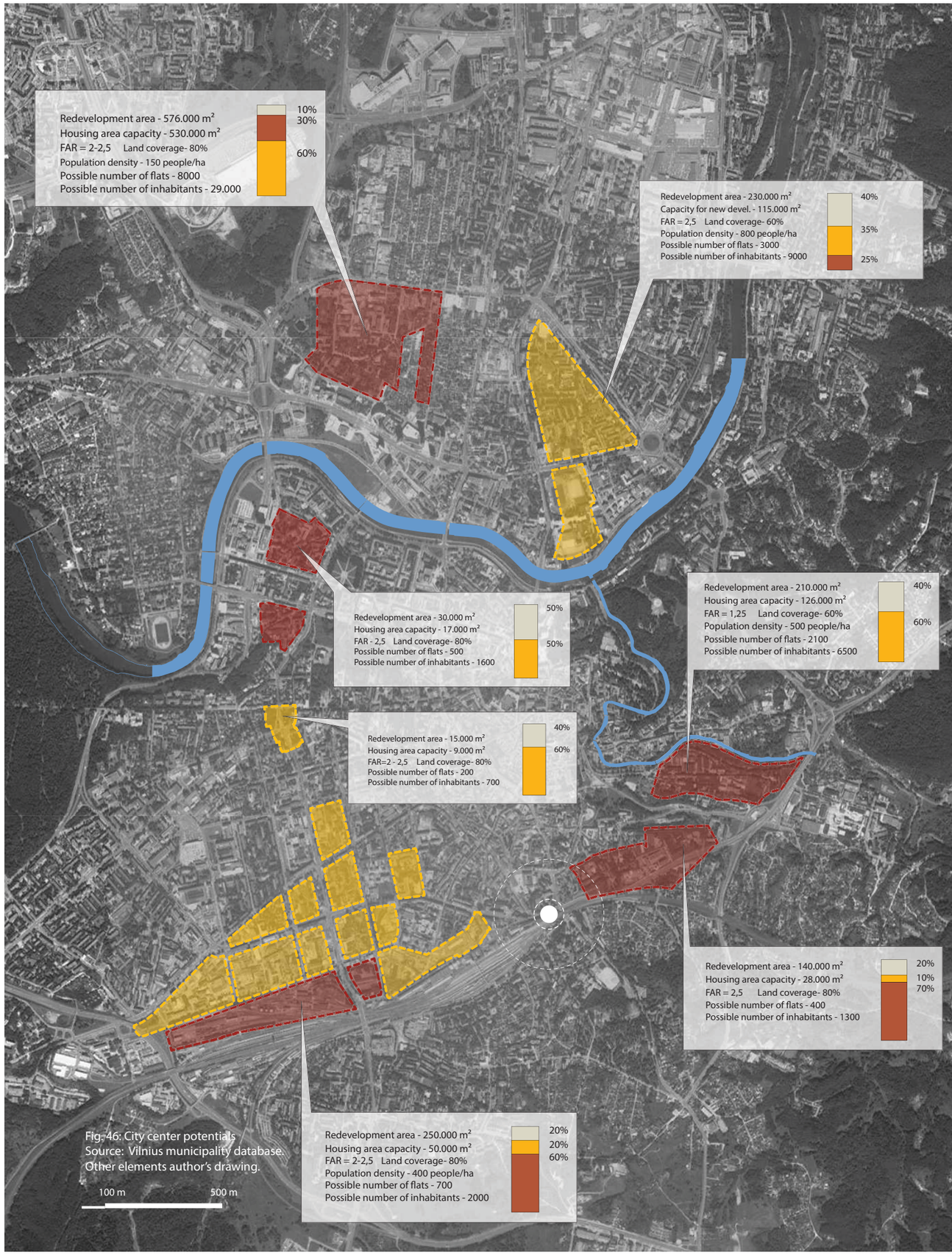


Fig. 46: City center potentials
Source: Vilnius municipality database.
Other elements author's drawing.

Spatial vision of Vilnius city center.

The main elements of the vision can be explained as following.

Clusters

Study of vitality of the public realm helped to identify the most vibrant clusters in the city center. Clusters are characterized by higher density of complementary functions supporting daily life in certain environments. Some centers are areas of high significance or can be associated with certain theme (like theater area or educational cluster). Analysis also helped to identify public spaces that do not generate vibrant city life as they are not sufficiently supported by functions. The vision marks all the existing and proposed clusters in the city center, makes inventory of their functions and proposes enhancement possibilities (for proposal of enhancement of the nodes check next page). The Calvary market is one of the eleven designated clusters.

Morphological framework.

The vision presents new insights on different environments in the city center. Currently, central business district represents a certain new image of the city while old town represents the historical core. However, the new part of the city center (CBD) lacks the vitality and urbanity common to the old town. As there are elements on the north part of the river that are remains of the old town fabric, the vision proposes to use these elements to connect the old town with the north part of the center. Vision also proposes to create clear definition between public and private spaces in the north part of the center and maintain similar fabric and street network density like the old town. Furthermore, physical connections can be established to improve connectivity and pedestrian flows between the north part and the south part of the center. It was also proposed to extend the high rise development zone to the east, providing clear corridor for development of structures along the river and respecting the high rise restriction zone. The vision maintains status of the old town and CBD as the main morphological elements of the center but also proposes extensions of these two areas and zones where different fabrics can be mixed. Improved connections between north and south bank of the river could potentially connect the strongest node of the north part of the center – the Calvary market with the most vital part of the city – the old town. Connection of these elements could potentially revitalize areas in the north part of the center.

Network of public spaces

Analysis of public realm vitality reveals that the most vibrant and diverse streets are those connecting strong clusters. The old town has several successful clusters and dense street network connecting them. However, the street network of the northern part is mainly composed of several high capacity streets which are usually occupied with heavy traffic and are hostile to pedestrian movement. That is why several large areas in the north are seen as compounds. As the areas are mostly perceived from surrounding streets, the inner spaces of these territories are unknown for regular passerby (someone who does not live in these areas). The vision proposes to divide these areas (Soviet housing area or the village) by creating city blocks or other structures clearly defining public and private spaces. It is also proposed to connect the newly proposed spaces in the north with existing spaces in the old town and other center areas. The defined network of public spaces could potentially encourage footfall and cycling across the city center which could present the

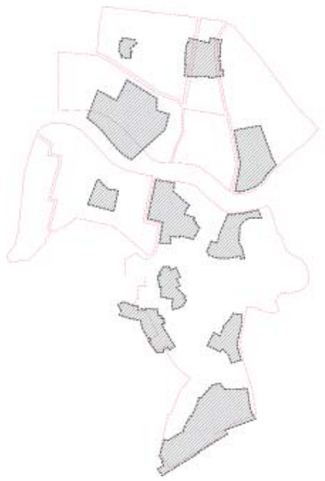
Fig. 47: Vision of the city center.
Source: Author's drawing.

inhabitants with opportunities to have alternative mobility possibilities. Also, the network provides common vision of the public spaces in the center, connects new developments and clusters and encourages investment along these spatial channels.

Public transport and access points

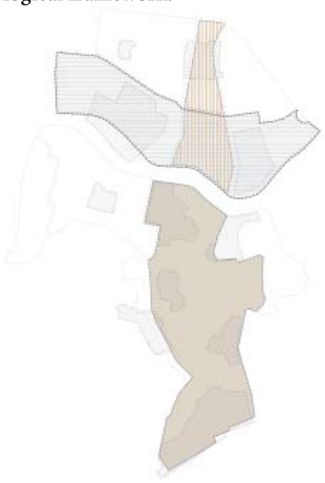
Analysis of mobility possibilities in the center shows that the center is reachable by car, however the inner street network of the center is difficult to access due to dense network of narrow streets and lack of parking facilities. Also, the study reveals plans of the municipality to establish new tram network and increase the number of parking facilities. The vision for the center recognizes these planned changes. Furthermore, the vision proposes to establish several nodes on different edges of the center with higher capacity parking facilities, such as the new central station. These access points are connected with the new tram network so the visitors can choose to take the tram to more remote parts of the center or explore the nearby areas by foot.

Clusters

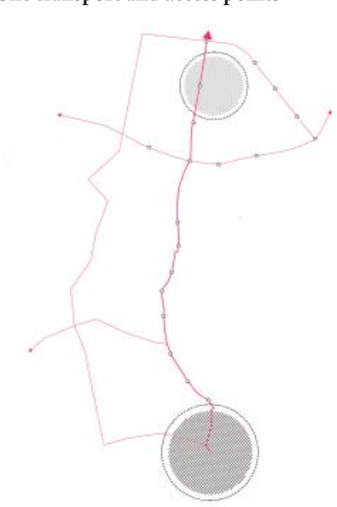


Network of public spaces

Morphological framework.



Public transport and access points



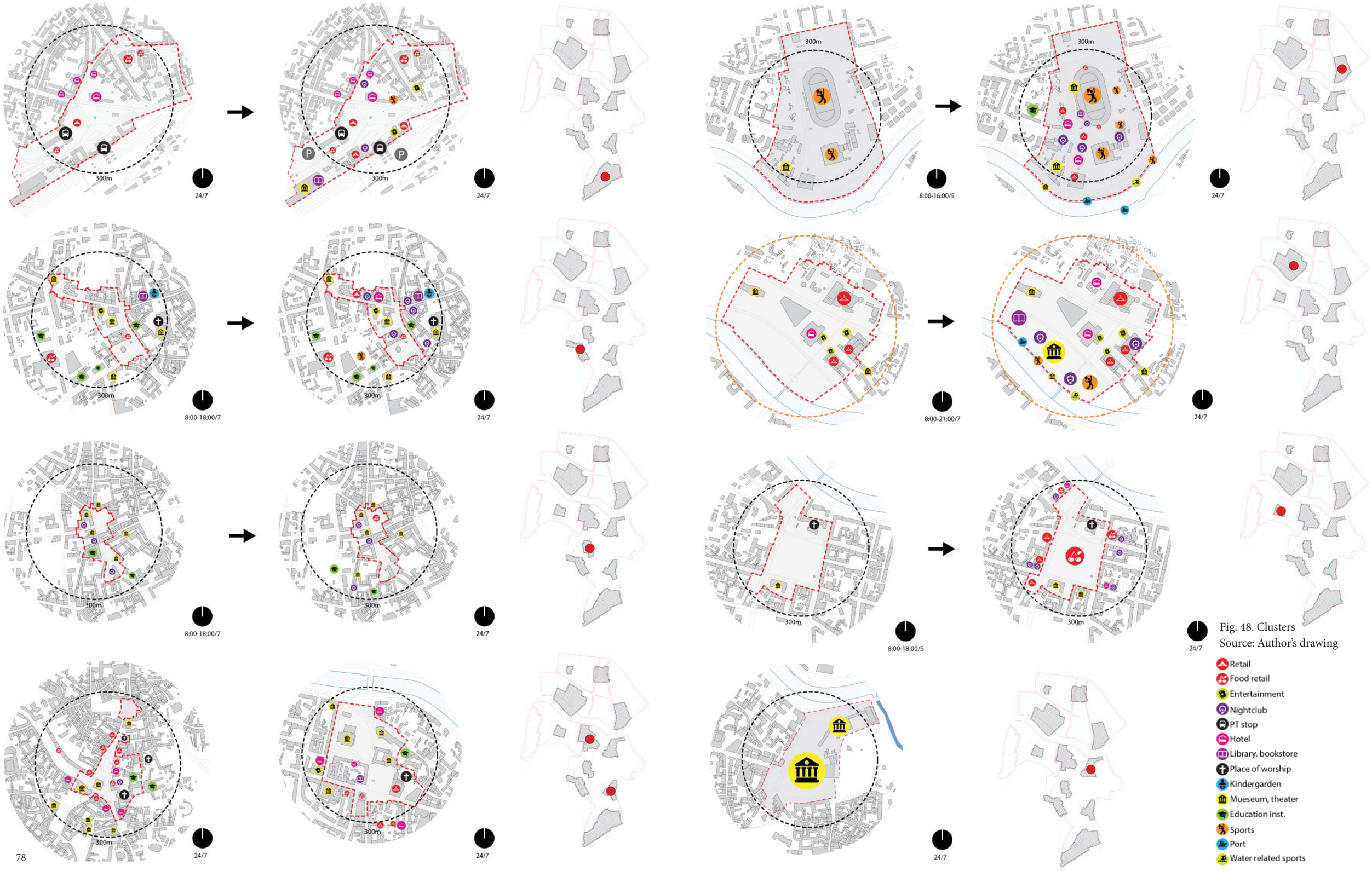


Fig. 48. Clusters
Source: Author's drawing

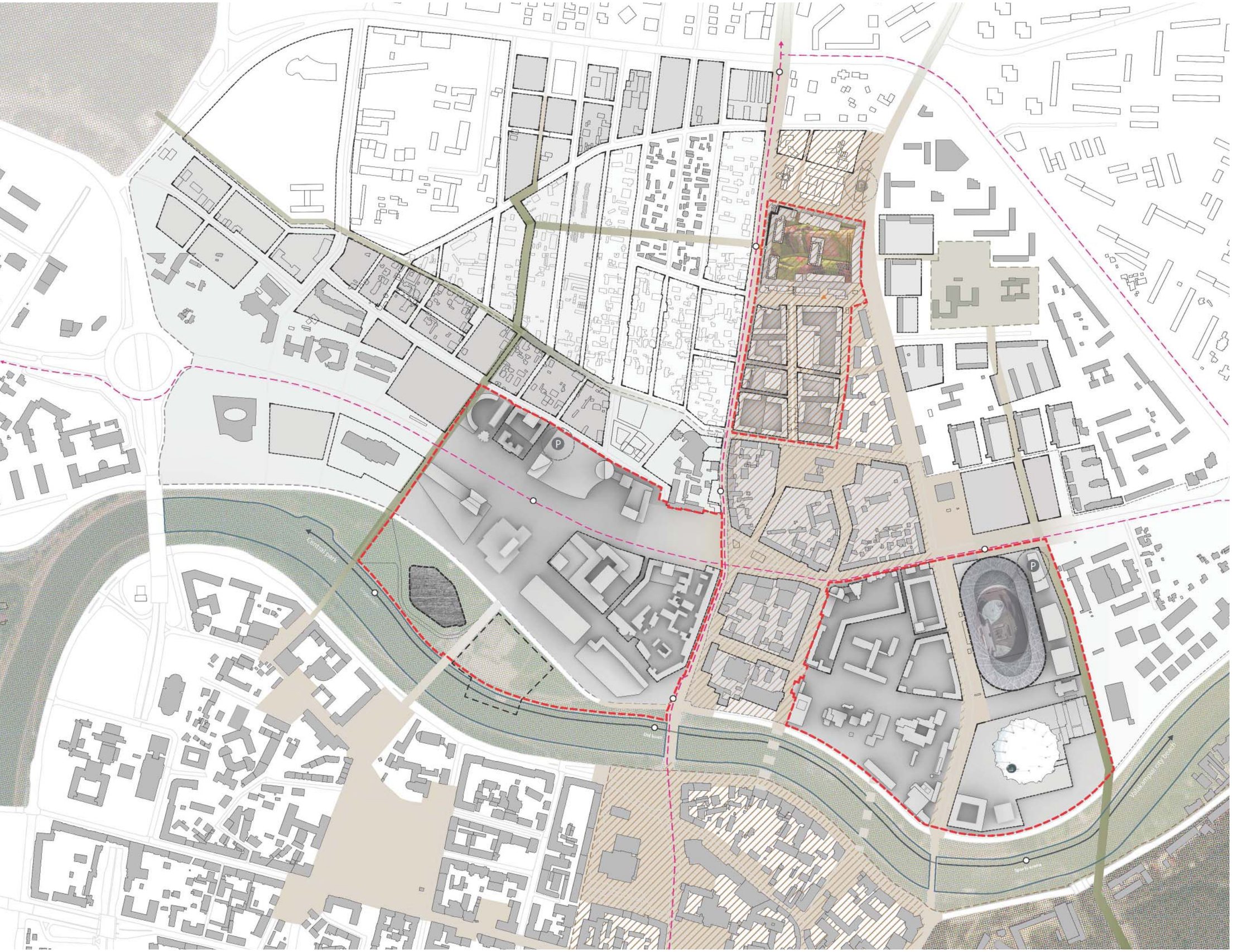
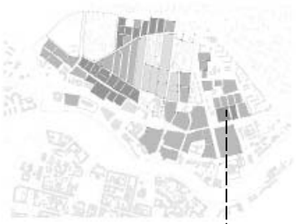


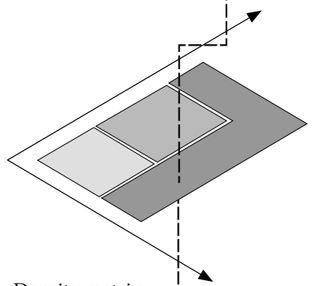
Fig. 49
Detail of north part of the city center
Source: Author's drawing.

