

## P5 report

Urban regeneration of the neighbourhood involving residents into the upgrading processes

Exploring possibilities of the alternative planning methods in the context of Vilnius, Lithuania.

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## COLOPHON

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# **PART I. CONTENT OF THE PROJECT**

# I.I INTRODUCTION

## **Introduction to the project**

Location of the graduation project is Vilnius, the capital of Lithuania. Vilnius as the other post-socialist cities is facing urban development issues such as suburban sprawl, car-based development, decaying life quality in the districts of housing blocks built in Soviet times, growing socio-spatial segregation between the city center, "gated communities" of the suburbs and aging socialist housing estates. Those housing estates accommodates the major part of the city and are in a need of renovation due to the worsening physical conditions and poor urban structure.

To make those areas attractive and to make people come back to the inner city from the outskirts, a complex regeneration is needed. Unfortunately, the plans and programs for such problematic areas are not concentrating on the major issues but mostly about the renovations of the apartment buildings in order to reduce the heating costs.

The new developments, which are happening, usually are profit-oriented, using common areas, public spaces, but not giving any benefit to the surroundings and not involving public and communities into the planning processes. There is no actual planning culture in term of sustainability and participatory approach. The focus of the graduation project is one of the districts, partly socialist housing estates, partly historical suburb, which faces similar issues as the districts - microrayons- built in the Soviet times. The focus is on creating a regeneration plan for one of the neighbourhoods of the district. A plan which would guide the neighbourhood towards more sustainable (re)development of the area and would provide the participatory and transparent planning possibilities.

## **Motivation**

Personal motivation for this study comes from the several aspects. A specific location - Vilnius as a post-socialist city in transition and the district with socio-spatial issues is a challenging and interesting case to explore the urban development and spatial planning system of Lithuania.

The districts built in the Soviet times accommodate the major part of Vilnius and Lithuania. There is a big need for the renovation in these areas as the living conditions are decaying and the districts are aging. Because there are no suggested tools or strategies for a such regeneration, it is a chance to explore and propose an alternative planning method.

My motivation for choosing the city of Vilnius and a district of Naujininkai is the personal knowledge of a context.

Vilnius is the city where I studied and lived. Living with specific problems of the city made me curious why and where it came from. Why the city development

is based on the private cars, why young people are moving to the outskirts and then have to spend hours in a traffic jam. Living in the district (Naujininkai) just around the corner of the beautiful old town made me wondering why places with good location have poor qualities in building environment and social aspects. All those issues are the reasons to explore possible solutions for more sustainable (re)development of the city and the district. In my graduation project, I will try to answer how transitional period and planning system are related to said problems and what the possible ways could be to solve them.

## **Structure**

The graduation project consists of the four parts - a content of the project, two research parts, design and reflection part.

In the first - "Content of the project" part the main urban development issues of Vilnius and Naujininkai are reviewed, and the weaknesses of spatial planning system are named. From the problem statement, the aim of the project is set. The research questions and subquestions are formed to reach the project aim. Research methods are discussed to know how the research questions will be answered.

A theoretical framework is also presented in this part, in a chapter "theoretical framework." In this chapter, the research questions about the post-socialist city, sustainable urban development, and participation in planning are tried to answer.

The second part of the project contains the empirical research of the project. The first chapter of the empirical research part is the analysis of Vilnius development trends and plans. The second chapter is a spatial and social analysis of a district of Naujininkai. The third chapter of a research part is the analysis of spatial planning system in Lithuania, with particular emphasis on existing plans for Naujininkai.

The third part is a design part. Here, a neighbourhood (re)development plan of a district of Naujininkai is proposed. A neighbourhood plan consists of two parts - spatial development plan and "recommendations and guidelines." There are supporting elements for a neighbourhood plan introduced - a spatial vision for a district of Naujininkai and an interactive tool for more transparent an participatory planning processes. Graduation project is summarized with the reflection of the project.

## Problem statement

Deteriorating areas (mainly socialist housing estates) between the city center and the suburbs are in a threat of becoming "dead zones" of the city. There is increasing socio-spatial segregation. Plans are not prepared for revitalizing these areas, and plans for the city do not tackle major issues, are profit-oriented, barely include public in the planning processes.

The graduation project addresses interrelated problems. The problem is threefold:

- District of Naujininkai
- Vilnius city development
- Planning System of Lithuania

The deteriorating district of Naujininkai is a part of complex issues of the development of Vilnius. The declining socialist housing estates are the consequence of the city in a transition period and the direction the city goes. Also, the spatial planning system - planning documents do not work efficiently and do not tackle major urban issues of the city.

### Vilnius city development

Lithuania was under the Soviet occupation for almost 50 years and since 1990 became an independent post-socialist country. As the other post-socialist countries, Lithuania has been going through a tough transitional period. Political, social and economic reforms have affected a post-socialist city development largely. (Tosics, 2004).

Vilnius is one of the post-socialist cities going through a challenging transitional phase.

After the fall of Soviet Union, a celebration of freedom and capitalism appeared. Moving out of the districts built in Soviet times to the outskirts of the city and building a private house became a common pattern which is happening in today's city. This pattern led to the car based development, decaying public transport, deteriorating microrayons, construction of big shopping malls, a concentration of functions in the city center. (Stanilov, 2007)

Suburban sprawl is leaving undeveloped territories in the city center and neglected districts built in Soviet times around it. (Stanilov., 2007)

This development pattern is the reason for low and inefficient urban density. "Vilnius is one of the most sparsely populated and least urbanised capitals of Europe". (Jonasuskis, Muliolyte and Czischke, 2015)

The Soviet microrayons - apartment blocks which were built in Soviet occupation period and which surrounds the city centers and accommodate the majority urban population of Lithuania are deteriorating areas of the city. These old and built under low construction buildings, together with the infrastructure around

them now are in a need of renovation.

Big costs of buildings maintenance, not started complex revitalization program make the districts around the city center unattractive to move in. This push young people to look for dwelling in outskirts and causes aging of socialist housing estates. This results in social segregation and exclusion. The deteriorating and aging districts - microrayons around the city center are leaving so-called "dead zones" of the city. (Pakalnis, 2016).

With current development patterns, local government is completely neglecting residential areas built during socialist times. Municipality neither solves urgent issues of housing estates nor allows residents to take care of their environment. (Pakalnis, 2013).

### The district of Naujininkai

One of those socialist housing estates areas of Vilnius is the district of Naujininkai. Close to the old town, partly a historical - village type suburb, partly a socialist housing estates. Naujininkai is situated between a railway station of Vilnius and the city airport. The district plays a representative role for the city. However, as the other microrayons, Naujininkai was built as cheap housing estates for lower education people and workers of surrounding industries (Caplinskas, 2000).

Urban structure, the arrangement of the buildings, courtyards, public spaces were made with the most simple and cheapest methods. Unfortunately, young families do not want to move in that kind of areas. Furthermore, there is a stereotype among the residents of Vilnius that Naujininkai is not a safe place to live, because of crime and fights were happening there after independence.

In those processes, Naujininkai is becoming shelter to socially weak groups, and it is growing threat of stigmatization and social decline.

It is essential to return residents, especially young families, to more central areas of the city. Otherwise, it will be a beautiful old town, expanding suburbs and abandoned areas with major social problems between them (Pakalnis, 2016).



## Spatial planning

According to URBACT spatial planning in Lithuania should be based on integrated sustainable urban policy and aimed at urban densification to ensure sustainable development of infrastructure, compact towns and settlements, efficient land use, protection of nature and cultural heritage (URBACT).

The transition had a crucial impact on the planning system. The result is profit oriented planning what leads to market-based projects based on short-term profits.

Plans or visions made for the city are almost exclusively focused on the new developments of business parks or new housing estates in the periphery of the city. There is very little attention for problematic areas and the social problems within the city. (Pakalnis, 2013)

Due to the low land prices and favorable planning conditions, development is happening in the periphery of the city, not only the single private houses but also the housing estates, business centers, and shopping malls. If the developments are happening in the city,

they usually are in the empty spaces in between the districts consuming the common public spaces land, but not giving any value to the area, the public needs are neglected.

The process of planning is usually largely dependent on bureaucracy and lacks transparency. (Pakalnis, 2013)



Fig. 1.1. The view to the districts built in the Soviet times in Vilnius.  
Source: <http://www.15min.lt/>

# Scientific and social relevance

## Scientific relevance

The recent decade literature (Hamilton, Andrews, Tosics, Tsenkova Sykora, Juskevicius, Musil) on the studies of post-socialist cities in transition in the field of urbanism show the interest in the theme. In addition, there is an interest among students from Lithuania in TU Delft. The master thesis are related to the theme of post-socialist transformations in Lithuania (Simkute, 2016. Gruodyte 2015, Kalinauskas 2014, Baltrusaitis 2014, Rackauskas 2013, Buinevicius, 2011, Jonauskis, 2010, Maliulyte, 2010). Although the context of post-soviet cities is already quite well researched, there is still missing practical methods and innovative solutions for planning a sustainable city in post-socialist countries focusing on highly problematic types of districts and neighbourhoods built in Soviet times. This master thesis aims to explore the possibilities for sustainable (re) development of the mentioned areas while researching the issues of the context and the conditions of sustainable urban development.

## Social relevance

In the context of the post-socialist city in transition importance of urban planning has been partially neglected by many governmental institutions of different levels (Stanilov, 2007). The situation is common to the case of Vilnius. There has been a lack of clear visions and strategic planning concepts for the city. Neoliberal market conditions had a strong impact on urban development, which means ignoring long-term effects and neglecting interest in society.

As a result, series of urban problems appeared: issues of traffic and parking, maintenance of housing and vacant industrial stock, public space and infrastructure, provision of public services and facilities, socio-spatial stratification. Vilnius, as well as the other post-socialist cities, is currently transforming from the Soviet city to a modern European capital. But mostly all new developments are market-based short-term benefit projects - new business parks or new housing estates in a periphery of the city with a very little space for public participation in the planning process. Very little attention is given to problematic post-socialist neighborhoods. There is no vision or strategies prepared for regenerating those areas. There is no actual implication of sustainable development in urban planning methodology.

# The aim of the project

The aim of the project is to explore the possibilities of creating a plan for sustainable (re)development through participatory approach for a neighbourhood of a deteriorating district of Naujininkai in Vilnius.

**On a wider scale** - it is relevant to revitalize a district and to make it as the alternative living area to the suburbs and to avoid of having so-called "dead zones" around the city center. It is important to decrease threats of socio-spatial fragmentation on the city scale and to prevent the socialist housing estates from degradation.

**On a district scale:** A district, like the other socialist microrayons in Vilnius, is in a threat of social decline and social segregation. Thus, a regeneration plan should focus on a social mix in the area. The improvement of the area should consider the opportunities for the new developments.

**On the aspect of spatial planning:** To move the planning from zoning to the strategic. To create a plan which would guide people to improve their own area, and also which would ensure transparency and encourage participation in planning to avoid the conflicts of a private-public sector.

RESEARCH:

**Theoretical.** In order to propose a regeneration plan for sustainable development, it is important to define what sustainability and sustainable urban development are. As the project objective is to create a plan through a participatory approach, the aim of the theoretical research is to analyze participatory planning and helping tools.

Because the project area is in Vilnius, which is a post-socialist city, and Naujininkai, which is partly a socialist housing estate, the aim is to find out key issues and principles of the city and district development. The socialist city and socialist housing estates are analyzed.

**Empirical.** To propose a design for a particular area, it is important to define a context. The aim of the empirical research is to find out why specific problems appeared in the city and in the district of Naujininkai. The aim of the analysis of Naujininkai is to define the weaknesses and strengths of the area. The aim of the analysis of a spatial planning system is to find out how it is related to the city and the district of Naujininkai issues, and how prepared plans try to tackle those issues of the area.

# Research questions

## Main research question

**How to arrive at sustainable urban (re)development in the socially declining neighbourhood of the district of Naujininkai in Vilnius, by introducing an alternative planning method which encourages participation?**

To be able to answer the main research question the subquestions are raised. To simplify research process the subquestions are divided into three parts: theoretical research, empirical research-context analysis and tools for design.

### **Theoretical research (Part I. Content of the project. Chapter I.II Theoretical framework):**

To answer the main research question it is important to analyze Post-socialist cities in transition in that way understanding the context and current urban processes in Vilnius. As the focus of the project is socialist housing estates, it is necessary to comprehend development principles of them.

As one of the parts of the main research question is how to arrive at sustainable urban (re)development, it is important to define what is sustainable urban development. The other part of the main question is about introducing alternative planning method which encourages participation - thus it is necessary to determine what participation in planning is and to find out what the helping tools are.

### **Empirical research (Part II. Empirical research):**

To create a neighbourhood plan for a specific area it is important to analyse a context. A historical, social and spatial analysis of Vilnius (Chapter II.I Vilnius) and Naujininkai (Chapter II.II Naujininkai) development will be done, strengths and weaknesses will be named. To find out what kind of a plan and how it could integrate into a present spatial planning system of Lithuania it is important to analyse how the current system works (Chapter II.III Spatial planning system of Lithuania)

### **Tools for design (Part III. Design):**

To find out the opportunities for redesigning the socialist housing estates, examples of restructuring mass housing estates in Germany are analyzed (Chapter III.III neighbourhood plan). To find out what possible innovative tools for participation in planning could be used, the interactive planning tools are analyzed (Chapter III.IV. Interactive tools).

Conclusions for each section of the theoretical and empirical parts will come after the research. The subquestions of the theoretical and empirical research will be answered in the conclusions of each section.

Design part will try to answer the main research question and suggest a possible sustainable (re)development plan for neighbourhood scale.

Methods to answer sub-research questions for these topics are discussed in section "Research methods"

## Sub research questions

### **Theoretical research**

- How did the Post-socialist city and socialist housing estates develop? (Part I. Content of the project. Chapter I.II. Theoretical framework. Section "Post socialist city")
- What is sustainable urban development and regeneration and how urban sustainability could be reached?(Part I. Content of the project. Chapter I.III Theoretical framework. Section "Sustainable urban development")
- What is participatory planning and what are the tools to achieve participation? (Part I. Introduction. Chapter I.III Theoretical framework. Section "Participation and planning support systems")

### **Empirical research - context analysis**

- What are the current development and regeneration trends of the post-socialist city of Vilnius? (Part II. Empirical research. Chapter II.I Vilnius)
- How did the district of Naujininkai develop and what are the current development trends? (Part II. Empirical research. Chapter II.II Naujininkai)
- How does the spatial planning system in Lithuania work and how is Sustainable development integrated into it?(Part II. Empirical research. Chapter II.III Spatial planning system of Lithuania)

### **Tools for design (analysis of the examples)**

- What are the possible ways to restructure mass housing estates? (Part III. Design. Chapter III.III Neighbourhood plan)
- How could interactive tools encourage participation in planning? (Part III. Design. Chapter III.IV Interactive tools)



# Research methods

Research is done in two parts - theoretical and empirical research. In the first part - the understanding of sustainable urban development and regeneration, participatory planning and the helping tools are analyzed. In the second, the empirical research part - understanding of the context (Vilnius, the district of Naujininkai and spatial planning of Lithuania) is analyzed. And the last part - tools for design (examples, and references of innovative planning methods (interactive tools), recommendations for regeneration and examples for restructuring housing estates) are studied. The methods used are a literature review, mapping, other desk research and site visit.

## Literature review

Literature is a basic tool to understand the context of the project and to find out the definition of a socialist and post-socialist city, the trends, the reasons and the consequences of a transitional period. Literature of socialist housing estates explains the main issues and threats.

To answer the questions about the sustainable development, the literature on a sustainable urban development and regeneration is reviewed.

The literature on participatory planning mentions the main principles of the participatory approach and the tools supporting participation in planning.

The literature review on the Spatial planning system and sustainable development in Lithuania help to understand why the city and its parts are developing the opposite direction to the sustainability and how sustainability is integrated into the plans.

## Other desk research

### *Analysis of the maps and plans.*

Analysis of the maps and plans illustrate nowadays situation of the city and microdistricts. The current urbanization trends and future developments are analyzed to understand the issues of the city and how it influences and relates to a district of Naujininkai and in which position Naujininkai stands in the context of Vilnius.

The analysis of the plans helps to see what has been done to solve the problems and understand future processes and changes of urban structure. Moreover, it reflects city/district demands and government development priorities.

The analysis of the historical maps of Naujininkai helps to define the values and heritage.

### *Statistics*

Statistics is used to check if there are signs of social declining in the microdistricts. Moreover, demographic statistics are used to find out a social composition of residents in the city and the district

## References (tools for design)

To find out the opportunities for redesigning the socialist housing estates examples of restructuring mass housing estates in Germany are analyzed. The examples of spatial interventions are reviewed.

To find out what possible innovative tools for participation in planning could be used, the interactive planning tools are analyzed. The interactive applications for preparing a neighbourhood plans are reviewed.

## Mapping

Mapping is done for a district of Naujininkai. The evolution of the urban structure of Naujininkai, before, during and after the socialism is analyzed. Mapping helps to define the different building typologies of the district. By mapping the historical structure, valuable urban structure and buildings are defined.

It is necessary to recognize different terrain heights and how it influences the structure of the neighbourhood.

The analysis of the spatial and functional structure of the neighbourhood helps to establish pros and cons of the current structure of the neighbourhood, identify which parts need to be redeveloped and restructured.

## Site visit

Actions - fieldwork, observation, mapping, taking photos. Visual analysis and evaluation of the site are done during the site visit. Site visit reveals the physical condition of houses and public space. Moreover, by visiting and experiencing different neighbourhoods their street life, safety feeling can be compared. This method is more important at local level research and in process of designing.



## Structure of the project

The graduation project consists of the four parts - a content of the project, two research parts, design and reflection part.

In the first - "Content of the project" part the main urban development issues of Vilnius and Naujininkai are reviewed, and the weaknesses of spatial planning system are named. From problem statement, the aim of the project and its relevance derive. The research questions and subquestions are formed to reach the project aim.

Research methods are discussed to know how the research question will be answered.

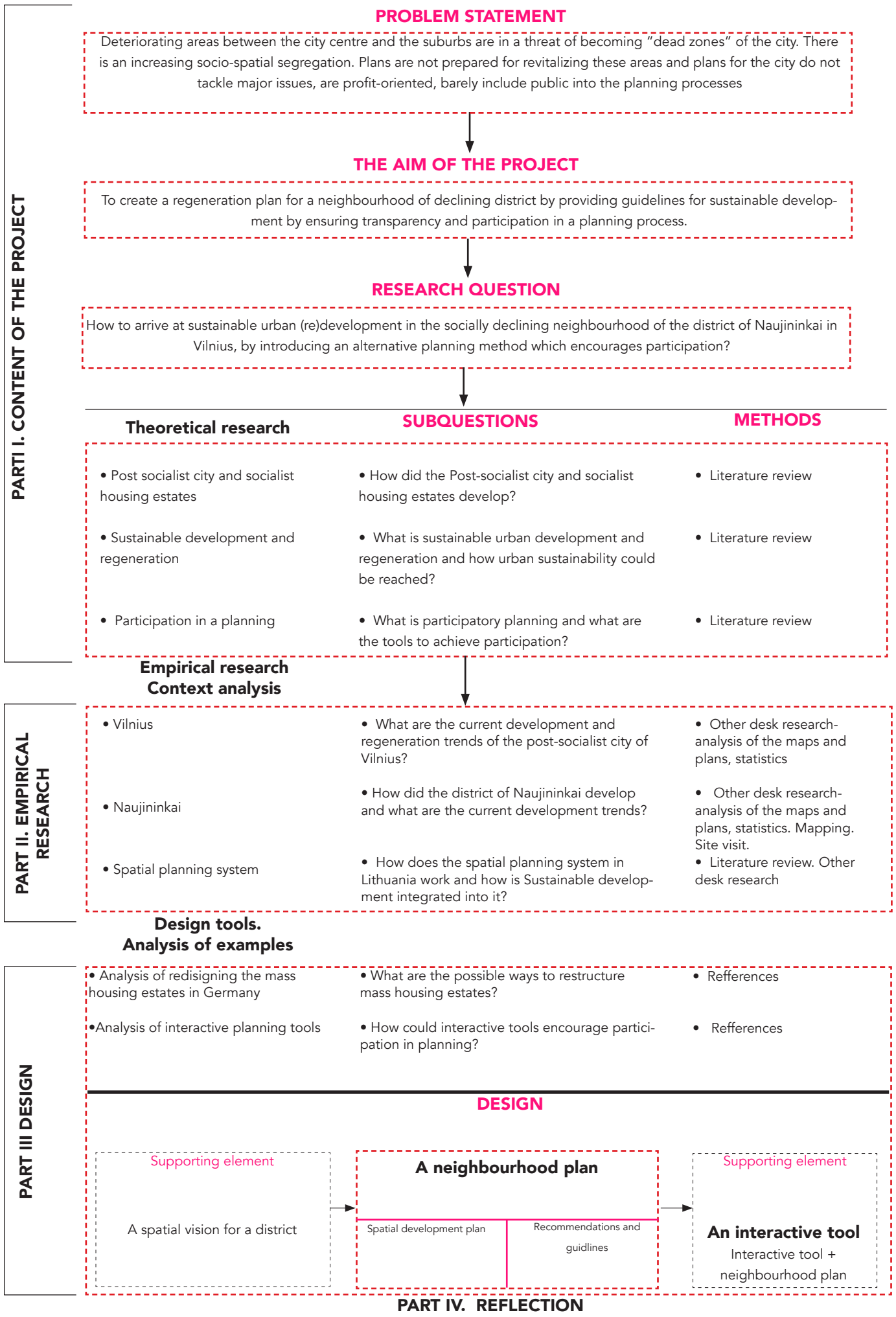
A theoretical framework is also presented in this part, in a section "theoretical framework." In this section, the research questions about the post-socialist city, sustainable urban development, and participation in planning are tried to answer.

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The third part is a design part. Here, a neighbourhood (re)development plan of a district of Naujininkai is proposed. A neighbourhood plan consists of two parts - spatial development plan and "recommendations and guidelines." There are supporting elements for a neighbourhood plan introduced - a spatial vision for a district of Naujininkai and an interactive tool for more transparent and participatory planning processes.

Graduation project is summed up with the reflection of the project.





## I.II THEORETICAL FRAMEWORK

The theoretical framework was concluded in accordance with subquestions related to a post-socialist city, sustainable development, and participatory planning. Because the context of the project is a post-socialist city of Vilnius, and a project area is in a district of Naujininkai, which is partly a socialist microrayon, the literature of the (post)socialist city and socialist housing estates is reviewed.

Most researchers of post-socialist cities indicate the obvious differentiation trends of urban social spaces - increasing social disparities, growing residential segregation and social exclusion as an important transformation component of post-socialist cities.

As Naujininkai is like the other socialist microdistricts, it has a threat of social segregation. Thus in theory paper, the threats of social segregation in microrayon and a concept of social sustainability are analyzed. From the literature of socialist and post-socialist city, a conclusion could be made that cities of post-socialist countries are going away from sustainability. "The dramatic changes in the cities of the post-socialist countries even appear to be moving in the direction - away from sustainability" (Tosics, 2004).

One of the project goals is to create a plan for sustainable development. Therefore, the main principles of sustainable development and sustainable urban regeneration are reviewed.

The important approach for sustainable regeneration and for forming sustainable communities is participatory. Hence, the literature on participatory planning is analyzed. As in Lithuania, there is no practice of participatory planning, the helping tools for achieving participation in the planning are analyzed.

The structure of a theoretical framework chapter is literature review on socialist city development, housing policy and housing estates, the collapse of the soviet union and transition period and it's consequences for the city and the housing estates.

The second section consists the review of main principles of sustainable development and regeneration. The final, third section is the analysis of the participation in planning and planning support systems.

The conclusions of each section will answer the sub research questions and the conclusions of the chapter will name the interrelationships between the discussed topics.

## Post socialist city

Political, social and economic changes of a post-socialist city had a huge influence on urban development. It seems the direction the city is moving is away from sustainability. (Tosics 2004). Moving from the Soviet planned economy to a market-based economy was a significant factor for the development of the current post-socialist city.

Transition period left deep marks in urban development and planning, such as expansion to the suburbia, neglected public transport, car-based development, physical problems and social decline in the socialist housing estates.

### Socialist city

In the soviet city, the entire urban planning and the housing market belonged to the state – State Planning Committee. When planning a socialist city one of the most important concern was organizing a socialist industry. In countries of USSR, industry and land were nationalized, thus all funds, developments and investments belonged to the state. (Petruilis, 2013)

City planning for Soviet Union countries had a specific meaning. First, it was important to create an industrial modern city, with newly built residential areas (microrayons) around working places. Second - to achieve political ideology – collectivism. (Smith, 1996)

### Housing policy

One of the most important political and ideological goals for a socialist society was the principle of class equality and housing policy was one of the instruments to achieve this objective. In the socialist city, equal access to the same type of standard housing for all social groups was ensured. (Struyk, 1996)

The Soviet city actively shaped the power of state monopoly to move, to mobilize and to control the spread of various social groups in the city.

In 1953, after Stalin's death it was officially accepted that Soviet Union economically and in terms of quality of life fell behind the West. Therefore, in 1957, Khrushchev promised over a decade to provide a separate apartment for every family. That is why the decade was known "Khrushchev's thaw". This decade can be considered as a period of modernization of socialism, a start of construction of mass housing. (Dremaite, 2009)

### Socialist housing estates

When talking about mass housing estates, the idea itself came from the West. There are political, economic and social aspects of mass residential building construction which were similar in the Eastern and in the Western countries.

After the World War II, there was a common need to East and West to rebuild destroyed cities. The principle of building more, cheaper and faster was practical for

every country. The difference was that the Western world was building a welfare state, whereas the socialist block was constructing communism. The modernization of socialism was implemented with the help of successful Western examples. (Petruilis, 2013). The term to define socialist housing neighbourhood is microrayon. Traditional microrayons were built by satisfying socialist society ideologies: a balanced amount of houses, facilities and infrastructure. (Stanilov, 2009) In order to assure equality of living standards, specific norms were developed to determine the type and size of the required services, including schools, playgrounds, libraries, hospitals. In reality, only a few of the planned facilities and services were provided and the microrayons worked as sleeping districts of the city. (Stanilov 2009).

Microrayons were planned under standard project according to population size with almost not taking into account the needs and traditions of local communities. (Stanilov, 2007).

In Soviet block, the construction of high rise housing estates continued until the fall of the Soviet Union.

The construction lasted for almost 30 years. While in Western Europe it stopped after 10 years.

Nowadays, in post-socialist cities, those apartment blocks built in Soviet times make up the majority of the housing stock. It accommodates around 40% of the population while in the Western cities post-war housing estates make up less than 10%. Different from the West, a construction of soviet time apartment blocks in Eastern and Central Europe had a great significance in shaping today's urban development patterns of the city. (van Kempen, Dekker, Hall. Tosics, 2005).

### **Collapse and transition**

After the fall of Soviet Union, a celebration of freedom and capitalism appeared. Moving out of the districts built in Soviet times to the outskirts of the city and building a private house became a common pattern which is happening in today's city. This pattern led to the car based development, decaying public transport, deteriorating microrayons, construction of big shopping malls, a concentration of functions in the city centre. (Stanilov, 2007)

Chaotic expansion of new settlements in outskirts of the city led to the ageing urban population of the districts built on Soviet times: older people stay in microrayons while young families with higher income move to the suburban areas. People do not want to stay in socialist housing estates due to lack of care of housing blocks and its surroundings.

Socialist housing estates are one of the major concerns of the most post-socialist cities. The image of the microrayon in post-socialist cities has changed greatly. Large-scale housing estates, once a dream of every family, now are facing serious physical problems and social decline. There is still social diversity but there is a threat of social segregation in the future.

### **Social segregation**

The prognosis of social degradation and segregation in soviet microrayons is partly because of deteriorating building environment, partly of applied modernist planning principles and partly of the transition to free real-estate market, where opportunities for choosing other housing alternatives appeared (Dekker, Munsterd and van Kempen, 2007).

After the fall of Soviet Union, social segregation was not remarkable in the first decade. Later, income inequalities have increased and socioeconomic segregation has grown. Also, housing alternatives and changed housing policy had an impact on spatial segregation. (Sykora, 2009).

The effect of spatial segregation could be clearly seen in urban areas of new residential complexes, suburban – private houses, gentrifying neighbourhoods. People with higher income choose newly built apartments or private family houses on the outskirts of the city while the lower income population stay in the Soviet blocks. (Sykora, 2009). Now they become monofunctional sleeping districts, with a lack of jobs and cultural opportunities as well as decaying physical conditions. (Buinevicius, 2011)

Moving to the suburbs has changed city face a lot. Cities began to expand, the use of private car increased, a significance of mikrorayons has changed. Due to the privatization, the renovation apartments buildings is complicated. Green spaces of socialist housing estates became the parking lots. (Muliulyte,

2012).

Due to deteriorating building environment, today apartments built in Soviet times are the cheapest housing of the post-socialist city. Segregation will increase and microayons will attract more socially and economically weak groups. (Temelova, 2007)

Thus, problems of socialist housing estates should not be postponed. As those areas in most post-socialist cities occupy the biggest part of the city and accommodate the biggest part of the population there should be regeneration and renovation programs and plans for restructuring those estates.

## Conclusions

The conclusions of this section try to answer the sub research question -How did the Post-socialist city and socialist housing estates develop?

In a soviet city, the entire urban planning and the housing market belonged to the state – State Planning Committee. When planning a socialist city one of the most important concern was organizing a socialist industry.

City planning for Soviet Union countries had a specific meaning. It was important to create an industrial modern city, with newly built residential areas (microaryons) around working places.

Housing policy was one of the instruments to achieve an important political and ideological goal for a socialist society - the principle of class equality. Equal access to the same type of standard housing for all social groups was ensured.

In 1957, Kruschev promised over a decade to provide a separate apartment for every family. The construction of mass housing estates started. The idea itself of mass housing estates came from the west.

However, the construction of the large post-war housing blocks in Western countries stopped in the 1970s. While in a Soviet block it continued 30 years, until the collapse of Soviet Union. in Soviet block, large housing estates were the main accommodation for people from all social groups, and the biggest part of accommodation belonged to microrayon, and it is still in the present. However, after gaining independence people could choose where they want to live and in what kind of housing. Thus young people with higher income and education started to move to the outskirts of the city and to build their own private houses. People wanted to do what was forbidden before. In that way, the socialist housing estates are ageing, as well as it is becoming an attractive place for socially and economically weak groups. Step by step microrayon is losing an image of good and quality life, which they had in Soviet times. Also, the physical conditions are declining. Yet large housing estates in post-socialist cities are not ghettos as it became in Western Europe. There is still social diversity, but there is a threat of social segregation in the future. Thus, problems of socialist housing estates should not be deferred. As those areas in most post-socialist cities occupy the biggest part of the city and accommodate the biggest part of the population there should be regeneration and renovation programs and plans for restructuring those estates.

# Sustainable urban development

“Sustainable development is a development that meets the needs of the present without compromising the ability of future generations to meet their own needs.” (WCED, 1987, p37).

Sustainable development covers three pillars - “economic, environmental and social”. (GSDR, 2014)

To achieve sustainable development, the action plan Agenda 21 for sustainable development recognizes information, integration and participation as the main components. Furthermore, it identifies public participation in the decision making processes as one of the essential conditions to achieve sustainable development. (Allen, 2001).

Today, sustainable urban development covers one more - fourth pillar - institutional. (Cziskie, Maloney, Turcu, 2015) (see Figure 1.2).

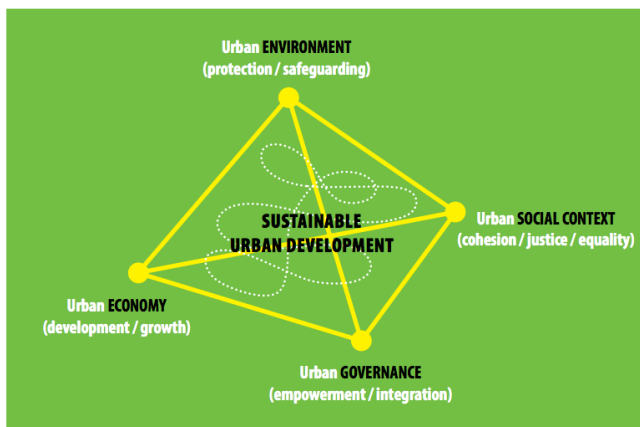


Fig.1.2 The prism of urban sustainability  
Source: [www.urbact.eu](http://www.urbact.eu)

For sustainable urban development institutional challenges could be seen as a tension between top-down planning processes and bottom-up initiatives. For sustainable urban regeneration, it is important for the government to involve all stakeholders in planning processes. Unfortunately, usually, there is a gap between local communities needs and city government plans (Czischke, Maloney, Turcu, 2015).

## Integrated approach

“The various dimensions of urban life – environmental, economic, social and cultural – are interwoven and success in urban development can only be achieved through an integrated approach”. (European Commission, 2014)

URBACT explains “integrated approach” as an integration of the four sustainable development pillars. Sustainable urban development is seen through the direction of an environmental pillar with tight links to social, institutional and economic pillars. (Czischke,

Moloney and Turcu, 2015).

## Sustainable urban regeneration

“Urban regeneration is a way to reorganise and upgrade existing places rather than planning new urbanisation” (Puppim de Oliveria and Balaban, 2013).

Urban regeneration should cover economic, social and environmental pillars. Sustainable urban regenerations should be implemented through renewing building environment and reducing demolishing waste. The approach of urban regeneration is to densify the city rather than expanding to the outskirts. (Turcu, 2012). Sustainable urban regeneration solves interrelated technical, spatial, and socio-economic issues concerning to improve environmental quality. Nevertheless, to achieve the best outcome of urban regeneration there should be not only technical issues solved but also very important - social and institutional environments. This could be reached through participatory approach - involving communities into the planning processes. The advantage of this approach is getting a better understanding what do communities need. (Czischke, Maloney, Turcu, 2015).

There is increasing recognition that regeneration, if it is to be sustainable, must adopt a long-term multi-faceted approach, addressing unemployment, enhancing educational attainment, and reducing crime as well as transforming the urban fabric through infrastructure provision, improved housing and the redevelopment of derelict land and buildings. (Colantonio A., Dixon T., 2011)

## Community and neighbourhood

In urban regeneration practice, the involvement of social-cultural aspects in environmental - economical improvements is increasing. “Community” and “neighbourhood” became very important elements for sustainable urban regeneration. Participatory approach and community involvement in regeneration processes is one of the key components for achieving sustainable urban regeneration. (Colantonio and Dixon, 2010)

## Conclusions

The conclusions of this section try to answer the sub research question -What is sustainable urban development and regeneration and how urban sustainability could be reached?

Sustainability has been described regarding three pillars - the environment, the economy and society.