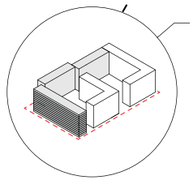
Densities and housing.

The vision for the city center is formed by recognizing different environments and finding ways to support them with comprehensive mix of functions to stimulate vitality. The vision also proposes spatial framework to connect central areas and territories where new housing can be developed. In order to illustrate how these assertions can influence the spatial structure of newly developed areas, detailed view of the north part of the city center is provided. This scale allows showing not only the spatial relations but the massing of the new urban form.
The existing urban fabric in this area is a combination of village type low density structures, soviet housing blocks, XV century old town fragments and high rise building sites. As mentioned before densities in some of these areas are unusual to the central parts of developed European cities. Furthermore, there is no clear definition of private and public space and the quality of housing buildings is very low. That is why new structures are proposed. Creation of the urban mass is based on: clear definition of public and private space, creation of dense and consolidated city blocks, creation of spatial links between north and south parts of the center, height requirements and regulations set in the masterplan.
In order to simplify the design process the area was divided in two parts: the central part, which is also the continuation of the old town urban fabric, and the west part which is the expansion area of the business district. In the central part specific design for buildings is proposed in order to illustrate how these structures form the public space and how this space is connected with the old town street network and the market. In this area it is possible to build housing for 20.000 inhabitants. It was chosen not to elaborate on building design and space configuration in the CBD expansion as this area provides only certain context to the market area. However, it was important to show that this area is capable to house 30.000 people. That is why the CBD expansion was divided into zones respecting the existing street network. In each zone different density urban blocks are proposed in relation to masterplan regulations and height requirements. To provide more flexibility different block types were design to show possibilities to insert different configuration urban blocks while maintaining the same FAR or land coverage requirements. Block types are presented in the block matrix. In addition, housing building catalogue was designed in order to show possibilities of developing different housing typologies for every block type.
Detailed plan also provides more elaborate design of three clusters in the north part of the center. The vision proposes the functional enrichment of these centers. This plan also incorporates the intensions of the municipality to create landmarks in the CBD cluster and sports cluster located along the river. It is planned to build Guggenheim – Hermitage museum in the business district (competition won by Zaha Hadid architects in 2008) and to revitalize the existing sports center by designing new sports and events venue. These two projects could potentially stimulate the activities along the river waterfront which connects these two centers. What is more it could be possible to use the stadium parking facilities to create an access point for the city visitors coming to the center with a car.

Housing areas


Density distribution


Density matrix


Block type

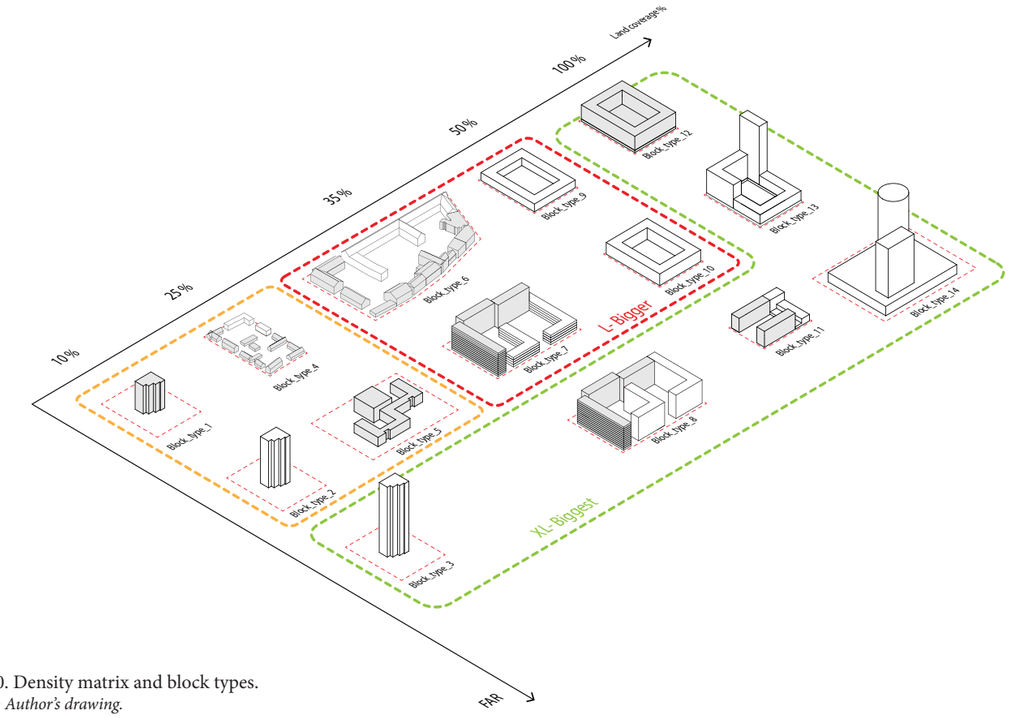
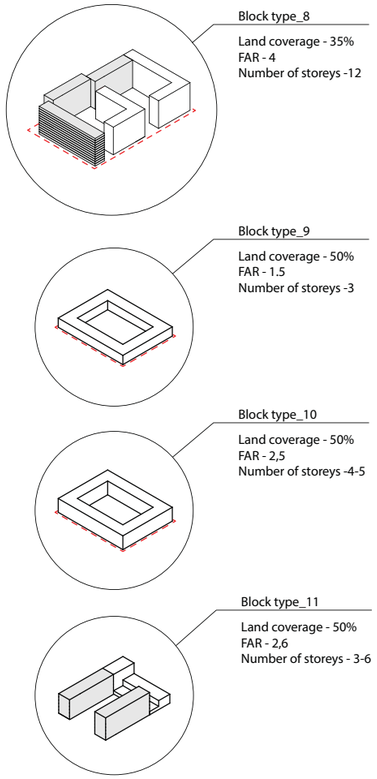
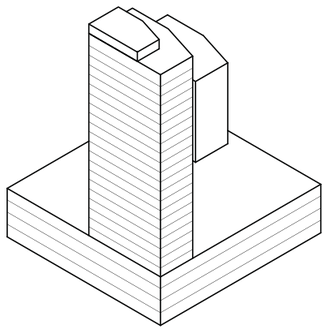
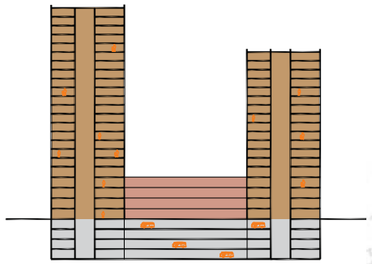
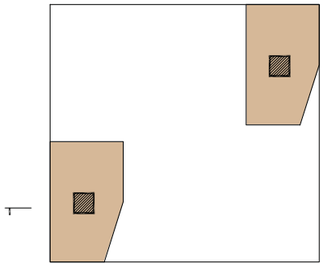


Fig: 50. Density matrix and block types.
Source: Author's drawing.

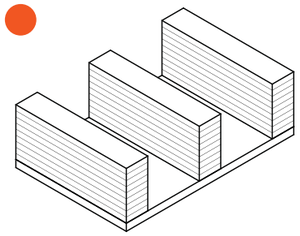


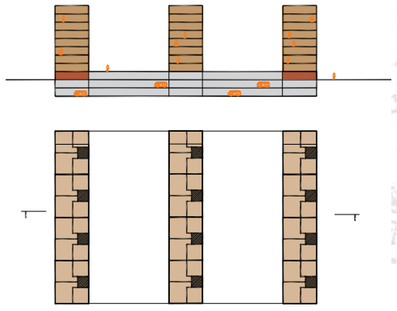




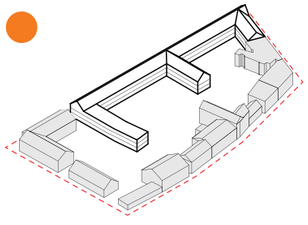


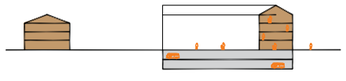
Building type: housing tower above retail cluster.
Block type: 14
Land coverage: 100%
FAR: 5
Number of storeys: 12-22
Size of unit: 65 m^2
Depth of building: 12 m
Open spaces: balconies, logias.
Parking: underground.

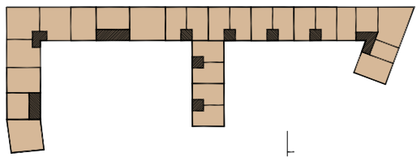




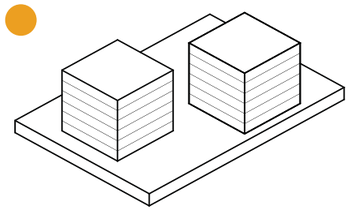
Building type: housing unit with groundfloor forming a city block and free standing units on top of the plynth.
Block type: 13
Land coverage: 100%
FAR: 3- 4,3
Number of storeys: 4-6
Size of unit: 65 m^2
Depth of building: 20 m
Open spaces: courtyards, balconies, logias.
Parking: ground floor and underground.

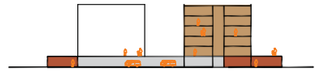


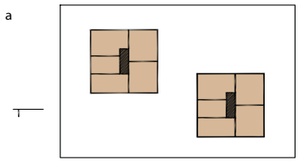




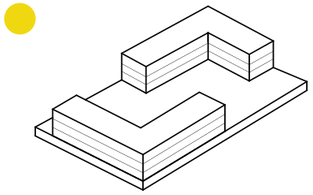
Building type: housing unit filling the empty space of the city block.
Block type: 6
Land coverage: 40%
FAR: 2,5
Number of storeys: 3-4 + attic
Size of unit: 65 m^2
Depth of building: 12 m
Open spaces: yard, balconies, logias.
Parking: underground.

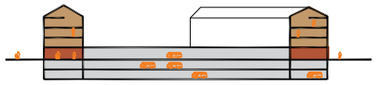


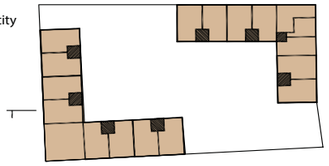


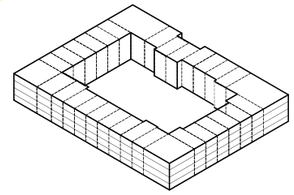


Building type: housing unit with groundfloor forming a city block and free standing units on top of the plynth.
Block type: 13
Land coverage: 100%
FAR: 3- 4,3
Number of storeys: 4-6
Size of unit: 65 m^2
Depth of building: 20 m
Open spaces: roof top terrace, balconies, logias.
Parking: ground floor.



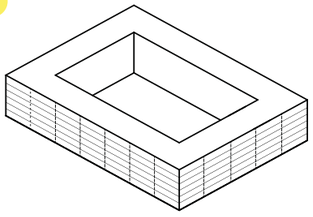


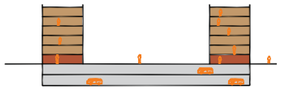


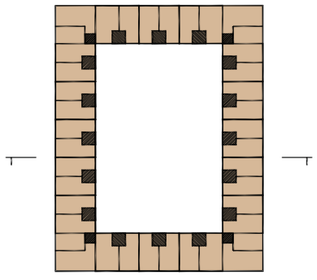


Building type: housing units forming perimeter of the city block and enclosed spaces.
Block type: 12
Land coverage: 100%
FAR: 3
Number of storeys: 3-4 + attic
Size of unit: 65 m^2
Depth of building: 12 m
Open spaces: inner courtyard, balconies, logias.
Parking: ground floor and underground.

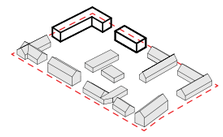
Building type: douplex houses forming a city block
Block type: 12
Land coverage: 50%
FAR: 9
Number of storeys: 3-4 + attic
Size of unit: 120 m^2
Depth of building: 12 m
Open spaces: inner courtyard, balconies, logias.
Parking: street.







Building type: housing unit with commercial functions in the ground floor and underground parking.
Block type: 10
Land coverage: 50%
FAR: 2,5
Number of storeys: 4-6
Size of unit: 65 m^2
Depth of building: 12 m
Open spaces: inner courtyard, balconies, logias.
Parking: underground.



Building type: single family houses and douplex
Block type: 4
Land coverage: 25%
FAR: 0.3
Number of storeys: 2-3 + attic
Size of unit: 300 m^2
Depth of building: 12 m
Open spaces: inner yard.
Parking: street, yard.

Fig: 51. Housing catalogue
Source:Author's drawing

The Theoretical part

Preventing lifeless developments

Contributing to vitality and functional diversity in post-soviet city
(theoretical study)

Introduction

The main focus of the vision is vitality. Vision identifies existing and potential vitality clusters and spatial network connecting them. This is designed to support the existing communities and new housing program for 50.000 people. Previous chapter specifies areas where new housing is created and proposes different urban fabric types, densities and housing typologies. However, the question can be raised which of these typologies have the most positive effect on vitality of public realm. In order to provide the answer the study on relations between urban form and vital city life in post-soviet city was conducted. The urbanisation processes in these cities have been recently addressed by increasing number of scholars (Bodnar, 2001; Burg , 1995; Stanilov, 2007; Sykora, 1999).The majority of authors focusing on this subject conclude that post-soviet cities are facing sustainable development issues (Sykora 1999). The general trend is that declining living conditions in the centre of the city and other housing areas are forcing the migration to the suburbs, which results in a unsustainable transport oriented development of the cities (Stanilov, 2007). Cities, which are also facing the trends of shrinking population, are becoming more expensive to maintain (Musil, 2005). At the same time, most of the experts agree that the solution leading to more sustainable development could be the regeneration and consolidation of brownfields and soviet housing areas (Stanilov, 2007). These new revitalisation ideas were recently addressed by number of Master thesis in TU Delft Faculty of Architecture, Complex Cities graduation studio (Buinevicius, 2011; Muliuolyte, 2010; Rackauskas, 2013). Most of these projects were focusing on areas in the city centre or close proximity such as soviet housing districts or industrial sites (Muliuolyte, 2010). These projects helped to create certain examples of how to improve the spatial structure of the city in order to prevent the sprawl. However, most recently executed redevelopment projects highlight the trend that newly redeveloped areas in the city are becoming gated communities for wealthy members of the society (Vysniunas, et all, 2004). That is why the question of vitality and diversity is vital to investigate.

This research will focus on finding the tools for creating vital city life in newly redeveloped and regenerated areas in post-soviet cities. In the first paragraph of this paper the works of the key authors focusing on the subject of vibrant city life will be reviewed in order to find the general conditions for urban vitality (Campbell, 1999; de Bois, 2010; Jacobs, 1961; Rieniets, et all, 2009). Later, literature regarding vitality in post-soviet cities will be reviewed in order to adapt the general conditions of this matter to post-soviet context (Stanilov, 2007; Vysniunas, et all, 2004; Goldhoorn & Sverdlov, 2009; Pagonis & Thornley, 2010). The last chapter will present the conclusions and recommendations for creating vital and diverse city life in post-soviet city. The conclusions will later serve as guidelines for the design part of author's thesis.

The essential conditions of vibrant city life

As mentioned before, the goal of this paper is to set up guidelines for creating vibrant city life in newly developed or redeveloped areas in post-soviet context. In order to do so it is important to first of all specify the general criteria's and conditions for vibrant city life. The work of Jacobs (1961) will be used as a main source to specify the conditions of vitality. The work of de Bois (2010), Campbell (1999) and Rieniets (2009) will be used to provide new and more refreshed insights on this subject.

It is possible to identify these aspects of vitality: **functional mix use of the urban structures**, size of urban grain, variety of architecture, critical density of the population and intensity of land use (Jacobs, 1961). All these aspects are closely related with each other and can be further elaborated.