Currently, sustainable urban development can be defined in four pillars, additionally - institutional. The institutional challenges could be described as a tension of top-down approach to urban planning and bottom-up interventions, the tension between local communities and plans of city administrations or interests of commercial developers.

Integration of these four dimensions could be seen as "integrated approach" - environmental improvement with tight links to social, institutional and economic pillars.

Thus urban regeneration should also respond to series of non-technical conditions for environmental sustainability - social and institutional ones.

Creating socially sustainable communities is essential for urban regeneration.



## Participation and planning support systems

As it was discussed in a previous section, public participation and community involvement in urban planning and regeneration processes are essential for sustainable development.

Today, there are supporting instruments such as Geographic information systems (GIS) for participatory planning. (Craig, Harris, Weiner 2002).

Online planning support systems could improve participation of communities and other stakeholders in planning and make the planning processes more transparent. Planning support systems strengthen the link between decision – makers and citizens by providing services such as giving information, voting, polling and discussion. Also, web-based geographic information system applications save time and make participation processes more flexible in terms of location. (Yigitcanlat T., Velibeyoglu K., Baum S. (2008) Nevertheless, those web-based planning support instruments (applications) usually only provide information but do not provide an opportunity to actually participate in decision-making processes. (Kingston, 2009)

### Participation in planning

In well-known Arstein’s participation ladder (Figure 1.3), citizens participation starts with the rungs of information, consultation and placation. Participation level rises with the rungs of partnership, delegated power and citizen control, where citizens have influence in decision making and implementation. But final decision is still up to the government (Tosics, 2015) The IAP2 - International Association for Public Participation designed a public participation spectrum with increasing public impact on decision making. It starts with providing information to empowerment (Figure 1.4).

### Participatory E-planning

E – participation is a new approach to involve citizens into the urban planning processes. (Saad-Sulonen, 2012).

It could be described as “technology-mediated interaction between the civil society sphere and the formal politics sphere” (Sanford and Rose, 2007).

E-participation or participatory E - planning invites citizens to use participatory tools such as GIS (Geographic Information systems) and planning support systems. Those planning support systems provide on-line questionnaires, surveys and polls. (Saad-Sulonen, 2012).

The E-Planning participation tools are:

“1) “Plans-on-the-map”, which is a website that allows citizens to get acquainted with existing plans; 2) “Tell-it-on-the-map”, which is a questionnaire-based online tool to collect citizens comments on specific issues presented by planners, and 3) the planning competitions website, where citizens can get acquainted with ongoing planning competitions and comment on them.” - (Saad-Sulonen, 2012). These tools allow feedback but are more consultation type and do not involve citizens in the decision-making process. (Saad-Sulonen, 2012). It is discussed that e-planning tools should provide not only consultation but collaborative tools. (Saad-Sulonen, 2012).

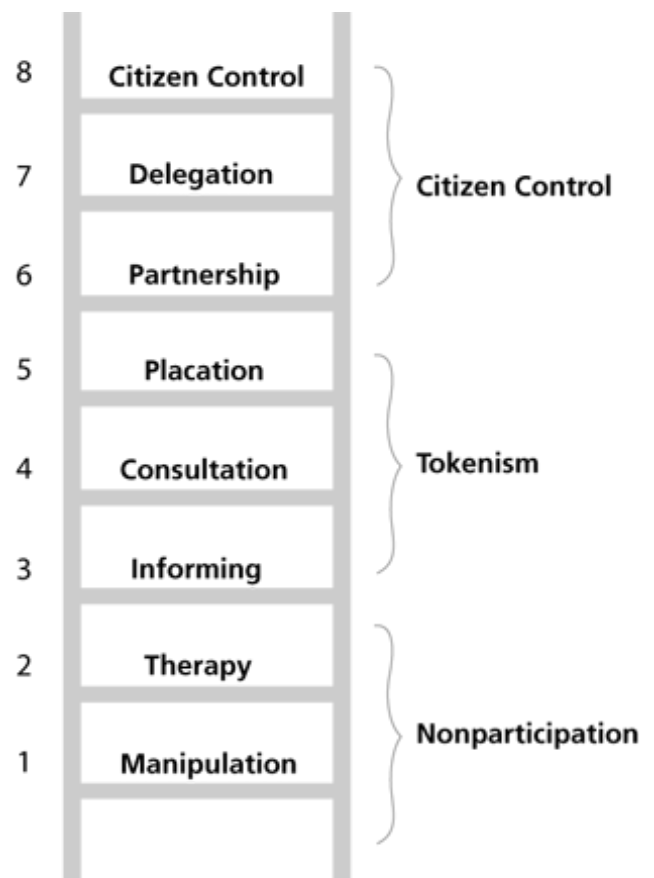


Fig. 1.3. Arnstein's ladder (1969)  
Source: <http://www.vcn.bc.ca/>

IAP2 PUBLIC PARTICIPATION SPECTRUM

INCREASING LEVEL OF PUBLIC IMPACT				
INFORM	CONSULT	INVOLVE	COLLABORATE	EMPOWER
<b>Public Participation Goal:</b>	<b>Public Participation Goal:</b>	<b>Public Participation Goal:</b>	<b>Public Participation Goal:</b>	<b>Public Participation Goal:</b>
To provide the public with balanced and objective information to assist them in understanding the problems, alternatives and/or solutions.	To obtain public feedback on analysis, alternatives and/or decisions.	To work directly with the public throughout the process to ensure that public concerns and aspirations are consistently understood and considered.	To partner with the public in each aspect of the decision, including the development of alternatives and the identification of the preferred solution.	To place final decision-making in the hands of the public.
<b>Promise to the Public:</b>	<b>Promise to the Public:</b>	<b>Promise to the Public:</b>	<b>Promise to the Public:</b>	<b>Promise to the Public:</b>
We will keep you informed.	We will keep you informed, listen to and acknowledge concerns and provide feedback on how public input influenced the decision.	We will work with you to ensure that your concerns and aspirations are directly reflected in the alternatives developed and provide feedback on how public input influenced the decision.	We will look to you for direct advice and innovation in formulating solutions and incorporate your advice and recommendations into the decisions to the maximum extent possible.	We will implement what you decide.
<b>Example Tools:</b>	<b>Example Tools:</b>	<b>Example Tools:</b>	<b>Example Tools:</b>	<b>Example Tools:</b>
<ul style="list-style-type: none"> <li>• fact sheets</li> <li>• web sites</li> <li>• open houses.</li> </ul>	<ul style="list-style-type: none"> <li>• public comment</li> <li>• focus groups</li> <li>• surveys</li> <li>• public meetings.</li> </ul>	<ul style="list-style-type: none"> <li>• workshops</li> <li>• deliberate polling.</li> </ul>	<ul style="list-style-type: none"> <li>• citizen advisory committees</li> <li>• consensus-building</li> <li>• participatory decision-making.</li> </ul>	<ul style="list-style-type: none"> <li>• citizen juries</li> <li>• ballots</li> <li>• delegated decisions.</li> </ul>

Fig. 1.4. Public participation spectrum  
 Source: <http://www.dse.vic.gov.au/>

**Planning support systems**

Public participation GIS (Geographical Information System) approach is to provide opportunities for citizens to get involved in the decision-making process. GIS web-based applications provide an opportunity for citizens to discuss, suggest criticize and express opinion or vote about the projects online. (Laurini, 2004).

These applications include functions such as zoom, pan, copy and paste, drawing and writing calculating and measuring. In these type of applications, up-to-date information should be provided, visualizations and alternatives of the projects and the platform for discussion should be available (Steinmann, Krek, Blaschke 2004)

**Interactivity**

Together with planning support systems (or GIS applications), new ladder rungs of participation appear – online discussion, web survey and online decision. The bottom rung shows delivery of information. At this rung, there is no interactive participation. The upper rungs make participation more interactive trough on-line discussion and online opinion surveys. Users can exchange information, suggest and comment. The highest participation interactivity level is at online decision rung. Users can vote or criticize the suggested projects. (Carver, 2000).

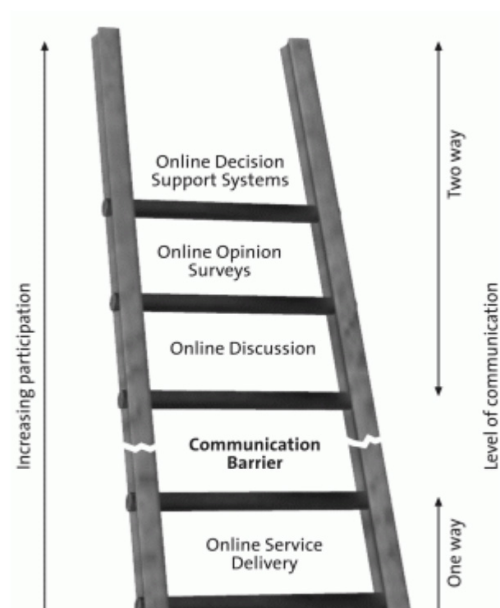


Fig. 1.5. E-participation ladder  
 Source: <http://myweb.tiscali.co.uk/>

## Conclusions

The conclusions of this section try to answer the research question -What is participatory planning and what are the tools to achieve participation?

Public participation in a planning process is relevant for sustainable development, and it is an important component at the local level as the community planning process. To increase public participation, it should be supported by digital technologies. Planning support systems, GIS applications are helping tools for citizens participation in urban planning. It provides opportunities to participate in decision making and increase transparency in the planning process.

Public participation in planning: The International Association for Public Participation spectrum of public involvement goals into the planning process begins with 'information sharing' through to 'empowerment.' I combined the levels of public participation in planning (Public participation spectrum) with

suggested tools in E-planning and E-participation ladders. The interactivity according to the E-participation ladders is defined by four different forms of participation from the passive form - online service delivery to the active - online decision support systems.

Interactivity	Function	Tools	Activity
online service delivery	inform	"plans-on-the-map"	information
online discussion	consult	"tell-it-on-the-map" questionnaires surveys	commenting marking discussing
online opinion surveys	involve/collaborate	"tell-it-on-the-map" questionnaires, surveys polls	commenting marking discussing voting polling suggesting criticizing
online decision support systems	empower	the planning competitions website	voting polling suggesting criticizing

Fig. 1.5. interactive tools and their interactivity  
Source: Author's image

# Conclusions

After the collapse of Soviet Union, socialist cities have been going through the transitional phase. One of the main challenges the city faces is a migration to the suburbs and decaying life quality in the socialist housing estates, which is the biggest part of accommodation in a post-socialist city. There are obvious differentiation trends of urban social spaces - increasing social disparities, growing residential segregation and social exclusion as an important transformation component of post-socialist cities.

Step by step socialist housing estates - microrayon is losing an image of good and quality life, which they had in Soviet times. Today, socialist housing estates are ageing, as well as it is becoming an attractive place for social and economically weak groups. There should be comprehensive strategies for regeneration of socialist housing estates.

The important thing for sustainable urban regeneration in the cities is integrated approach- which means urban development and regeneration through environmental approach with tight links to social, institutional and economic aspects.

Thus urban regeneration should also respond to a series of non-technical conditions for environmental sustainability - social and institutional ones. For sustainable urban regeneration at the local scale, it is important to form the sustainable communities and involve citizens in the planning process.

To increase public participation, it can be supported by digital technologies. Online planning support systems and GIS applications are helping tools to increase participation and transparency in planning processes. As in Lithuania, there is no practice of participatory planning, the helping tools for achieving participation in the planning would be useful.

The helping tools will be analyzed in a design part.



## **PART II. EMPIRICAL RESEARCH**

The following part of the report will present the empirical research which was done to answer the sub-research questions about Vilnius and Naujininkai development and spatial planning system of Lithuania.

The first chapter will present the research part of an urban development of Vilnius. The chapter analyzes the historical evolution, structure of the city, the suburban sprawl and current development trends. Planning documents - comprehensive plan of Vilnius is analyzed to see how planning documents tackle the major issues of the city. The chapter concludes with the urban development issues of a city.

The second chapter is the spatial and social analysis of a district of Naujininkai. Historical analysis of the area helps to define the heritage values of a district. Socialist microrayon principles and how those principles were adapted to Naujininkai are presented. Also, a social and urban structure and current development trends are analyzed. The chapter concludes with the weaknesses and strengths of a district.

The third chapter of a research part is the analysis of spatial planning system in Lithuania, with particular emphasis on existing plans and plans for Naujininkai. The chapter concludes with the issues of a planning system.



## II. I. VILNIUS

Vilnius is one of the most important economic centres 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). Vilnius is the largest city in Lithuania with a population of 535.000 (data of the year 2017). 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

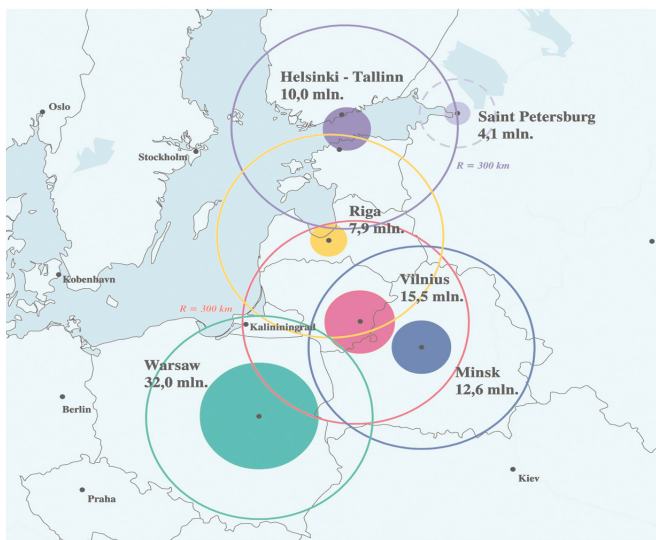


Fig. 2.1. Vilnius in the baltic states region  
Source: *Comprehensive plan of Vilnius (Vilniaus Planas, 2007)*

### Historical evaluation and transition period

Lithuania was occupied four times what left a significant impact on its capital. Most important occupations were by Russian Empire in 1795 and by the Soviet Union in 1944. During these two periods, society faced the implementations of new political, economic and social values, which were reflected in the new planning principles of the city.

#### **Socialist city (1944-1990)**

During the Soviet occupation, 7 micro-districts appeared in the periphery of the city of Vilnius. Also because of vast industrialization, many factories were built around the city centre.

Those microdistricts were built by modernist design principles – large, dense apartment blocks were built in the green environment. Industrial zones and residential microdistricts were well connected with public transport. (Jonasuskis T. 2010)

institutions, and national health care institutions. (Vilniaus Planas, 2007).

Territory of Vilnius Municipality - 401 km<sup>2</sup>  
Urbanized area - 39%  
Density – 1340 person/km<sup>2</sup>  
Population in Vilnius – 537 152

Data source: [www.stat.gov.lt](http://www.stat.gov.lt)

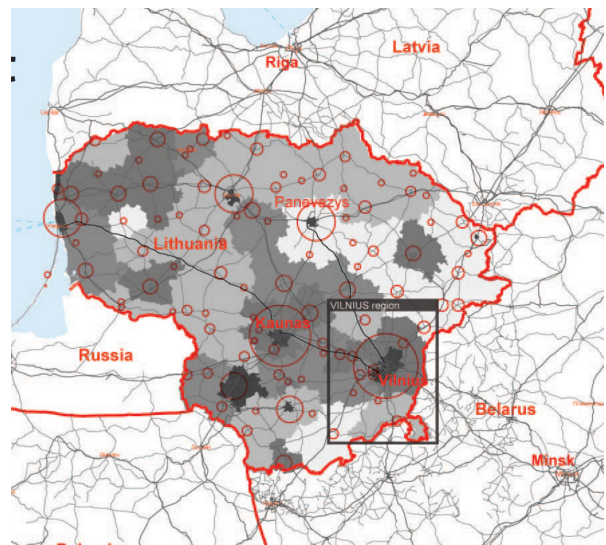


Fig. 2.2, Vilnius in Lithuania context  
Source: *Local action plan for Zirmunai triangle, 2015.*

#### **City in transition**

After the independence, in 1990, the country has taken a turn towards the free market economy and Western social values. Most significant socio-economic changes were an almost complete collapse of the industrial sector, liberalization, and re-establishment of the private property, followed by privatization (Stanilov, 2007). This was the reason for people moving to the suburbs and urban sprawl.

During the occupation private property was not allowed, thus after the collapse of Soviet Union many people moved to the outskirts and built private single-family houses. (Jonasuskis, Muliolyte and Czischke, 2015). This influenced the current structure of the city. Mentioned changes resulted in downgrading living standards in many areas of the inner city, especially the Soviet microrayons. Furthermore, brownfields, especially around the city centre are consequences of a collapsed industrial sector. Urban sprawl caused the car-based development.

## Structure of the city

The structure of Vilnius city could be divided into three parts. The central part - old town and historical suburbs (XII-XIX century), the middle part - microdistrict's zone built in Soviet times and the suburbs part - built in transitional period. (Jonaskis, Muliolyte and Czischke, 2015)

### Urban fabric

The historical city block type fabric is seen as the most valuable and suitable for the city centre as it helps to create dense spaces and vibrant city life (Kirvaitiene, Dainora, 2004).

Another - dominant fabric type of the city is the modernist planning soviet housing areas which surround the historical city centre. Seven microdistricts accommodate the major part of the population of Vilnius and are becoming the aging, monofunctional sleeping areas which are in a need of renovation.

The other fabric - is village type, which is the main type of the suburbs.

In Vilnius, village type fabric could be found also in the city centre (and in Naujininkai). This means that although the city is sprawling, there are several areas in the centre where the density has not reached values common to the city centre of Vilnius.

### Green zones

Through the city, from the south to the north lies a green corridor. It separates the city centre from the rest of the city and provides equal possibilities to access green spaces for the centre and periphery residents.



Fig. 2.3 A historical center of Vilnius  
Source: <http://testinis.kpd.lt/>



Fig. 2.4. A microrayon of Vilnius  
Source: <http://www.viv.lt/>



Fig. 2.5. A village type urban fabric in a city center  
Source: <http://www.madeinvilnius.com/>



Fig. 2.6. A new center of Vilnius  
Source: <http://www.miestai.net/>



Fig. 2.7. Super blocks (2004)  
Source: <http://blog.liutkus.eu/>



Fig. 2.8. A village type urban fabric in a suburb  
Source: <https://www.aruodas.lt/>



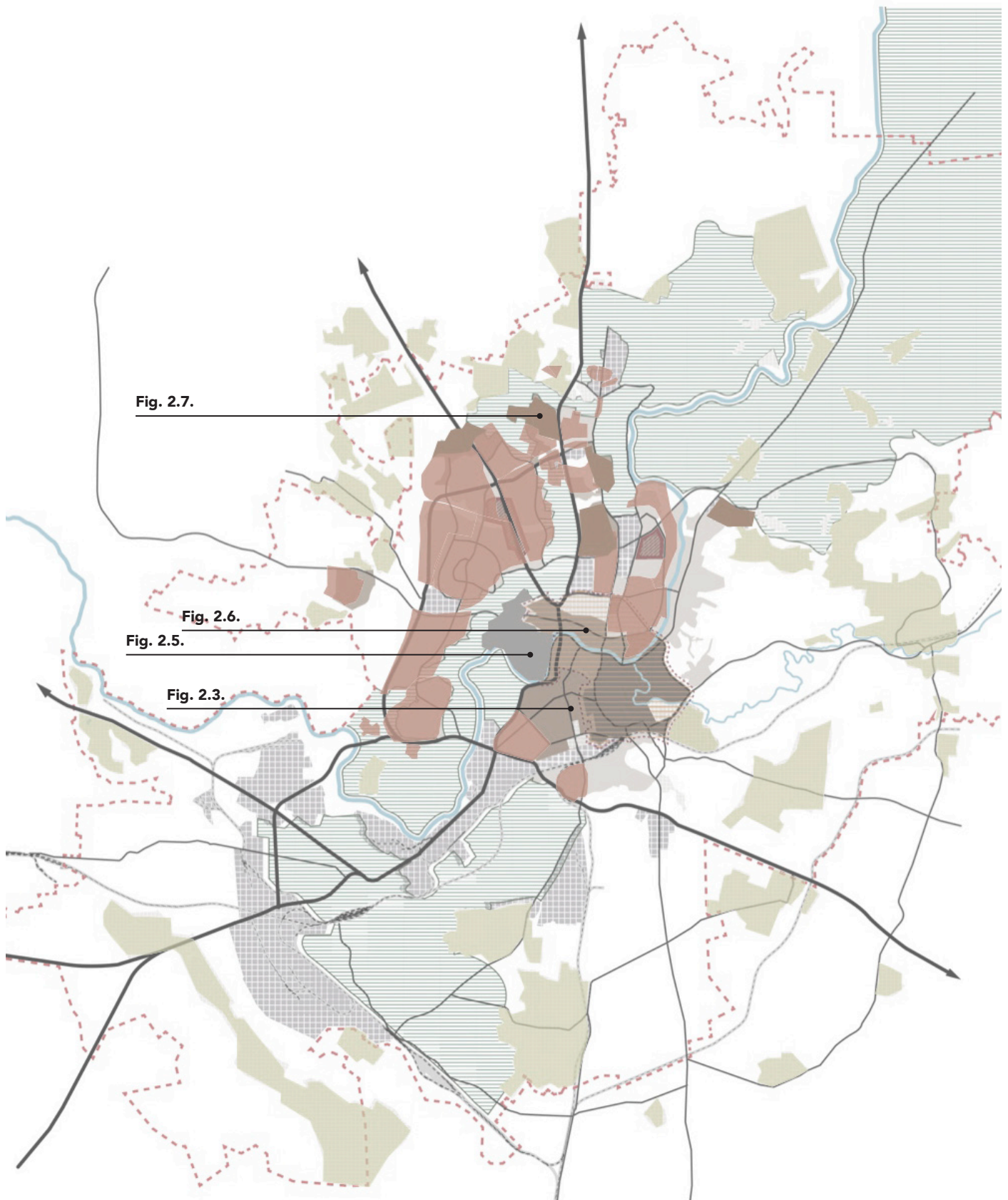








Fig. 2.9. Structure of the city  
 Source: Author's drawing based on information of comprehensive plan of Vilnius 2007-2015

- |   |                                   |   |                                   |
|---|-----------------------------------|---|-----------------------------------|
|  | Historical XII - XIX center       |  | Border of municipality of Vilnius |
|  | Socialist housing estates         |  | Highways                          |
|  | Sprawling areas                   |  | Main streets                      |
|  | Village type urban fabric         |  | River Neris                       |
|  | 1990's urban fabric - superblocks |  | River Vilnele                     |
|  | Green areas                       |   |                                   |

## Urban sprawl

Suburbanization appearing around the city of Vilnius is related to the economic trends, spatial development policies and newly emerged living patterns as well as the aspects of mentality and tradition.

After the independence, a celebration of freedom and consumerism in the society appeared.

The real estate prices have risen in the inner city.

That is why the price of an apartment in the socialist housing estate became similar to the price of a private house in the periphery of the city. Moreover, the 'escape' from the socialist housing estate has a deep symbolic meaning (people wanted to run away from everything that was related to the Soviet times - in this case - socialist housing estates and to have what was forbidden - private property ).

Before the economic crisis of 2008, people massively were building residential houses on the outskirts of the city. Because there were no requirements of the comprehensive territorial planning, the construction of the buildings was happening chaotic. Suburbs are low density (13-39 inhabitants/ha), monofunctional and dependent on the city regarding work, education and daily services of the city. (Jonasuskis, Muliolyte and Czischke, 2015)

At that time it became easy and common action to alter the land use from agricultural to residential (Stanilov, 2007).

Over the last seven years in Vilnius Statistics show that almost half of permits are issued to build in collective garden areas in the periphery. There the quality of infrastructure is very poor, but young people are still moving and investing there. The question is whether these young people could live in the inner city and what should be done that they would remain there? (Pakalnis M. 2014)

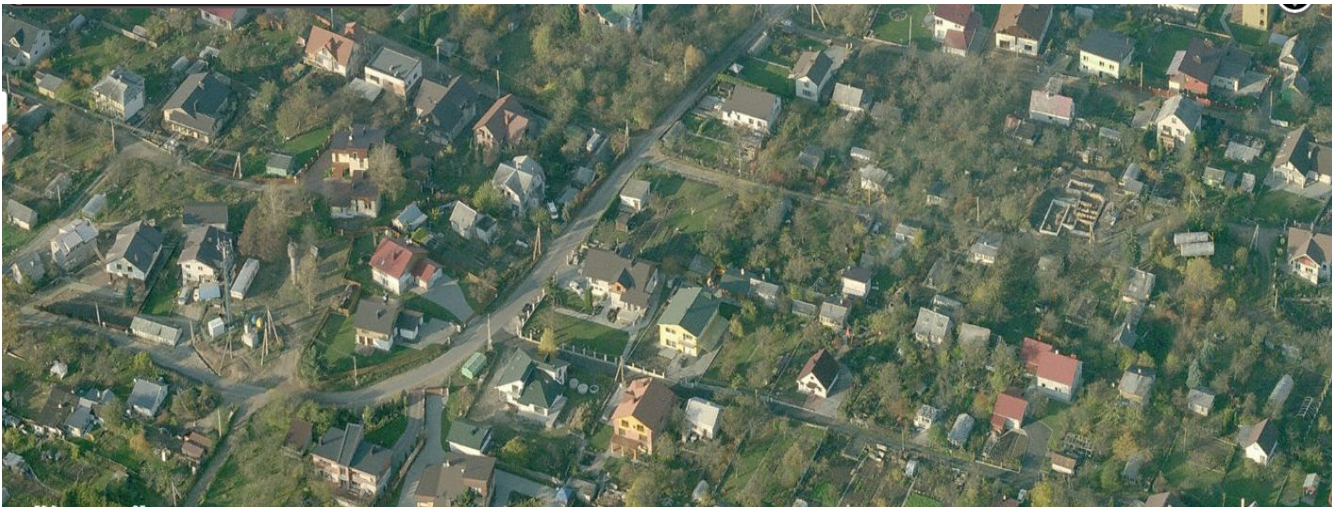


Fig. 2.10. Suburb of Vilnius  
Source: <http://www.15min.lt/>

Vilnius is facing a major sprawl issue. Almost 35% of the current city population is residing in the suburbs. This trend causes:

- traffic problems, demand expansion of the city's infrastructure and consuming of the open green spaces surrounding the city. (Vilniaus planas 2009)
- Socio-spatial segregation in the city. Aging and decaying districts around the city centre.



Fig. 2.11. Collective gardens  
Source: [googlemaps street view](#)



Rapid, uncoordinated residential constructions were not only those expansions of private houses but also the housing estates and other non - residential developments.

All residential constructions are carried out exceptionally only by the private sector, often large real estate companies and construction companies. Such developments have been happening in the locations where it was possible for the developer to buy the land. Then the land use of the plot (if it is not residential/commercial) is changed based on the detailed plan (see chapter Planning system in Lithuania). Therefore, such developments are not based on larger urban considerations or local needs, and so they often do not integrate into the surroundings.



Fig. 2.12. Housing estates in a periphery  
Source: <http://www.miestai.net/>

### Car based developments

Lack of program in residential areas (in suburbs and also socialist microdistricts) is compensated by allowing the expansion of supermarkets that take large amounts of empty spaces. Malls are encouraging car use by catering to the private car users and usually not providing connections to the pedestrian routes. (Simkute, 2016)

By allowing suburban sprawl and developments in a periphery, the city faces issues of poor connectivity, have to spent lots of money to provide basic infrastructure, suburbs lack basic social amenities thus for everyday activities residents have to travel and depend on private transport. The road network expanded and the municipality can no longer maintain it properly, which resulted in poor quality of roads. Such an unsustainable pattern led to low accessibility, spatial and social fragmentation and isolation. (Vilniaus planas, 2007).

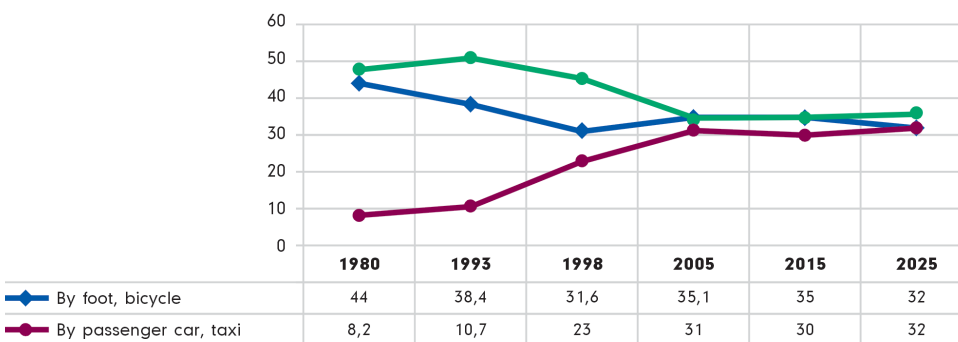


Fig. 2.13. Traffic structure of Vilnius inhabitants (%)  
Source: *Comprehensive plan of Vilnius, (Vilniaus planas, 2007)*

# Density

“Vilnius is one of the most sparsely populated and least urbanized capitals of Europe” (Jonasuskis, Muliulyte and Czischke, 2015). Vilnius has a very low density compared to the cities in the West of Europe. Compared to Amsterdam, Vilnius is twice bigger but its density is four times smaller.

## AMSTERDAM

Area: 219 km<sup>2</sup>  
 Population: 762,057  
 Density: 4,459/km<sup>2</sup>



## VILNIUS

Area: 401 km<sup>2</sup>  
 Population: 544 206  
 Density: 1,357.1/km<sup>2</sup>

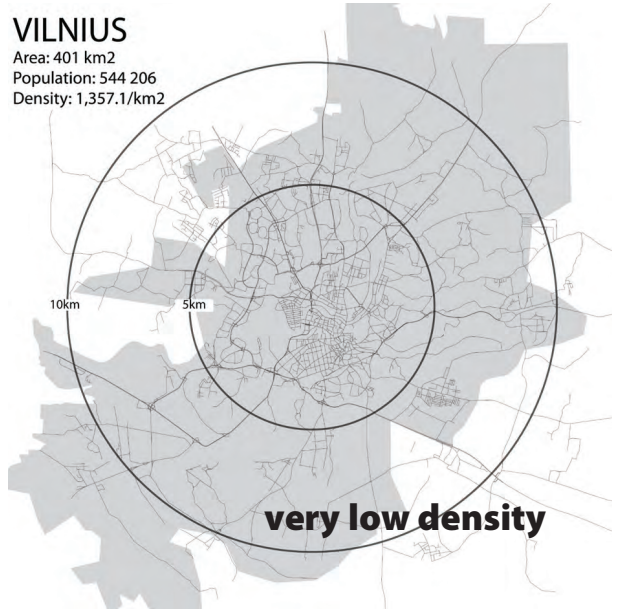


Fig. 2.14. Comparison of density  
 Image author: J. Muliulyte

# Population change 2007-2015

Population change from 2007-2015 shows that the areas around the city centre - soviet microrayons are losing population. Naujininkai is one of the districts which is losing the most population.

Data source: [www.stat.gov.lt](http://www.stat.gov.lt)

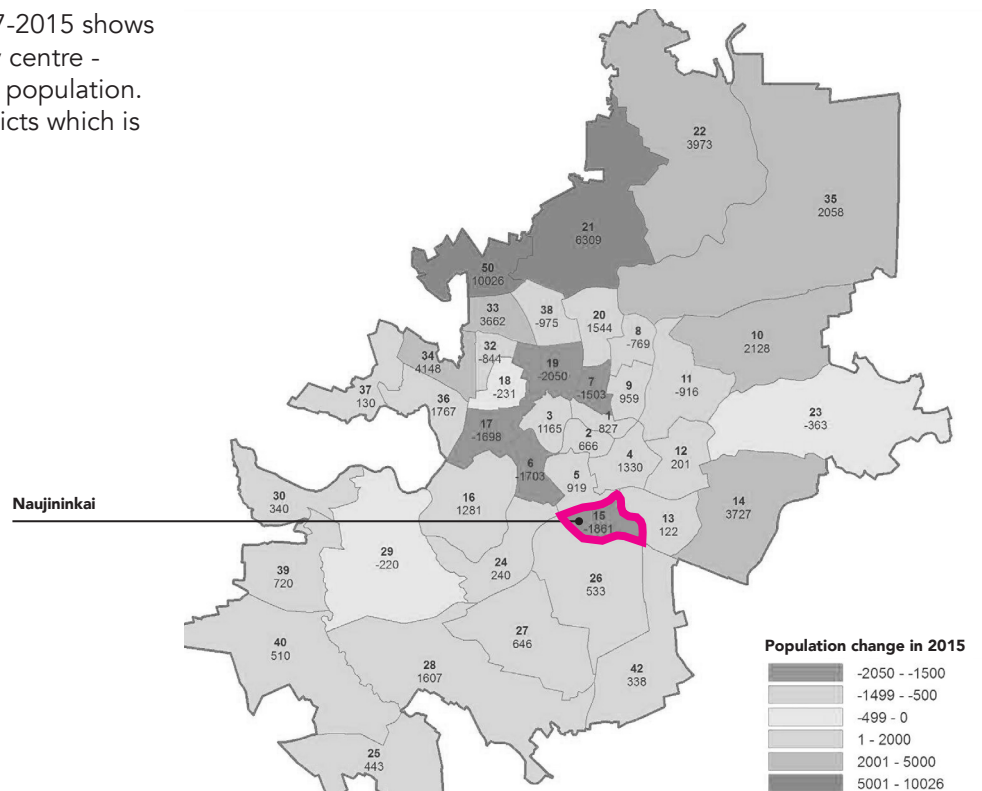


Fig. 2.15. Change of the population 2007-2015  
 Source: The annual report of the monitoring implementation of the comprehensive plan of Vilnius municipality 2007-2014 solutions.2015

## Population distribution by age

Big exploitation costs of old apartment buildings, not started the complex renovation of residential areas makes the centre and the areas around it unattractive. Those factors and more favourable prices of real estate in outskirts of the city force younger people to look for housing in the peripheral zone. One of the negative consequences of such a city development - a very uneven age structure of the population in urban areas. In the neighbourhoods around the city centre (Soviet-era housing estates) remains an ageing population (average age - 51-65 years old). (Municipality of Vilnius city, 2015)

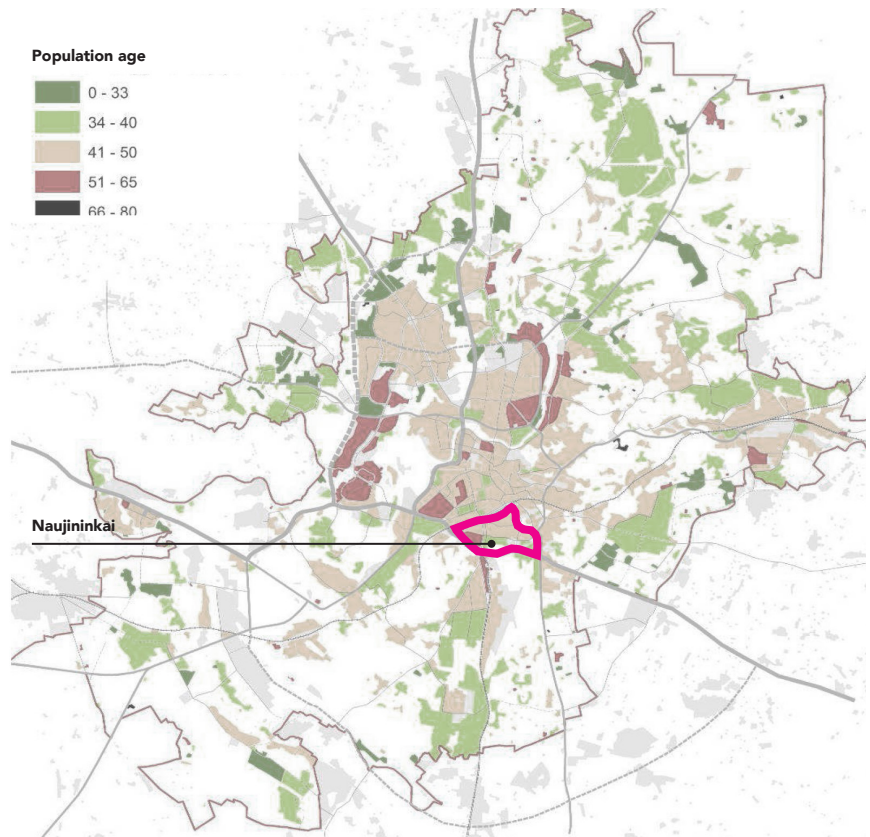


Fig. 2.16. Population distribution by age  
Source: The annual report of the monitoring implementation of the comprehensive plan of Vilnius municipality

## Distribution by working space

The concept of a Soviet industrial city left Vilnius with a strictly functional zoning of urban areas to "sleeping" and "industrial" areas. This results in a very uneven residential and work distribution, which in turn increases the irrational mobility. And today it is seen the significant shortage of jobs in the Soviet residential areas, and recently also in rapidly built peripheral zones.