Mix of complementary uses within a building, on a site or a particular area is one of the main conditions of vitality (Jacobs, 1961; Cowan, 2005; Campbell, 1999). It can be further divided into horizontal mixed uses and vertical mixed uses. Horizontal mixed uses are established side by side, usually in separate buildings, while vertical mixed uses are on different floors of the same building (Cowan, 2005). The reason why the mix of complementary uses can be named as one of the key conditions of vitality is as following:

'*When one activity closes for lunch, or for the night, or for ever, others will continue to provide life and sense of security.*' (Cowan, 2005).

While talking about diversity and vitality of public space the function of the ground floor of the building ('plinth') is highly important (Jacobs, 1961). This level in many cases could be seen as a continuation of public space (de Bois, 2010). That is why the variety of functions especially in the ground floor of the building is imperative to ensure that the public space (street, square and etc.) will be intensively used during different times of the day by different users (Jacobs, 1961). What is more, Campbell (1990) mentions other conditions that are necessary to take into consideration while speaking about mix use, such as flexibility of certain buildings in terms of conversion and mixed ownership. These aspects are useful to consider in certain stages of urban development project, however they will not be further elaborated because it is rather difficult to embed or regulate conditions such as mixed ownership in academic urban design or regeneration project.

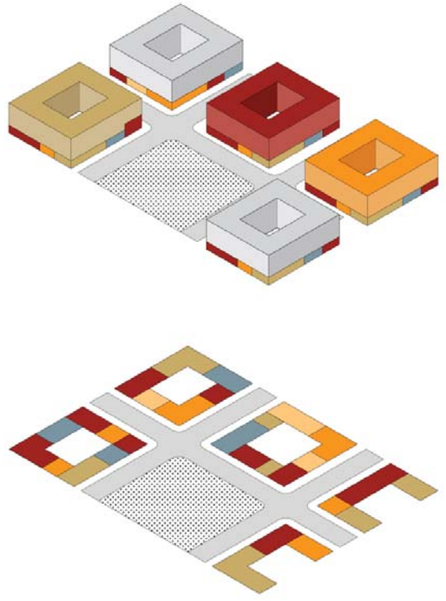


Fig: 52. Mix use of the "plinth" and first floor
Source: Author's drawing

Another important condition for vibrant city life is **the size of urban grain.** This aspect could be described as 'the degree to which a pattern of street-blocks and street junctions is respectively small and frequent or large and infrequent' (Cowan, 2005). The size of urban grain could be manipulated by the size of city blocks and is closely related with the walkability and vitality of public space (Jacobs, 1961). This relation could be explained as following. The junction of two paths is where several different pedestrian flows collide, this ensures higher density of passers-by in the area of this junctions (Jacobs, 1961). The smaller and more frequent urban grain composed of small city blocks has larger number of these junctions than bigger and less frequent one. The actual size of the city block optimal for post-soviet city will be specified in further paragraphs. Furthermore, the concentrations or a 'pool' of different commercial functions are more likely to be established close to these crossroads with potentially higher number of users (Campbell, 1999).

'*Mixed use is a consequence of location. Shops happen on busy streets, they don't happen in back streets; shops are on corners as a result of certain things.*' (Campbell, 1999).

That is why it is possible to conclude that urban pattern consisting of smaller grain urban blocks has richer route network with high level of connectivity and navigation options which generates spontaneity and synergy effect necessary for vitality of various functions (Rieniets, et all, 2009).

Third condition for vibrant city life is **the variety of architecture**. In the work of Jacobs (1961) one of the main conditions for vitality of a certain area is the necessity for aged buildings. Author argues that the new constructions are unaffordable for certain entrepreneurs and that is why an area should have a mix of buildings that vary in age.

'*If you look, you will see that only the operations*

that are well established, standardised or heavily subsidised can afford, commonly, to carry the costs of new constructions.' (Jacobs, 1961).

However, currently this might not be true as the prices of aged real estate in the centres of most cities are sometimes higher or equal to those of new constructions. However, it is important to say that old buildings or other aged structures such as markets are important part of a collective memory of the city dwellers and are very important to vibrant character of the city (Porter, 1994). One of the examples of such structure could be Covent Garden market in London. Also, variety of architecture can be also elaborated in many other variations not only mixture of old and new buildings. For example mixture of 'standard' and custom or even landmark architecture is also rather important as the significant buildings usually highlights the important areas of the city, attracts tourists and makes it easier to navigate in urban pattern (Lynch, 1960). It is important to conclude that in order to ensure the vitality of the city, it is necessary to establish as much architectural combinations as possible.

The last condition for vitality is **density and concentration** (Jacobs, 1961). This condition is rather complex and could be separated into three other conditions: dense concentration of people in a certain area (units: people/ha), density of housing units per hectare (units: UN/ha) and intensity of the land usage (units: FAR and coverage) (Rapoport, 1975). First of all, it is important to ensure that there are enough people in the area to provide critical density for diverse city life:

'*Everyone is aware that tremendous numbers of people concentrated in the city downtowns and that, if they did not, there would be no downtowns.*' (Jacobs, 1961).

It is rather difficult to find any precise values to measure this critical mass of people. However, even if one could specify the number of inhabitants in a certain area it would be difficult to say whether this area is vital or not. In this case another way to measure density is necessary such as the intensity of land usage (Rapoport, 1975). As mentioned before the most important goal to achieve is the vitality of the public space, the space itself is defined by buildings and building groups (city blocks). If the developed location is composed of small grain urban pattern and the land of such location is used intensively (high FAR and high number of UN/ha) these two condition ensure that the public space created is easily defined, condense, safe and vital (Jacobs, 1961). It is rather difficult to generate vitality in low density area due to large open space compared to more intensively used and dense area (Campbell, 1999). It is important to mention that Bergdoll & Williams (1990) suggest to consider the detailing of facades, number of parked cars and even number of street signs as important criterias influencing the perception of density. It is possible to say that there are several ways to measure density and perception of density, however this chapter only reviews the importance of density to vibrant city life. The specific values for this criteria (FAR, UN/ha, inhabitants/ha) will be name in the following chapters.

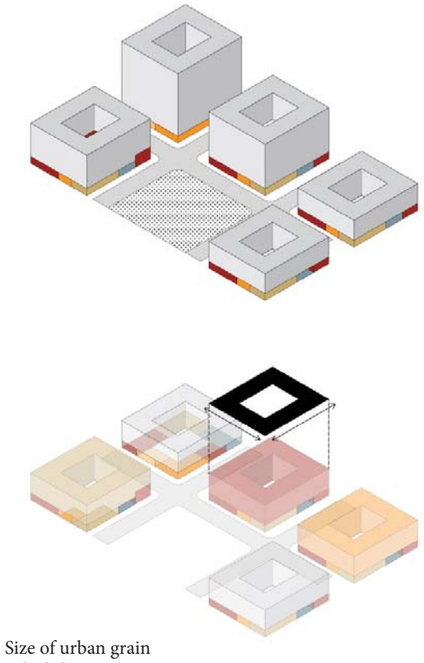


Fig: 53. Size of urban grain
Source: Author's drawing.

This chapter names four conditions for creating vibrant city life by reviewing the key authors on this subject. The arguments for naming these conditions are reinforced by adding the insights from the most recent works on the subject of vitality. However, as these conditions are named it is important to review them by adding specific aspects of urbanity of the post-soviet context.

Adapting the vitality conditions to post-soviet context: mix of complementary uses

In previous chapter four conditions for vibrant city life were discussed. However, these conditions were formulated by authors mostly observing American and west European cities. This chapter aims to investigate how the condition of mixed complementary uses function in post–soviet cities. The example of shopping centre development in Moscow, Russia will be discussed in order to illustrate how city planners have been recently dealing with the mentioned condition.

The Manezh shopping centre development in Moscow is one of the largest projects in the city since the collapse of the Soviet Union. Manezh is located in the core of the city – the Kremlin architectural complex and modelled after Les Halles in Paris (Pagonis & Thornley, 2010). The centre is built on the intersection of two busiest metro lines in Moscow and covers almost 70.000 m2, (Pagonis & Thornley, 2010). Finished in 1997, Manezh is an example how the city planners are dealing with distribution of commercial activities in the contemporary post-soviet city. However, in order to present this example it is important to briefly explain the history of organising trading spaces in soviet cities.

Before Perestroika, trading, initiated by private entrepreneurs, was prohibited in Soviet Union. The goods could be provided only by traders controlled by the state. This had a negative impact on vitality of the city centre in many soviet cities (Vysniunas, et all, 2004). After economic reforms in 1985 small private entrepreneurship was partly permitted. Shvidkovsky (2007) notes that after these trading reforms the pavements of Moscow were full of people selling from stalls and even from their own hands. After the collapse of the Soviet Union in 1990 one of the changes in service industry was increased demand of retail space (Pagonis & Thornley, 2010). The period that followed can be accurately described as following:

'*At first the trading simply happened on the street, since the shops were completely empty as a result of huge deficits. Soon the street vendors started to organise themselves into markets or kiosk which were placed everywhere in public space.*' (Goldhoorn & Sverdlov, 2009)

It is important to note that the economic reforms in 1985 the reestablishment of different commercial activities had a positive effect on liveliness of the public space (Grunskis, 2013). What is more, some of the old soviet markets and other trading structures still remain one of the most vibrant places in the city. It is possible to say that the era of successful small scale commercial entrepreneurship ended around the year of 2000 (Goldhoorn & Sverdlov, 2009). At this point the demand for the trading space in post-soviet cities reached certain critical level which resulted in establishment of the first shopping malls. Manezh shopping centre marks the moment when large shopping malls entered post-soviet cities (Goldhoorn & Sverdlov, 2009). Better connected, well maintained, safe and packed with western chain stores shopping malls provided a serious threat and competition for small private entrepreneurs. One peculiar character of these shopping centres was that they were located very close and sometimes even in the centre of the city. The same trend could be seen in most post-soviet cities for example Vilnius (Lithuania), Ryga (Latvia) and others (Vysniunas, et all, 2004). Development of these multifunctional retail centres resulted in extinction of small private businesses and many other functions in the city centre which were incredibly vital to city life.

In order to develop successful urban regeneration projects in post-soviet city it is crucial to consider functional variety in development site. One of the key aspects to consider is small-scale commercial activities in the ground floors of the buildings. However in order to do so, one must consider certain trends specific to post-soviet context. Because of some complexities specific to post-soviet retail market, large scale shopping centres usually located close to most important transportation

hubs are strong competitors for small scale commercial developments in post-soviet cities (Goldhoorn & Sverdlov, 2009). In this case it is recommended to avoid large scale commercial centres in newly redeveloped areas. Instead, it is recommended to disperse the commercial functions in the planned area as much as possible.

Adapting the vitality conditions to post-soviet context: city block and urban grain.

As explained before the size of urban grain is one of the crucial requirements for vitality of an area. The size of urban grain is defined by the size of the city blocks. By its definition city block is the smallest area surrounded by streets (Cowan, 2005). Considering this definition, soviet era city blocks (kvartaly) are quite different compared to those city blocks found in historical centres of western and also soviet cities. They are composed of free standing buildings dispersed in a relatively large area while historical city blocks of western cities are created while grouping buildings in compact blocks and forming the perimeters of the street (Goldhoorn & Sverdlov, 2009). In this case in order to adapt the vitality condition related to the size of the urban grain to post-soviet context it is important to elaborate on definition of soviet block and possibilities to adapt it to an element of contemporary city.

Soviet housing block is the smallest element of the so called microraions which are standard soviet housing areas. Blocks are composed of free standing housing buildings grouped around schools, kindergartens or centres providing primary domestic services (Grunskis, 2013). The kvartaly are usually defined by streets and crossed by numbers of secondary roads providing access to separate building units.

In Soviet Union microraions were seen as a successful example of socialist housing policy representing equality and stability as they provided everyone equal accessibility to public domain as well as basic needs of the society such as education and healthcare (Goldhoorn & Sverdlov, 2009). However, after the collapse of socialism and planned economy soviet housing districts began to transform. First of all, the car ownership has increased almost 500 percent (Vysniunas, et all, 2004). This resulted in deterioration of public space which was completely invaded by cars (Goldhoorn & Sverdlov, 2009). Second, due to increasing crime rates housing estates were secured with fences which provided a certain boundaries separating private property from public (Vysniunas, et all, 2004). Currently the soviet housing area can be defined as 'suburban gated community' (Goldhoorn & Sverdlov, 2009).

Nowadays, the regeneration of the modernism housing districts in major post-soviet cities are seen as one of the ways to stop the urban sprawl and house the growing population (Muliuolyte, 2010). Regeneration in this case means restructuring of the urban fabric and consolidation of urban structure (Trancik, 1986). This paper will not focus on the possibilities of such consolidation as there are many ways to create more compact city structure in these districts. Furthermore, this subject was thoroughly elaborated as a separate topic in other master thesis projects in Complex Cities studio, TU Delft (Muliuolyte 2010; Rackauskas, 2013). However, following the conclusion of these mentioned projects. It is possible to identify the main trends of such regeneration. First of all, it is recommended to divide large soviet housing blocks into smaller, more compact city blocks and give the clear definition and hierarchy to the network of streets and public spaces (Trancik, 1986). At this point it is possible to specify the measurements for designing a city block in post-soviet city. In consolidated soviet housing areas it is recommended to divide the standard size city block (60x120m) into three smaller ones which dimensions would approximately be 45x60m each (Vysniunas, et all, 2004) (see Fig.1). It is recommended to maintain the size of historical city block (10x18m) in newly developed or redeveloped areas close to the city centre (Vysniunas, et all, 2004). Although it is possible to use these numbers as guidelines for design in most post-soviet cities, it is recommended to re-evaluate this information considering the context of the site location.

The mentioned projects concerning the consolidation of the soviet housing districts does not address the issue of vitality of such structures. In this case the size of a city block has to be considered while dividing soviet housing block into smaller ones. What is more, while dividing the block it is important to search for possibilities to create new public spaces. In order to activate the public space the entrances to the buildings as well as the function of the first floor has to be considered (Goldhoorn & Sverdlov, 2009).

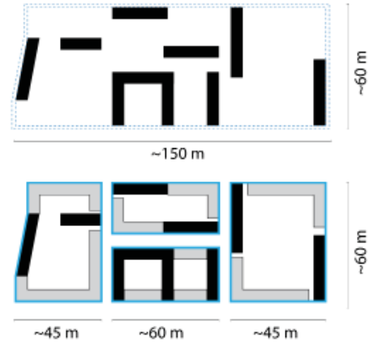


Fig: 54. Restructuring soviet housing area
Source:

Adapting the vitality conditions to post-soviet context: variety of architecture and density.

As mentioned before variety of architecture and building density is one of the key aspects of vitality. However, there are certain things that need to be taken into consideration regarding these aspects while regenerating soviet housing areas.

First of all, the land in the soviet housing districts is used very extensively. For examples the average density of microraions fabric is measured from 0.5 to 1,7 FAR (Vysniunas, et all, 2004). Usually soviet housing areas are composed of free standing buildings of around 10 floors with a lot of empty space surrounding these buildings. It is measure that microraions could be potentially densified up to 2-2,4 FAR (Vilniaus Planas, 2007). While developing areas close to the city centre it is recommended to maintain densities common to the city centre of eastern European city (1,7-2 FAR) (Vysniunas, et all, 2004). It is rather difficult to find the information about recommended specific numbers of inhabitants per hectare that could ensure vitality. However, it is possible to find that the most vibrant areas of post-soviet cities have 450-550 inhabitants per hectare and aproximately 150-240 dwelings units per hectare (Grunskis, 2013). As mentioned in the previous paragraph if these areas would be consolidated and made more compact the higher density would automatically be achieved.

Another feature to be considered while talking about vitality in post-soviet city is unified soviet architecture. Variety of architecture is one of the key aspects of vitality, however soviet housing districts are composed of unified and standart buildings. In case of consolidation and regeneration of such district while enriching the architectural variety is naturally encouraged.

Conclusions.

This paper is a part of authors master thesis research framework. Its aim is to find the main conditions for vital city life in revitalized and newly designed areas in post-soviet cities. The conclusions of this review will be used as guidelines for design part of the thesis.