Naujininkai is one of the least working places having the micro district.

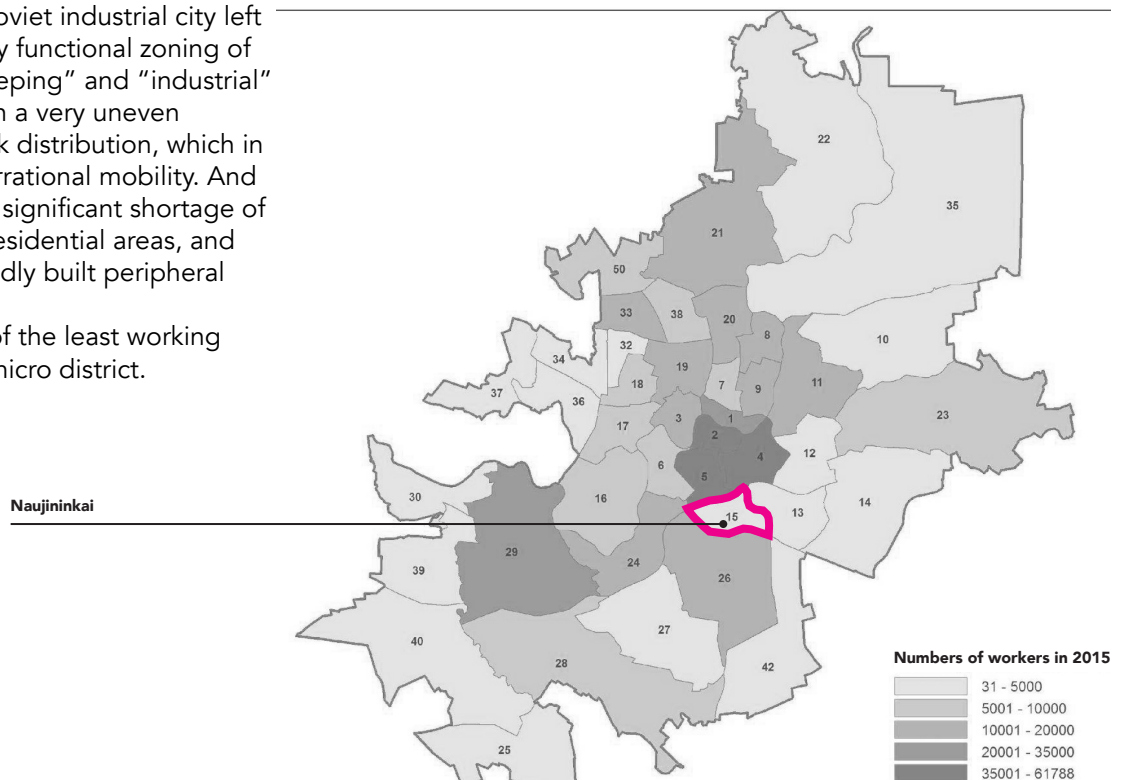


Fig. 2.17. Distribution of working spaces  
Source: The annual report of the monitoring implementation of the comprehensive plan of Vilnius municipality 2007-2014 solutions.2015



# Comprehensive plan of municipality of Vilnius

## Comprehensive plan of municipality of Vilnius 2007-2015 and changes of the plan in 2016

The current comprehensive plan was prepared for the year 2007-2015. It is still valid until the changes of the existing plan will be prepared. The new comprehensive plan for the year 2016-2020 has the same objectives and goals as the current one, but there are some specific areas or issues which are being changed. The changes are - to correct the previous master plan for the specific areas and specific issues.

The comprehensive plan of the year 2007-2015 recognizes main issues of urban structure:

- Urbanized area and population dispersion spread out over a wide area.
- Issues caused by this urban trend, such as traffic problems, need to be dealt with.
- Aging middle zone of the city (average age 51-65).

Comprehensive plan objectives

- to create conditions for stable economic and socially motivated life quality growth and reducing territorial disparities.

Objectives are sought by sustainable development principles -

- by developing polycentric city structure;
- by supporting an internal development of the city (increasing efficiency of the irrationally urbanized territories);
- by promoting multifunctional land use;
- by achieving social integration and reducing development disparities;
- by giving priority to public transport;
- by reducing pollution;

*Source: A comprehensive plan of municipality of Vilnius (Vilniaus planas, 2007)*

## There was a monitoring of the 2007-2015 comprehensive plan implementation of solutions done.

To correct the comprehensive plan, the positive and negative tendencies of implementing the plan solutions are defined:

- Vilnius city development is happening not taking into account the development priorities which were set in a comprehensive plan. There is a lack of resources to deal with the most pressing urban development problems in priority development zones: to expand public infrastructure, to implement public objects, to promote new cultural initiatives and to increase the attractiveness of public spaces.
- The urban structure of a city did not change because no major transformations happened.
- A complex renovation of residential districts (micro-rayons) is happening very slowly, big heating costs and not solved public and parking spaces issues make socialist housing estates unattractive, and this causes a migration of younger people to a periphery, where social and engineering infrastructure is undeveloped.
- Uncoordinated peripheral zone planning, constantly growing constructions of private single/double family houses in the suburbs increase the urban structure issues which were before the implementation of the comprehensive plan.
- In the other centres, which were provided to be developed, changes were done fragmented, based on a private initiative and investments. There was a lack of the city funds for developing infrastructure and public spaces.

### Planning documents

Prepared urban development proposals, concepts, urban studies are becoming a base for Vilnius Municipality (Urban Development Department) for the preparation of urban lower-level territorial planning documents.

In the confirmed detailed plans, concepts, schemes, project proposals for urban areas, the detailing of functional zoning of the municipality is being done according to the comprehensive plan solutions. However, when the comprehensive plan for 2007-2014 was confirmed, the prepared planning documents were done not only for the priority development zones but as in the previous planning periods scattered throughout the whole territory of the municipality.

*( Source: The annual report of the monitoring implementation of the comprehensive plan of Vilnius municipality 2007-2014 solutions.2015)*



## **Implemented and not implemented solutions of the comprehensive 2007-2015 plan of Vilnius**

### **Peripheral zone**

#### ***Prawl of Single private housing***

Constantly growing constructions of private single/double family houses in a periphery of the city increase the urban structure issues which were before the implementation of the comprehensive plan: growing sprawl of the city, increasing mobility, increasing all kinds of infrastructure costs. In the year 2007 – 2014 the majority of new residential single/double private houses constructions were happening not in the priority zones.

There are threatening tendencies: in 2013 in Vilnius were made up mostly agricultural and residential land sale agreements. Which is related to a new, 2014 law on territorial planning, which has simplified and accelerated land conversion procedures.

#### ***Housing developments***

Not always the new developments are planned and built concentrated and compact. The residents lack good life, education, jobs and recreation conditions and facilities; there is increasing daily car trips from the periphery to the centre.

### **Conversion and renovation of inner city zones**

The pace of conversion, revitalization, and modernization remain too slow. Private developers are often focused on the projects in a periphery of the city, they are easier to realize.

#### ***Conversion of industrial territories***

In 2013-2014 the conversion in particular areas was intensified. In former industrial territories the residential, commercial neighbourhoods were built. However, the inner city redevelopment of industrial territories barely happened.

#### ***Renovation of soviet microrayons***

The 2007–2015 Comprehensive Plan of Vilnius gave priority to the complex regeneration of socialist housing estates.

However, over the implementation period of the comprehensive plan 2007-2015, the complex modernization and revitalization of socialist housing estates did not happen.

It was provided to renew Soviet housing areas by improving the housing quality conditions, energy efficiency, and parking. It was planned that as the living quality increases, these areas will become strong alternatives to the suburbs.

The renovation pace of housing remains very slow. There is only 2.9% of residential housing renovated.

The new constructions took place without providing those developments in the renovation projects of the districts, and these projects were prepared only for a few neighbourhoods.

These areas become unattractive to new residents: in the real estate market, the value of socialist housing is significantly lower than the housing in the new, under-developed areas.

*( Source: The annual report of the monitoring implementation of the comprehensive plan of Vilnius municipality 2007-2014 solutions.2015)*

# Regeneration

Vilnius, as the other post-socialist cities, encounters regeneration challenges in deteriorating socialist housing estates or brownfields in former industrial zones. (Jonasuskis, Muliulyte and Czischke, 2015)

Vilnius is one of the ten partner cities involved in the Re-Block. Re-block is a part of a larger URBACT (European exchange and learning programme promoting sustainable urban development) project of knowledge sharing, which focuses on revitalizing high rise block neighbourhoods. (URBACT)

**Recommendations for a Re-block project in a socialist microdistrict of Zirmunai in Vilnius, which could be adjusted to Naujininkai.**

## ***Clarifying public-private spaces and car parking issues***

Recommendations set by Anders Backlander( partner city Sodertalje, Sweden):

- To clarify public, private and semi-private spaces.
- To densify the district by not destroying original structure and openness of the district.
- To reduce usage of cars and promote alternative transportation. Pedestrians should go first, then bicycles and then cars. (Zirmunai triangle local action plan, 2015)

## ***Social mix of the area***

Recommendations set by Bohonyey Agnes( Reblock project coordinator):

- To densify the population by offering construction sites for new private houses for families, thus bringing in new residents.
- For municipality – to sell empty buildings for a very low price on the conditions that buyer improves the house by his funds within 3-5 years.
- To demolish and replace old wooden houses by new more dense buildings, thus bringing in new residents. (Zirmunai triangle local action plan, 2015)

## ***Importance of involving the residents into a planning process***

Recommendations set by Stefan Kodel (partner city Magdeburg, Germany):

- To create a framework and support the residents to do what they want and need. (Zirmunai triangle local action plan, 2015)

Recommendations set by Silvia Bosso (partner Malaga, Spain):

- To raise community pride of the district
- To inform people about projects and initiatives in order to make them feel part of them. (Zirmunai triangle local action plan, 2015)

## ***The sense of the ownership***

Recommendations set by Bohonyey Agnes( Reblock project coordinator):

- To develop a sense of the ownership. Fences could be an instrument to mark public/private boundaries and to control bad parking. (Zirmunai triangle local action plan, 2015)

## ***Win win solutions***

Win-win solutions could be helpful in the cities where municipality lack funds for regeneration and private sector has a strong influence on city urban development. (Matoniene, 2015).

In the case of Vilnius, it would be useful to get financial benefit from the private sector for improving the environment. In Vilnius, there are some cases where municipality made agreements with the private sector for improving the environment. (Czischke, Moloney, Turcu, 2015).

Due to the lack of funds, the city needs to make private developers be interested in those deteriorating socialist housing estates. Unfortunately, investors are interested in the regeneration of the areas where they have a space for the new constructions. (Matoniene, 2015).

### **Parking**

The big issue of microaryons is parking. There is a need for extra parking spaces. This could be solved by allowing only one free parking lot for one household and for the extra parking place there would be a fee. From extra fees, the fund could be created in order to build new parking places. In the Re-block project site – Zirmunai, residents agreed to work together with the municipality on extra paid parking lots. (Matoniene, 2015).

### **Suggestions reflecting some regeneration cases in Vilnius.**

- To create one development vision for the whole district/neighbourhood. It helps to ensure integration of the site into the city and quality of spaces, to set the right densities and to create possibilities win-win solutions.
- To involve the community and other related stakeholders in the regeneration process. (Jonaszkis, Muliulyte and Czischke, 2015).

*Source: Urbact ii capitalisation, april 2015. " Sustainable regeneration in urban areas". Published by UR-BACT 5, Rue Pleyel, 93283 Saint Denis, France <http://urbact.eu>*

## **Renovation of housing**

The renovation of the apartment blocks built in Soviet times is a big issue in Vilnius.

Huge heating costs appear in winter season. More than 6,000 apartment blocks are in a need of renovation but in the last ten years, only 92 have been renovated.

(Jonaszkis, Muliulyte and Czischke, 2015).

There are renovation projects in a preparation by the municipality. Also, the city provides interactive map where residents can check the energy efficiency of the buildings.

### **EU funds**

EU funds are having a very positive impact on the quality and renovation of urban centres and development of public infrastructure.

In many cases of the sustainable improvement of the housing stock is happening because of the possibility to use long-term loans from the JESSICA holding fund, managed by the EIB (European Investment bank). (Matoniene, 2015).

# Conclusions. The main urban development issues of Vilnius

The conclusions of this chapter try to define -What are the current development and regeneration trends of the post-socialist city of Vilnius?

## **Expansion to the suburbs, aging microrayons**

Vilnius, as the other post-socialist cities, is going through a challenging transitional period with the major urban issues such as expansion to the suburbs, car-based development, deteriorating socialist housing estates, brownfields in the city centre. Chaotic expansion of new settlements in a periphery led to the ageing urban population: older people stay to live in the middle zone of the city - soviet micro-rayons, while young families move to the suburban areas. This also resulted in the fragmentary developed public transport system and social and engineering infrastructure.

## **Socio-spatial disparities**

Suburban sprawl caused an unequal city development - the differences in the life quality in different urban zones of Vilnius. Emerging life quality disparities among zones, residential districts and individual blocks in Vilnius city, conflicting with the principles of sustainable development. These disparities encourage negative processes such as population migration, forced mobility, degradation of certain parts of the city and social segregation.

## **Regeneration and development plans**

The 2007–2015 Comprehensive Plan of Vilnius gave priority to the complex revitalization of the housing of the districts of socialist housing estates. However, over the implementation period of the comprehensive plan, this did not happen. Only a few plans were prepared but not realized.

The plans, which are prepared and realized usually do not tackle the major problems of the city. New developments lack transparency and deny public participation in planning processes. Due to the inefficient process of detail plans and depending on bureaucracy the projects are nonintegral, they consume but not provide.

## **Funds of municipality and win-win solutions**

In the annual report of the monitoring implementation of the comprehensive plan of Vilnius municipality 2007-2014 solutions, it was stated that there was a lack of the city funds for developing infrastructure and public spaces.

According to some recommendations for the regeneration of housing estates in Vilnius, the lack of

municipality funds in regeneration – makes it crucial to involve the private investors to get the financial benefit of upgrading the area.

There is a big need for regeneration of socialist housing estates. What kind of the plan it could be for sustainable urban regeneration and how to make private developers interested in the revitalization of the area will be tried to answer in a design part.





Naujininkai

Train station

Old town

Fig. 2.18. Old town of Vilnius and Naujininkai  
Source: Comprehensive plan of Vilnius 2007-2015



## I.II NAUJININKAI

Naujininkai is Southern part of the city of Vilnius and has a very strategic location - is between the railway station of Vilnius and the city's airport.

An important road which connects the city airport and the city centre passes the district of Naujininkai.

From an Old town and the Newtown, the district of Naujininkai is separated by the railway. Partly a historical suburb, partly a Soviet-era microrayon, Naujininkai is situated in a hilly and green area of Vilnius.



Fig. 2.19. "Darius and Girenas" street  
Source: Author's image





Fig. 2.18. Location of Naujininkai  
Source: Author's drawing based on the map  
from googlemaps



## Urban structure of Naujininkai

The morphology of the district is very diverse. It reflects the different historical periods. The historical streets which remain are built up with wooden/masonry urban villas. Because the district was partly destroyed in Soviet times, the perimetric historical urban structure is unclear, only a few fragments of this morphology are left.

The dominant morphology is socialist period buildings. Which could be divided into the Stalin's period blocks, the "Krushevka" type residential housing, tower blocks and public building blocks.

The southern part of the district is mainly built up with private - single-family houses.

The historical perimetric streets with urban villas belong to XIX century. The dominant - socialist housing estates belong to the period of 1945-1990. Stalin's era housing are small 2-3 story houses. The biggest part of the buildings belongs to massive constructions

Khrushchev's era houses. Those five-story buildings are called "Krushevka". The latest period of Soviet-era belongs to the tower blocks - up to 14 floors. The public building blocks are schools, childcare centres, and clinics.

The biggest part of socialist housing estates is built in the Western part of the Naujininkai. The Northeastern part of Naujininkai is very diverse. There are Stalin's era, XIX century urban villas, and Khrushchev's era apartment blocks.

The southern part of Naujininkai is very rarely built with single-family houses of interwar period as well as private family houses built after the independence.

Due to very chaotic morphology, partly destroyed the urban structure, the spatial structure is unclear.

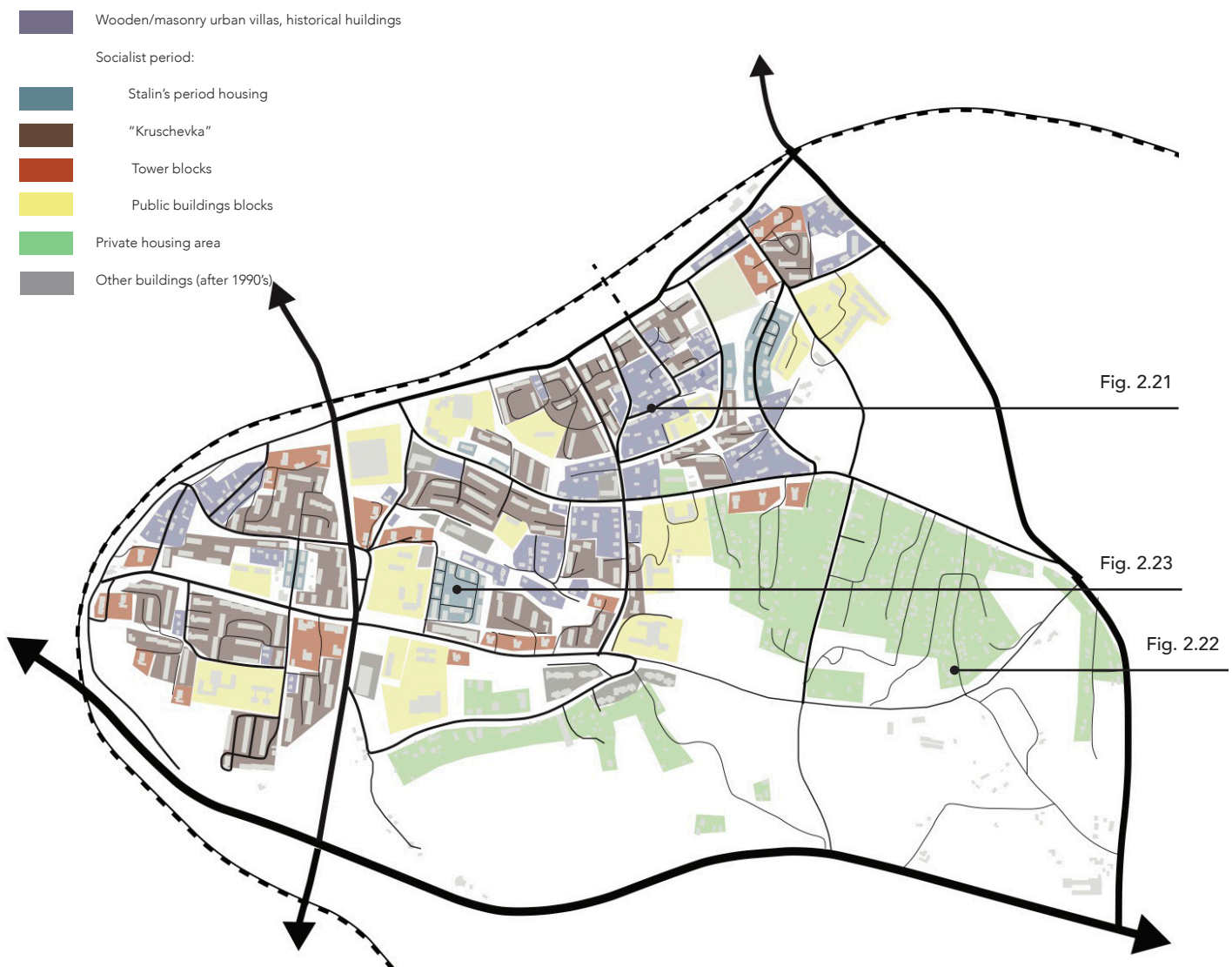


Fig. 2.19. Urban structure  
Source: Author's drawing



Fig. 2.20. View of Naujininkai from above  
Source: <http://pamirsta.lt/>



Fig. 2.21. Wooden villas  
Source: [googlemaps street view](https://www.google.com/maps)



Fig. 2.22. Private housing area  
Source: <https://www.aruodas.lt>



Fig. 2.23. Stalin's period housing  
Source: Author's image



Fig. 2.24. "Krushevka's"  
Source: <http://pamirsta.lt/>



# Natural assets and landscape

The territory of Naujininkai has a very diverse terrain. There are many hills and down valleys. On higher parts, there are panoramic views of the old town of Vilnius or the other parts of the district. In Southern part, which is not urbanized area, hills of Naujininkai are located. Eastern part of Naujininkai is a very green area. The Western part, according to the comprehensive plan of Vilnius has a shortage of local green areas.



Fig. 2.25. Panoramic view  
Source: <http://vilnius21.lt/>



Fig. 2.26. Cemetery hill  
Source: googlemaps street view



Fig. 2.26

Fig. 2.25

Fig. 2.27 Natural assets and terrain  
Source: Authors drawing. Information source: comprehensive plan of Vilnius and <http://www.kpd.lt/>



## Historical background

The development of Naujininkai has started in XIX century when two traders, old believers (Old Ritualists (Russian- starovyery) separated after 1666 from the official Russian Orthodox Church ) bought a plot of land and built a wooden chapel there. Part of Naujininkai was used as a cemetery, where people of different religions and nationalities were buried there.

Since the second half of XIX century, some industries/factories appeared. And because of the chimneys built of the factories, Naujininkai was started to be called - Chimneys (Lithuanian - Kaminai) or New World (Lithuanian - Naujasis pasaulis).

When the railway in Vilnius was built, Naujininkai started to develop as an industrial suburb. The industries were related to the railway, more warehouses were built and behind the railway, the residential areas for the workers emerged. (Caplinskas, 2000).

Development of Naujininkai before socialist houses massive constructions.

Naujininkai started to grow along the two roads - which were the exit of the city (see a map of the year 1859). The development continued on the same axes, and additionally, the district grew in the area along the railway (map of the year 1889). In the end of the XIX century, two Orthodox churches were built. In 1940 the Western part of the district was developed. The urban structure of the territory was perimeteric - wooden/masonry urban villas and other building were located along the main streets (maps of the years 1940 and 1944). In 1940, Lithuania was occupied by the Soviet Union. In 1945 constructions of socialist housing estates in Naujininkai started. The Western part of Naujininkai was almost fully destroyed and newly (re) built on micro-rayon principles.

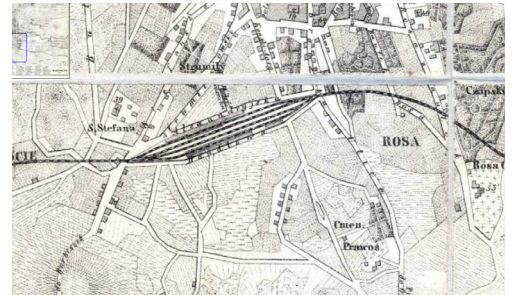


Fig. 2.28. Map of the year 1859

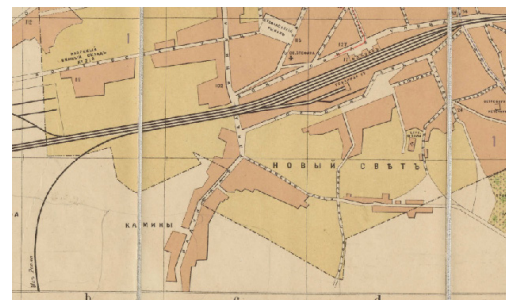


Fig. 2.29. A fragment of the Map of Vilnius of the year 1889.



Fig. 2.30. A fragment of the Map of Vilnius of the year 1889

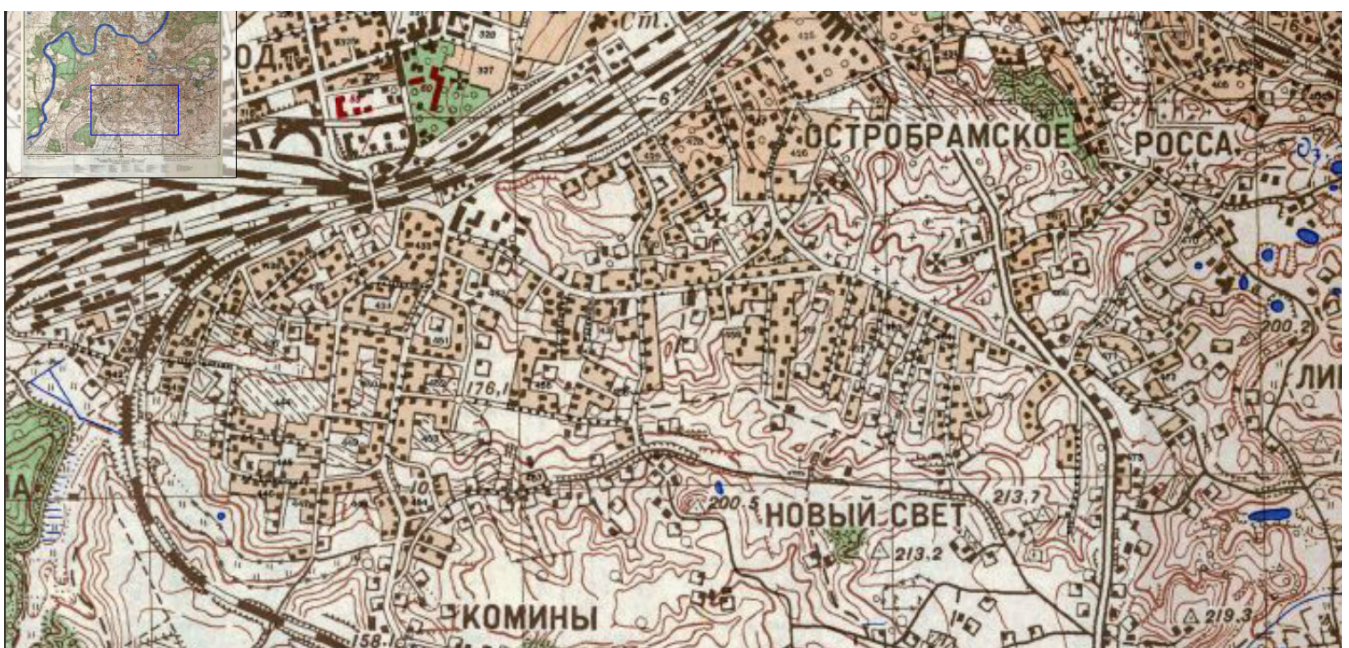


Fig. 2.31., A fragment of the Map of Vilnius of the year 1994  
Source: <http://www.maps4u.lt/>



# Heritage

Today, since the XIX century Old Believers cemetery, wooden/masonry urban villas, two Orthodox churches, few historical roads with authentic stone pavement are left. Three objects in the district are written in a national cultural heritage list and are protected objects - the XIX century eye hospital, wooden villa and a wayside shrine. Although these objects are protected, they are in a poor physical condition. There are two important historical roads in the district which were the exit roads from the city.

**Historical street structure, perimetric built-up type**  
 After the construction of the socialist housing estates, the original street structure was destroyed. Few main roads were left, but the inner street network was changed. Part of the district was destroyed and rebuilt with Soviet housing blocks. There is still XIX century wooden and masonry villas left. Some of the streets remain the XIX century perimetric built-up type, but there are only fragments of this morphology left.

- 1 Cultural heritage from the national heritage list:
  - 1. Wayside shrine 19th century
  - 2. Residential house 19th century
  - 3. Eye hospital 19th century
- Orthodox church 19th century
- ← Historical city roads
- Historical roads 1859-1898
- Wooden villas 1900-1915
- Wooden villas 1930-1940
- Masonry buildings 1940-1948
- Stalin's period 2-3 storey housing 1951-1958

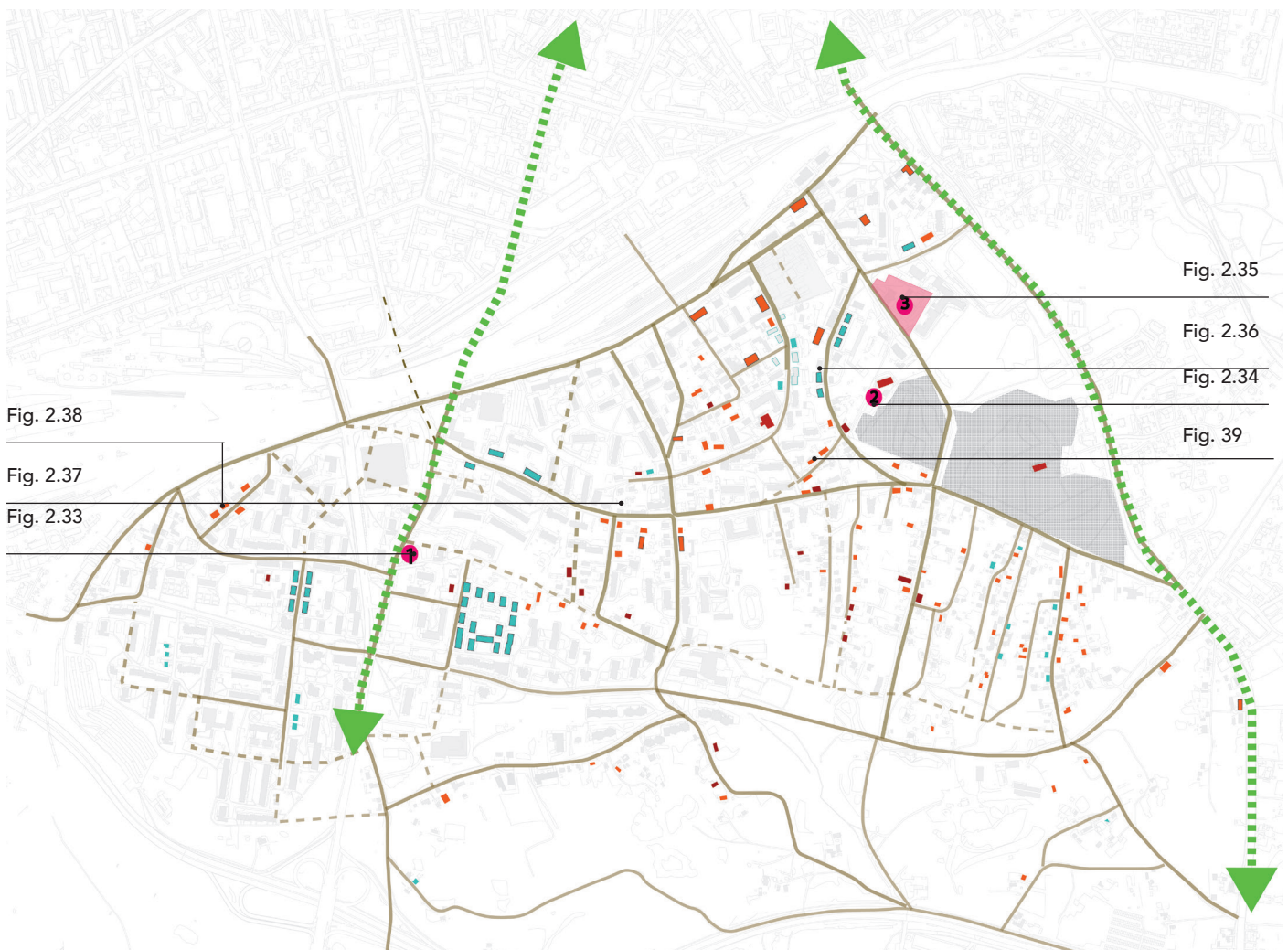


Fig. 2.32. Heritage values

Source: Authors drawing. Information source: <http://www.kpd.lt/> and <http://kurgvenu.lt/>

## Cultural heritage from the national heritage list

Source: [www.kpd.lt](http://www.kpd.lt)



Fig. 2.33 Wayside shrine  
Source: Author's image



Fig. 2.34 Residential house  
Source: <http://www.kpd.lt/>



Fig. 2.35 Eye hospital  
Source: <http://www.kpd.lt/>

## Fragments of the XIX century built-up type of the streets



Figure 2.36 Stalin's period housing buildings  
Source: [googlemaps](https://www.google.com/maps) street view



Figure 2.37. 19th century masonry and wooden urban villas  
Source: [googlemaps](https://www.google.com/maps) street view



Figure 2.38 19th century wooden villas  
Source: [googlemaps](https://www.google.com/maps) street view



Figure 2.39. 19th century wooden villas  
Source: [googlemaps](https://www.google.com/maps) street view



## Wooden villas and their condition

In Vilnius, there are still some historical suburbs, where wooden villas of the XIX century is a dominant type of a district (Bakaite, 2011).

Naujininkai is one of the biggest districts of Vilnius where wooden architecture make up more than 75% of the buildings (Rymkeviciute, 2008).