As the conditions of vital city life were not thoroughly researched in post-soviet context this paper was divided into two parts. First part discusses general conditions of vitality using the work of Jacobs (1961) as the main source, while enriching these ideas with more recent views of Campbell (1999), de Bois (2010) and Rieniets (2009) and. Second part of the paper focuses on adapting the results of the first part to post-soviet context. This is achieved by reviewing recent literature on post-soviet cities in order to find specific features of these cities that could be obstacles while trying to adapt conditions of vitality to post-soviet context (Goldhoorn & Sverdlov, 2009; Pagonis & Thornley, 2010; Stanilov, 2007; Vysniunas, et all, 2004). As a result four conditions for vibrant city life in post-soviet context were named.

1. Mix of small scale complementary uses. It is encouraged to enrich the designed area with as much different functions as possible. Different functions are especially encouraged in the ground floor of the city blocks in order to vitalise the public space. Smaller scale commercial activities are encouraged in contrary to large scale commercial clusters as these centres in post-soviet cities tend to distort vitality and concentrate it in one spot. Also, it is recommended to use existing historical vital trading spaces as development catalyst.

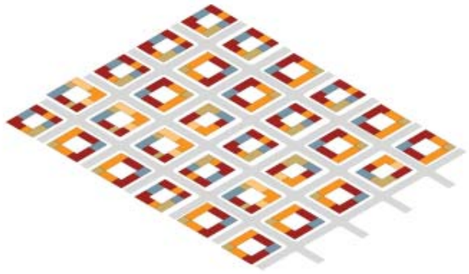


Fig: 55. Mix of complementary uses.
Source: Author's drawing.

2. Small grain urban fabric. It is encourage to design small size city blocks in newly developed areas. In case of regenerating soviet housing areas it is important to divide large soviet blocks (130x60m) into smaller size blocks (approximately 45x60m). Also it is important to give clear definition and hierarchy to the network of the streets, consider possibilities to create new public spaces. What is more, while reshaping soviet blocks it is important to consider space for small scale commercial activities in the ground floor of the building (condition 1) (Muliuolyte 2010). While developing areas close to the city centre it is recommended to maintain the size of city block approximately 10x18m. This particular size is common to city blocks located in vital historical centres of post-soviet cities (Vysniunas, et all, 2004).

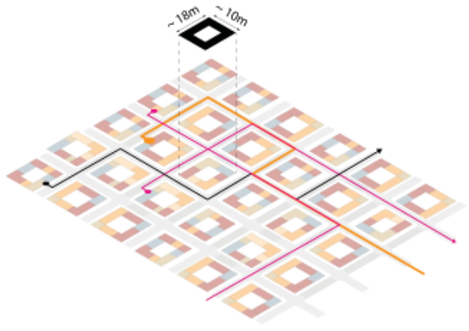


Fig: 56. Size of urban grain.
Source: Author's drawing.

3. Variety of architecture. Combining different types of architecture is encouraged as it enriches the physical quality of the designed area. It also makes certain areas easier to identify and locate. However, this condition remains relatively obscure as it is impossible to name all the possible mixtures of architecture. One of the main types that could be named is the combination of old and new architecture.

Fig: 57. Mix of architecture.
Source: Author's drawing.

4. Density and concentration. This condition can be divided into three parts. It is recommended to increase the floor aspect ratio while redeveloping soviet housing areas approximately to 2-2,4 FAR (Vilniaus Planas, 2007). In areas close to the city centre it is recommended to maintain density close to 1,7-2 FAR (Vysniunas, et all, 2004). This density is common to vital city centres of eastern European cities. It is rather difficult to recommend specific values of inhabitants critical to vital city area. However, most vibrant parts of post-soviet cities have approximately 450-550 inhabitants per hectare and 150-240 dwelings units per hectare (Grunskis, 2013).

The Market as one of the clusters

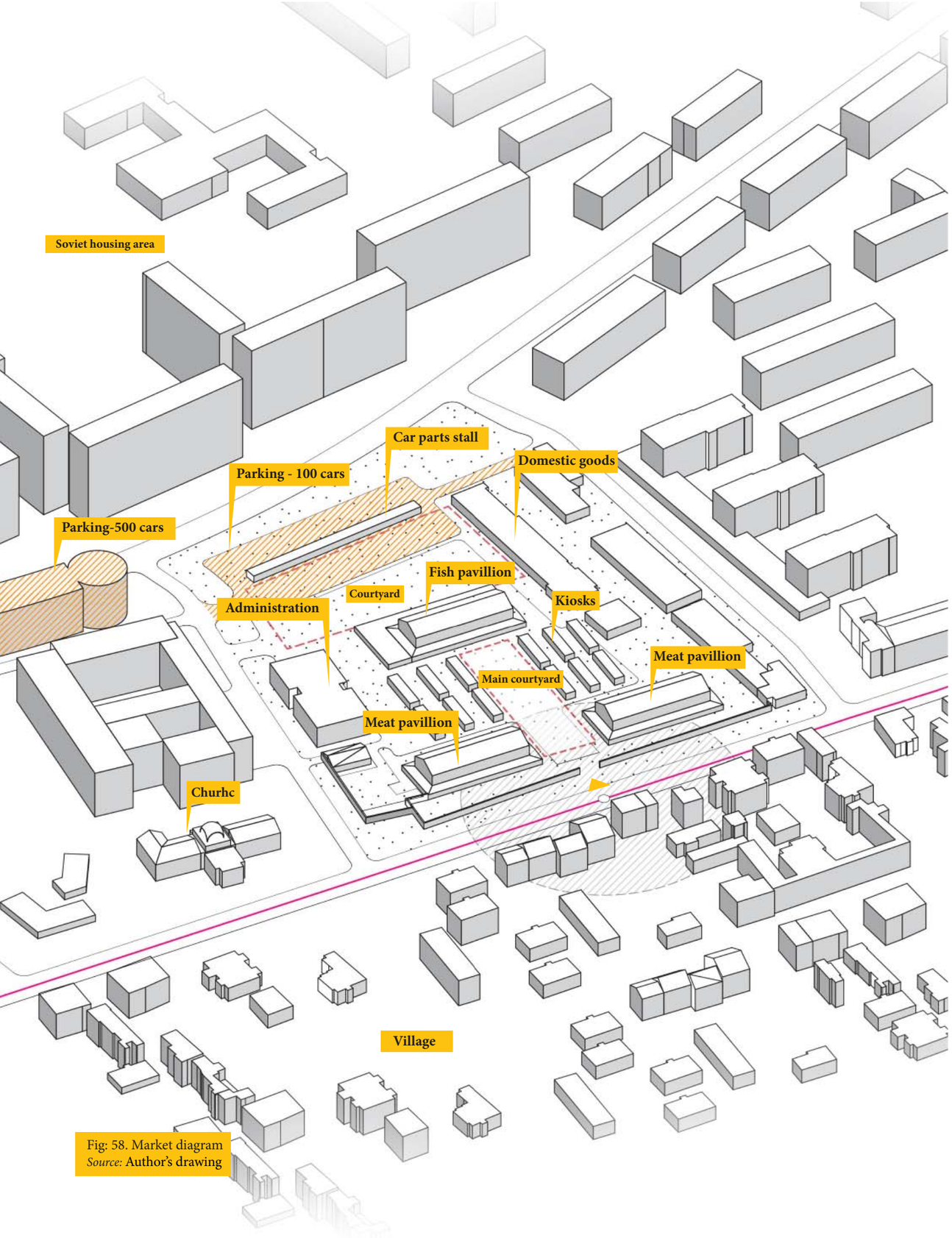


Fig: 58. Market diagram
Source: Author's drawing

The Calvary market

The Calvary market is the subject of this project. It was officially established around 1900, although the actual date is quite obscure as the market had been operating for many years without official permissions (Drema, 2013). The first two pavilions currently forming the core of the market were established around 1904 in the field next to the Russian Orthodox Church. As the church visitors came both from the countryside and the city , the market was a place to exchange goods and craft after the mass. The third pavilion was built in the XV century and together with the two existing pavilions formed the courtyard of the market which still remains the main trading area. During the soviet occupation the market was expanded with section for domestic goods and two kiosk areas. Nowadays the market employs almost 200 people and is the central market of the city. Currently there is an ongoing discussion in the city council about the future of the market. It is most likely that the market would be redeveloped into a modern shopping center, while the traders will be offered the possibility to move to other part of the city.
The newly proposed vision of the city center establishes the Calvary market as one of the clusters of the city that supports the local neighborhoods with necessary function and vitality of public realm. It is claimed that the market could be used as a catalyst for the developments around it. Furthermore, the vision proposes to associate the market with the CBD area in order to establish new functional links and customer flows. In this context the position of the Calvary market is rather similar to the one of the Borough market in Bankside, London. The market is the not only the center of the neighborhood but also important commercial cluster for the business area as well. The location of the Borough market is well reflected in its program as it has rather large selection of lunchtime restaurants, cafes and bars to support the needs of the office workers as well as other functions to support the local community. It is possible to state that in order to ensure that the market will be a successful generator of vitality in the area it is necessary to look for possibilities for the market to grow and evolve. This study provides the insight on how the market works and how it can be improved.

The functional structure of the market

The aim of this study was to understand how the market works and what could be done in order to improve its structure. Several studies were carried out by observing and mapping the market during different time of the day.
The market is usually resupplied with goods between 4 am and 7 am. During this time the market is closed and cargo trucks can easily approach almost every trading zone. The fresh meat and fish pavilions have their own cargo zone, which allows resupplying them whenever necessary. Other trading areas are rather difficult to resupply during the market working hours, however considering the type of the products sold in these zones they do not require such possibility. It is possible to state that the logistical structure of the market is functioning rather well.

Fig: 59. Cargo scheme.
Source: Author's drawing

The market can be divided in several functional zones. Although from the first glance the configuration of these zones might look rather chaotic, the observation of the customer flow present different conclusion. Furthermore, comparison of the customer flow in the market and a traditional supermarket allows to state that the functional scheme of the market is rather sophisticated and advanced. The supermarket usually allows one entrance point to the product zone and one access point. Furthermore, the dislocation of the product groups in the shopping center is rather linear. This means that even though a customer only comes to the shop for a certain product he must still pass few other sections before finding the target product and few more before he exists the shop. In contrary the scheme of the Calvary market present a possibility to circulate in two different ways. The customer can chose to enter a food courtyard surrounded by three pavilions without passing the non-food section, while customers coming to the market for products like clothes or domestic goods can access the non-food areas without entering the food zone. This scheme allows variety of possibilities to choose different ways to navigate through the market.
Although the scheme of the market is rather successful the major concerns are about the quality of the environment of the market. Most of the buildings in the market need maintenance, all the buildings in the domestic good area as well as the administration building are in very poor state. Furthermore, market does not have the required public restroom facilities and public bathrooms.

Fig: 60. Functional scheme
Source: Author's drawing

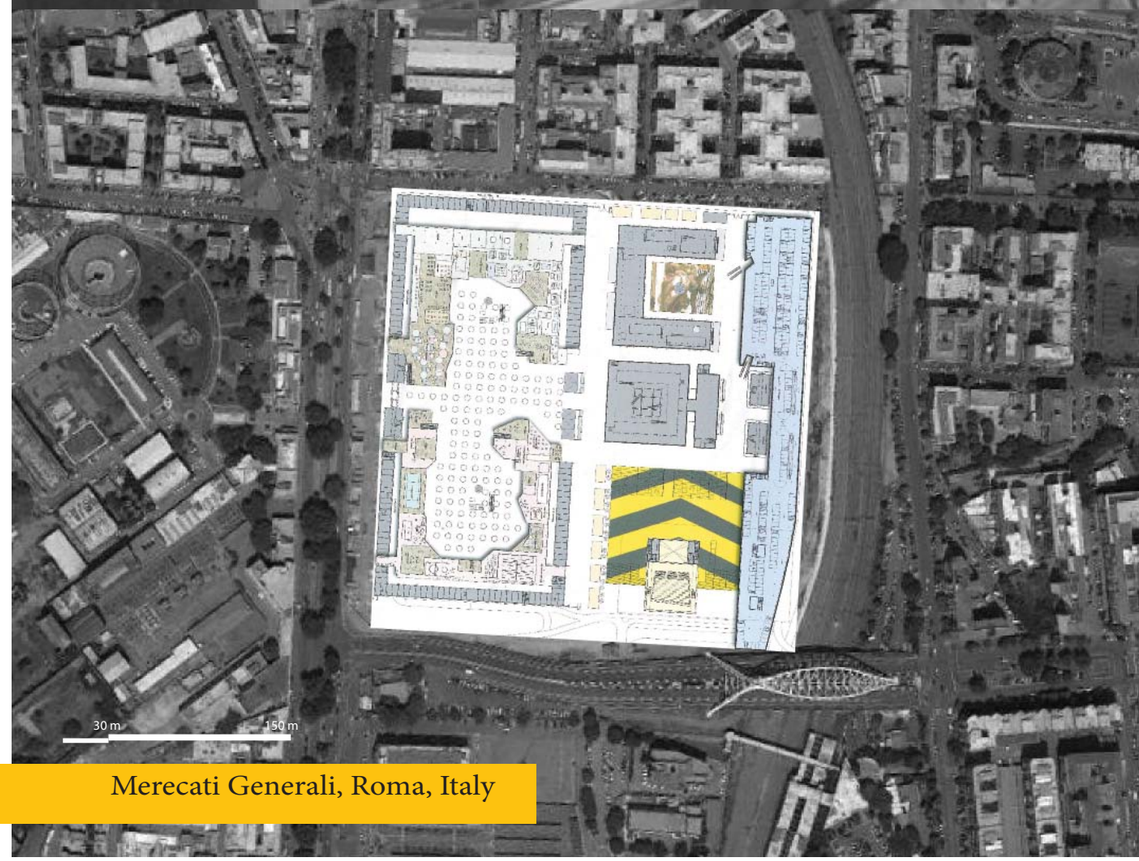
Fig: 61. Market movement diagram.
Source: Author's drawing

Fig: 62. Supermarket functional diagram
Source: Author's drawing

Borough market, London, UK.

Santa Caterina market, Barcelona, Spain

Blaak market, Rotterdam, The Netherlands



Merecati Generali, Roma, Italy

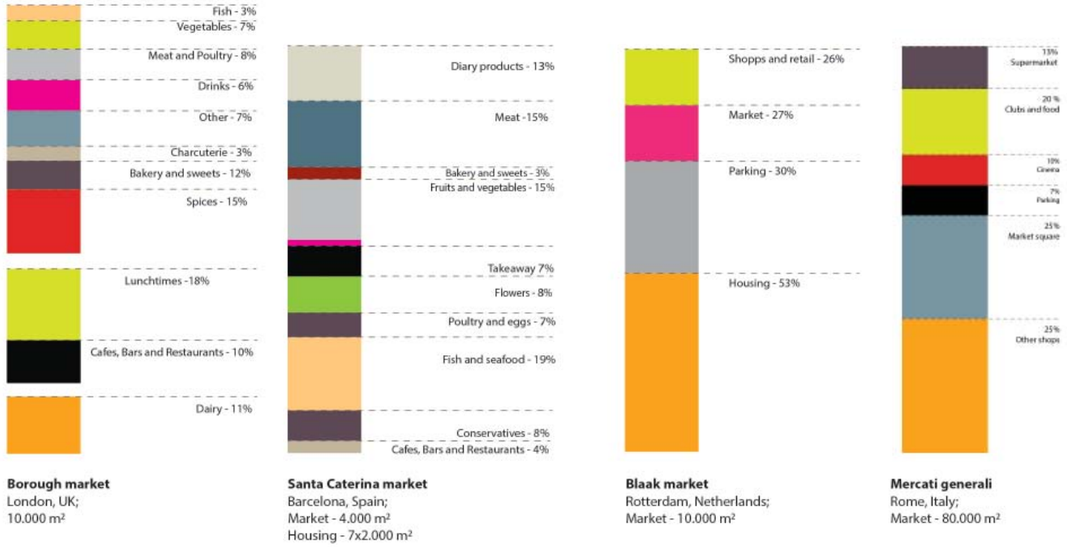


Fig: 63. Market program comparison.
Source: Author's drawing

The program of the market

As mentioned before the market operates on regional scale attracting traders and customers from the whole Vilnius metropolitan area. New vision for the city center determines market as a cluster of vitality for the local neighborhood and nearby CBD area. Although the program of the market is quite diverse, it attracts rather limited range of customer groups. The reestablished position of the market in the context of the city center presents the necessity to enhance this range. In order to investigate how the program of the market can be upgraded in order to attract wider range of customers the comparison study of few well known markets was carried out.