In Soviet times there was lack of interest and funds for preserving those wooden villas, thus they were abandoned and were left the same as they were built in XIX century. Also today, because of development patterns to build outside the city and lack of the investments for renovations, the wooden villas remain not changed and usually are in the very poor conditions (Balkaite, 2011).

In the second half of the XIX century, when most of the people got an apartment in newly built socialist housing estates, wooden villas lost their owners. Because they did not have basic amenities, wooden villas became the cheapest accommodation and home for the poorest social groups. These factors formed the negative image of wooden houses - they are outdated, uncomfortable and not suitable for living. Thus, until now, there live people with low income who can not take care of the building and its renovation (Surgails, 2006). A big part of the wooden houses built before the independence do not have the water supply or sewage infrastructure and usually are heated by coal.

However, zones built up with wooden villas built in XIX century are very specific, valuable and important parts of the city. Those historical structures are a very

important component of the city's historical interpretations. Unfortunately, in the historical suburbs, the value of the wooden architecture is not evaluated properly. (Rymkeviciute, 2008).

The 2007-2015 comprehensive plan of Vilnius suggests densification of low-density village fabric in the central areas. It is suggested to replace it with dense city blocks similar to those found in historical parts of the city.

Although it is necessary to densify the central areas in order to prevent the sprawl it is also important to preserve the history of the district and to maintain some fragments of existing low-density wooden villas in order to create a more diverse environment and to keep the variety of different urban fabrics.



Fig. 2.40. Wooden villa  
Source: Author's image



Fig. 2.41. Water supply for wooden villas  
Source: Author's image



Fig. 2.42. Wooden and masonry urban villas  
Source: Author's image



## Socialist housing estates - microrayon

Socialist period left definitely the strongest impact on the urban structure for the post-socialist city. Expanded residential areas around the city centre were the most significant spatial structure of the socialist construction. Residential areas, microrayons, were built by modernism planning principles (Buinevicius, 2011). In the case of Vilnius - seven microdistricts surround the city centre and accommodate the major part of the population of the city.

Since 1958, an officially approved unit of Soviet city organization has been called the microrayon. It is a residential neighborhood, covering 10-60 ha area. A microrayon for 9,000–12,000 inhabitants consisted of prefabricated housing blocks surrounded by roads and public transport system and composed around a micro centre: low rise prefabricated buildings of a school, the couple of kindergartens, playgrounds, a shopping and public service building, pedestrian area and lots of greenery. A group of microrayons forms larger residential microdistricts, of 10.000-30.000 inhabitants. (Maliuolyte, 2010)

As Soviet modernization was based on ready-made

examples, a similar method of appropriating a model of a modern satellite town.

The non-existence of property rights in the Soviet Union allowed planners to keep the hygienic standards quite high: buildings were located around wide yards with lots of greenery, good insulation, and good aeration. Microrayons were built in empty areas of the cities, where it was easy to copy and paste typologies. (Levandraityte, 2014)

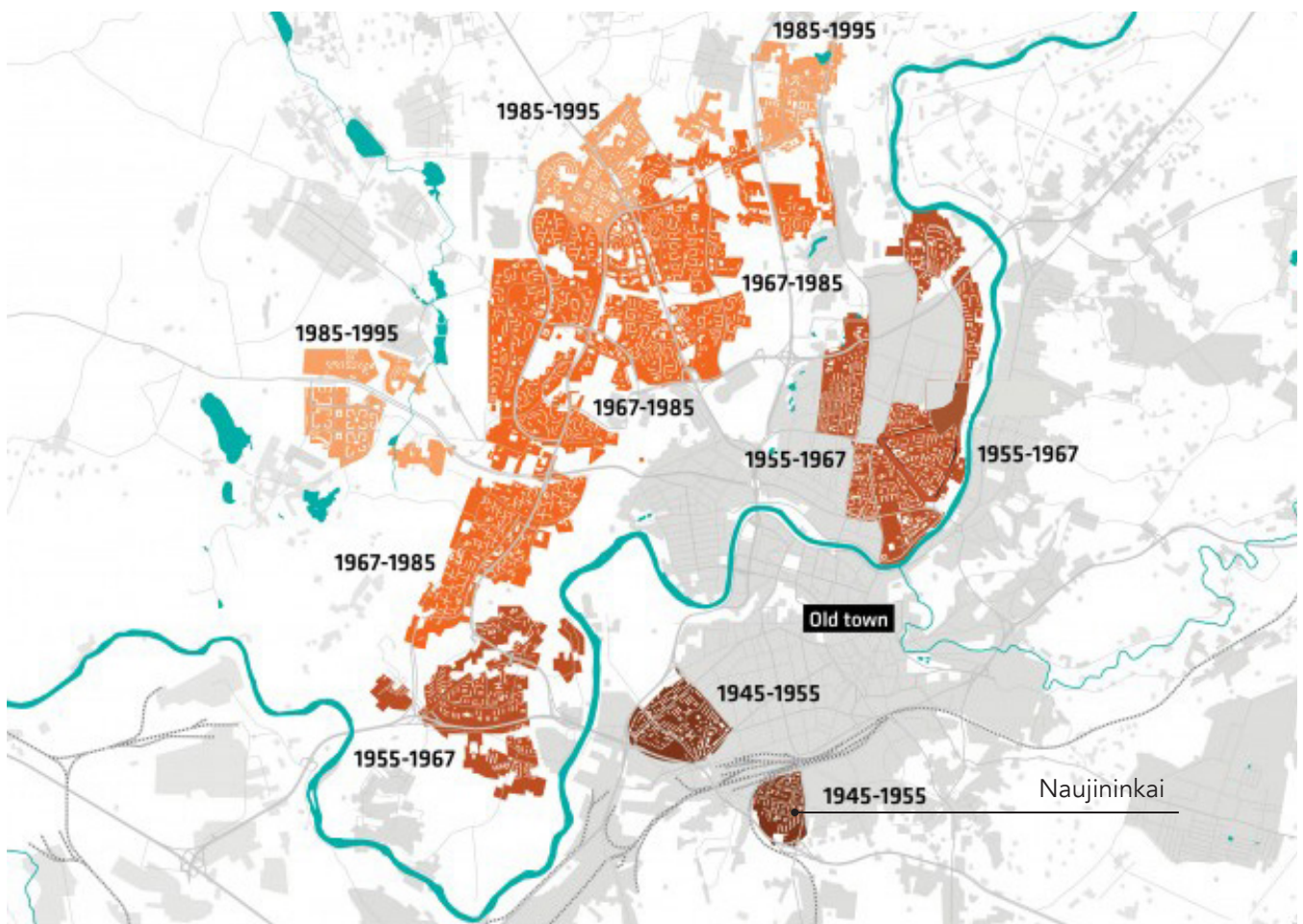


Fig. 2.43 Soviet microdistricts of Vilnius  
Source: <http://pu-pa.eu/> modified by author



## Naujininkai - a microrayon

The Western part of Naujininkai was built within the typical microrayon principles. But the difference is that it was built on the already existing neighbourhood with existing urban structure and network of the streets. Part of the Naujininkai was destroyed, especially the western one, mostly all part was newly rebuilt with principles of Microrayan. On the eastern part, some houses were left, and the perimeter street built-up structure remain. Because the whole district was considered as a microrayon and was built up with Soviet housing blocks, social amenities infrastructure were well developed. There are still sufficient amount of schools, childcare centres, clinic. The other positive thing left from the Soviet microrayon planning principles is public transport infrastructure. A district is well connected to the city centre and the other parts of the city.

## Microrayon today

Today, in the processes of suburbanization, socialist microrayon become most vulnerable areas, monofunctional sleeping districts, with a lack of jobs and cultural opportunities as well as decaying physical conditions, threats of stigmatization and social decline. (Buinevicius, 2011)

Big costs of buildings maintenance, not started complex revitalization program make neighbourhoods around the city centre unattractive to move in. This push young people to look for dwelling in outskirts and causes ageing of Soviet microrayon. (Kurpickaite, 2014) There is obvious residential segregation by age and income groups.

“Apartments are uncomfortable and expensive to maintain. The courtyards are occupied with cars. When those apartments were privatized, there was an essential mistake done - people privatized only an apartment but not a corridor or courtyard. Therefore nowadays the residents of those housing blocks are waiting when the municipality will do something for them, but they do not take any initiative. Generally, in the city, everything goes chaotic.” - The resident of socialist housing estates: (Vidmantas 2016)

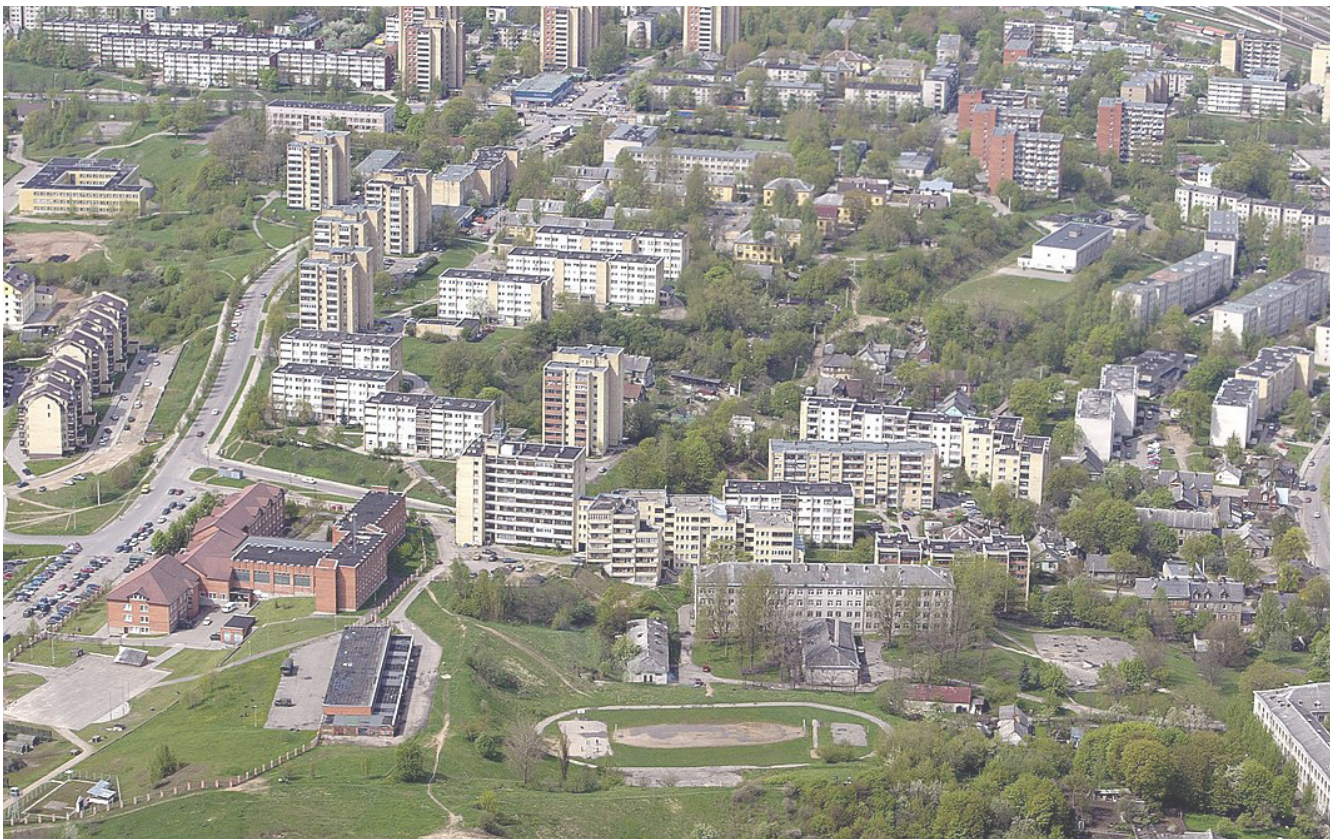


Fig. 44. Socialist housing estates in Naujininkai  
Source:<http://www.miestai.net/>

### Privatization

After the fall of the Soviet Union, privatization processes started, which included selling a large part of the rental stock to the residents, often at very low prices (Dekker, van Kempen, 2004).

Privatization of Soviet housing has led to a disappearance of the public spaces. Everyone defines their own living space in which neither the walls nor exterior of the building belongs to the owner of the apartment. Residents of the building cannot modify facades, change or remove the walls. Public space in a micro-rayon is usually used for car parking and is not well maintained. People do not use public spaces for leisure activities and communication. At the same time, the landscape of the neighbourhoods disappears. In addition, neighbours living in Soviet-era housing estates do not communicate, because they do not know each other. Those neighbourhoods are characterized by poor social resources. (Marozas, 2016)

### Property ownership

The house building and 5 meters around it belong to all residents of the house. The land of the courtyard between the house buildings belongs to the municipality. The municipality has to take care of the car parking or the maintenance of the courtyard. If residents of the building want to take care of the public land or build something there, this is a long and difficult procedure to get a permission (Simkute, 2016).

### Public and common spaces

Socialist housing estates have a feature of separation of functions and a lot of green spaces in between the house buildings. On one side there is a lot of space for the leisure activities, on the other, those areas are usually unmaintained and in a poor condition. Also today, those green public spaces are occupied by cars, because at the time when the estates were built only a few apartments had a car and there was very little space left for car parking. Now for one apartment belong even two cars. (Dekker, van Kempen, 2004).

### Conditions of the buildings

In the map "physical conditions of the building" it is shown that the most of the buildings built in the socialist period are in bad condition in the sense of energy efficiency. Mainly all of the buildings are in a need of renovation, few are renovated already. Stalinist era housing buildings in the area are considered having a very bad class of consumption of the actual heat, Khrushchev's era housing (which is ~70% of the buildings in Naujininkai) is considered having a bad class of consumption of the actual heat. There are four housing buildings which are renovated and four in the process of renovation.



Fig. 2.45. A Courtyard of Socialist housing estates in Naujininkai  
Source: Author's image



Fig. 2.46. Socialist housing estates in Naujininkai  
Source: Author's image





Fig. 2.47. Courtyard in one of the neighbourhoods in Naujininkai  
Source: Author's image



Fig. 2.48. A playground in Naujininkai neighbourhood  
Source: Googlemaps street view



Figure 2.49. The energy efficiency of the housing buildings built in the soviet period  
Source: Authors's drawing. Data source: interactive map of Vilnius

# Threats of social segregation

Social differentiation of the population in Vilnius takes place, and it may eventually become problematic. There is a possibility that large-scale housing estates of the Soviet period will become large areas populated by socially vulnerable groups. (Krupickaite, 2014) According to the head architect of city of Vilnius, Mindaugas Pakalnis, socialist housing estates has a threat of becoming ghettos: "If there will not be significant interventions in the near future, we will have the same situation as the French had around Paris, where ghettos were formed, and, in the end, cars started burning..."

To analyze socio-spatial differentiation in Vilnius, In July 2007 a household survey was carried out. In large-scale housing estates built in the 70s, the fastest social degradation is expected. The typical Soviet districts had the very low mobility since 1991. At the present, there is still a mixed social population structure, but increasingly residents with low income are moving in, and young people with higher income are moving out. And it causes the ageing population in the estates. (Krupickaite, 2014)

In the district of Naujininkai, as in the other Soviet-era districts, the population is ageing, the average age - 50 years old. The youngest population (34-40 years old) stays in the Southern part of the district, where the constructions after the independence of single-family houses and apartments started. Also, in this part, live the higher income having population. In the other parts of the district live the population with



Fig. 2.50 Locals of Naujininkai  
Source: <http://lietuvosdiena.lrytas.lt/>



Fig. 2.51. Locals of Naujininkai  
Source: <http://lietuvosdiena.lrytas.lt/>

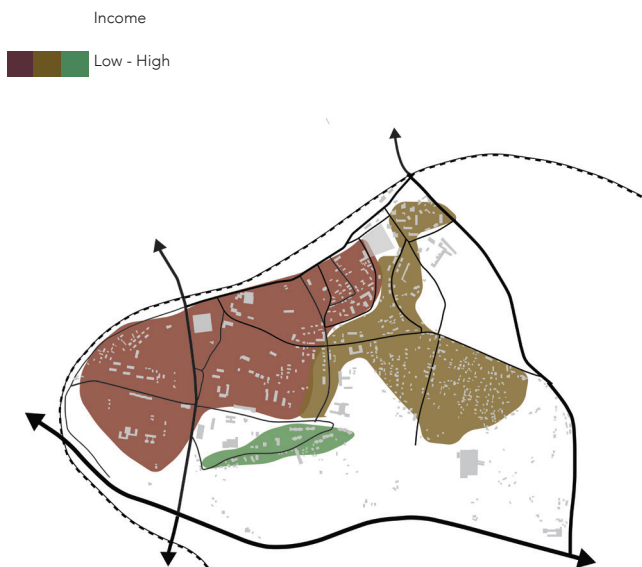


Fig. 2.52. Population distribution by income  
Source: Author's drawing



Fig. 2.53 .Population distribution by age  
Source: Author's drawing



## Negative image of the district

Naujininkai could be assigned to the bad reputation district. It could be related to the fact that in the Soviet times the dominant social groups were workers of the surrounding industries with low income. Therefore cheap housing estates, to accommodate workers were built. (Caplinskas A., 2000). Also, ethnic diversity (Russians and Polish) and frightening appearance of locals for new arrivals is still an existing problem.

Furthermore, there is a stereotype of the residents of Vilnius that Naujininkai is not a safe place to live, because of crime and fights were happening here after the independence.

But in the reports of police, Naujininkai does not enter to the list of the most dangerous areas of the city, and most of the city. Residents of Naujininkai say that locals here are not malignant, but they are tended to drink an alcohol.

The biggest crime concentration is on the other side of the Railway - Station area, around the train and bus stations.

Also, the dark parts of the apartment blocks and the streets without proper lightening are convenient places for the crime.

The housing estates which were planned in Soviet times are unsafe, the system of wide open spaces, open courtyards is conducive for thieves. They can easily pull the mirror from the car and no one sees it. (Pakalnis M., 2016)

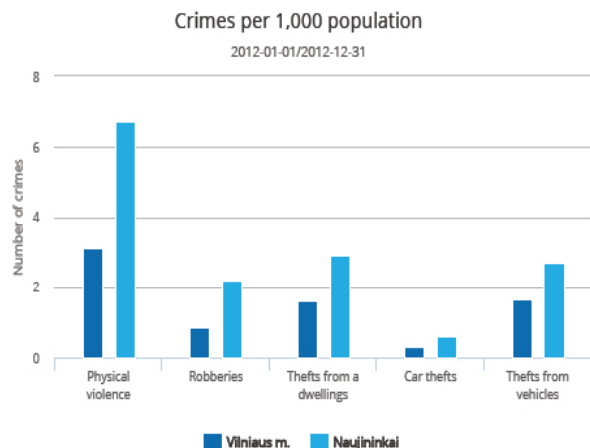


Fig. 2.54. Crime statistics of Naujininkai  
Source:<http://kurgyvenu.lt/>

There are jokes made in the social media among the residents of Vilnius about Naujininkai such as: "I don't want to cry, but I am from Naujininkai" or "Naujininkai. If you don't have it - it will not be stolen"



Fig. 2.55. Naujininkai. If you don't have it - it will not be stolen  
Source:<http://demotyvacijos.tv3.lt/>

## Services and social amenities

In Naujininkai, social infrastructure is well developed. There is maternity hospital, clinic, Lithuanian, Russian, Polish, Jewish schools, and kindergartens. In the district, there is a newly built soccer stadium and more stadiums next to the schools.

In the east, there is Old Believers cemetery, Karaites, and Tatar cemetery. Two Orthodox churches.

Close to the church is children socialization centre which is called "the girl's jail". In the Northern part, enhanced regime penitentiary workhouse and in the southern part of Naujininkai, motorized Infantry Brigade is located.

Along the "Darius and Girenas" street (the street which connects Vilnius city airport and the city centre), there are some commercial buildings, supermarkets. In the middle part of the district, a health and sports centre with tennis courts is renovated. On the cross-road of "Darius and Girenas" street and the railway, there is a huge former taxi park, which is sold and will be reconstructed into a new commercial and office building.

In the southern part, which is built-up only with single-family houses there are two small hotels.



Fig. 2.56. Age  
Source: <http://tenisonamai.lt/>

- Schools
- Childcare centers
- Commercial
- Health care
- Leisure and sport center
- Stadiums, sports



Fig. 2.57. Age  
Source: Author's drawing

# Public transport infrastructure

In Naujininkai, the public transport infrastructure is well developed. There is a good connection with the city. The city bus runs through the district and connects it with the city centre and other parts of the city. A BRT bus goes through a "Darius and Girenas" street - connects the city airport and the city centre.

Very close to the district is a train and bus stations. The train station is very easily accessible from the district, through a pedestrian bridge which goes above the platforms of the railway.

Bicycle paths structure. There is only one part of a bicycle path, which is on the flyover of the railway, but it does not connect the district with the other side of the railway. It is designed to construct a bicycle path along the "Darius and Girenas" street.

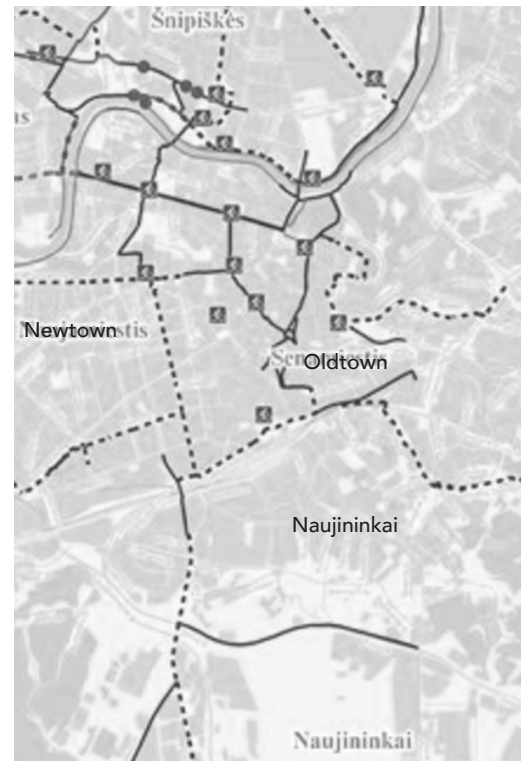


Fig. 2.58. Bicycle paths scheme  
Source: <http://www.vilnius.lt/>

Public transport	Bicycle paths
BRT line and stops	Existing path
City transport line and stops	Projected paths
<b>N4</b> Free bus	

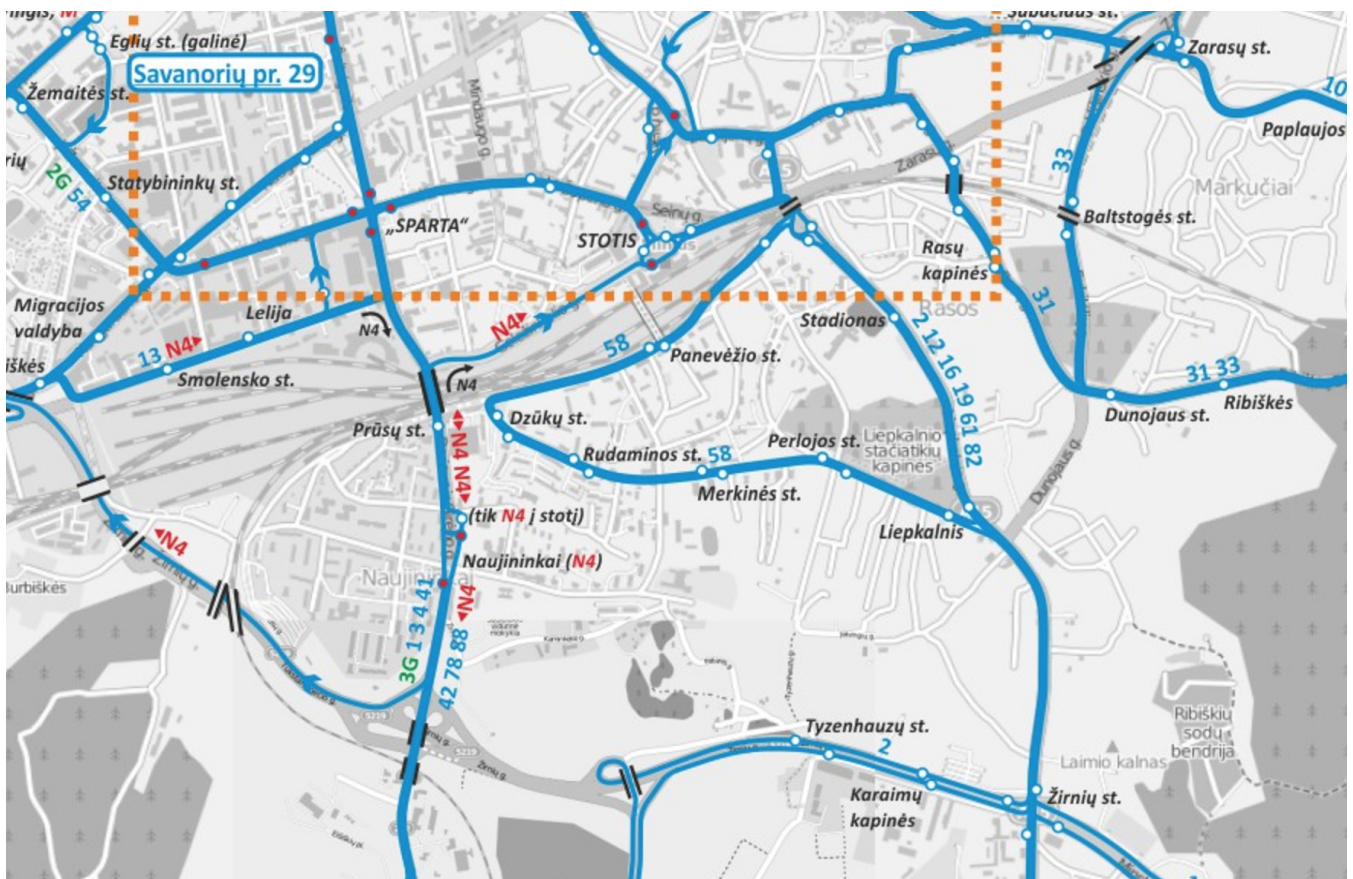


Fig. 2.59. Public transport scheme  
Source: <http://tinklarastis.nvta.lt/>



# Public spaces and barriers

## Railway

The railway separates the district from the old town. It plays a physical and visual barrier role. To cross the barrier for pedestrians is not very convenient as there is one pedestrian bridge which ends up in a dark and unpleasant place on the other side of the railway. Also the western entrance to the district - "Darius and Girenas street," is more oriented for cars, pedestrians have to walk next to the wide and intensive traffic road.

## Darius and Girenas street

Darius and Girenas street is an intensive traffic road which connects city airport and the city centre of Vilnius. It plays a representative role for the whole city. At the same time, it works as a barrier in the district between Western and Eastern parts. The road is wide, lack of programs and difficult to cross for pedestrians. In addition, it is considered as unsafe place of the district due to the possible crimes

## Public spaces at the entrances of the district

Poorly maintained public spaces at the entrances of the district are not attractive and inviting places. There is a lack of program, urban furniture, maintenance.

## Public spaces on the Darius and Girenas street

The most intensively used public spaces are in the middle part of "Darius and Girenas" street on the crossroad. The biggest flows of people are on the "spot" where the public transport stops are. However, space is poorly maintained, and lack of program. The other public space with big flows - is the space around the supermarkets, which is basically used for car parking.

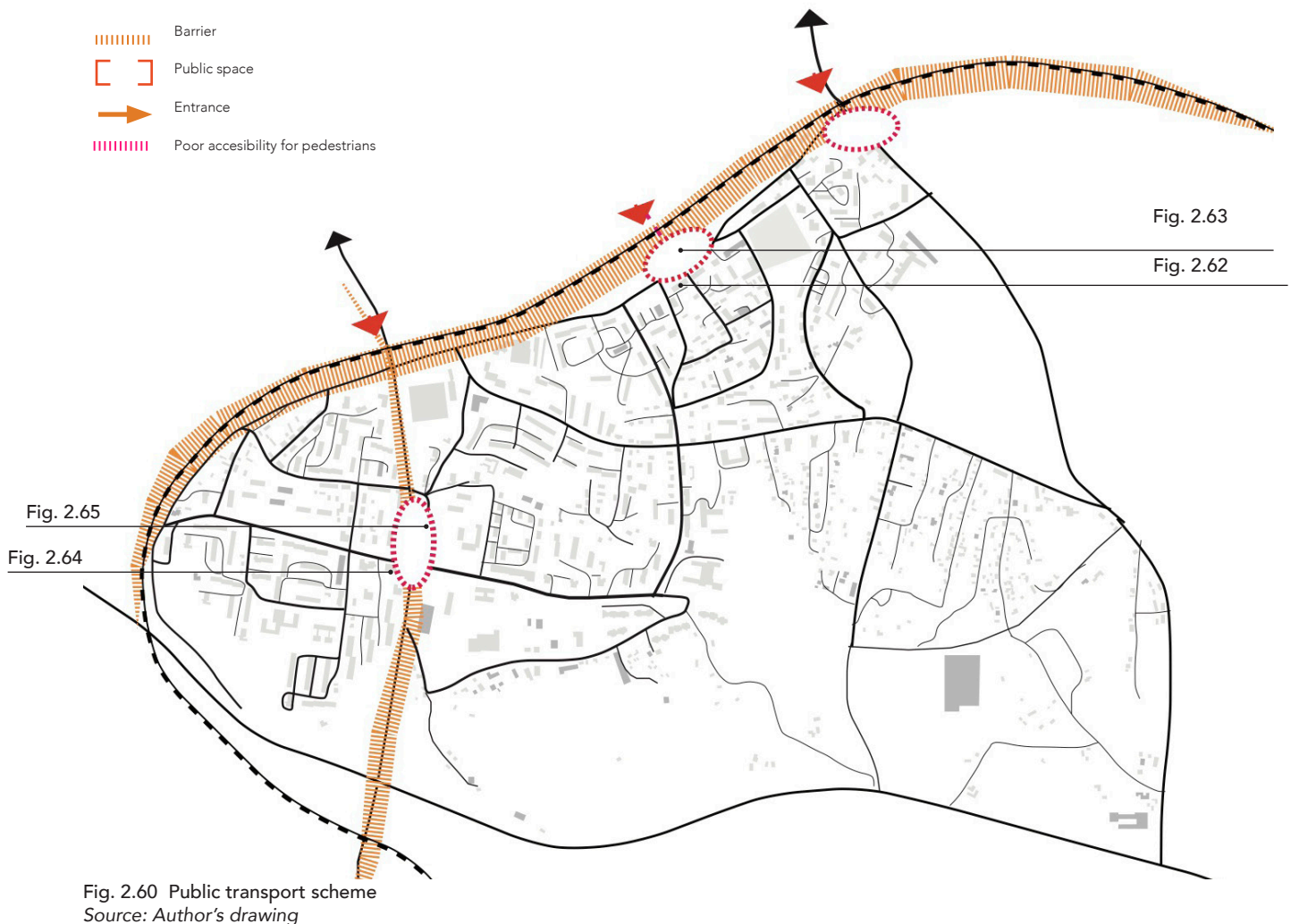




Fig. 2.62. The "entrance" from the pedestrian bridge  
Source: Author's image



Fig. 2.63. The "entrance" from the pedestrian bridge  
Source: Googlemaps street view



Fig. 2.64. The public space at the node of the supermarkets  
Source: Author's image



Fig. 2.65. Public space at the bus stops node  
Source: Author's image



Fig. 2.66. "Darius and Girenas" street  
Source: <https://kur.lt>





Fig. 2.67. A pedestrian bridge  
Source: <http://1.bp.blogspot.com/>



Fig. 2.68 A flyover on the railway - "Darius and Girenas" street  
Source: <http://pamirsta.lt/>





## Development of Naujininkai 1990-2016

After the fall of the Soviet Union, changes in the urban development of Naujininkai were very insignificant and slight. Mainly new constructions were of single private housing in the southern part of the district, where the low-density private housing area is. Unfortunately, it is happening rather chaotic. The private houses pop up in the middle of nowhere with very poor road infrastructure.

Only a few new apartment buildings and cottages were built in the period from the 1990s.

Non-residential developments almost did not happen. Few small hotels were built in the southern - private housing area of the district. Bigger commercial developments are along "Darius and Girenas street" - supermarkets, in the future will appear office/commercial building instead of the former taxi park.

### Real estate

The prices of the apartments in Naujininkai are very low due to the bad reputation of the area.

According to a real estate agent, G. Galeckas, to attract people from outside of Naujininkai is possible only with the really low prices: „If one would ask the opinion of the locals about Naujininkai, they will name many advantages about living there. In Naujininkai accommodation prices are approximately 15-20% lower than in the others microdistricts of Vilnius. The new housing development projects mainly are for the residents of Naujininkai, who want to better their living conditions with a newer accommodation. In many districts, the buyers of half of the new housing developments are the ones who live in that area. And in isolated districts like Naujininkai, the percentage is even bigger.“ (Vnarasukiene - Lukaityte, 2013).



Fig. 2.69. New developments and renovation  
Source: Author's drawing



Fig. 2.70 Private housing area  
Source: Author's image



Fig.2.71. Private housing area  
Source: <https://www.aruodas.lt/>



Fig. 2.72. A hotel in the southern part  
Source: <https://en.directrooms.com>



Fig. 2.73. A cottage in a middle part  
Source: Author's image



Fig. 2.74. Residential building  
Source: Author's image



Fig. 2.75 Supermarket  
Source: <http://www.alfa.lt/>



# Renovation of the buildings

Municipality encourages renovations by offering subsidies for people with low income, but clearly, this is not enough as lots of people fall into the category of low income and it seems too expensive. Mostly renovation is happening in Khrushchev's period housing buildings. Some of Stalin's period or the buildings before Soviets.

## Renovation program

JESSICA (Joint European Support for Sustainable Investment in City Areas)

In a meeting with a housing community, the majority of house owners, what is 50 + 1% decides on the renovation of the house. If the decision is positive, the community has to prepare a renovation project. Funds for renovation come from three sources. The European Union's structural funds, state funds, and house owners funds. State and EU support make 40 percent of the project cost. Residents have to pay 60 percent of the amount.

## Renovation by private investors

The other way of renovation is involving a private sector into the renovation process. For example, a private investor buys the top floor of the building from the community of the house for a very low price, but in exchange, he renovates the whole building. On the top floor a developer extends the building for the new apartments construction (fig. 2.87, 2.80).

## What stops housing renovation process:

A recent study of one of the microrayons in Vilnius concluded several main obstacles that stop the renovation process:

1) Ownership: 97% of apartments in microrayons are owned by residents, while there are no regulations encouraging residents to solve renovation and public space problems collectively. 2) Passive participation in renovation programs: Residents are sceptical about renovation projects as they do not see the long-term value it might bring: renovated building means lower heating cost, better living quality and a rise of estate value. Senior citizens are especially uncooperative as living cost is already very high and pensions are very low (Marozas, 2016).



Fig. 2.76. Renovated "Khrushchevka"  
Source: Author's image



Fig. 2.77. Renovated towerblock  
Source: Author's image



Fig. 2.78. Renovated "Khrushchevka" but adding top floor  
Source: <https://www.aruodas.lt/>



Fig. 2.79. Renovated Stalin's period house  
Source: Author's image



Fig. 2.80. Renovated 1860 - 1914 year house by adding top floor  
Source: <https://en.aruodas.lt/>



Fig. 2.81. Renovated childcare center building into a residential house by private investors  
Source: <https://www.aruodas.lt/>

## Conclusions

Naujininkai has a great potential for (re)development because of its location. It is very close to the old town and the city centre. A location is very strategic due to the representative road - "Darius and Girenas" street, which connects the city airport and a railway. Also, the area is very attractive due to its natural assets and greenery. However, because the district has a negative image and due to the deteriorating building conditions, people do not want to move in. Thus, the population is ageing, and there is a threat of social segregation.

Younger people with higher income mainly move in the area of private housing. Unfortunately, the developments are happening rather chaotically not taking into account the surrounded environment.

To improve the area and to change the negative image of the district - the redevelopment plan of "Darius and Girenas street" should be made. It is needed to solve the barrier issue in a district and to make it a representative road - "city gates." Adding more functions to the street would improve safety and would make it more livable and attractive.

To make a district more "close" to the city, the accessibility with the other side of the railway has to be improved. Additional connection for pedestrians to the district is needed.

Entrances are the first impression of the area. Because the city funds are limited to improving the public spaces, there should be found solutions how to involve the private sector into the upgrading process.

The upgrading of the residential housing blocks is needed. Buildings renovation and the common spaces improvement are relevant for creating sustainable communities.

A spatial vision for Naujininkai district is needed to avoid the random, chaotic, nonintegral developments. Vision should ensure integration to the area and also should create possibilities for win-win solutions.

A more detail plan is needed for more local - neighbourhood scale.



## Strengths

- Location
- Heritage values
- Natural assets
- Services, social amenities
- Public transport infrastructure
- A representative road - "Darius and Girenas" street
- Renovation and new developments
- EU funding program for integrated territory renovation

-  Darius and Girenas street - "city gates"
-  Valuable historical urban structure
-  Public services (schools, clinic)
-  19th century churches
-  Soccer stadium
-  Sport and health center
-  Reconstruction of former taxi park to multifunctional public/commercial building
-  Young and with high income population
-  Green and forest areas



Fig. 2.82. New developments and renovation  
Source: Author's drawing

## Weaknesses

### Scale on Naujininkai district

Barriers  
Accessibility for pedestrians  
Street and road network (hard orientation in the district, unmaintained)  
Public spaces - undefined, no program, unmaintained  
Lack of security (due to inefficient street lightning and unmaintained, open spaces)  
Negative reputation

### Scale of every block

No space for communication and entertainment  
Lack of secure yards and playgrounds  
Lack of security (due to poor lightening of street and yards and wide open spaces)  
Low density  
Street structure (dead end of the streets, hard orientation)  
Old wooden villas not connected to city infrastructure and are in very bad physical conditions

### Socialist housing estates

Property ownership issues  
Housing physical conditions  
Undefined green spaces  
Lack of private, semi-private spaces

### Private housing area

Chaotic spatial development  
Poor connection to the district  
Car-based development

Non-spatial – population of poor status, ageing, unemployment, low education achievement, addictions, depopulation

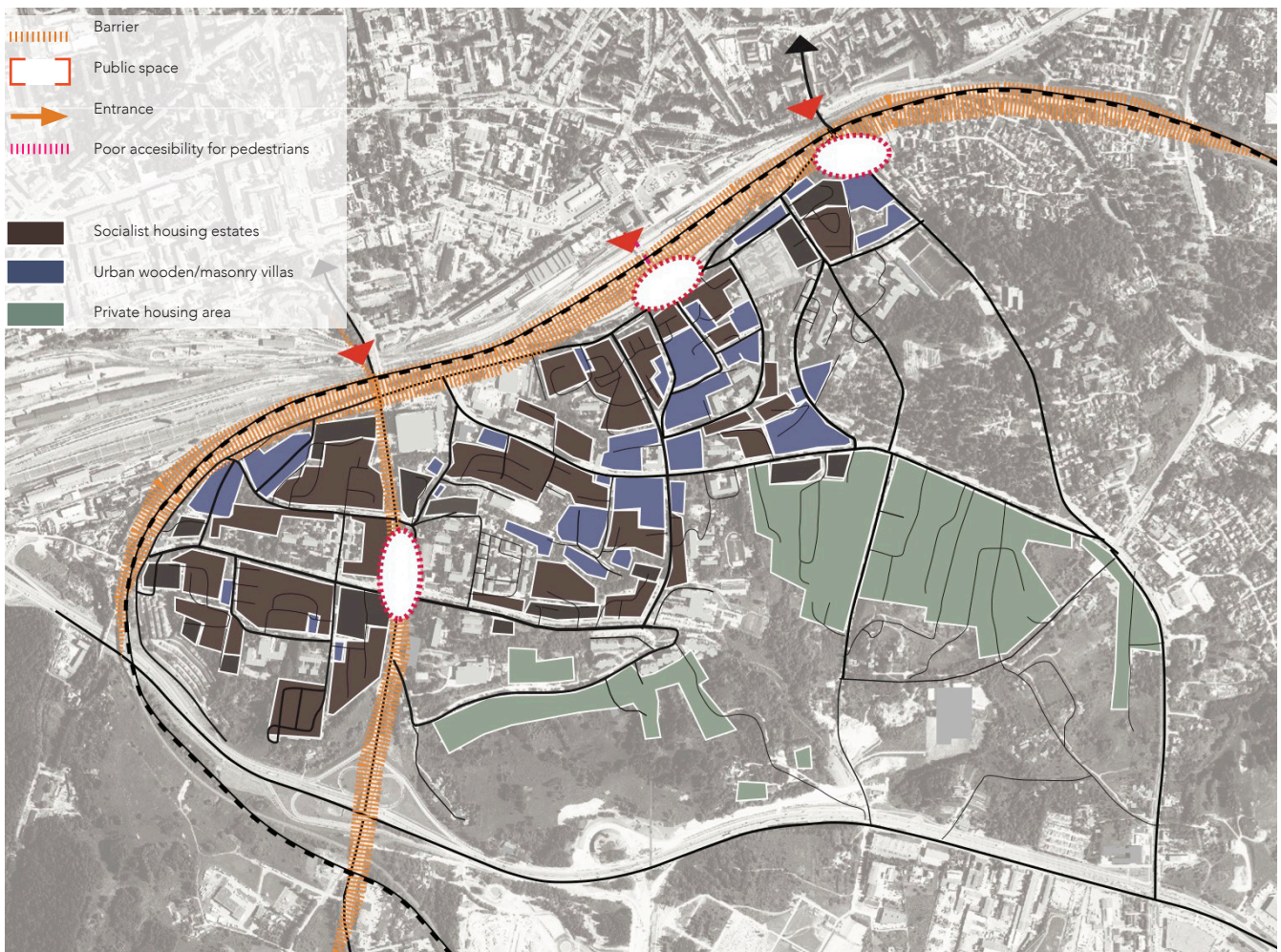


Fig. 2.83. New developments and renovation  
Source: Author's drawing





Fig. 2.84. "Krushchevka's of Naujininkai  
Source: <http://pamirsta.lt/>

## II.II. SPATIAL PLANNING SYSTEM OF LITHUANIA

### The law on territorial planning

The first law on territorial planning was adopted before the World War II, but when Lithuania was occupied by the Soviet Union - Soviet planning system was applied. In 1995, independent Lithuania approved the law on territorial planning. And after it was changed twice - in 2004 and in 2014 (COMMIN).

"It has been identified that the second edition of the LTP (Law of Territorial Planning) had major flaws that had to be fixed. To begin with, there was no

coherence within the planning systems. It was highly complicated and its implementation was more a list bureaucratic procedures than a consistent process ensuring the quality of planning and development of the country." (Simkute, 2016).

Until 2014 there were three types of the plans: comprehensive, special and detail, after 2014 changes, only comprehensive and special are left.

#### Planning documents

##### **Comprehensive and special plans.**

Comprehensive territorial planning documents are state and municipal level master plans or detailed plans. Special territorial planning documents are land management plans, rural development land management projects; forest management schemes; planning documents for protected natural areas; documents for immovable cultural heritage protection; engineering

infrastructure development and plans for the use of underground resources (Bardauskiene, 2014). Due to the Law on Territorial planning of Lithuania, there is state, municipal and local area planning levels at sufficient scales:

	<b>Comprehensive</b>	<b>Special</b>
<b>Levels</b>	<ul style="list-style-type: none"> <li>- state master plans – (scale M 1:100 000 –1:400 000)</li> <li>- municipal master plans – (scale M 1:20 000 – M 1:50000)</li> <li>- local area master plans (scale M 1:2000–M 1:10 000),</li> <li>    detailed plans (scale M 1:500–M 1:1000)</li> </ul>	<ul style="list-style-type: none"> <li>special plans (scale M 1:500–M 1:10000).</li> </ul>

Source: Author's image. Information source: ISOCARP, IMPP, 2015



**The Master Plan** "is a complex spatial planning document which, according to the territorial level and planning programme tasks, is determining three-dimensional structure, land use regulations and mandatory requirements and the principles of protection in the targeted area. The Detailed plan is an integrated spatial planning document for an urban or an urbanised area, which sets out land use regulation. The main objects of the detailed plans are: - existing or newly planned cities and their parts, their neighbourhoods - existing or newly planned densely built-up areas of villages and their neighbourhoods." (Bardauskiene, 2014).

All **detailed plans** must set 8 regulations:

- type of land use, corresponding to the master plan of the local area ( if they exist), or concrete land uses or types
- limit of height of buildings
- the permissible density of the planned area
- allowable land or built up land intensity, construction volume density (in industrial and storage facilities and/or engineering infrastructure areas)
- building types, corresponding to the local area master plan, if it is prepared, construction zone, boundaries and limit lines
- areas necessary for engineering and social infrastructure and/or corridor boundaries of engineering networks
- possible boundaries of parcels and ( or) parcels of land formation and re-formation principles(minimum and ( or) maximum possible land parcel sizes) ;
- designated areas for greenery and a percentage of overall greenery in planed areas. It is important to mention that the permission for construction is foreseen in the Construction law, but the constructions must not contradict existing territorial planning documents." (Bardauskiene, 2014).

Source: ISOCARP, IMPP, 2015

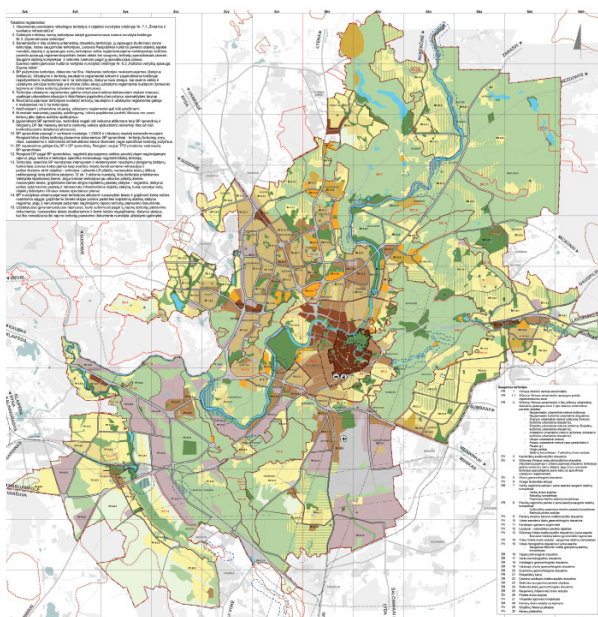


Fig. 2.85. New developments and renovation  
Source: Comprehensive plan of Vilnius, 2007-2015

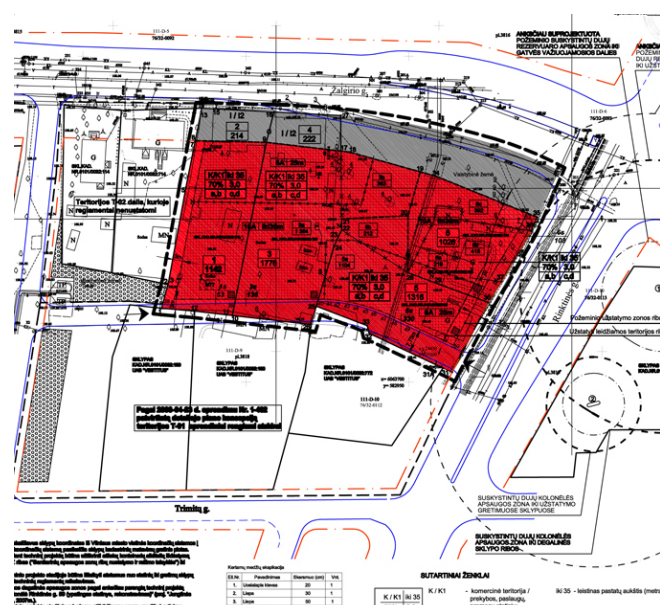


Fig. 2.86. New developments and renovation  
Source: <http://www.atelier.lt/>

### **A detail plan until 2014**

Until 2014 The detailed plan was a separate planning type.

Size of planned territory: Plot.

Scale: 1:500

“Detailed territorial planning - planning of parts of the municipality territory for determining the limits of a land plot as well as for establishing, changing or abolishing the conditions for using a land plot and developing an activity in it.” (Simkute, 2016)

Detailed plans were developing very fast, the Government was unable to fund them all. That is why financing and organization of preparation of detailed plans were practically the matter of private business (here, municipalities’ powers are limited; they only issue conditions, co-ordinate and approve projects).

Owners of the parcels have the right to be organizers of planning – they can plan their parcels – not taking into account interest of the city. There is no one who looks after the whole city. Everyone is interested only in its own parcel (Vysniunas. 2015).

Common practice is to alter land use according to the private interests which open possibilities for real estate speculations and manipulations. One of the most important lack in territorial planning system is the intermediate link from master to detail plan.

“The role of regulating the activities is performed by the detailed and some special plans fairly well – their solutions are (mostly) clear and concrete. It is not hard to carry out them.” (COMMIN).

The objectives of many detailed plans are sometimes pragmatic - “to change the limits of plots and their territory, establishing the regulations for construction.” (COMMIN)

### **A detail plan after 2014**

In a new edition of Law on Territorial planning, a detailed plan is no longer required for a plot, but it is required for a neighbourhood or a block scale. Unfortunately, it is not clear the definition of a neighbourhood scale. From 2014 a detailed plan is not required for the construction work of the plot and makes the preparation of the planning documents faster, but also brings issues with it (Simkute, 2016).

“The Comprehensive Plan of municipality defines land use, densities and height restrictions for big territories. Detailing is done to calculate approximate housing, infrastructure, social amenity needs but not to define rules for individual plots” (Simkute, 2016).

In that case, when a detailed plan is no longer required for a plot, the new law opens unfavourable interpretation of the Master plans of municipalities. Until 2014, the system of the law on territorial planning was difficult but the role of detail plan was clear. Now, new the rules and goals for comprehensive and detail plans are similar and there are no suggested tools for coordination of the plans. (Tiskus, 2015)

### **Change of land-use**

Detailed plans for a plot are no longer required for changing the land use, which is another open door for uncontrolled sprawl on the outskirts of cities, where people can easily change land use from agricultural to residential by writing an application to the director of administration of municipality. (Simkute, 2016).

## Planning process

- formulation of plans (preparation of plan projects);
  - public participation in the preparation of a plan;
  - co-ordination of plans;
  - control of plan projects;
  - approval of plans;
  - supervision of the implementation of the approved planning document solutions (monitoring).
- (COMMIN)

**Plan making.** "Appropriate state and municipal administrations have the right to organise the process of preparing planning documents. Physical and juridical entities have the right to initiate the planning process regulated in the by-law, approved by government in 2013" (Bardauskiene, 2014).

**Development control.** "Municipalities are responsible for the entire territorial planning process and results in their administrative areas. State Territorial planning and the building Inspectorate are responsible for state control. The mandate of the Inspectorate is laid down in the Territorial planning and construction supervision law and supervision regulations" (Bardauskiene, 2014). (ISOCARP, IMPP, 2015)

## Public participation in planning

"Provisions of open public participation in the planning process gives the right to all interested public groups to be informed and given an opportunity to see the plans and present their views and objections at a public inquiry. All those who participated in this public process and consider that legal provisions have not been fulfilled properly, or are defending a public or a private interest, they have the right to object to the State territorial planning and construction inspectorate or, in specified cases, to the Court" (Bardauskiene, 2014) .

**Public participation** "The territorial planning process is democratic and open, and the main procedures and rights are coordinated with the principles of the Aarhus convention: public participation – voluntarily participation of legal and natural persons or their groups - in the preparatory process of territorial planning documents. The concrete public participation process, time and procedures are approved by the Government in "Public Participation in Territorial Planning Process Regulations". The Regulations require all the public entities to participate in the process and in time express their oral or written opinion, or objection." Bardauskiene, 2014) .

**Sart planning system.** "The new version of TPL is very much linked to the implementation of "smart planning": all the public information, communication process and all the planning documents must be produced and converted into the electronic "Territorial planning documents register information system" (TPDRIS) (<https://www.tpdris.lt/>). The main goals of such ITT innovation are to have well a organised supervision of the mandatory processes and to ensure better quality of planning documents, as well as to deliver new, efficient IT products and services for the public in the planning field." (Bardauskiene, 2014) .

Source: ISOCARP, IMPP, 2015



## Planning for sustainability

In Lithuania, a sustainable development process is only in the highest government institutions and often are used only for populist purposes.

Sustainable development is only considered in a relation to international agreements and EU integration. The ideas about sustainable development are narrowed down to environmental issues which in a long-term economic perspective are not being analyzed. Since the implementation of Lisbon Treaty, in Lithuania sustainability is seen as a part of state's long-term strategy, but it is being characterized by the weaknesses: insufficient justification of priorities, insufficient and very formal linking of priorities and Governmental programme, too general provisions and number of regulations, which provide government with an opportunity to choose the most politically convenient tasks. (LRI,2003).

Urban policy within sustainable development Implementation of EU directives or regulations related to sustainable development are very fragmented. The EU regulations were taken into account but mostly on the „paper“, no actual influence on sustainable development is seen. During the preparations for joining EU, Lithuania proposed a concept, main policies and strategy for a management of national territory based on principles of sustainable development. It builds a foundation for the management of our state, provides with preconditions for integration into EU structures, defines main tasks on a national scale (Lietuvos bendrasis planas, 2004).

Sustainable development became an official policy from 2003 when the Government of Lithuania approved a national sustainable development strategy. Although urban planning is not directly mentioned in this strategy, it is playing a mutual role in achieving spatial sustainability, protecting natural and physical resources and keeping them in an adequate place. From 2003 implementation of sustainable development goals and climate change measures are official state policy and guidance for planning. However, there are no clear urban policies – It is not clear how General Plan of Lithuania is implemented. There is no institution which would be responsible for sustainable territorial development management and implementation and qualitative monitoring (Ciegis, Zaleviciute, 2012).

In the strategy “Lithuania 2030” attention is paid to the effective use of energy resources and to ensuring the neutral impact of economic activities on the environment. Lithuania has achieved good results in the field of energy consumption for producing GDP. Nevertheless, uneven spatial development of the country is one of the biggest sustainability problems of Lithuania (TP koncepcija, 2010).

In urban planning methodology, sustainable development policies have not brought any fundamental changes, urban communities were not involved in sustainable development processes. For a long time in Lithuania, this has been a self-going process, often related to a desire to take over Western experience (only in documents) in cities of Lithuania. (Ciegis, Zaleviciute, 2012).

Contemporary urban planning policy should be more about the quality of life, renovation and revitalisation of existing urban structures, public infrastructure rapid brownfield conversion towards new needs, and less about investments into greenfield sites and tolerance of urban sprawl. Unfortunately, municipalities of the cities have not become the organizers of sustainable development. An initiative of development shifted to private investors. (TP koncepcija, 2010)

**EU Structural funds.** “EU Structural funds are essential for Lithuania’s growth. They are so influential that they started shaping development pattern throughout the country. The reason behind this is very simple: The economy of the country is not that strong, so in order to grow faster, municipalities have to use as much external resources as possible. In that way, cities become dependent on the EU funds. This leads to occasions when EU support do not necessarily go towards what they were meant for or what EU values and expect member countries to value”(Bardauskiene, 2014) .

# Planning documents for Naujininkai

## Comprehensive plan of municipality of Vilnius

A comprehensive plan of Vilnius consists of many sub-plans such as functional zoning, green areas, transport infrastructure and etc. Also the plan of development priorities.

In a plan of development priorities of Vilnius, part of Naujininkai (partly historical, partly socialist housing estates) is defined as a disadvantaged area of the city. The Western part of Naujininkai which is mainly socialist housing estates area is marked as "formed residential districts with comprehensive upgrading projects underway". The prepared regeneration plan is discussed in the following section.

A comprehensive plan of Vilnius identifies functional zoning of all the city. In a functional zoning plan, the most part of Naujininkai is marked as a medium and low development intensity residential territories.

## Detailed plans

The only development plans for the area are detail plans for the separate parcels or the group of the parcels. For forming the parcels on the land, for changing the land use (until 2014) for some (re)constructions of the buildings the detailed plans had to be prepared. The detail plans are prepared with the reference to a comprehensive plan of Vilnius, where the allowed construction heights and other conditions and functional zoning are defined.

The organizer of the detailed plan usually is the owner of the parcel.

The detail plans are made for separate parcels or group of the parcels not taking into account the surroundings, the interest of the city and people.

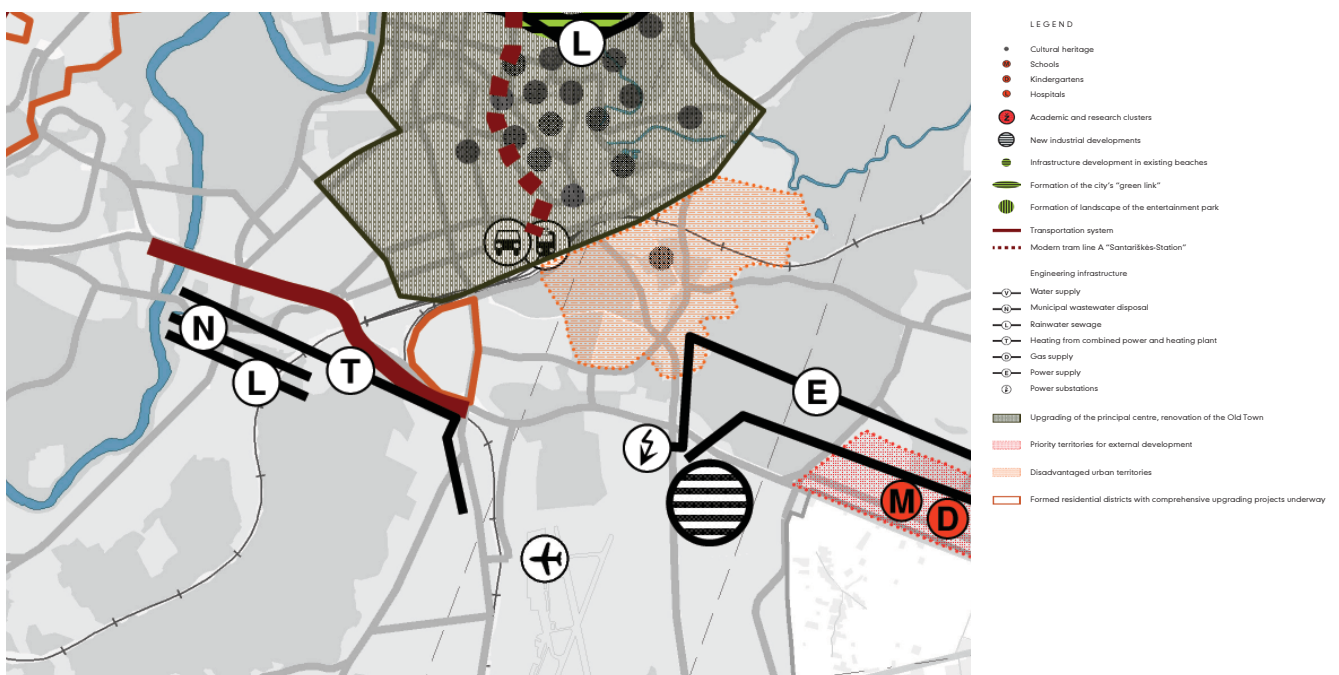


Fig. 2.87. A fragment from the "development priorities" plan, which is a part of comprehensive plan of Vilnius  
Source: Comprehensive plan of Vilnius, (Vilniaus planas, 2007)



Fig.2.88. A fragment from the master plan of a comprehensive plan of Vilnius 2007-2015 Source: Comprehensive plan of Vilnius, (Vilniaus planas, 2007)

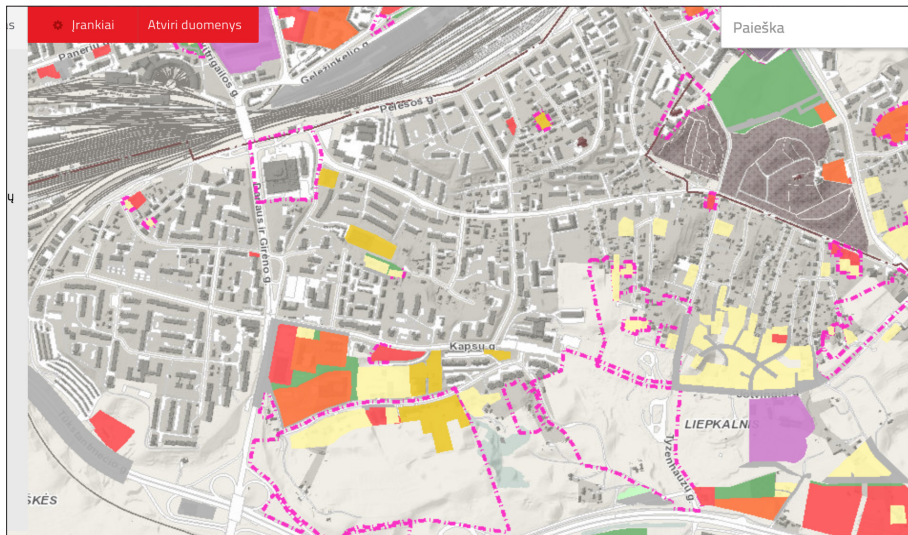


Fig. 2.89. Prepared detail plans in Naujininkai Source: Interactive map of vilnius. <http://maps.vilnius.lt/>



A detail plan is prepared for the land by dividing it to the parcels for the sale. The parcels are being sold even not without a proper road service to the area.

Fig. 2.90. Plot for sale in Naujininkai Source: <https://www.aruodas.lt/>



## Renovation program for the Western part of Naujininkai proposed by municipality

Integrated development strategy - is prepared for the southern part of Vilnius and includes Western part of Naujininkai.

In strategy, it is foreseen to renovate three educational buildings, children playground, and a crossroad.

In a functional urban development scheme, the Western territory of Naujininkai is divided into two parts: The biggest part - complex renovation of residential neighbourhoods and the other - a conversion to a mixed commercial-residential territory.

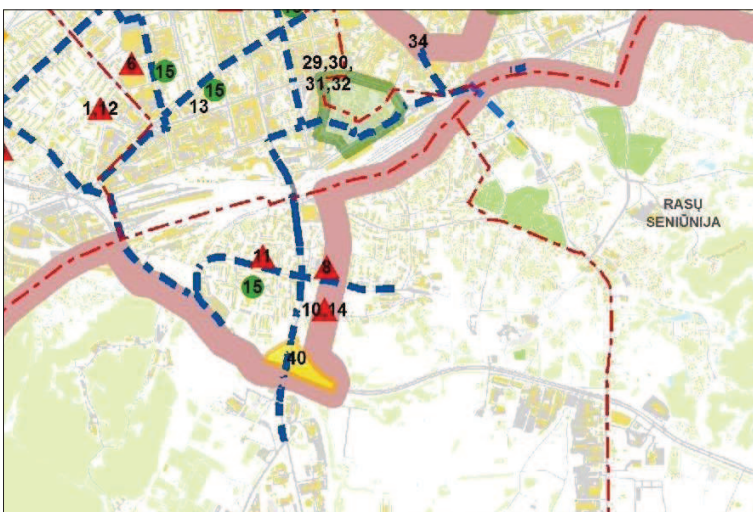


Fig. 2.91. Development priorities  
Source: Vilnius ITDP, 2014

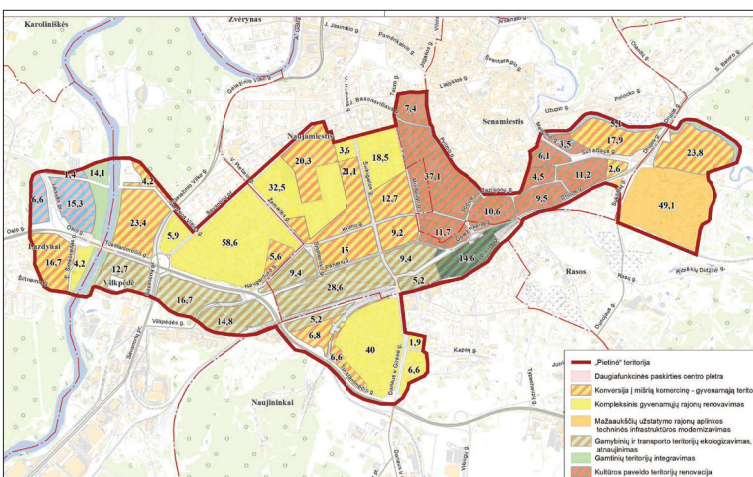


Fig. 2.92. "Southern" complex development territory. Urban functional zoning.  
Source: Vilnius ITDP, 2014

## Conclusions

There is a little connection between plans and what is actually happening in reality. Mostly new developments are market-based short-term benefit projects, and new plans are open for unfavourable interpretations and new dispersed housing is fastly growing around the city. Also, there is a weak communication between government and residents.

Lithuania has two types of planning documents in the Spatial planning system. Comprehensive and special. Comprehensive documents are - master plans of the city and detail plans for the part of the city.

### Detail plans before 2014

Until 2014 there were three types of the plans, the detailed plan was treated as separate planning type, the hierarchy of the documents was not clear, and the process did not ensure participation of the public, the relation between public and private interests was unclear.

A major part of the detailed plans is prepared by private persons, the owners of the parcels become organizers of the planning and **the interest of the city and public is not taken into account.**

Common practice – **to alter land use according to the private interests.** According to the planners, one of the most important lack in territorial planning system was the intermediate link from master to detail plan.

### Detail plans after 2014

In 2014 The new edition of the Law of territorial planning was adopted. New regulations try to make the planning process more transparent. A detailed plan is no longer required for a plot, but for scale of a block/ neighbourhood. But is **not clear what the neighbourhood scale is.** That brings confusion. Now rules for preparing a Comprehensive Plan of a municipality and Detailed plan are similar, goals overlap, and **there are no suggested tools for coordination of the plans.**

It is no longer required to prepare a detailed plan for construction work, which makes a preparation of planning documents faster but also brings a lot of challenges and issues with it. Now, the law opens doors for **unfavorable interpretations of the Comprehensive Plans.**

Also, detailed plans for a plot are no longer required for changing the land use, which is another **open door for uncontrolled sprawl** on the outskirts of cities where people can now change land use from agricultural to housing by just writing an application.

**Public participation** is still formal, due to citizen's lack of awareness. There is a need for good practice and

education of experts in the field of the public participation process in territorial planning. The law focuses much more on public participation in the preparation of those plans rather than on their implementation. In reality, **the public interest is considered only on public projects** (green space infrastructure, water bodies) and is not considered on the private land.

### Sustainable development.

Contemporary urban planning policy should be more about the quality of life, renovation and revitalization of existing urban structures, public infrastructure rapid brownfield conversion towards new needs, and less about investments into green field sites and tolerance of urban sprawl. Unfortunately, **municipalities of the cities have not become the organizers of sustainable development. An initiative of development shifted to private investors.** (TP koncepcija, 2012) Lithuanian cities and regions need new ideas, development models, and tools.



Fig. 19. A panoramic view of Naujininkai  
Source: <http://pamirsta.lt/>



## **PART III. DESIGN**

# III.I. SUBSTANTATIVE + PROCEDURAL DEMANDS

## Goal

The design goal is to create a neighbourhood plan for a sustainable regeneration for a part of the district of Naujininkai in Vilnius, which would be the alternative planning method to the existing one and would provide the guidelines for the improvement and development of the area by involving the residents and other stakeholders in the planning processes.

## Objectives of the neighbourhood plan

- to improve the area by involving the community and other stakeholders in planning and upgrading processes.
- to switch planning from the top down to participatory and from zoning to strategic.
- to solve dilemma between control and self-organization.

## Neighbourhood plan

A neighbourhood plan consists of a spatial development plan (spatial-functional organization) and a set of the guidelines and recommendations for spatial interventions for improving the area.

**Spatial development plan** shows the spatial structure of the neighbourhood, public, green spaces, traffic conditions, connections, functional organization, public backbone. Aswell defines the residential and non-residential blocks.

**The guidelines and recommendations** are set for the implementation of the spatial vision at more local scale. The guidelines are set for the residents who want to improve the area - the common spaces of the neighbourhood or their own housing block, and also for the private investors, who want to invest in the area and want to start a dialogue with the residents.

Components of a neighbourhood plan



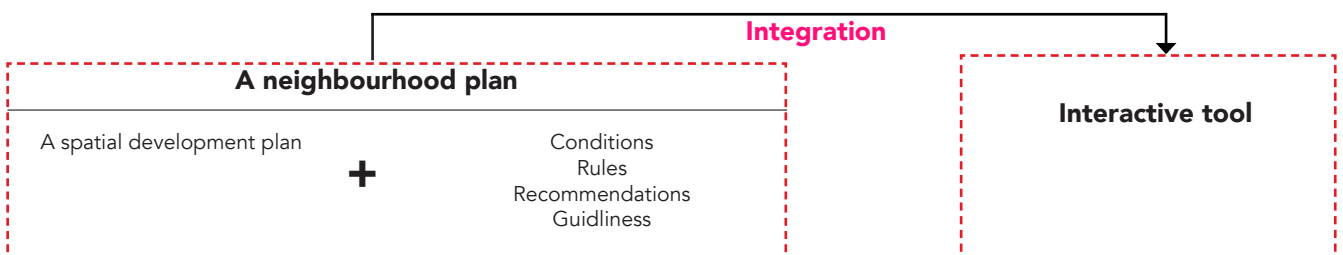
## Supporting elements for neighbourhood plan

Before a spatial development plan for a neighbourhood, a spatial vision for the district has to be prepared.