Four markets were chosen to study the relations between their location and program. Borough market in London and Santa Caterina in Barcelona (EMBT, 2005) are successful central markets supporting local communities and nearby business areas. Both markets have rather large selection of food stalls as well as wide range of lunchtime cafes, bars and restaurants. The Mercati Generali market in Rome (OMA, 2008) is located in industrial area and has more elaborate program including functions such as cinema, club and library. The variety of supplementary functions and rather large parking infrastructure allows assuming that the program is adapted to attract people from the whole city to rather remote industrial area. The Rotterdam Blaak market (MVRDV, 2004-2014) and Santa Caterina market are both supported by housing function which allows maintaining the usage of the area during different times of the day.

In order to adjust the program of the Calvary market to the new vision for the city center it is proposed to enhance the program of the market as following. First of all, it is necessary to consider program that could support the potential clients from the CBD area (lunchtimes, grab and go shops, bars and restaurants). Furthermore, occasional flea market which does not have a fixed area in the city could be hosted in the Calvary market. In order to present program supporting the lifestyle of the local community and also attracting visitors from different parts of the city additional functions such as cinema, children nursery center and hotel are also proposed.

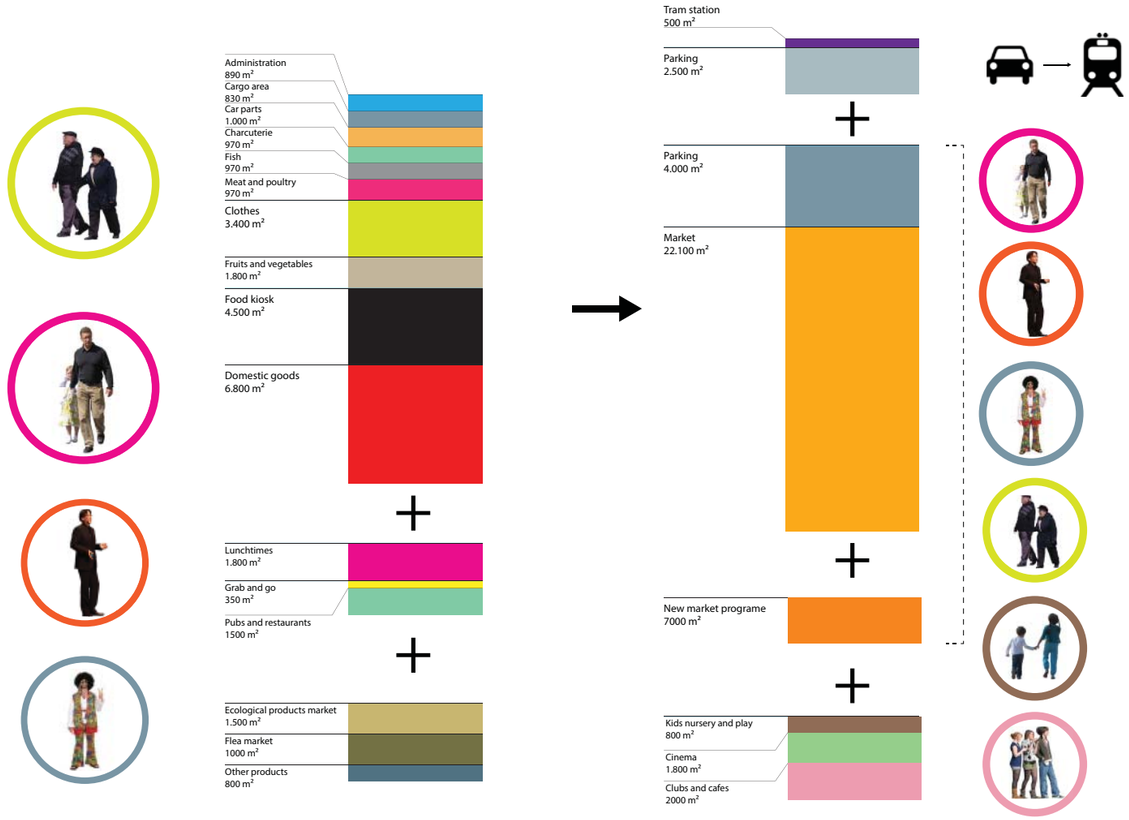


Fig: 64. New market program.
Source: Author's drawing

The research conclusions and guidelines.

Elaborating on the design of the market

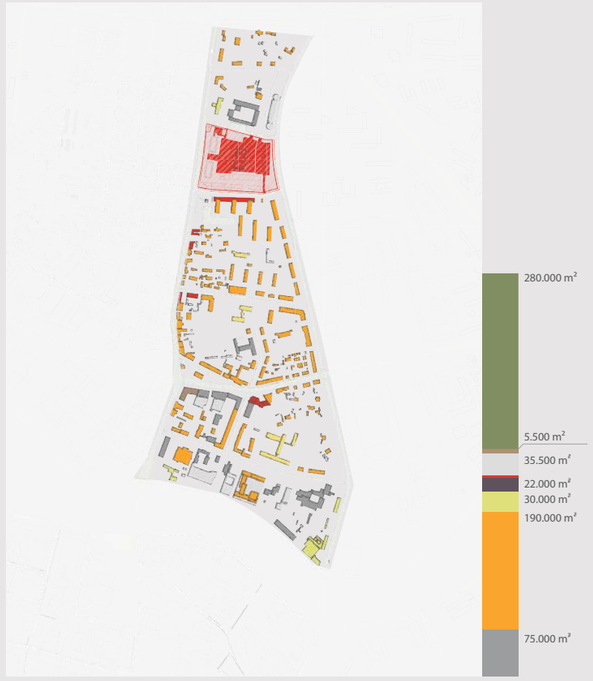
The design of the market will be presented in two scales. The proposal will be firstly presented in the context of the area which is defined in the vision as the extension of the old town's urban structure. Afterwards, the detailed ground floor plan of the market cluster will be presented. This chapter presents the conclusions of the research so far and aims to formulate clear guidelines for the design of the market and project location.

1. Guidelines and requirements. Analysis of the city and alternative growth model proposal.
This part of the research helps to form the alternative development strategy for the city. In this strategy it is proposed to look for areas in the city center where new housing program can be developed as an alternative to sprawl. The strategy proposes to house 50.000 people in the north part of the city center. Housing for 30.000 people is proposed in the CBD extension and **additional housing for 20.000 people is proposed in the project location (extension of old towns urban fabric)**.

2. Guidelines and requirements. Analysis of the city center and proposal for the spatial vision.
Spatial vision sets the Calvary market as one of 11 center clusters. The significance of **this cluster is** that it is not only **a center for the local community but also supports the CBD area with necessary functions, this must be reflected in the new program of the market.**
Vision also proposes to establish new spatial links between the project location and the old town. **The design** of the project location **must include these new spatial links and elaboration on how the spatial structure of the project location and the market is connected with the old town.**
Landscape analysis reveals importance of the high rise development zone in the center called "Vilnius urban hill". **The vision** incorporates conclusions of this analysis and **proposes density, land coverage, building height requirements and housing typologies for the project location** (for detail information check the figure below).

3. Guidelines and requirements. Analysis of the market.
Analysis of the market reveals that **market has unique functional configuration which has to be preserved** in order to maintain the atmosphere of the market and its vitality. Research also proposed to **develop additional 20.000 m2 program** to existing 22.000 m2 to support the new position of the cluster as a center of the community and nearby business district (total area of the market will be 42.000 m2). **The challenge of the design is to find the place in the project location for additional market program without dismantling the existing functional structure of the market.**
Furthermore, analysis reveals that the **three pavilions of the market have historical value and need to be preserved. The other buildings of the market can be removed. The proposed new buildings must maintain the existing configuration of spaces in the market and create clear perimeter of the market compound with one main entrance and three secondary entrances. The current location of the main entrance must be preserved, however the configuration of the secondary entrances can be adjusted following the newly created spatial structure of the market.**

4. **Guidlines derived from the theoretical research are described in page 93**.
Additional requirements for the design are specified by making several proposal sketches and choosing the additional desired features of the project location. For this several models has been made with different programs and densities. The models were compared and desired features chosen. The features were chosen following the experience of the author.



Existing situation
Total area_ 360.000 m²
Number of working places in office buildings_ 15.000
Number of inhabitants_ 9.500

Proposed situation_1
Total area_ 600.000 m²
Number of working places in office buildings_ 24.000
Number of inhabitants_ 17.000

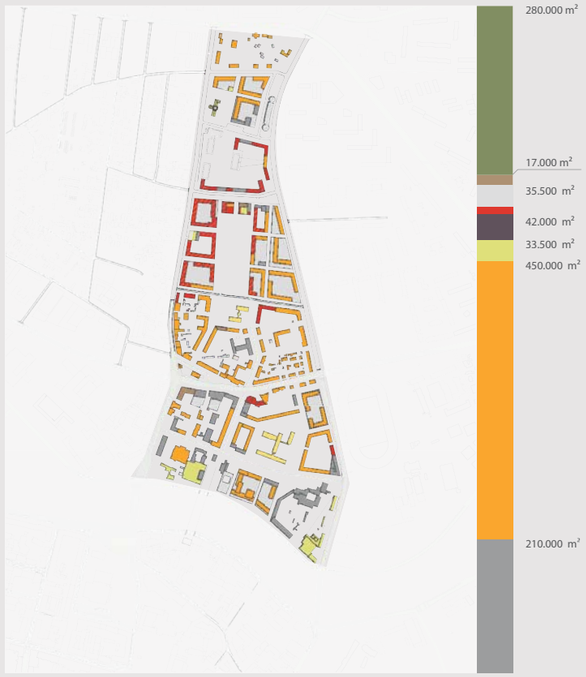
Office Housing Culture Market
Retail Infrastructure Hotel Public space

Main negative aspects.
1. Poor distinction between public and private spaces in the housing area close to the market. Loose urban fabric.
2. Densities and architectural typologies untypical to the city center.
3. Poor quality and lifeless public spaces along the waterfront.
4. Poor spatial connection with the old town.

Main positive aspects.
1. Vital Calvary market.
2. Remains of the old town urban fabric.

Main negative aspects.
1. Established spaces are competing with the main street.
2. The program of the new market is distributed in the inner parts of the project location leaving the main Calvary street lifeless.
3. Unclear importance of different entrances.
4. Poor definition of market spaces.

Main positive aspects.
1. Clear distinction between public and private spaces.
2. Clear spatial connections with the old town.
3. Developed fabric is common to the city center.



Proposed situation_3
Total area_ 800.000 m²
Number of working places in office buildings_ 42.000
Number of inhabitants_ 18.000

Main negative aspects.
1. Unrealistic program. Too much housing and too much office space.
2. Questionable microclimate conditions in created spaces.
Main positive aspects.
1. Urban composition clearly stresses the importance of the market cluster.
2. Clear hierarchy of public spaces. Calvary street is supported with functions underlining its importance and slowing traffic.
3. Clear composition of market spaces

Proposed situation_4
Total area_ 600.000 m²
Number of working places in office buildings_ 24.000
Number of inhabitants_ 18.000

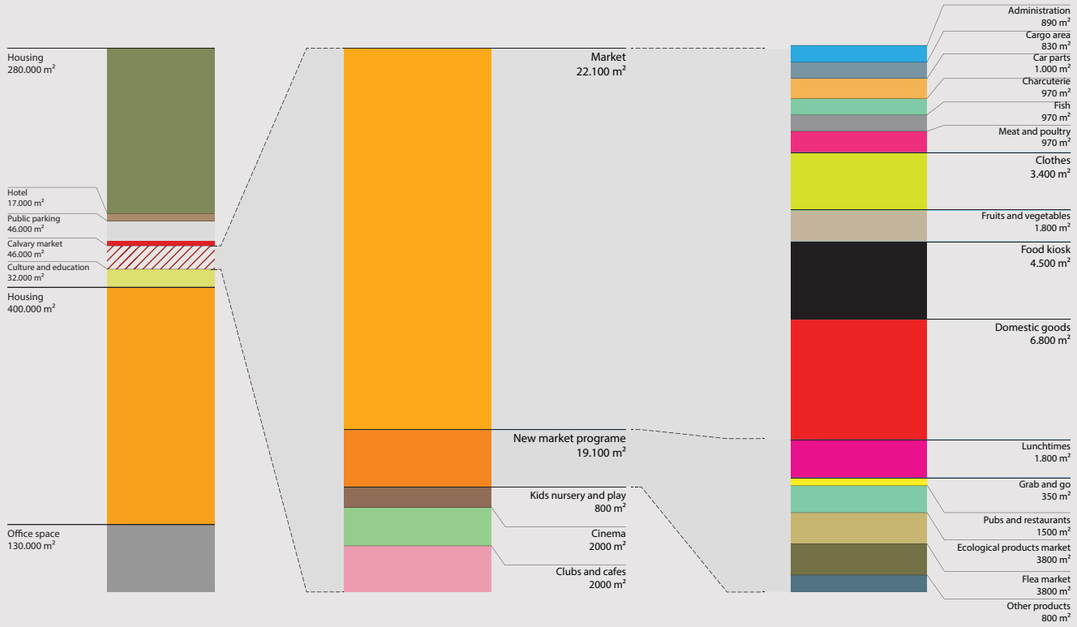
Main negative aspects.
1. All created public spaces seem to be transitional, there is no space that can stop or slow down the sprawl.
Main positive aspects.
1. Urban composition clearly stresses the importance of the market cluster.
2. Clear hierarchy of public spaces. Calvary street is supported with functions underlining its importance and slowing traffic.

Proposed situation_2
Total area_ 680.000 m²
Number of working places in office buildings_ 24.100
Number of inhabitants_ 18.000

Main negative aspects.
1. The public spaces for the community seems bigger and more important than the market itself.
2. Unclear distribution of functions, the main functions are composed along the Calvary street leaving the neighborhood square without comprehensive function.
Main positive aspects.
1. Urban composition clearly stresses importance of the Calvary street.

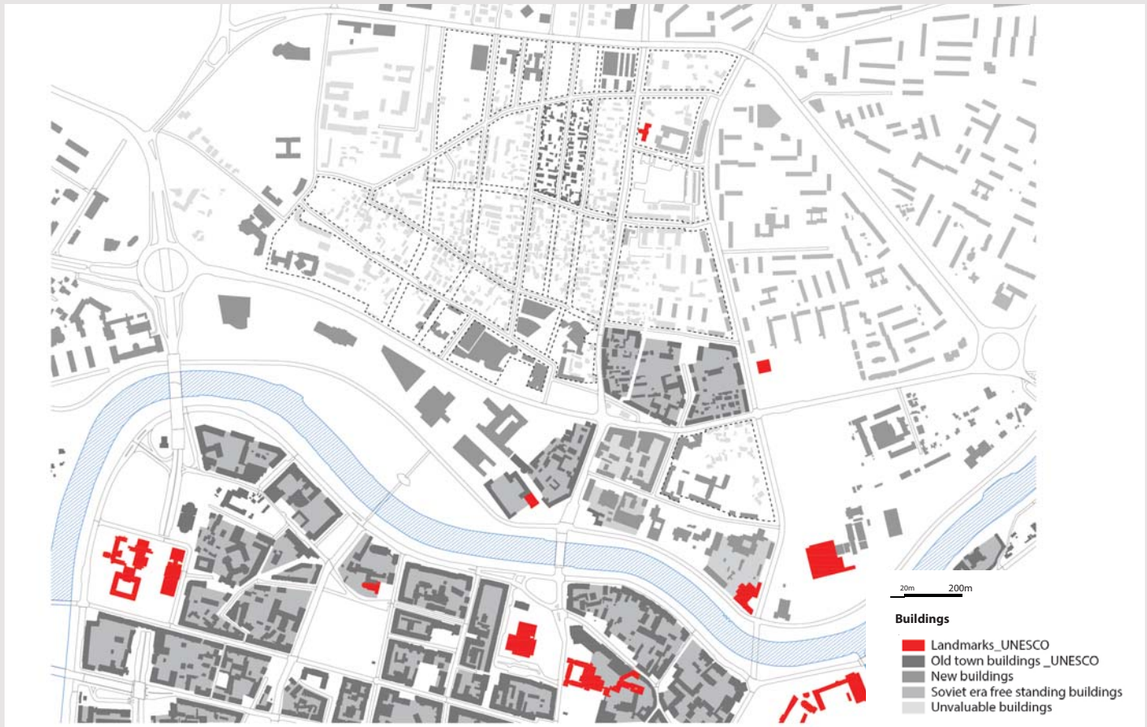
Desirable qualities for the project location.