The spatial vision for a district shows the development directions and priorities, the main public nodes, connections, green zones and also defines the boundaries of the neighbourhood.

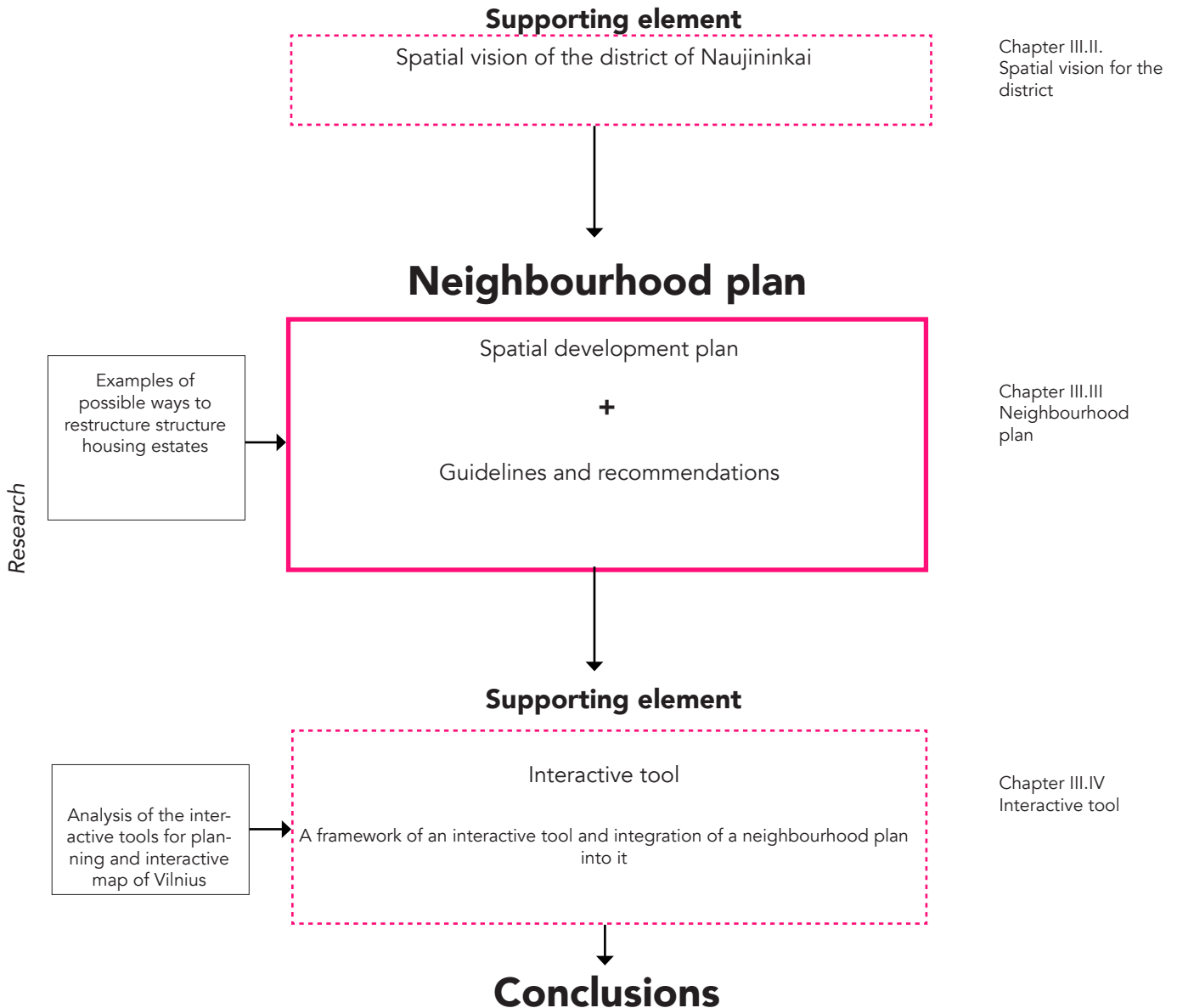
A neighbourhood plan has to follow the spatial vision and objectives of the district of Naujininkai.

To increase the opportunity for citizens to take part in a planning process, the interactive online tool is proposed. The interactive tool should ensure more transparent planning processes and create possibilities for dialogues between all stakeholders and should shift the planning from the private investor's hands and consider the public needs.



# The structure of a design part

Design



First, a district vision has to be created which follows the comprehensive plan of the city and ensures integration of the site into the city. A district vision is a supporting element for preparing a more detail neighbourhood plan, which is the main design product of this project. A neighbourhood plan consists of the spatial development plan and a set of guidelines and recommendations. Guidelines and recommendations explain how spatial solutions of spatial development plan could be implemented and also guide the residents and private investors to develop and upgrade the area.

The guidelines and recommendations are set for the redeveloping the housing estates at the block level. The examples from the Germany are taken as the recommendations for restructuring the estates.

An interactive tool is proposed for preparing and implementing a neighbourhood plan through a participatory approach. The interactive tools elsewhere for neighbourhood planning are analysed to get an inspiration for creating an interactive tool framework. A framework is based on an existing interactive map of Vilnius. An interactive tool framework is proposed, and then the integration and working principles of a neighbourhood plan in it is explained.



## **Current planning system and a proposed neighbourhood plan**

In 2014, a new neighbourhood scale plan appeared in a planning system of Lithuania. But it is not clearly defined what a neighbourhood is, and there are no suggested tools for coordinating such a plan. Comprehensive plans for municipality and detail plans for a part of municipality (neighbourhood) rules are similar, and goals overlap. The Comprehensive Plan of municipality defines land use, densities and height restrictions, it is done for big territories of municipality scale. Detailing is done to calculate approximate housing, infrastructure, social amenity needs but not to define rules for individual plots.

A proposed plan for a neighbourhood will provide a spatial-functional organisation plan, where individual plots have to follow it. A neighbourhood will have a one spatial development plan which has to be prepared together with the community of the neighbourhood and other related stakeholders.

In the new law (2014) on territorial planning detail plans are no longer required for constructions and land use change, what open doors for unfavourable interpretations of a comprehensive plans. In the proposed plan to avoid the unfavourable interpretations, individual plots which are critical components for a spatial-functional organization of a neighbourhood will have a set of particular rules.

The other thing, which is not present in current plans is set of guidelines and recommendation which go together with the spatial plan.

For (re)organizing the individual plots/blocks and also public/common spaces the proposals and suggestions are provided which follows the spatial development

plan. A regeneration plan focuses on the encouraging people to upgrade their environment and also suggest conditions for the win-win solutions.

A prepared plan should be implemented through a participatory approach. In the current planning system, public participation is still formal, due to citizen's lack of awareness. The public interest is considered only on public projects. In the proposed plan the community has to be involved in a preparation process of a neighbourhood plan and then actively participate in the implementation. To ensure public interest not only on public projects the interactive tool for planning is proposed.

# District, neighbourhood and block scale



**District.** District of Naujininkai as the other districts of Vilnius is defined by the clear boundaries - main roads and the railway.

Fig. 3.1. District scale  
Source: Author's drawing



Fig. 3.2. Neighbourhood scale  
Source: Author's drawing

**The neighbourhood.** The district in a vision is divided into the neighbourhoods. The neighbourhoods are defined by the main roads, natural boundaries or/and building typologies.

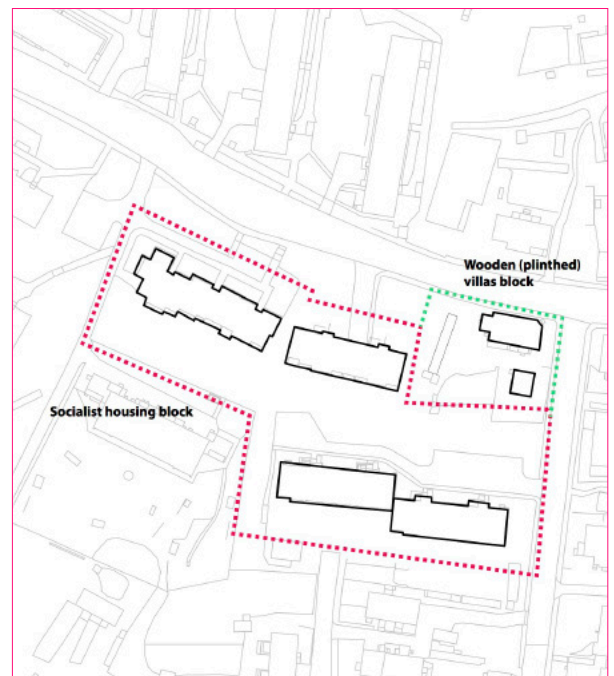


Fig. 3.3. Block scale  
Source: Author's drawing

**The block.** Proposed unit in a neighbourhood plan, which is formed by the group of buildings with a common space in between.

## III.II SPATIAL VISION FOR THE DISTRICT OF NAUJININKAI

The spatial vision for the district is prepared to have an idea which direction the district should develop. According to the analysis, taking into account strengths and weaknesses of territory, objectives of a comprehensive plan of Vilnius the basic development concept is suggested. Vision has to ensure an integration of the district into the city. From the analysis, it is clear that the district is "isolated" from a city by a railway, the urban structure is unclear, the connection with different parts of the district is poor, the "entrances" and public spaces are dull and unmaintained. New developments are happening chaotically. Although the area has a rich historical background, an original urban structure is disappear-

ing, and buildings are in a very bad condition. Thus it is not clear what their future it is going to be. Lastly, among the residents of the city, Naujininkai is known as not safe and a negative reputation having district. Vision tackles the major district issues and strengthens rather than destroy existing potential. It defines very general directions, the main principles and divides the territory into the smaller units - neighbourhoods where the more detail - neighbourhood plans will be prepared following a district vision and objectives.

### Objectives

**Walkable and safe.** To improve pedestrian paths, missing connections, street lightening

**Livable and attractive.** To add new commercial/public functions in the area, to create safe and attractive public spaces to the nodes of the biggest flows.

**Well connected and clearly oriented** - to create clear urban structure

**Rich historical background** - to preserve valuable historical urban structure/buildings

### Connections and links

The vision provides the connections which should connect the district with itself and the district with the city. Because of the new private housing developments happening in the southern part, there should be new roads provided which connect this part with the district, public transport nodes, and the city. The connections proposed in the vision are partly recreated by historical road structure.

Because of the lack of proper connection for pedestrians within a city and a district, a new link with the old town is proposed.

### Green areas

The southern part of the district regarding the comprehensive plan of Vilnius is a hilly and forest territory. The area could become a recreational zone not only for a district but also for city guests. The green area is connected with a district by the green links. Some of the links have to be improved.

### Public backbone and public spaces

According to the existing public functions and the existing public transport lines, the public backbone should be formed along the main "Darius and Girėnas" street and the "Dzuku" street. "Darius and Girėnas" street is an important road for the city connecting the city centre and the airport, thus to improve the image of Naujininkai and to solve a barrier issue within a district, new functions should be added. As this road is important axis for the whole city, a redevelopment project for this area should be prepared (see the section "Key projects - "city gates"). The improvement of the road would also improve the safety in that area and would change a negative image of a district

"Dzuku" street is a street which connects northern and western parts of the district. Activating the street would improve the safety of an area and would encourage pedestrian flows. An "activation" of a public backbone street will be elaborated and explained in Chapter III.III - "neighbourhood plan."

On the nodes at the important intersections, public spaces should be improved, and the entrances to the district should be enhanced.



## Vision

A district, which is well connected to the city, with the representative, attractive road - "city gates." The continuity of the old and the new town, walkable, easily accessible for pedestrians, bikes and a public transport. One, continuous but diverse district, with different neighbourhoods of different programs but well connected to each other by green links and public spaces. Pleasant place to live and work.

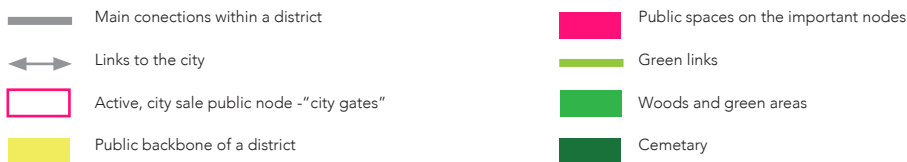


Fig. 3.4. Spatial development vision  
Source: Author's drawing

# Neighbourhoods of the district of Naujininkai

The neighbourhoods are urbanized mixed-use residential areas. The other - nonresidential areas are commercial-industrial blocks next to the highway. Not urbanized areas are the historical cemetery , hilly and green area in the south of the district. This part is defined in a comprehensive plan of Vilnius and other special plans of the city as the zones for extensive recreational uses and forests.

Residential neighbourhoods are defined in zones. Mostly a neighbourhood belongs to one particular zone, but there are the exceptions.

- Mixed use residential blocks (preserved historical structure)
- Low rise private housing
- High rise - mixed use zones
- Green zones

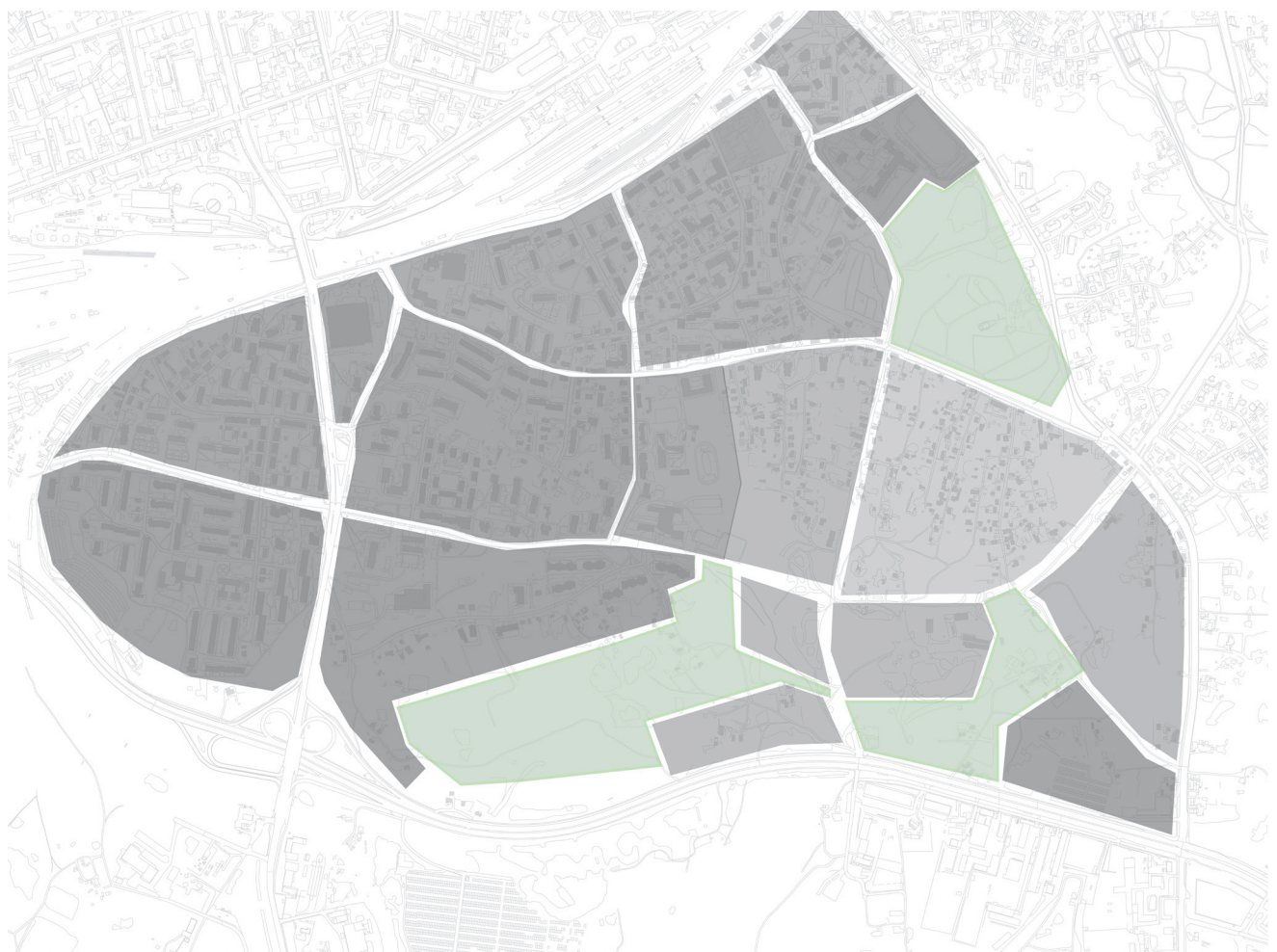


Figure 3.4 Spatial vision of Naujininkai. Division into the neighbourhoods  
Source: Author's image

## **Historical zones**

The Northern part of the district has a historical background. It falls into the protection zone of the immovable property of the old town of Vilnius. In the neighbourhood which belongs to the "historical zone," preserving historical background should be considered when preparing a neighbourhood plan. New developments should happen very carefully not damaging the historical parts which still remain.

### ***Historical- mixed use and different typology zones***

'Historical-mixed use and mixed typology' zone is partly destroyed during the Soviet mass construction and was partly rebuilt with socialist housing estates areas. The fragments of the historical urban structure remain, and masonry/wooden urban villas are left, but mainly in extremely bad condition. It is proposed in these areas to enhance remaining structure by adding new, same scale constructions. The houses which are in bad conditions could be rebuilt by adjusting them to today's needs. A new, bigger scale constructions should not interrupt the remaining structure. A neighbourhood plan for this zone is prepared in the next chapter "neighbourhood plan."

### ***Historical- low rise private housing zone***

'A historical - private housing' zone is proposed to be left as the low-rise residential area. It should be the alternative housing areas to suburbs for families. The area should be structured, with clearly built up streets. There should be regulations for new constructions, road maintenance, sewage and water infrastructure done. A neighbourhood plan should be prepared in order to have one vision and goal for a neighbourhood.

## **High rise - mixed use zones**

The other parts which do not belong to the protection zone of the immovable property of the old town of Vilnius are proposed as a high rise mixed-use areas, which are mainly socialist housing estates. They have to be renovated by allowing new constructions in it, adding new functions, diverse typology, and recreational common spaces. The opportunities for restructuring socialist housing estates are explained in a chapter "neighbourhood plan," section "socialist housing estates block."



# Key projects of a district of Naujininkai

The proposal of Key projects is part of the district vision. In a vision, Naujininkai is divided into the neighbourhoods, but there are some important parts of a district which do not include the unit of a neighbourhood and are important for the whole district and the city. These parts could be a start for revitalizing the whole district.

One of those parts is "Darius and Girenas" street, which separates the Western and Eastern parts of the district and plays a representative for the city. Thus, the separate redevelopment project has to be prepared to make the street more attractive for the residents and of the city guests and the investors.

## Pedestrian bridge - "recreating historical link"

The other project - pedestrian bridge. It is proposed to improve accessibility to the district by recreating a historical link, which was an important road for the city. A new link to the city would also increase the pedestrian flows from the city centre. A pedestrian bridge should encourage people to choose walking rather than using a car. Additional access to the area would partly solve a barrier (railway) problem, and the area would be "closer" to the city. A pleasant and safe access to Naujininkai should "diminish" a negative image of the district.

### Recreating historical link - improving acces for pedestrians - new pedestrain bridge.



Fig.3.6. Vilnius city plan 1859  
<http://www.maps4u.lt/>

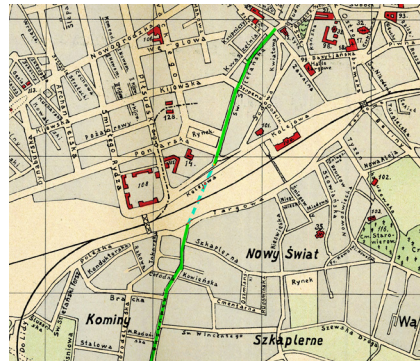


Fig.3.7. Vilnius city plan 1921  
<http://www.maps4u.lt/>



Fig.3.8. Proposed path for a pedestrian bridge  
Source: maps.lt Image: Author's scheme

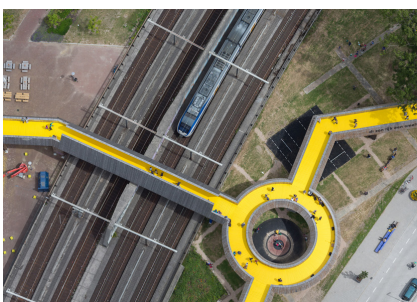


Fig.3.9. Example of a pedestrian bridge. Location -Rotterdam  
Source: <https://www.dezeen.com/>

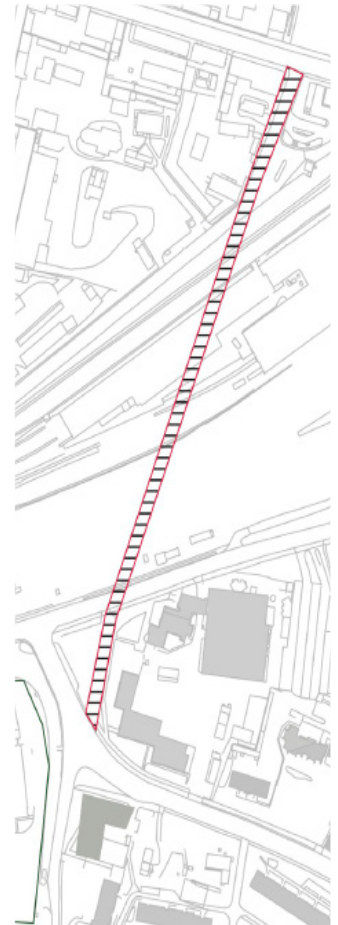


Fig.3.10. Proposed path for a pedestrian bridge  
Source: Author's drawing

### “City gates” - Darius and Girenas street

In the analysis of Naujininkai, “Darius and Girenas” street is described as a barrier of the district and as representative road of the city. The redevelopment project should be prepared by making the road more attractive as well as “softening” the barrier and making the street more pedestrian friendly. The redevelopment project is proposed by adding new public/commercial functions along the street. There are emp-

ty spaces on the slopes along the road, which belongs to the municipality. Those areas could be used for new developments. The land could be sold or rented by the municipality for new constructions. This would add functions to the street and make the street profile more lively. The constructions should be done on the street level, in that way it would be separated from the residential areas which are on the higher level.

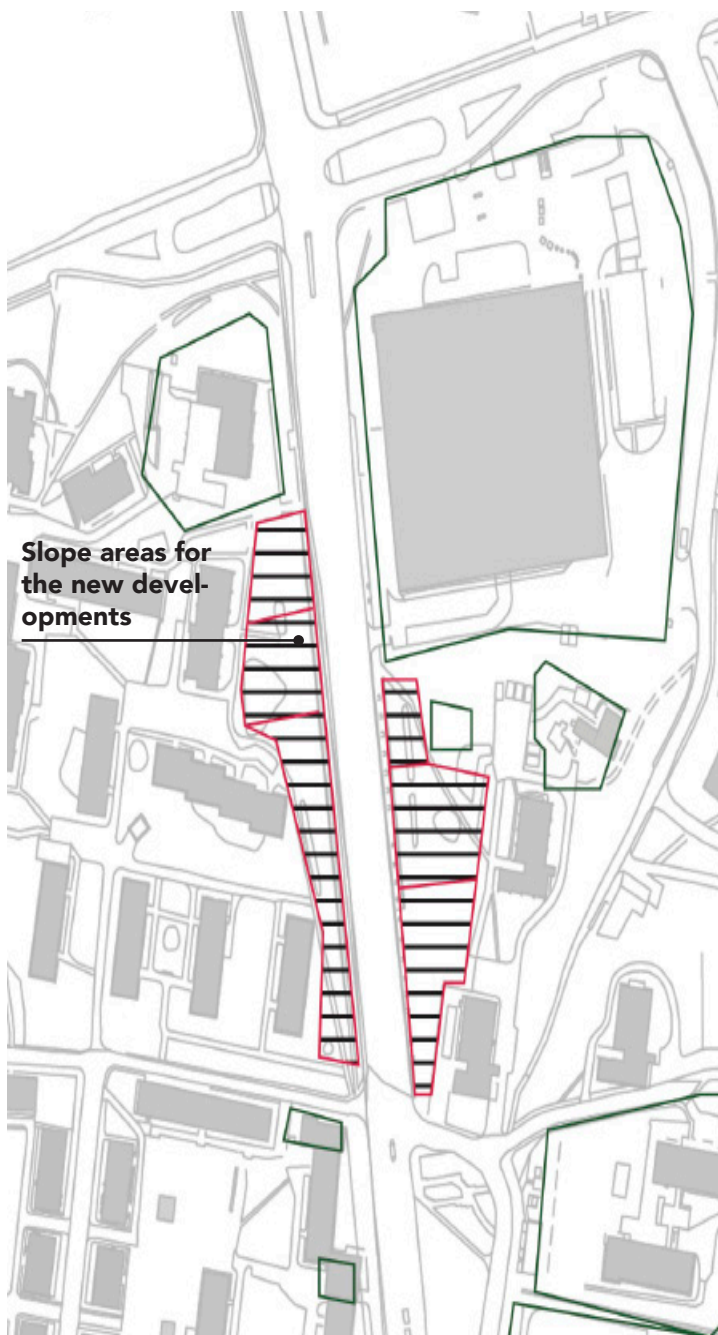


Fig.3.11. Redevelopment project for a Darius and Girenas street  
Source: Author's drawing

### Existing



Fig.3.12. Darius and Girenas street  
Source: <http://pamirsta.lt/>

### Proposed



Fig.3.13. Science museum in Komatsu, Japan  
Source: <http://minimalblogs.com/>



Fig.3.14 Victoria Park Subway Station Landscape and Green roof  
Source: <http://www.scotttorrance.ca/>





### III.III NEIGHBOURHOOD PLAN

Spatial development plan

Guidelines and recommendations



Fig. 3.15. A selected neighbourhood for a "neighbourhood plan"  
Source: Author's drawing based on the map from [www.googlemaps.com](http://www.googlemaps.com)



# Spatial development plan

A spatial development plan for the neighbourhood is prepared according to the district vision and its objectives and taking into account the regeneration recommendations for housing estates in Vilnius and the principles of sustainable urban regeneration. A plan should ensure integration to the district and also should create possibilities for win-win solutions.

## Spatial objectives

**Walkable and safe.** To improve pedestrian paths, missing connections, street lightening. When planning a traffic organization in the area the paths for pedestrians should be first, then bicycles, then the cars. In that way, the usage of the cars has to be reduced.

**Livable and attractive.** To add new commercial/public functions in the area, to create safe and attractive public spaces at the nodes of the biggest flows. To reach a social mix, new constructions for private housing for families has to be offered.

There are many factors determining a spatial-functional organization - such as natural assets, existing public functions, services, public transport line and historical background. The significant influence on a spatial organization and structure have natural assets - the terrain and green areas and the historical urban structure.

**Compact.** To provide the opportunities to develop new buildings in order to densify the area and provide a diverse housing typology, and to attract developers to invest in the area. Densification should be done carefully not destroying the original structure.

**Well connected and clearly oriented.** To create clear urban structure and provide missing links and connections.

**Rich historical background.** To preserve valuable historical urban structure/buildings

**Attractive residential blocks.** To clarify public-private spaces in the block and to develop the sense of the ownership. To create safe spaces of courtyards in order to form a community.

- High terrain level
- Lower terrain level
- Lower "terraces"
- Higher terrace
- Slopes
- Green zones

The neighbourhood has very clear differences of terrain heights. Naturally, the area is divided into the terraces. The lowest part of the area is along Dzuku street, which is a public transport line and which is defined in a development vision of the district as a public backbone. On both sides of the street, there are higher level terraces of terrain where the residential housing estates are located. Those are visually and physically separated by the steeper or less steep slopes. In between the lower and higher terraces, there are the green areas which in some parts are built up with low rise wooden villas.

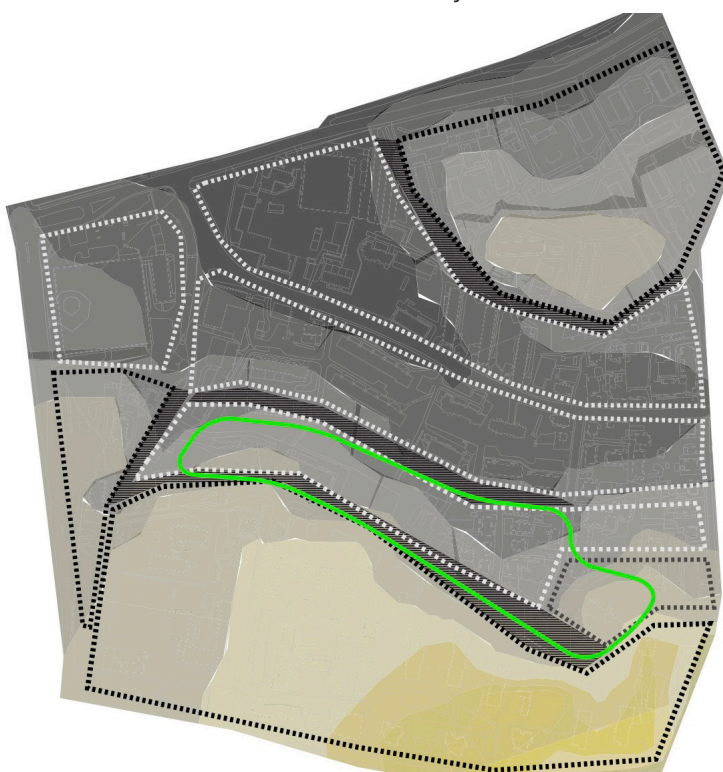


Fig. 3.16. Natural boundaries and terraces  
Source: Author's drawing. Information: kpd.lt

## Concept

**Spatial.** The height differences and natural assets provide conditions for the spatial division of the neighbourhood. The lower terrace - an active area with public functions, the higher terraces - residential, and in between the terraces - the green, hilly and partly built up area with the group of trees.

**Functional.** Public backbone. Dzuku street connects two parts of the neighbourhood and also different parts of the district of Naujininkai. The street which is a historical link to the city is an important connection between the western part and the other parts of the district and a city.

The "Dzuku" street and a historical road should be activated by adding commercial functions to the ground floor of existing buildings. Also, constructions with functions could appear to create a vibrant and attractive street profile. New functions and constructions should improve safety and encourage pedestrian flows.

The public-commercial blocks and public backbone are located next to the public transport lines and pedestrians bridge to diminish a private transport flows.

**Building typology.** The streets of the public backbone are proposed to be built up with lower scale buildings to create an attractive, livable street. In that way recreating a historical urban structure of densely built-up street.

The areas behind the public backbone are socialist housing estates. They should be renovated by adding extensions of light constructions or adding new constructions in order to form a block.

**Green zone.** The middle area should remain green with the existing urban fabric. That would create a "soft" area in between more densely built-up areas. In the "green zone," the density and typology of wooden/masonry villas should remain.

In the green area, public spaces with activity should be created.

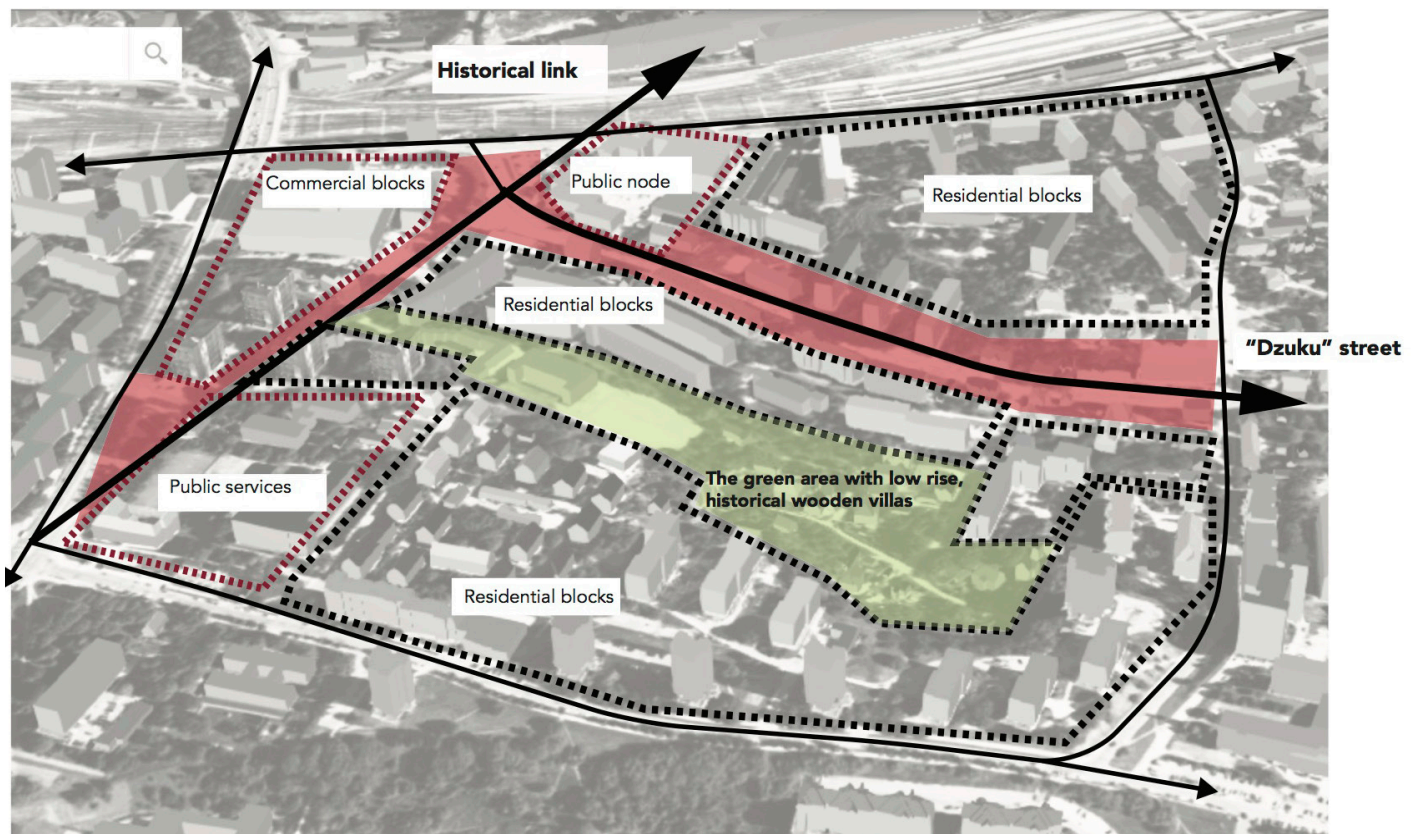


Fig. 3.17. Concept of spatial and functional structure  
Source: Author's drawing on a 3d map taken from <https://www.maps.lt>



## Spatial structure

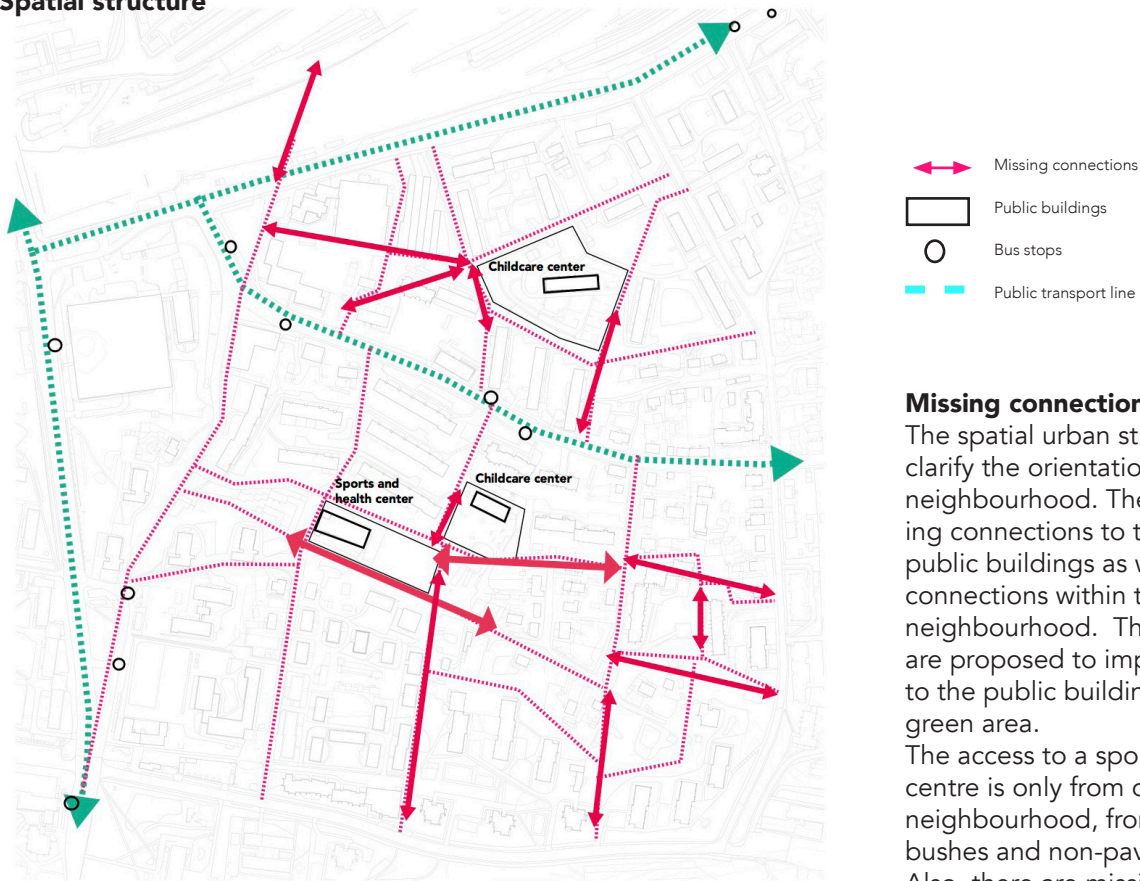


Fig. 3.18. Missing connections  
Source: Author's drawing

### Missing connections

The spatial urban structure should clarify the orientation in the neighbourhood. There are missing connections to the important public buildings as well as missing connections within the parts of the neighbourhood. The connections are proposed to improve access to the public buildings and public green area.