1. New structures must clearly define spaces.
2. Location of the market main entrance should be clearly stressed.
3. Distribution of secondary entrances of the market must relate with newly developed public spaces.
4. Possibility to create several spaces of different importance.
The market – main trading space that can be divided into two parts.
The sanctuary – public space for the Russian orthodox church.
The neighborhood space- public space for the newly developed neighborhood (optional).
Multifunctional city square – square supplied with market functions that could be used in different ways (as a market extension, concert venue, open air cinema or a playground).
Calvary street – the backbone of the north part of center.
5. Dense urban blocks along the Calvary market defining the spaces of the market cluster.



Final requirements and guidelines for the design

1. Create of housing for 20.000 people and work space for 24.000 people (refer to the program bar for the complete calculation of square meters).
2. Design cluster that support the local community and the CBD area with comprehensive program (refer to the program bar of the market).
3. The design of the project location must include elaboration of how the spatial structure of the project location and the market is connected with the old town.
4. It is recommended to create several different public spaces with clear hierarchy (presented as following).
Calvary street – the backbone of the north part of center.
Multifunctional city square – square supplied with market functions that could be used in different ways (as a market extension, concert venue, open air cinema or a playground).
The market – main trading space that can be divided into two parts.
The neighborhood space- public space for the newly developed neighborhood.
The sanctuary – public space for the Russian orthodox church.
5. Spatial configuration and size of different created public spaces must represent their importance.
6. Maintain the proposed density, land coverage, building height and housing typology requirements for the project location (for detail information check the figure on the right).
7. Maintain and preserve the designated buildings in the area (see figure on the right).
8. Maintain the original spatial and functional configuration of the market. New market program must be developed without threatening to disturb the vitality conditions created in the market.
9. The proposed new buildings of the market must maintain the existing configuration of spaces and create clear perimeter of the market compound with one main entrance and three secondary entrances.
10. The current location of the main entrance must be preserved, however the configuration of the secondary entrances can be adjusted following the newly created spatial structure of the market.



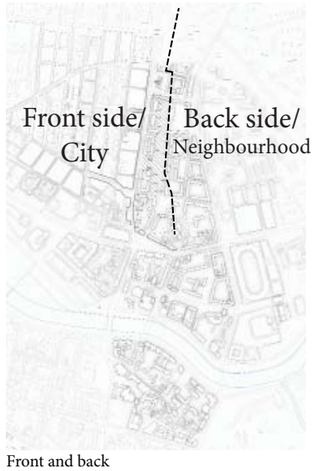
The design of the market

The masterplan of the design location

The design proposal follows the guidelines set up by the vision for the city center. The old town is vital because of well elaborated spatial network connecting different functional clusters. Compared to the old town the north part of the city center is relatively new area with different urban fabric types. The main idea of this design proposal was to maintain the variety of urban fabrics while making the spatial structure of the north part more similar to the old town. It was chosen to clearly define the main spaces which connect the three clusters in the north part of center. One of these clusters, the Calvary market, was elaborated in detail.
Project location was divided in two parts. West part of the area together with the new CBD expansion forms representative part of the new city center with Calvary street as a backbone. New market square created along this spatial corridor is a space where intense street life is generated with the help of the expanded Calvary market. It is proposed to locate the new functions of the market along the perimeter of the new square and Calvary street, making it less a traffic artery and more a pedestrian shopping street. The east part of the design location is referred to as "The Back". Together with the soviet housing district it forms a neighborhood which in contrary to the western part of the area is less open and has less street life, more quiet neighborhood streets.
Spatial corridors stretching from south to north connects the old town with the Calvary market. A new bridge is proposed to improve the pedestrian connections and integrate the spaces of the north with the old town spatial structure. Spaces stretching from west to east connect the CBD cluster with sports cluster (stadium and events venue). These spaces are different in their nature (waterfront and the avenue). The waterfront is quieter route along the river with scenic views. The avenue is one of the main arteries of the city with more intense transport, high rise buildings and mix of functions along the perimeter of the street. The market cluster and two other clusters are connected through Calvary street as well as several other spaces.
The main cluster of the area – the Calvary market is also divided in two parts. The main courtyard of the market together with new square forms the front side of the new market. It is a representational public space with diverse mix of complementary functions. The back courtyard of the market is a neighborhood market square, disconnected from busy street. It provides shelter for traders trading directly from their trucks and meeting point for the local residents.

Spaces connecting the old town with the north part of the city center

Spaces connecting the CBD and the sports clusters.



Front and back

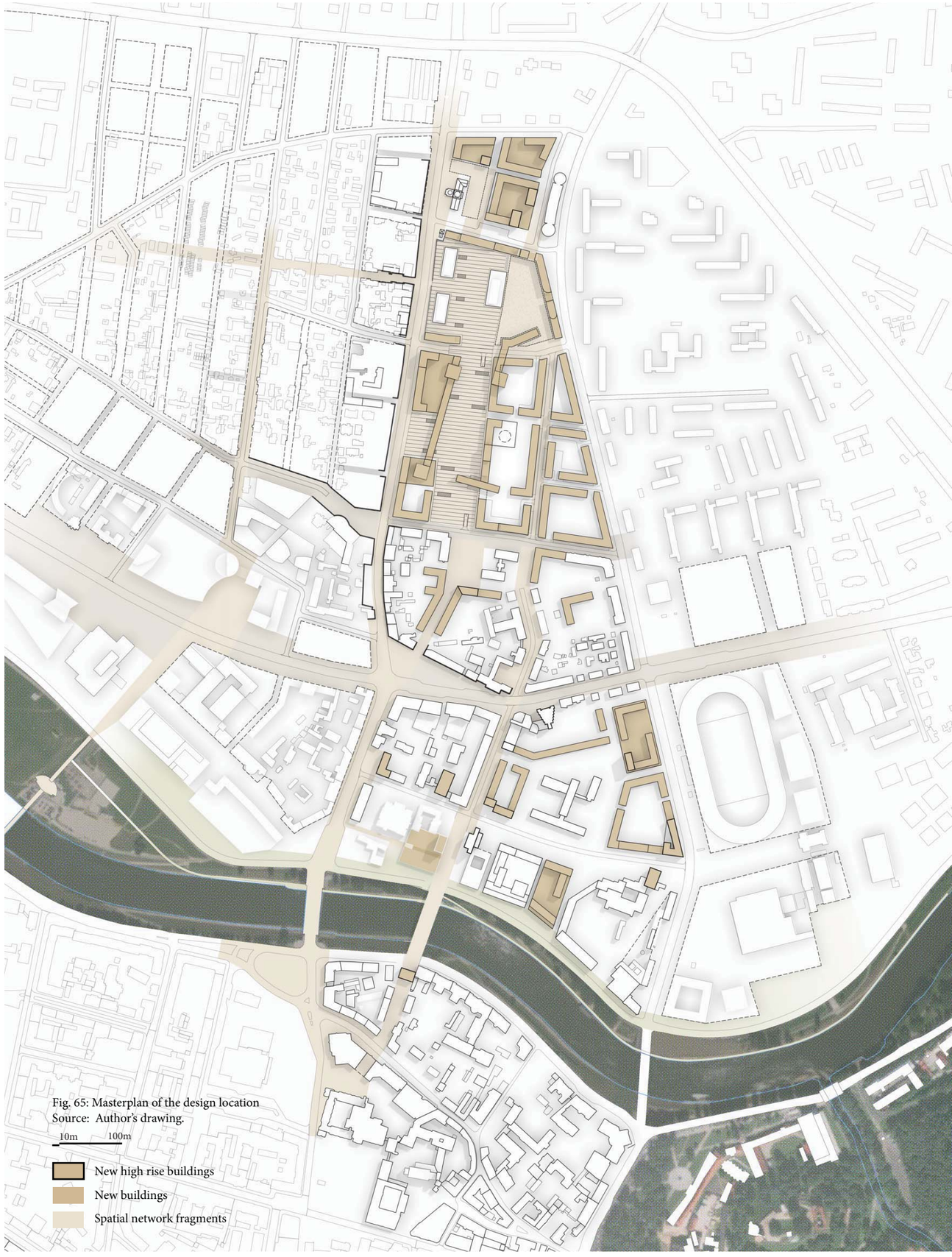
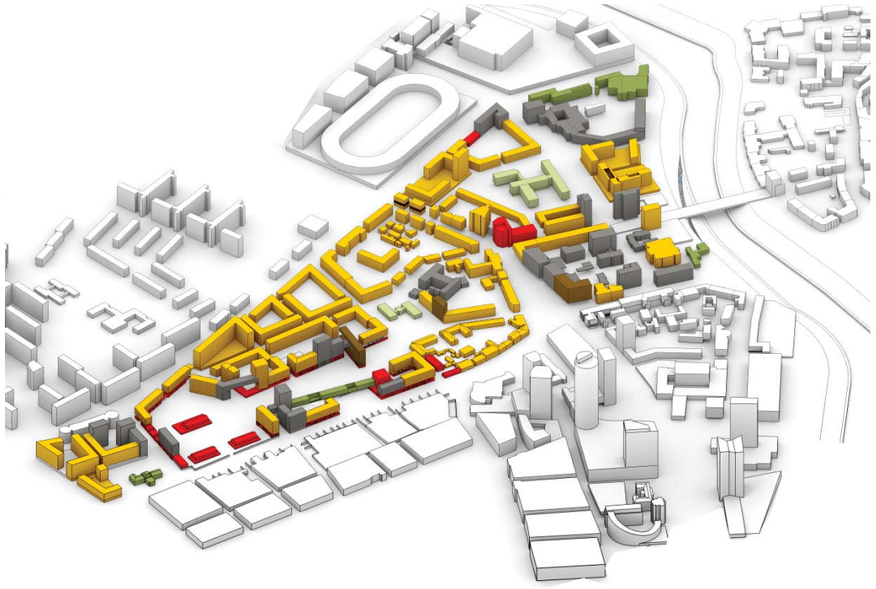


Fig. 65: Masterplan of the design location
Source: Author's drawing.

In the new vision the project location is identified as a continuation of the old town urban structure. The existing urban fabric is replaced with structures that provide clear definition of space and allows creating spatial links with the old town. The selected structures are not traditional city blocks. In order to maintain the diversity of urban structures, the area is composed of various typologies serving as links between a traditional block and free standing soviet architecture.



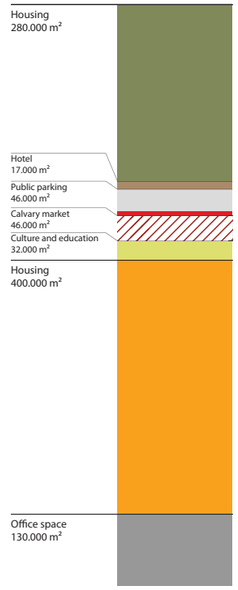


Fig. 66: Proposed distribution of program.
Source: Author's drawing.

Fig. 67: Existing situation.
Source: Author's drawing.

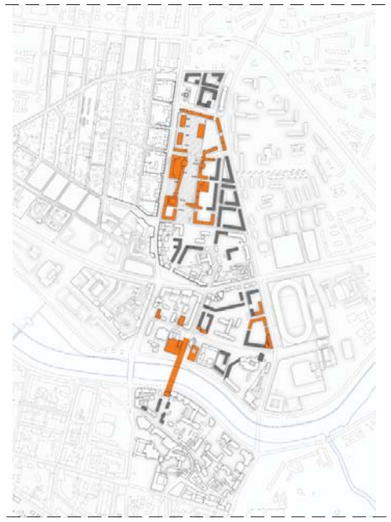
Distribution of functions.

The program was distributed following the recommendations and guidelines defined in the conclusion section. The main elements of the program were housing development for 20.000 people and office development for 24.000 workers. The Calvary market forms the commercial core of the area.

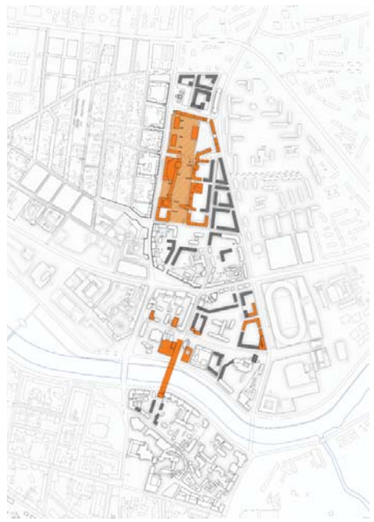
Fig. 68: Masterplan of the design location.Functions
Source: Author's drawing.
10m 100m

Situation_1. Priorities. The main goal of the project is to physically, functionally and morphologically connect the project site with the old town. The phasing of the project is based on this notion.

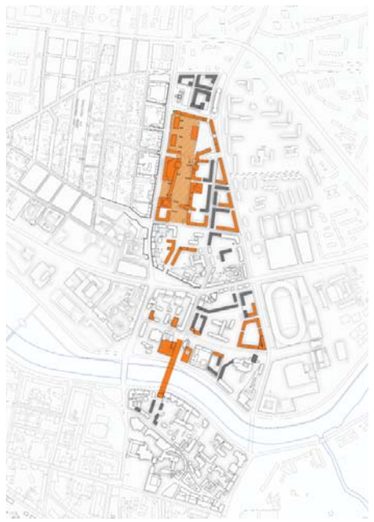
Situation_2. 2015. The first stage of the development is focused on embracing the existing two clusters in the city center that serve as main access points and main attractors: **the central station and the Calvary market.** This stage also focuses on establishing a new connection between the north and south of the center – **the new pedestrian bridge over Neris river.** These three projects serve as anchor points that can potentially trigger further developments.



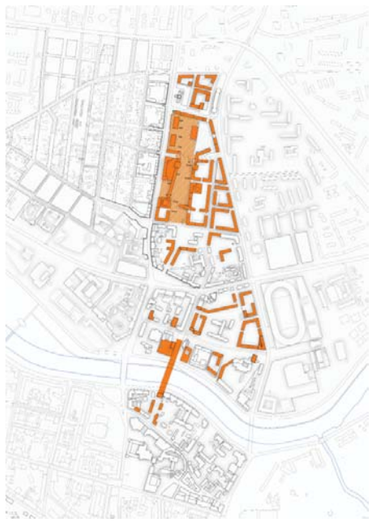
Situation_3. 2018. The second phase of the project development is the expansion of the market. First of all, the existing market is reconstructed. After this is complete the main space of the market is formed and new function added.



Situation_4. 2019. The development of the new market square goes parallel with establishment of the new infrastructure for the square.



Situation_5. 2022. In this stage of the project development the main spaces in the project location are formed, providing outlines of the new spatial structure of the north part of the city center.



Situation_6. 2025. The finish of the project development should be close to 2025 to provide the alternative to the sprawl of the city.

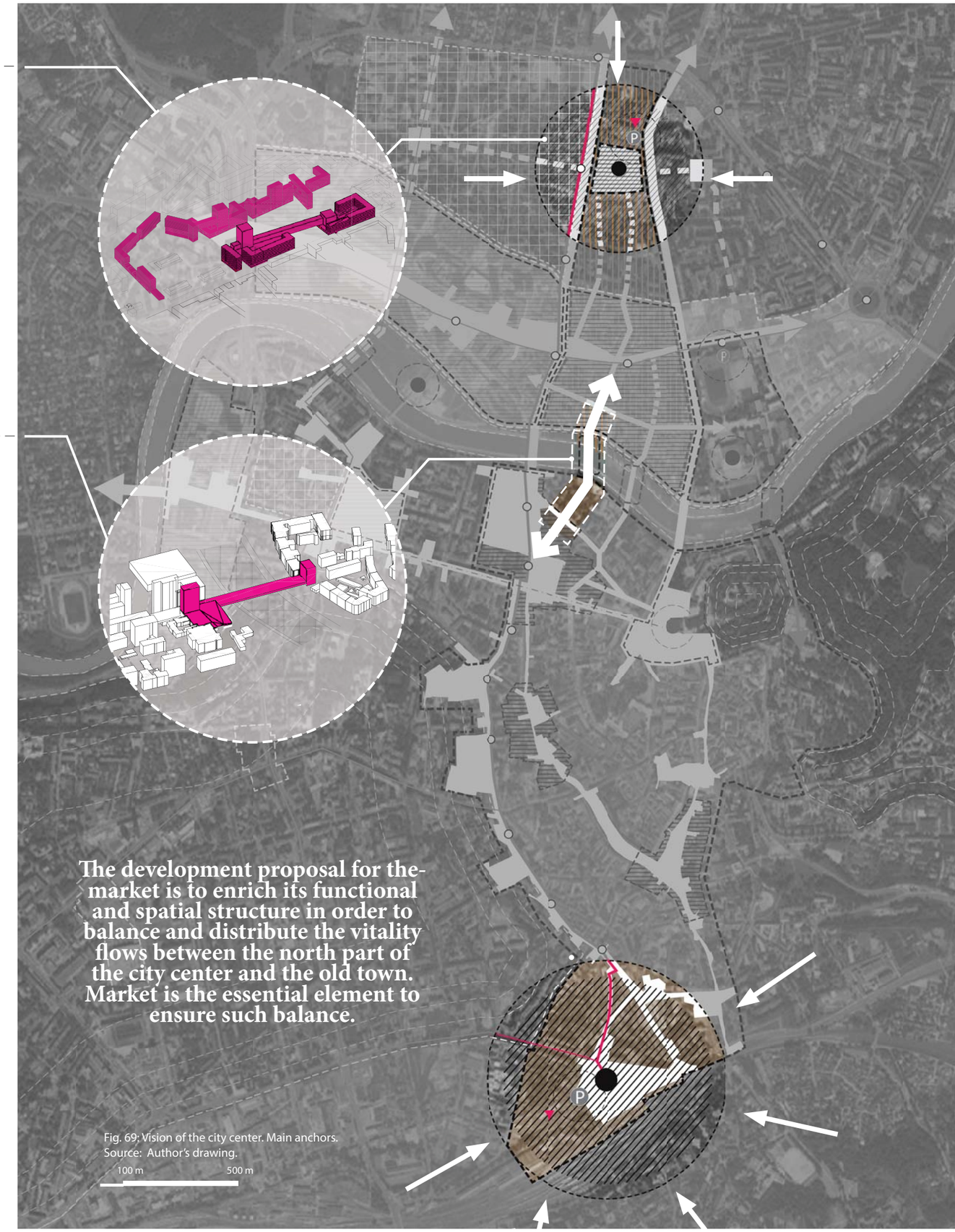


Fig. 69: Vision of the city center. Main anchors.
Source: Author's drawing.

Design of the new market square

Design and performance of the market square.

The design of the new market square is based on several aspects.

Program. Calvary market is a successful generator of vitality. The purpose of the new market square is to enhance this function, make the market stronger and even more attractive cluster of the city center. New program is added to enrich the functional structure of the market making it attractive to broader spectrum of users. The added functions can be divided in two groups. The first group is dining facilities such as restaurants, bars, clubs, cafes and takeaways. This group of functions would potentially attract people from surrounding neighborhoods and CBD area. Furthermore, the dining facilities would potentially use the market for constant fresh food supplies. The second group of functions is not related with food, this group includes cinema, art gallery and children day care center.

Logistics. Logistics is one of the main aspects of the market square design. Currently the market does not have sufficient storage facilities, which means that the traders can only re-supply their stock every morning when the market is closed. During this time the trucks can enter every area of the market and unload the stock. The new market has a similar logistics scheme. The spatial configuration of the market allows the trucks to reach almost every area of the market. Furthermore, the back of the existing Calvary market can be used as an area where traders can sell their stock directly from the truck without storing it for longer time (this area is designated for vegetable traders). During the night this area can serve as a parking and storage space for traders. The underground parking area holds facilities for storage, loading area and parking space for market employees. The designated storage facilities allow the possibility to resupply the market more often.

Accessibility. In the new vision the market is designated as one of the main access points of the city center. It is one of the clusters that, as mentioned before, attracts people from the whole capital region and is well accessible by car and public transport. The design for the new market square supports the position of the market as an access point. This is achieved by proposing additional parking program for 1400 cars and connecting the square with newly proposed tram network. The integration of the project location with the old town urban structure will potentially encourage using the mentioned infrastructure to access the city center and further explore it by foot, bicycle or public transport.

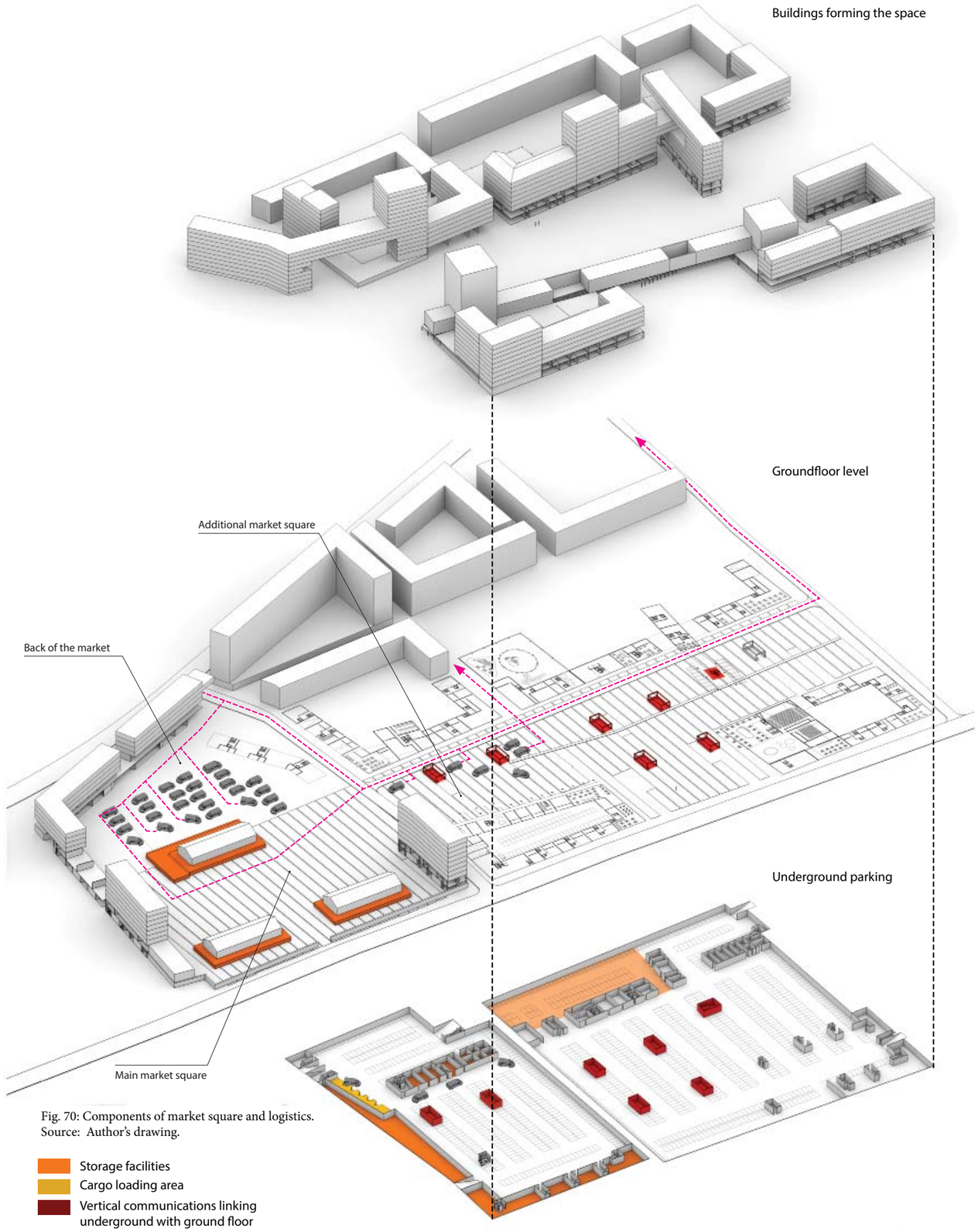
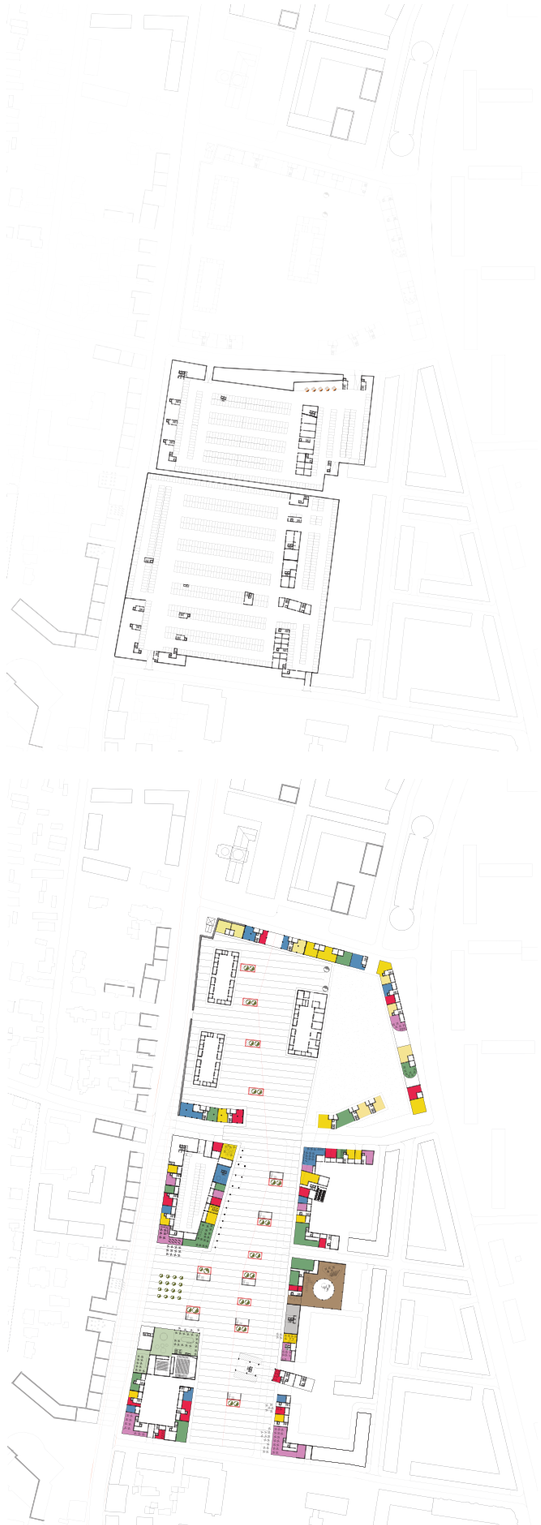
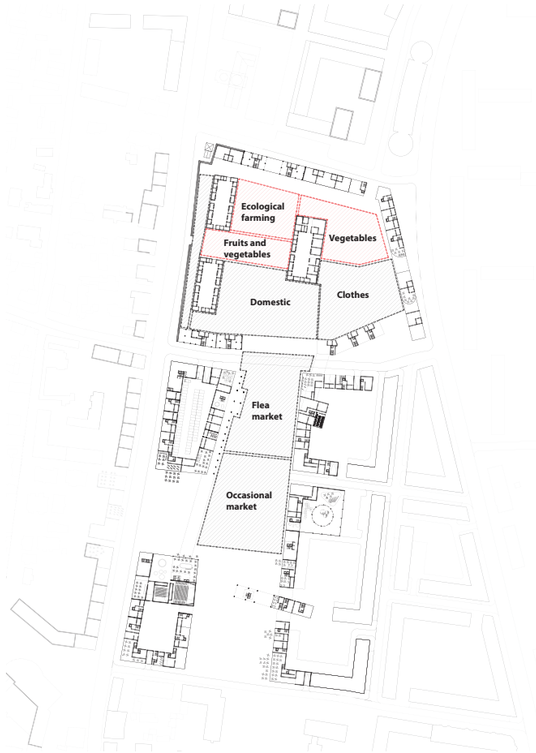


Fig. 70: Components of market square and logistics.
Source: Author's drawing.





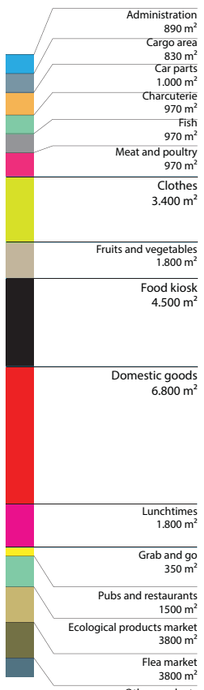


Fig. 71 (top right): Underground parking.
Fig. 72: (right): Distribution of program and market program bar.
Source: Author's drawing.

Fig. 73: Ground floor plan
Source: Author's drawing.
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Ground floor. The ground floor of the buildings shaping the square is seen as a continuation of public space. The vitality of the ground floor is essential to the vitality of public space. However, the square has the ability to perform in many different circumstances.

Flexible composition of the ground floor. Although the main function of the square is to accommodate the market, different spatial scenarios are anticipated during the moments when the market is not taking place. The size of the square allows it to accommodate different events. The main elements helping to organize the market square composition are groups of trees and vertical communication shafts.

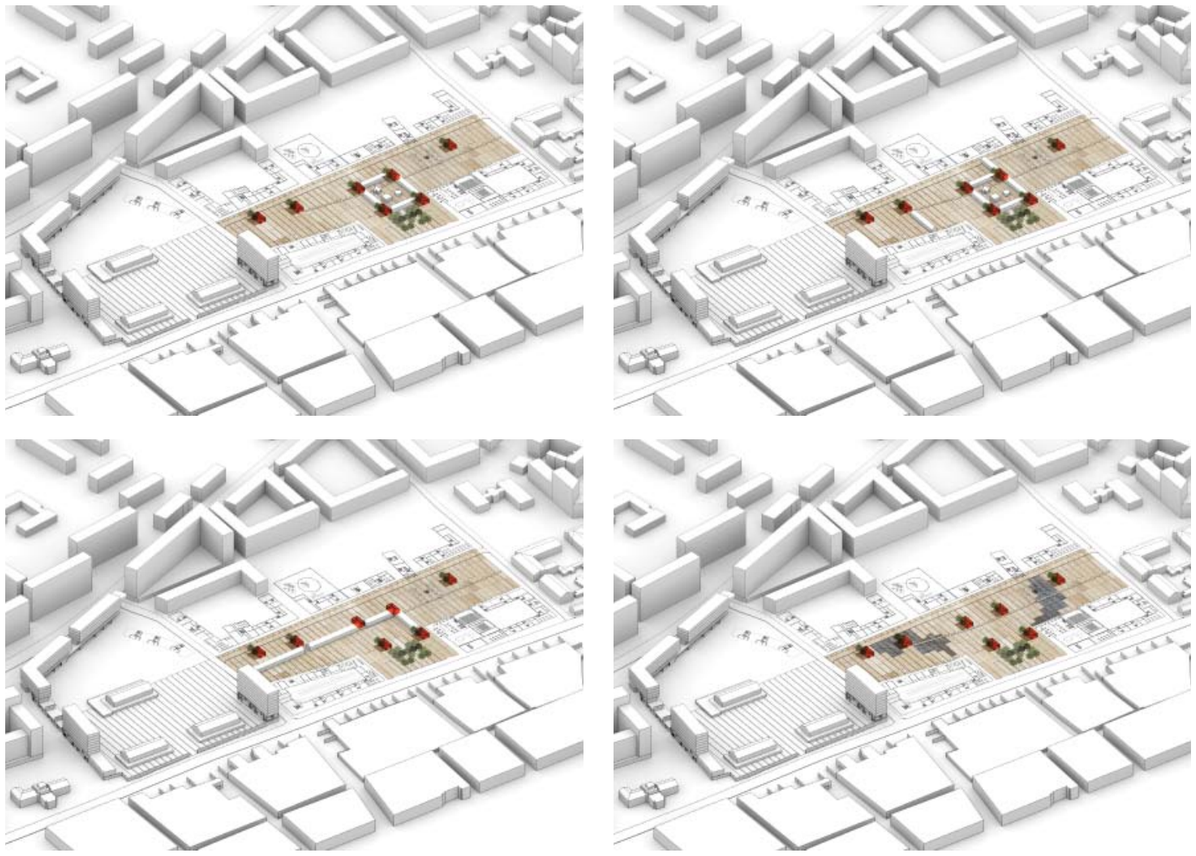


Fig. 74: Variety of different market stalls compositions while the market is not taking place in the main square
Source: Author's drawing.