The access to a sport and leisure centre is only from one side of the neighbourhood, from the other - bushes and non-paved small paths. Also, there are missing connections to the child care centres - they are reachable only from the few blocks. The need for connections shows the "informal paths" appearing on the grass in the areas next to the public buildings.

### Historical road structure

The road structure is partly recreated by the disappeared historical urban structure, which was partly destroyed during the constructions of the socialist housing estates.

A proposal for recreating a historical link to the old town was explained in the section "key projects of the district". A disappeared connection in the middle of a neighbourhood is proposed in order to connect the different parts of the neighbourhood and also to create a horizontal green link which public green spaces.

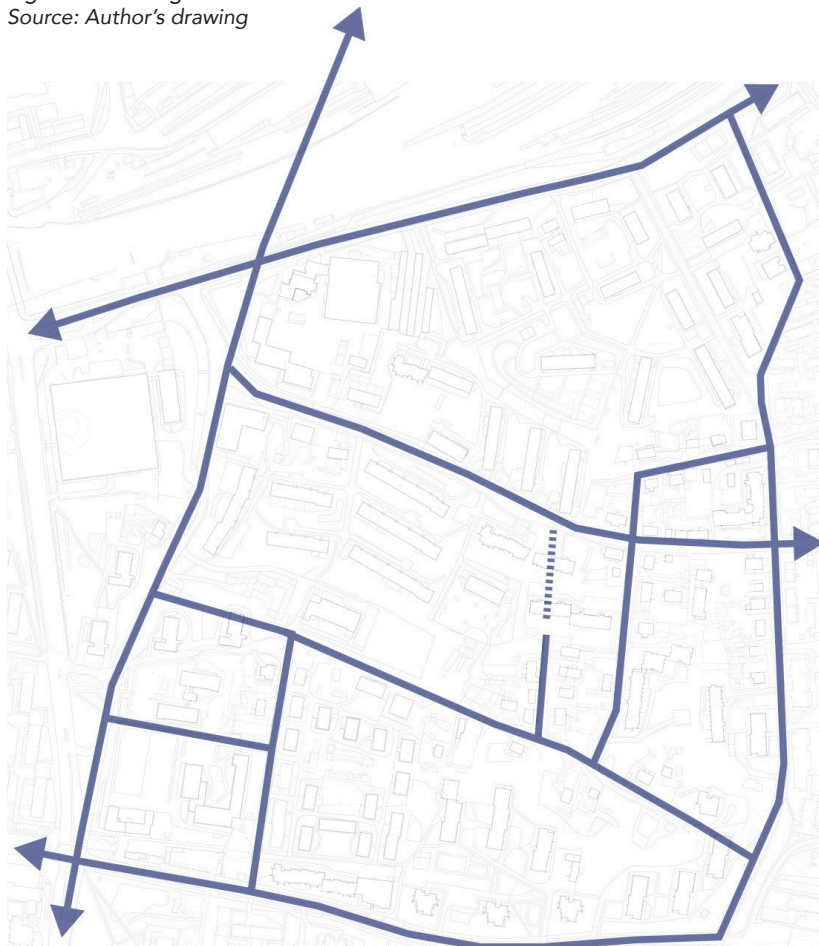


Fig. 3.19. Historical roads  
Source: Author's drawing

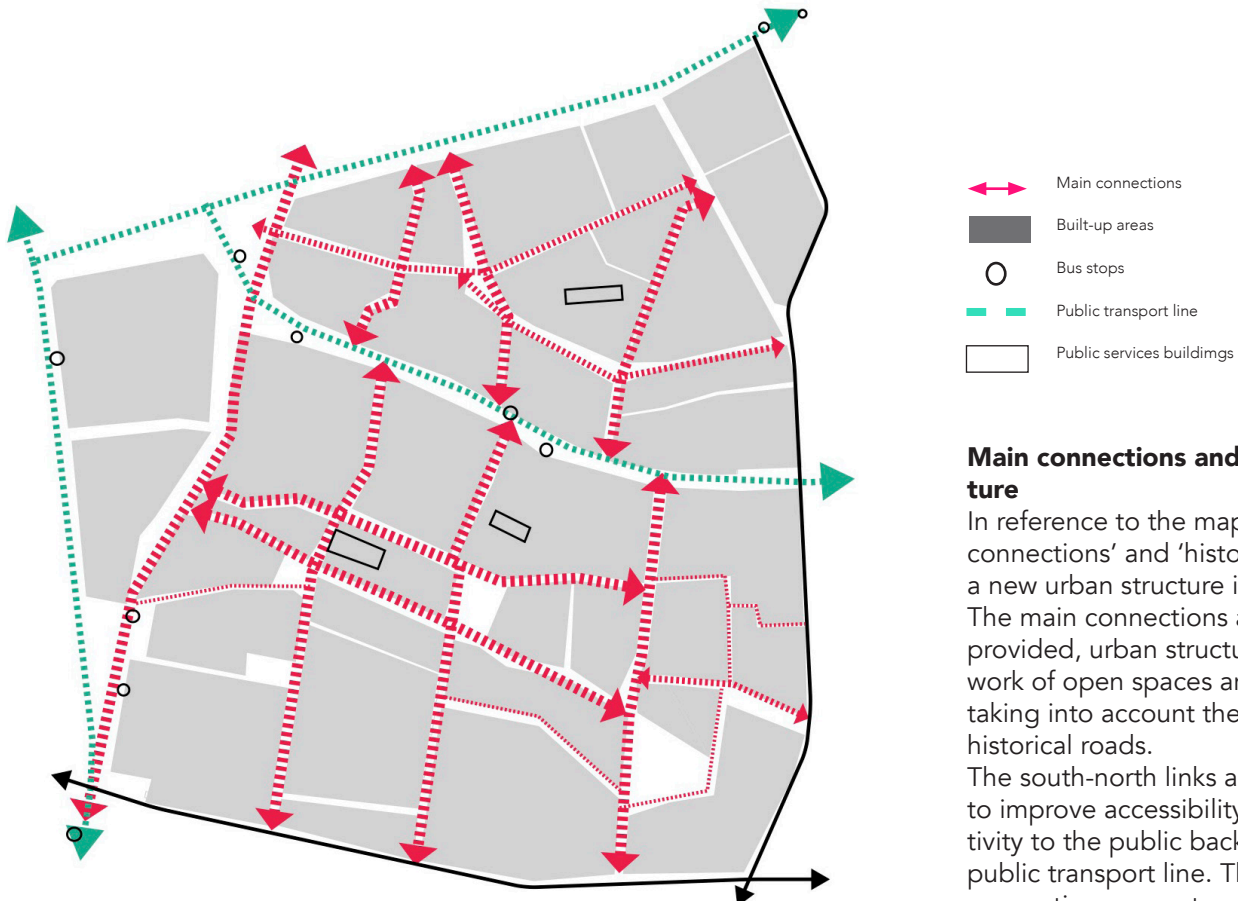


Fig. 3.20. The main connections

- Main connections
- Built-up areas
- Bus stops
- Public transport line
- Public services buildings

### Main connections and urban structure

In reference to the maps of 'missing connections' and 'historical roads', a new urban structure is proposed. The main connections and links are provided, urban structure and network of open spaces are suggested taking into account the disappeared historical roads.

The south-north links are proposed to improve accessibility and connectivity to the public backbone and public transport line. The east-west connections recreate a historical road structure and provide accessibility to the green and active area in the middle part of the neighbourhood.

An important historical link, which was defined in a vision of the district is also recreated.

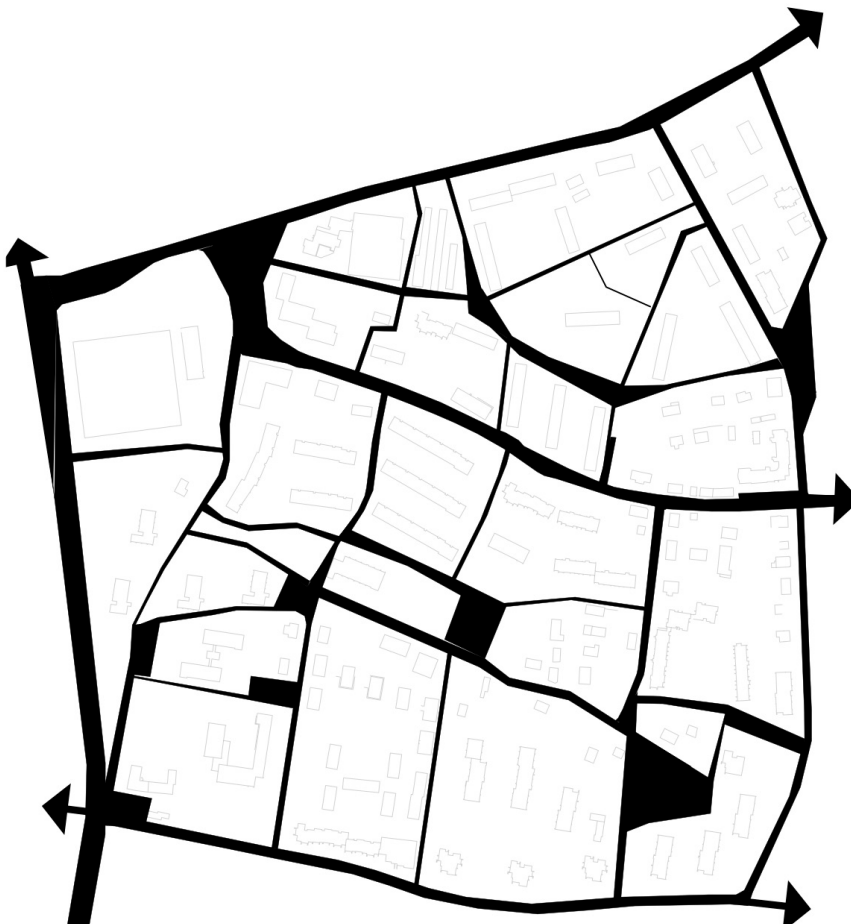


Fig. 3.21. Urban structure. Network of roads and open spaces  
Source: Author's drawing



Built up and green areas. Following a network of open spaces, the built-up areas are formed. The green areas are left in between the residential blocks and on the slopes.

Fig. 3.22. Built up and green areas  
Source: Author's drawing



### Traffic conditions

The neighbourhood should be pedestrian friendly and accessible, leaving as much as possible car traffic on the main roads and creating well-connected pedestrian and bicycle paths inside the neighbourhood. The network of the streets is proposed to connect public amenities and public and green spaces and to form a clear urban structure. The maintenance and constructions of the streets and paths are the responsibility of the municipality. In some cases, there could be a collaboration with the developers or the residents. Win-win situations are explained in a section - 'guidelines and recommendations'.

Fig. 3.23. Traffic conditions  
Source: Author's drawing



## Public backbone

At the entrance to the neighbourhood commercial/ industrial blocks and blocks of public services such as childcare centres and sport and health centre are already formed. It is proposed to form a public backbone by enhancing a node on the entrance to the neighbourhood. Moreover, this node is also the entry of a proposed pedestrian bridge. The public backbone is proposed to be developed on the two main axes of a neighbourhood. One of them is "Dzuku" street which is a public transport line and also connects the different parts

of the neighbourhood and the district. The second axis - recreated historical link which leads to the proposed pedestrian bridge to the city and which will hold the increased pedestrian flows. In order to create a public backbone at these axes and at the nodes, new functions and activities are needed. Also to create more vibrant and a pleasant street profile, new constructions should be added. This would create a more livable street profile, improve safety and encourage pedestrian flows.

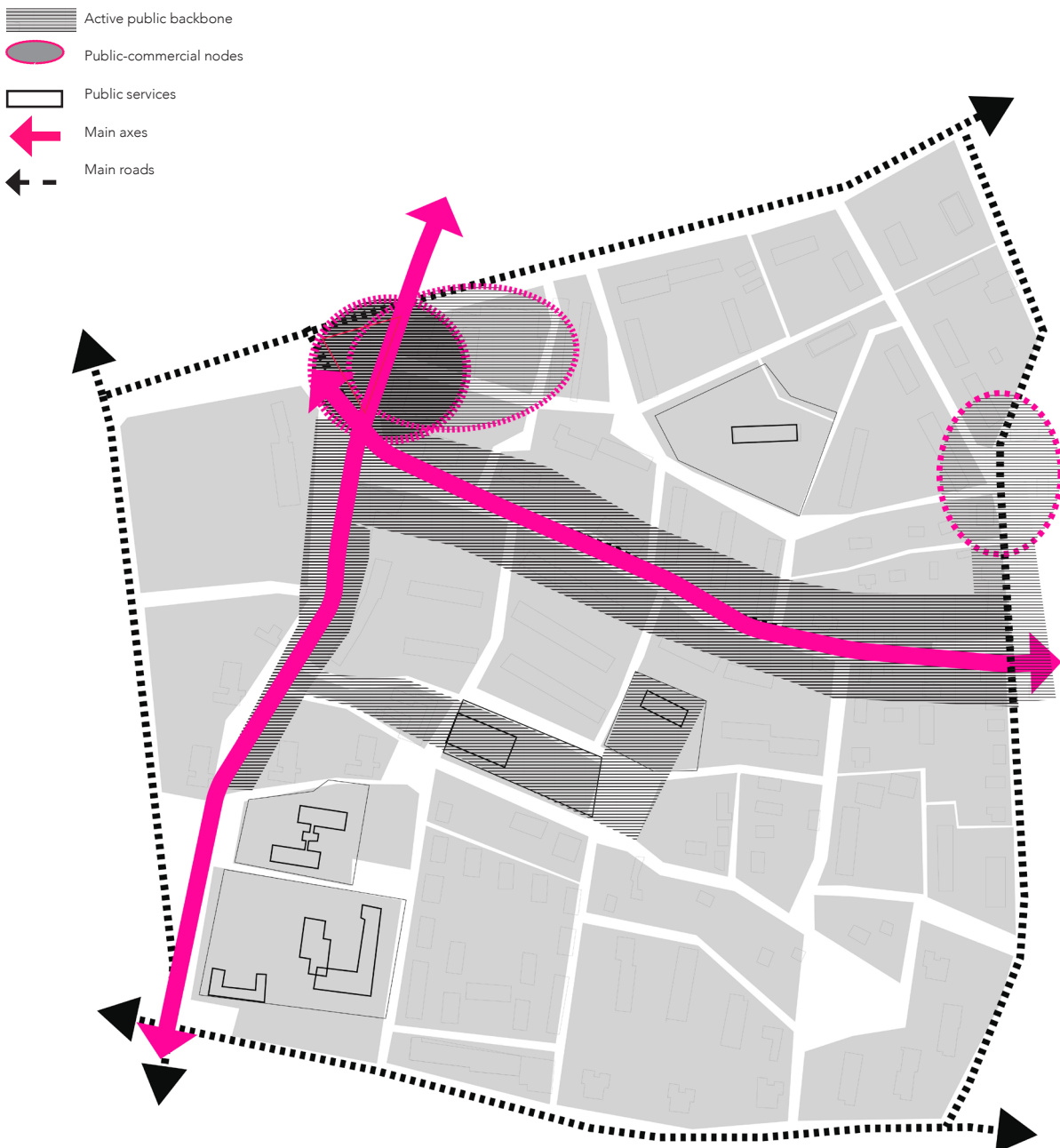


Fig. 3.24. Public backbone  
Source: Author's drawing

## Densification and historical structure

Densification should be done taking into account the historical urban structure and remained perimetric built-up type of the streets (only the fragments are left).

### **Densification on a public backbone**

To enhance an urban structure and also to create a more livable street profile, new constructions should be the same scale as the original urban villas and follow same perimetric built-up type.

It is proposed to keep the fragments of remained perimetric structure and to create a continuous perimetric street profile by intensifying existing plots of urban villas, adding extensions to the existing buildings or filling in the empty spaces on the street profile. The new constructions and extensions have to follow the street line and be the same scale and architecture as the original ones.

The intensification of the existing plots is proposed in the cases (fig. 3.28 and 3.29) where the separate ("stand-alone") buildings are left from the original structure.

Densification in the empty spaces, or in socialist housing estates blocks could be the extensions of existing buildings or infills of new constructions. They have to be the same scale and enhancing the perimetric built-up type

### **Historical blocks which are not on the public backbone**

The fragments of urban villas structure which are not on a public backbone are proposed to be densified, by renovating or rebuilding them. They could be the bigger scale but the same concept of villas with gardens and same architectural style. The private or semi-private housing could be the alternative to suburbs for families.

In the "green" middle zone of the neighbourhood it is proposed to leave the low density of small-scale villas with gardens, in order to leave the zone less urbanized area.

### **Densification of the other parts**

Densification of the other parts which are not the fragments of historical structure and not on a public backbone could be more flexible and are explained in a section "Guidelines and recommendations," "Socialist housing blocks."

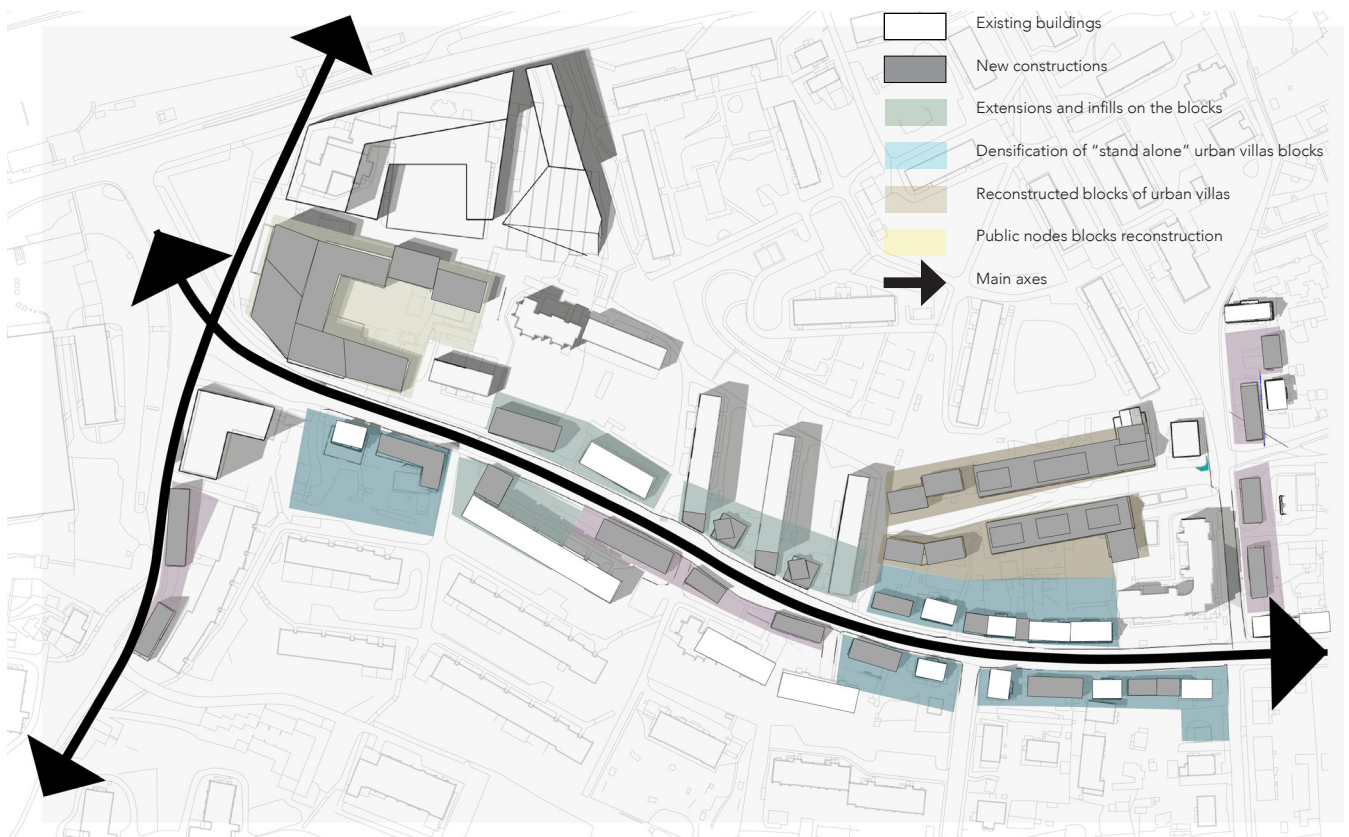


Fig. 3.25. Densification of a public backbone  
Source: Author's drawing



Fig. 3.27. Perimetric built-up type  
Source: Googlemaps street view



Fig. 3.28. "Stand alone" building  
Source: Googlemaps street view



Fig. 3.29. "Stand alone" wooden villas  
Source: Googlemaps street view



Fig. 3.26. Historical urban structure and densification  
Source: Author's drawing



## Public spaces

The active public spaces are proposed at the nodes of intersections of the main roads.

To enhance the entrance of the neighbourhood and to improve the entry to the proposed pedestrian bridge, the public plaza on the public node is proposed.

At the intersection of the link to the existing pedestrian bridge, it is proposed to activate an empty space by adding local activities such as local market or local business.

Local activities are needed to strengthen the interaction of the community and increase the attractiveness and livability of the space. Local market could be a solution because there are many people living with private gardens in the area, they could sell their goods.

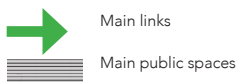


Fig. 3.27. Public spaces and links  
Source: Author's drawing



Fig. 3.28. Local public space  
Source: Author's drawing

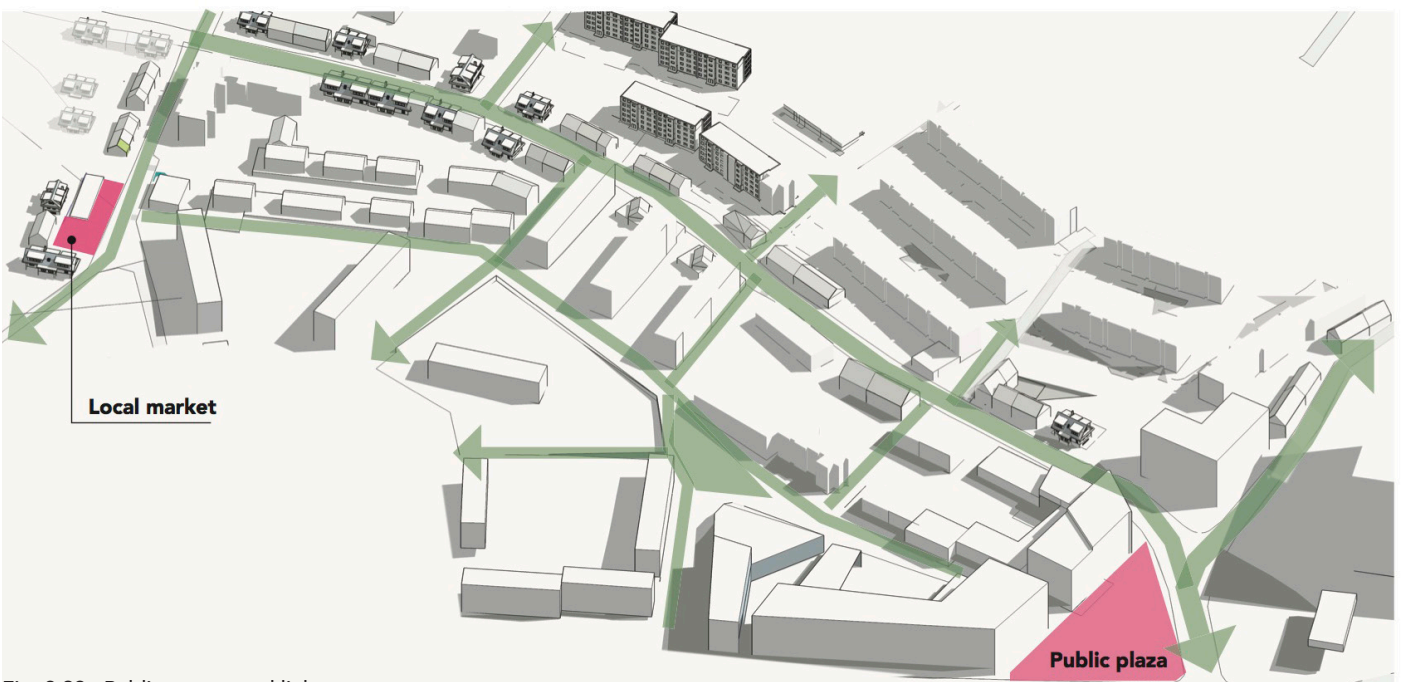


Fig. 3.29. Public spaces and links  
Source: Author's drawing

## Division into the blocks

The neighbourhood is divided into residential and non-residential blocks. The blocks are formed in order to clarify the ownership, to have more clear urban structure. For formed blocks, at the local level is easier to set the guidelines.

The blocks are formed by urban structure, building typology, existing parcels, functions, and terrain heights

Non-residential blocks are already formed. They are public buildings (schools, childcare centres) or commercial blocks, which are located next to the entrance of Naujinkai and along the public backbone.

Residential (mix use) blocks are two types - restructured socialist housing estates blocks, and urban villas blocks.

Some residential blocks are on a public backbone so in the case of new constructions, they have to follow the spatial plan of public backbone formation.

Depending on a position of a block in a spatial-functional organization of the neighbourhood, guidelines and recommendations are set. It is explained in a section "guidelines and recommendations. Levels of requirements".

The blocks which are not clearly formed could be modelled by adding new constructions in a block or extensions of the existing buildings.

The variations, possibilities for restructuring the blocks will be explained in a section "Guidelines and recommendations. Residential blocks".

## City blocks

"A city block is the smallest area that is surrounded by streets. City blocks are the space for buildings within the street pattern of a city, and form the basic unit of a city's urban fabric. City blocks may be subdivided into any number of smaller land lots usually in private ownership. City blocks are usually built-up to varying degrees and thus form the physical containers or 'streetwalls' of public space." (Source: [https://en.wikipedia.org/wiki/City\\_block](https://en.wikipedia.org/wiki/City_block)).

"Block's scale is directly related to the scale of the city. The city block generally involves a large spatial diversity and a relatively high privacy degree. Buildings ranging between 4 to 7 levels are ideal in terms of energy footprint, which is lower than that of taller buildings." (Baldea, 2013).

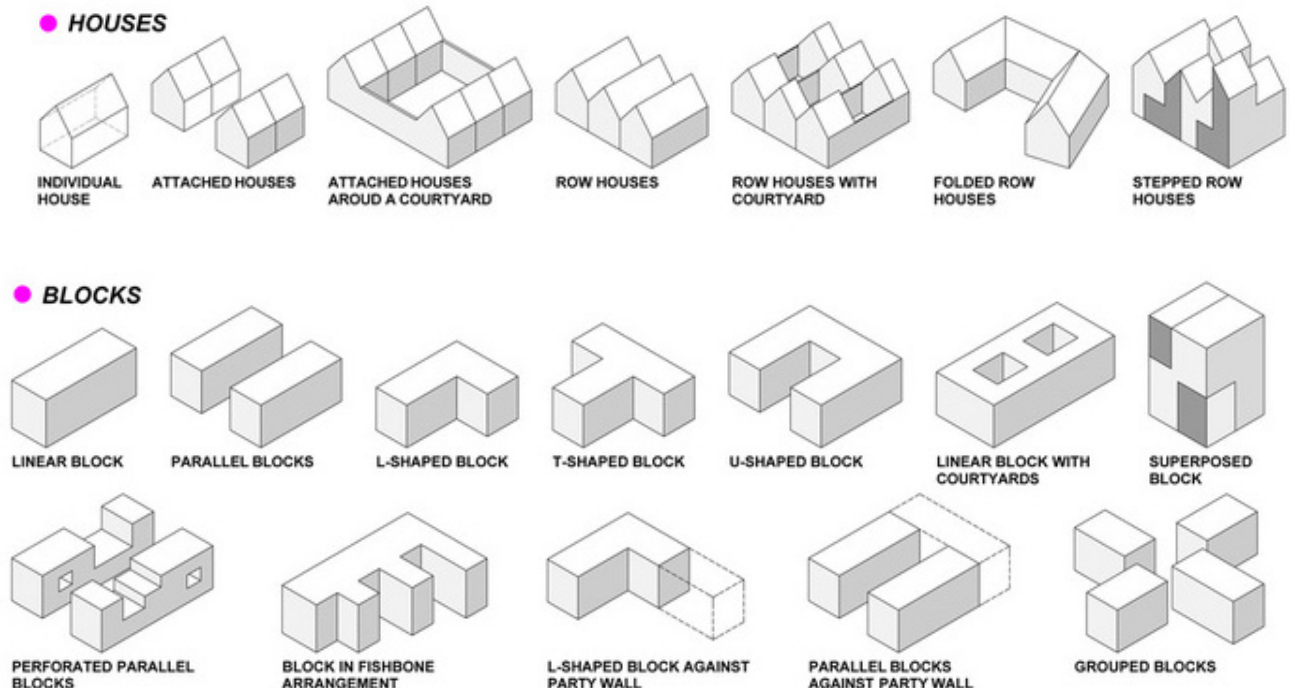


Fig. 3.30. Variatons of a city block  
Source:<http://www.suprastudio.com/>



- Mixed used (reconstructed) blocks
- Densified urban villas-parametric built-up type
- Low density wooden villas
- Modified urban villas
- Restructured socialist housing blocks
- Public services blocks



Fig. 3.31. Division into blocks  
 Source: Author's drawing

## Process of preparing a neighbourhood spatial development plan

A spatial development plan for the neighbourhood has to be prepared through a participatory approach involving the community and other related stakeholders in a neighbourhood planning process.

A draft spatial vision has to be integrated into the interactive tool and then together with the residents the spatial development plan has to be prepared (see the section "Interactive tool and a neighbourhood plan").

The residents of the neighbourhood and other stakeholders can interact in a plan preparation process. They can propose their ideas, discuss, suggest, criticize and comment on the draft plan. (See the section "Interactive tool and a neighbourhood plan," "plans in a preparation process.")