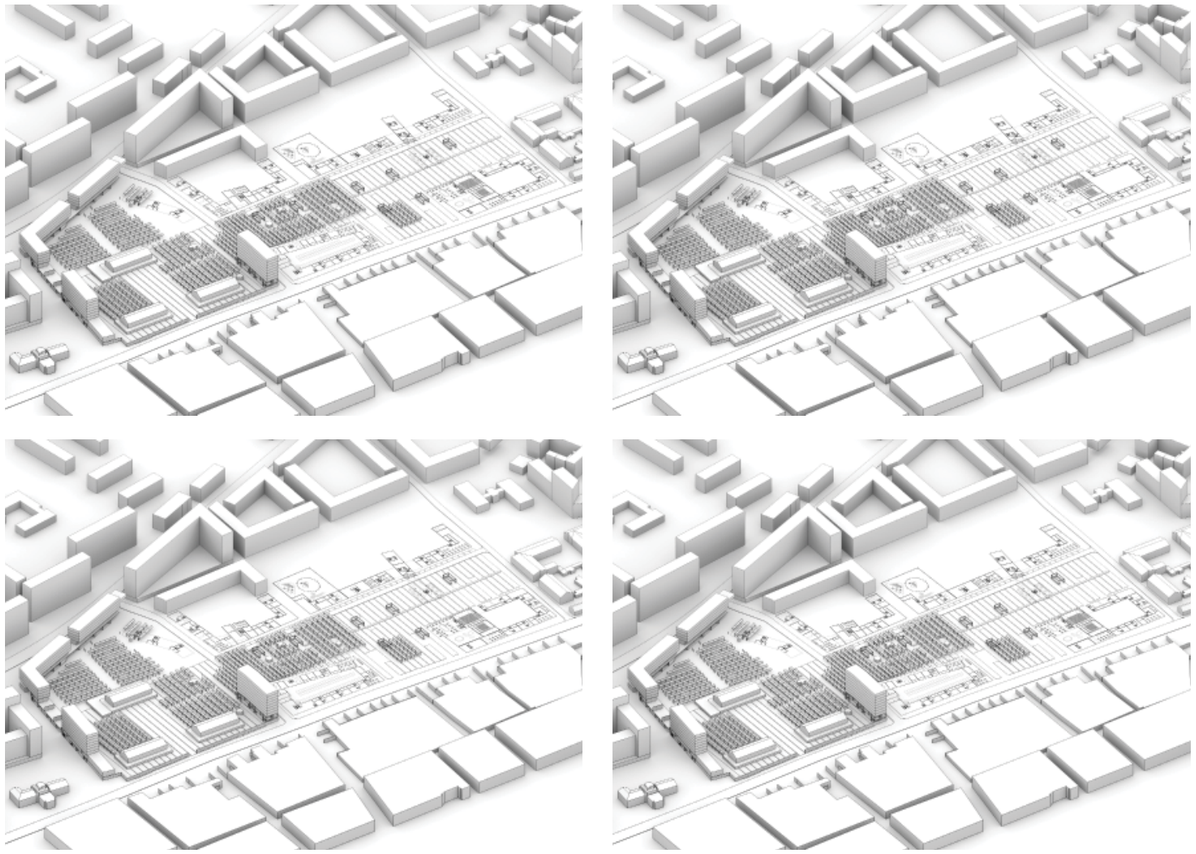
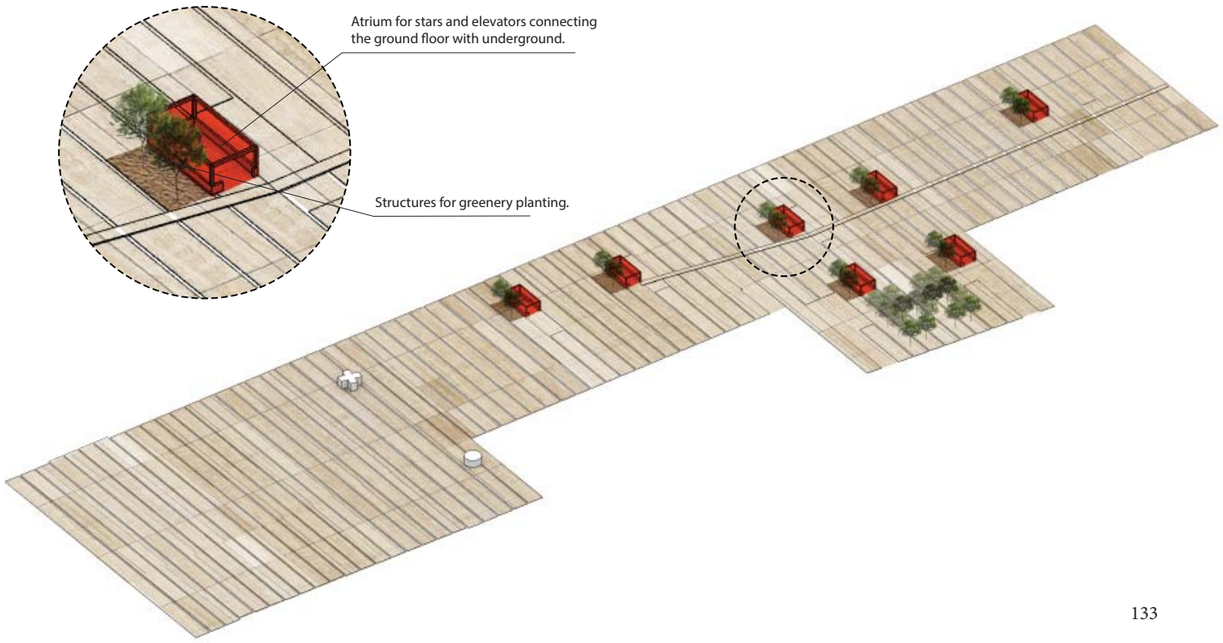
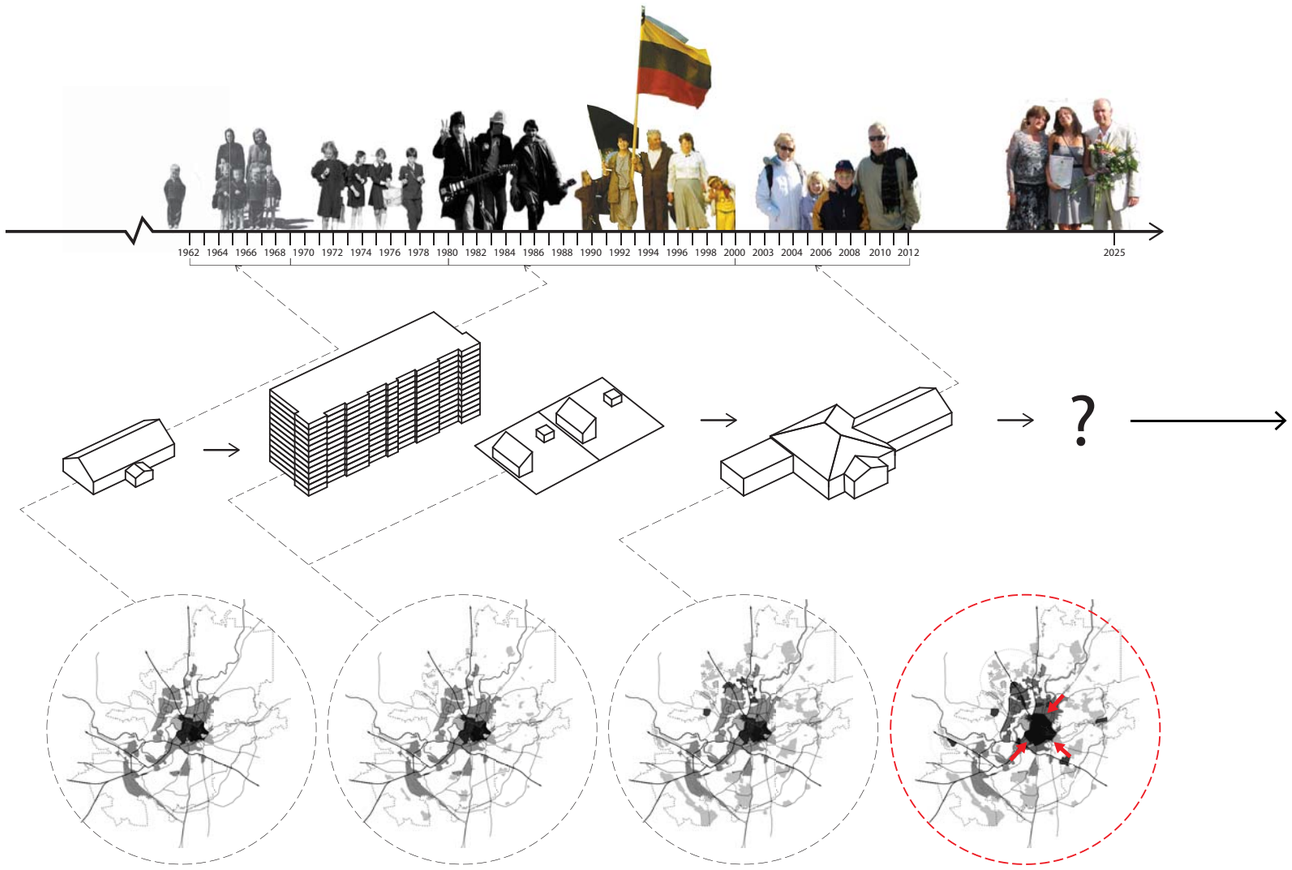


Fig. 75: Variety of different market stalls compositions as a tool to organise space.
Source: Author's drawing.





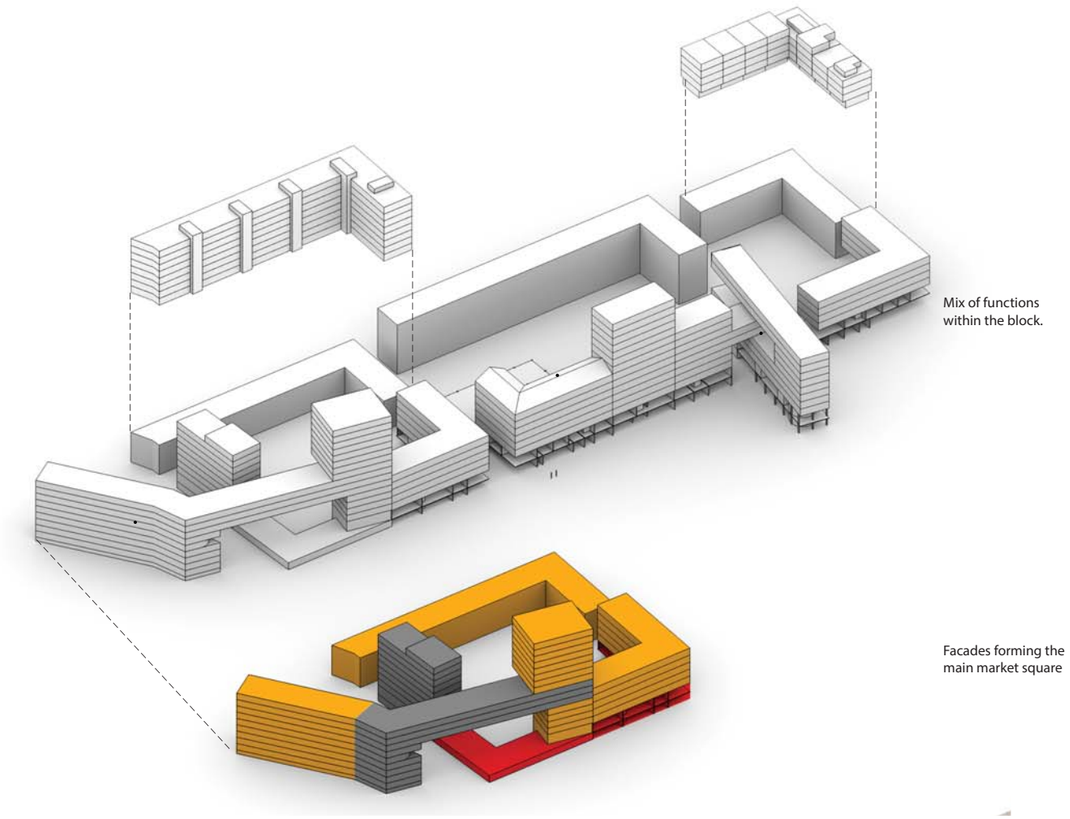


Fig. 76: Typologies through history
Source: Author's drawing.

Conclusions

This project was triggered by a concern that Calvary market, one of the most vital places in Vilnius, might be destroyed and replaced by a shopping mall. During the research process and personal contemplation the true value of the market was revealed. In the city which is captured by big monopolies and shopping malls the market was seen as a unique place where small scale traders and entrepreneurs could thrive. Following these conclusions the assumption was made that if preserved the market could serve as a trigger for developments in the north part of the city center.
To understand how this can be achieved, it was important to investigate the development patterns of the city. It was revealed that through history the society was facing implementations of different social values that were usually reflected in dominant housing typologies. The regain of independence in 1990 marked the return of individuality and freedom. These values are materialized in the predominant housing type – single family house and the sprawling structure of the city. It is estimated that by 2025 the population will increase by 50.000 inhabitants, it is also estimated that half of this increase will be living in suburban fringes of the city. The alternative development strategy for the city propose to make the structure of the city more compact and develop housing in the city for estimated 50.000 people as an alternative for the sprawl.
In order to accommodate the growing population and create more vibrant, balanced and compact structure of the city center a vision for this part was created. The vision is based on identified clusters of vitality that support the local communities and spatial network linking these clusters and distributing the vitality. The Calvary market is the strongest generator of vitality in the north part of the city center. Thus it was chosen to enhance the functional structure of the market and increase its attractiveness in order to balance the vitality flows between the north part of the center and the old town. The new functional structure of the market and new spatial links with the old town makes it a valuable amenity that can be used to support the new housing program for 50.000 new inhabitants and potentially trigger developments in the north part of the city center.
The chosen urban typologies are unusual to Vilnius. Dense urban structures with mix of complementary functions are proposed as an alternative to monofunctional suburban neighborhoods. In this way people are presented with a possibility to live close to the main source of employment (the city center and the CBD) independent from the car and close to main fresh food hub of the city. In this particular notion the market allows to reinvent the value of independence.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Reflection

This project was carried out in the Complex cities graduation studio, “Metropolitan Spatial structures” research theme. Following the research line set up by the studio, the subject of the project – Calvary market was studied in the context of the metropolitan region and the city center. This approach helped to organize the arguments for the design and illustrate its impact to the whole metropolitan area. Although it was hoped that the research will provide clear guidelines to generate the proposal, in the end it was chosen to combine this method with sketching and modeling different spatial configurations in search for urban composition which suits the area best. This was done knowing that although research helps to identify the main guidelines, there might be several different spatial configurations suitable for the area which meets these requirements. In other words there is never a single answer to one particular problem and in technical university decisions are made by testing. That is why the methodology developed in this project, although it does not completely follow the recommended approach of the studio, seems to be appropriate in the context of the technical university in which it is developed.

Final words.

Calvary market is a mess. It is an organized mess that has been polished and shaped through more than 100 years. Although the market changed through the years, the only element which remains authentic is the space for possibilities (to have a business, connect to the nature and agricultural land, organize your trading space, buy cheaper goods, meet the farmer that produces the goods and etc.). The main idea behind this design is to make that space bigger and open for more possibilities. Although the space is organized and the new program is selected to fit the needs of the growing city, part of it is left for improvisation, spontaneity or a mess that cannot be designed by any designer. This is the final statement of this project.

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