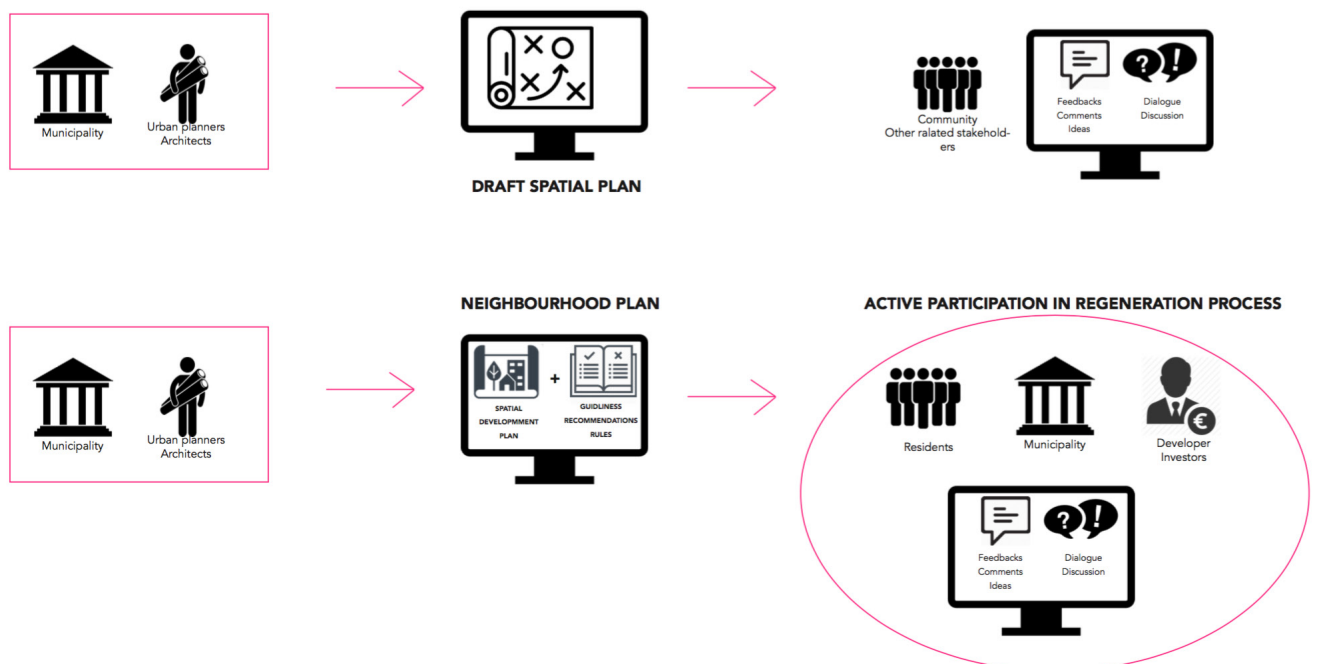
According to the comments, critics and suggestions of the community a neighbourhood plan is prepared, which includes a spatial development plan and the 'guidelines and recommendations.' The plan is integrated into to the interactive tool. Following the guidelines and recommendations, people can start to implement a neighbourhood plan.

## Spatial development plan and layers

A spatial development plan with the guidelines and recommendations are separated into the layers:

- Public spaces and not urbanized green areas
- Public backbone and non-residential blocks
- Residential blocks

More detail plans of each layer are explained in the following section and for each layer, the different set of "guidelines and recommendations" are provided.



- Public spaces and not urbanized green areas
- Public backbone and nonresidential blocks
- Residential blocks
- Existing parcels



Fig. 3.32. Spatial development plan  
Source: Author's drawing



## Guidelines and Recommendations

Following the spatial development plan (spatial-functional organization) the guidelines and recommendations are set.

Guidelines and recommendations are set to encourage residents to take care an initiative into the upgrading processes and create conditions for residents to take responsibility for taking care of their building environment. Also guidelines and recommendations encourage dialogues between all stakeholders and create conditions for win-win solutions.

To get the benefit from the private sector, the conditions for win-win solutions should be provided. The private sector is interested in the upgrading only with a possibility for the new constructions. Thus the guidelines and recommendations should provide the opportunities for the new (re)developments.

To implement a spatial development plan at a local-scale and to restructure the blocks spatial interventions are recommended by giving references.

### **The general objectives:**

- to set the guidelines and proposals for residents to improve the environment by themselves.
- to involve business representatives and private investors in the environment upgrading.
- to create conditions of public-private sector win-win solutions.
- to encourage residents to participate in planning and implementation processes.

## Levels of requirements

Guidelines, recommendations and rules differs in levels. Some rules are mandatory some more flexible to meet.

According to a spatial development plan and its objectives, the neighbourhood is divided into the built-up blocks and open, not urbanized spaces.

Open spaces - public and green spaces have the strict requirements, which will be explained in the following section.

depends on a position of the block in a spatial development plan. If a block forms a public backbone, is an important component forming a street profile, effects form of public spaces and entrances of a district, has to meet the specific requirements which are set together with "guidelines and recommendations".

The other blocks which directly do not influence a spatial, functional organization of the neighbourhood have more flexibility. However, they have to meet the conditions set for a whole neighbourhood and follow the objectives of a plan.

The level of requirements of the built-up blocks de-









Fig. 3.23. Level of requirements  
Source: Author's drawing

## Public and green spaces

In a spatial development plan, the neglected and unused public spaces or the empty spaces on the important nodes are described as public spaces and have to be improved by adding functions and activities. Those areas are marked by the numbers in a plan.

The green spaces are proposed to have a function such as playgrounds or the gardens. The slopes in be-

tween the residential blocks are described as the areas for extensive use to protect the terrain.

-  Green areas
-  Active public green spaces
-  Slopes
-  Pedestrian paths
-  Main roads
-  Public transport line

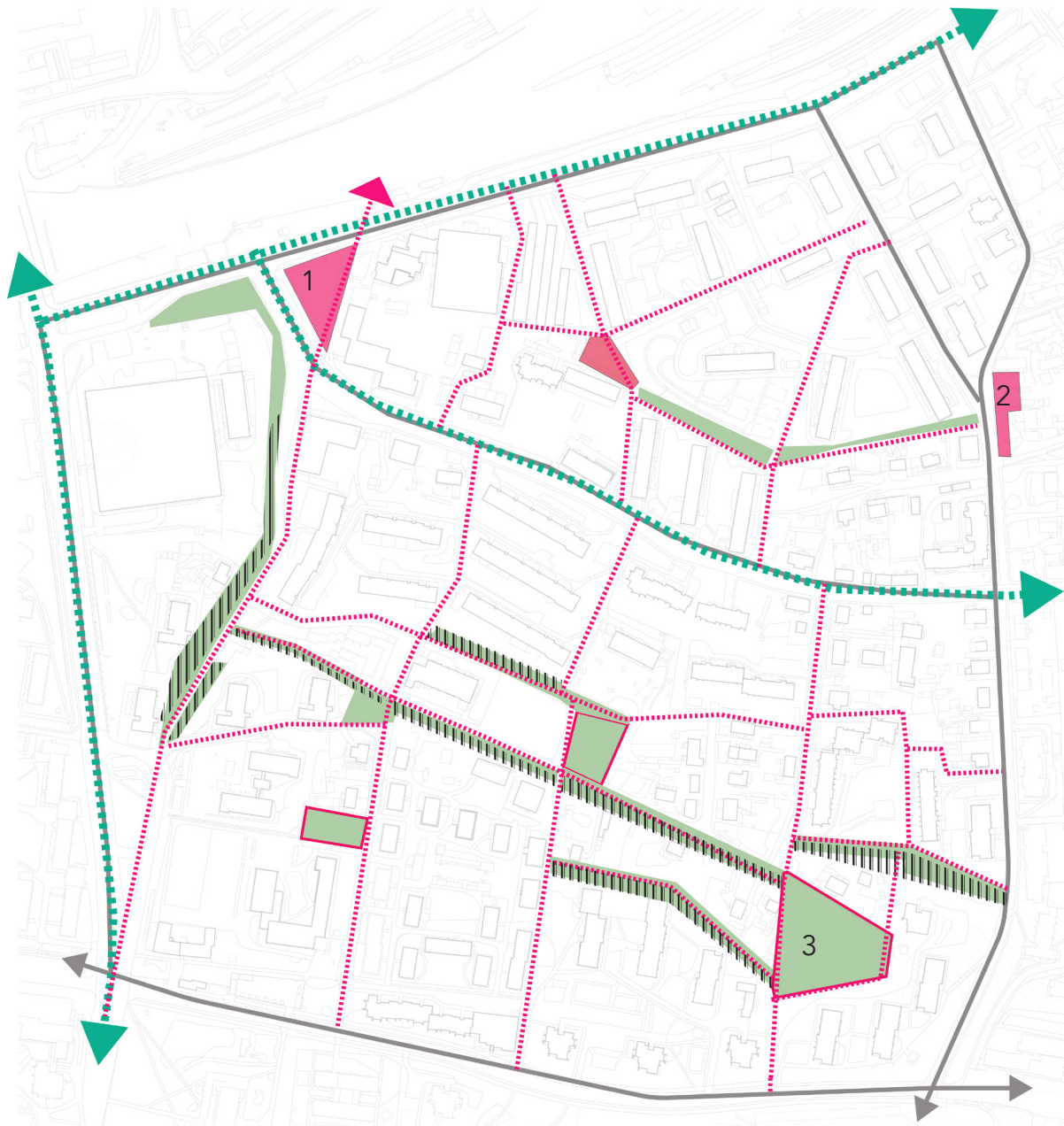


Fig. 3.24. Public and green spaces  
Source: Author's drawing



## 1. Public plaza

<b>Key stakeholders</b>	Residents of Naujininkai, private investors, municipality
<b>Possibilities</b>	To add new constructions, function and activities by allowing new constructions to the area which is now a car parking place
<b>Conditions</b>	Municipality could sell/rent a land (which now is a parking space) for a low price with a condition that new developments would add value for the area as a public space. Space has to be upgraded and function and activities have to be added taking into account needs of the residents of Naujininkai. Residents should participate in the process of planning.
<b>Construction rules</b>	Constructions. Constructions have to be made according to a spatial development plan. The constructions should not block pedestrian flows and an open space for public plaza has to be left. A scale of the construction should be the same as the surrounded blocks.

How the dialogue with the stakeholders should work, how they could interact and how the residents are involved in creating a public space is explained in the separate section *"interactive and a neighbourhood plan"*.



Fig. 3.25, 3.26. Existing situation of the area  
Source: googlemaps. street view.



## Recommendations and references

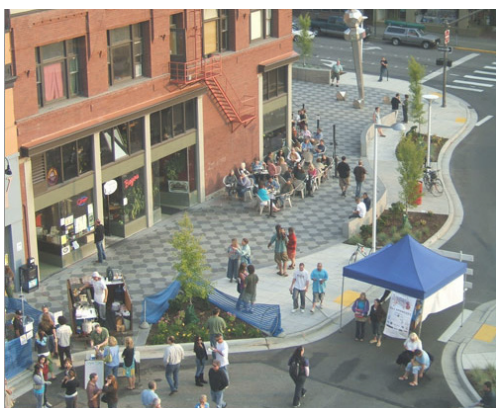


Fig. 3.37. Pittsburgh Market Square  
Source: <https://www.planetizen.com>



Fig. 3.38. Public plaza  
<http://www.universitycity.org/>

## 2. local market

<b>Key stakeholders</b>	Residents of Naujininkai, local entrepreneurs, municipality
<b>Possibilities</b>	To activate the open space on the node on the street which connects the southern part of Naujininkai and the pedestrian bridge. Activation of the space is possible by adding functions and improving attractiveness. A proposed function - local market or other small business or local gardening. The residents are encouraged to take the initiative in a planning process of the public space.
<b>Conditions</b>	Activity. Activity has to enhance the interaction of communities and increase the attractiveness and livability of the space Finance. If residents take the initiative of improving the space, they can claim some financial support from the municipality or together with the municipality organize a crowdfunding. For local business, municipality offers tax incentives in the case of area upgrading.
<b>Construction rules</b>	Small scale, light constructions.

How the dialogue with the stakeholders should work, how they could interact and how the residents are involved in creating a public space is explained in the separate section "interactive and a neighbourhood plan".



Fig. 3.39. Existing situation of the area  
Source: [googlemaps](https://www.google.com/maps). street view.



Fig. 3.40. Existing situation of the area  
Source: Author's image

### Recommendations and references



Fig. 3.41. Rose Garden Urban Flea Market-  
Source: <http://www.roomsforafrica.com/>



Fig. 3.42. Gm Urban Gardens 3  
Source: <http://gmauthority.com/>



Fig. 3.43. The Dalston Eastern Curve Garden  
Source: <http://www.dailymail.co.uk/>



### 3. green public space

<b>Key stakeholders</b>	Residents of Naujininkai, municipality
<b>Possibilities</b>	To use unmaintained public space in a more creative way. To create attractive green local spaces with playgrounds and gardens. There could be organized workshops of the space improvement by the local government.
<b>Conditions</b>	Finance. If residents take an initiative to improve the space, they can claim some financial support from the municipality or together with the municipality or local governance organize a crowdfunding.
<b>Construction rules</b>	Construction of the elements needed for improving a public space.

How the dialogue with the stakeholders should work, how they could interact and how the residents are involved in creating a public space is explained in the separate section "interactive and a neighbourhood plan".



Fig. 3.44. Existing situation of the area  
Source: [googlemaps.street.view](http://googlemaps.street.view).



Fig. 3.45. Existing situation of the area  
Source: Author's image

### Recommendations and references



Fig. 3.46. Evelyn Court Estate Playground  
Source: <http://www.erecarchitecture.co.uk/>



Fig. 3.47. Tumbling Bay Playground  
Source: <https://davisla.wordpress.com>



## Public backbone

Public backbone is formed from the mixed-use residential and non-residential blocks and public spaces. On the public node at the entrance of the neighbourhood are already commercial-industrial blocks formed. It is proposed to redevelop these areas in the future to mixed-use blocks.

To enhance a public node at the entrance, a reconstruction of the abandoned or poor quality blocks (garages) is proposed. The other reconstruction of the garages is proposed next to the sports and health

centre.

To create a public backbone on a "Dzuku" street and a historical road, and to make them more livable, the intensification of a street profile is proposed: by forming parcels on an empty land for new constructions with commercial/public uses and by densifying and adding functions to the existing residential blocks on a street side.

The heights and volumes of the (re)constructions have to follow a spatial development plan.

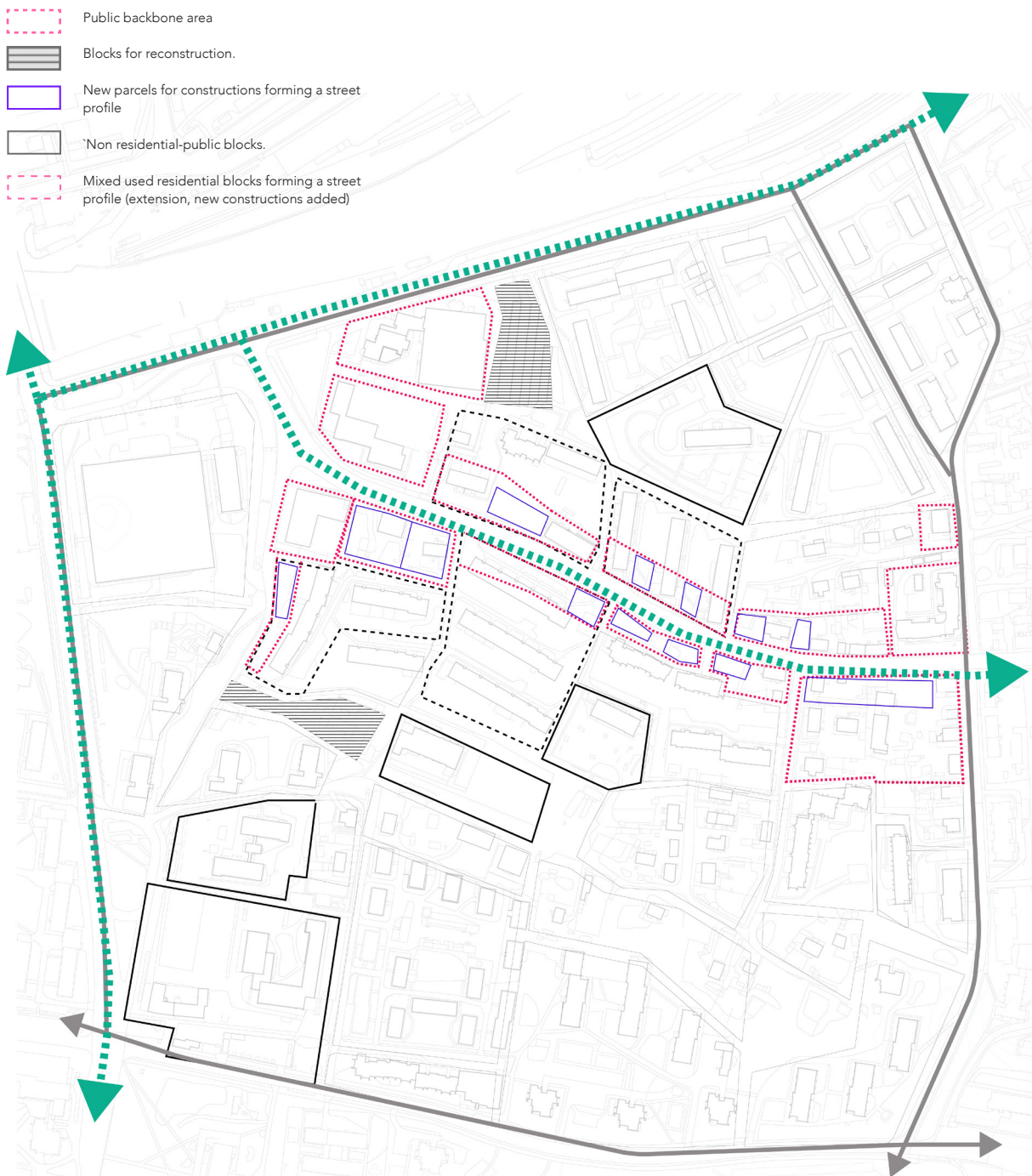


Fig. 3.48 .Public backbone  
Source: Author's drawing

**Reconstructions**

Reconstruction of the abandoned areas is proposed. If the area belongs to the municipality, it could be sold to a private sector for a very low price to get the surrounding areas improved.  
If the property, for instance, garages, belongs to the residents, they could sell their property to developers for a low price with the condition that a developer will upgrade a surrounding public space, playgrounds, etc.

**"Blocks" on empty land formed for new constructions shaping a street profile**

Along the streets, it is proposed to form "street" blocks - for new constructions, which currently are the empty areas in front of the socialist housing estates blocks. Where land belongs to the municipality, parcels could be formed and then sold or rented for business development or commercial use. Constructions have to follow the street line and meet the height requirements. Constructions should be light and not higher than 1-2 stories height in order not to block the views from the housing buildings behind.

**Non-residential public services and commercial blocks**

The existing non-residential commercial-industrial blocks are proposed to be reconstructed. Reconstructions should be arranged by leaving a path for public uses as it is provided in the spatial development plan. The height should not be higher as the surrounding residential housing blocks.  
The missing connections to the public services blocks - child care centres- should be provided.

**Mixed used residential blocks forming a street profile**

The residential blocks what are in the public backbone zone have to meet the particular construction rules, and it is proposed to add the functions on the facades facing the street. How the functions could be added, and the new constructions or extensions could happen, is explained in a section "block of urban villas."

## Residential blocks

Residential blocks are divided into the blocks of housing estates and blocks of urban villas.

The guidelines and recommendations provided by municipality should encourage the upgrading processes of the block.

Conditions and recommendations should encourage to involve private investors in improvement processes of the area.

Objectives of the block development - to improve the quality of the building environment and create more active communities. In that way to create a better image of the neighbourhood and the district and to attract new residents into the area.

Following the guidelines, the community of the block, or community together with the investors can organize the (re)development plan of the block which follows the neighbourhood spatial, functional organization.

There are blocks which have to meet specific requirements for construction in the cases if they belong to a public backbone zone or the area of preserved historical urban villas.

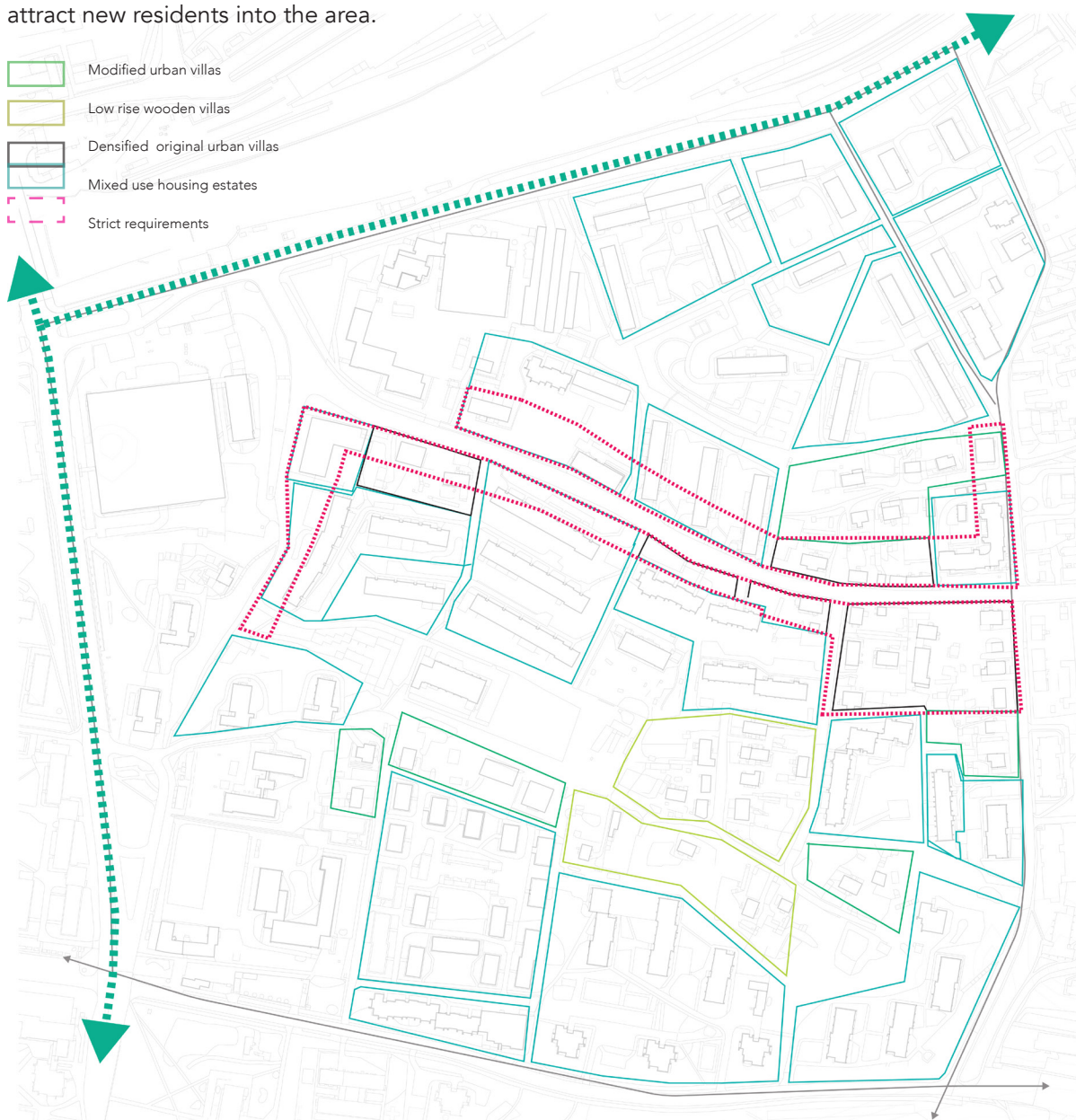


Fig. 3.49. Residential blocks  
Source: Author's drawing



## Block of the socialist housing estates

A block unit:

- Existing buildings (and extensions) with the existing (already formed) or newly formed parcels.
- Common area - the proposed area for common spaces, a courtyard which belongs to the community of the block.
- Possible areas for new constructions which would form a block.

Functional spatial organization of a block follows the spatial plan of the neighbourhood.

To renovate and improve the quality of life within a block, guidelines and recommendations are set for the residents and other related stakeholders. Following the guidelines, the residents of the blocks decide how they want to improve their block and start the dialogues with the developers which could be involved in a renovation processes.

Spatial objectives for restructuring housing estates

- Safe and green courtyards and an attractive residential environment.
- Creating a sense of ownership, clarify private, semi-private and public spaces.
- Providing the opportunity to develop new buildings.
- Enhancing a sense of community within a block

The guidelines and recommendations will be given in themes:

### **House and its parcel:**

- claiming a private land
- a house building and its renovation, transformation

### **Block:**

- common areas and new constructions

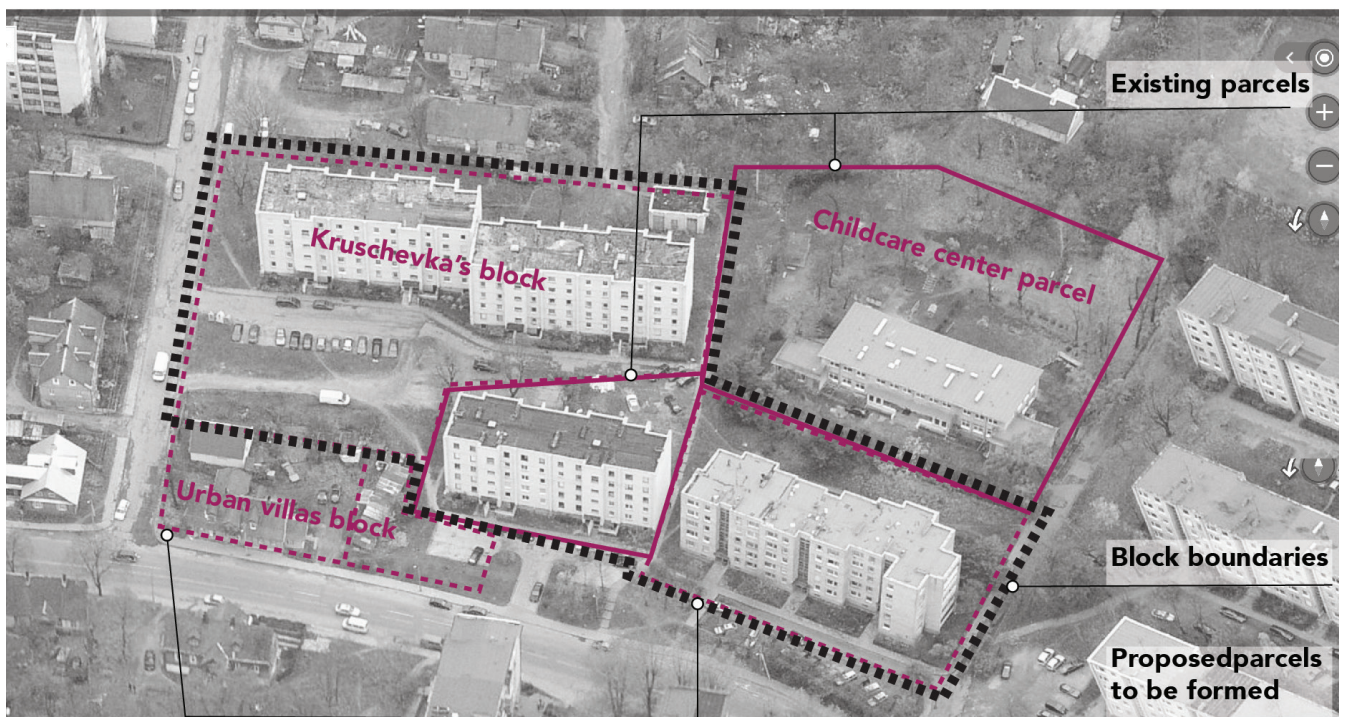


Fig. 3.50. A block of socialist housing estates

Source: Author's drawing on a birdseye view taken from <https://www.bing.com/maps>

## Parceling

In the socialist housing estates, there are common issues of the unclear ownership. The problem is that almost no one is taking care of the surrounding area of the house. People own only the apartment and they do not take care of the other parts of the building or the surrounding space -courtyards. Municipality usually does not have enough funds to maintain big open and unused green spaces around the buildings. Those areas are in poor conditions with no activity. Often space in between the buildings - courtyards- are occupied with cars, there are no gathering spaces, no sense of community.

To clarify the ownership and to make someone to take care of the surrounding areas to form a parcel around the building is proposed.

The undefined land around socialist housing estates becomes owned land.

The owners of the apartments become the co-owners of the parcel. In that case, people have to pay the land ownership taxes for the municipality. The percentage of taxes the resident has to pay depends on the size of the apartment.

The parcel of the building is defined by the usage of the land which includes the parking space, the playground or the garden.

On the empty land, which would form a block, a parcel is also formed. In this parcel, new constructions could appear. In the parcels where already existing buildings are, new constructions could happen only with the agreement of the community of the block.

The selected block consists of the group of four parcels.

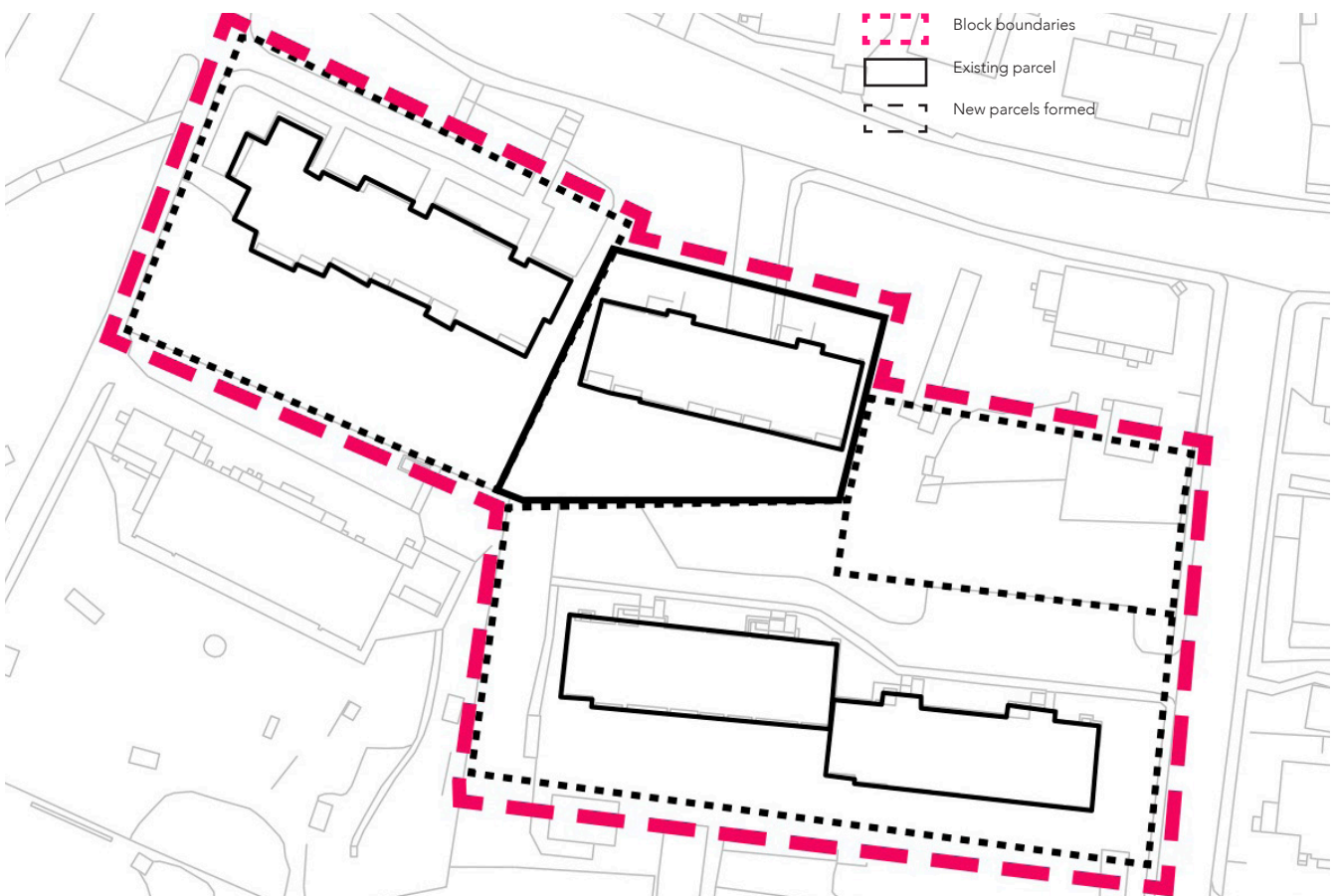
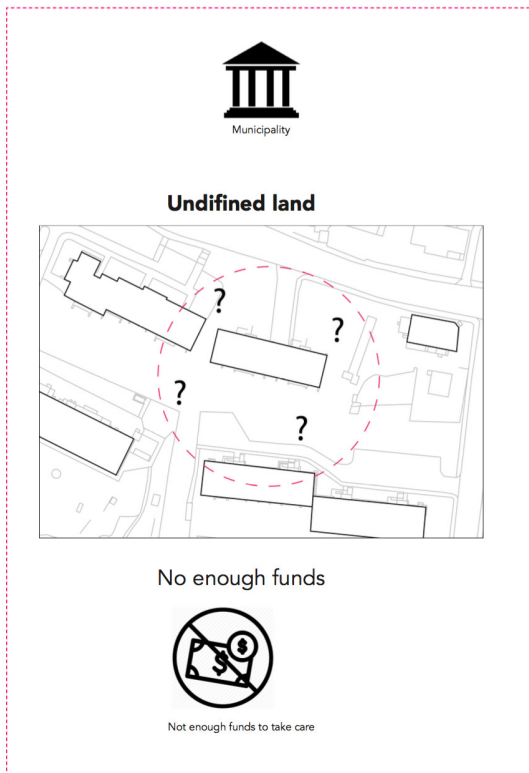
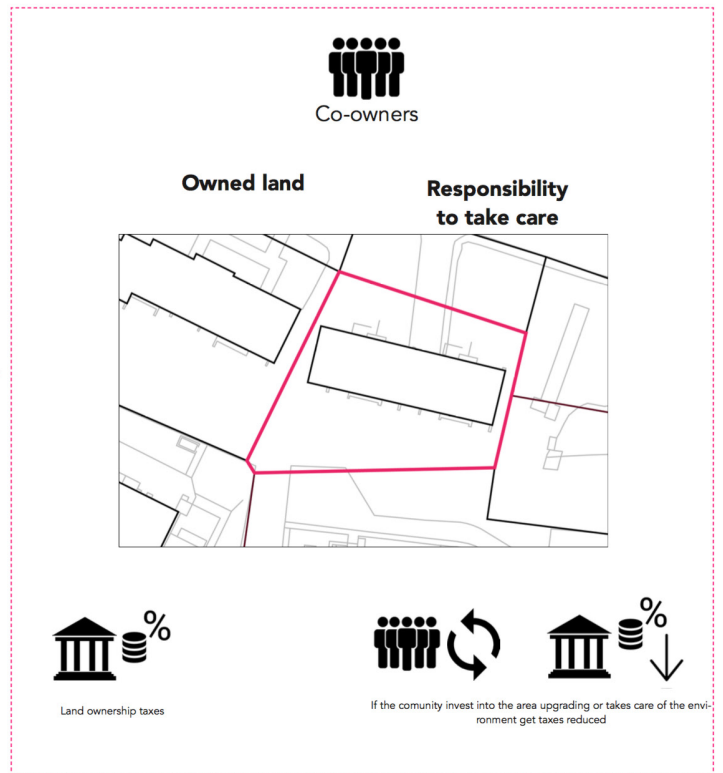


Fig. 3.51. Parcels of the block  
Source: Author's drawing

## Current situation



## Proposed





### Existing house and it's parcel

<b>Stakeholders</b>	The co-owners of the parcel.
<b>Possibilities</b>	Within the boundaries of a formed parcel of the building, the residents of the ground floor could claim a private land with direct access to their apartment. Terraces, private gardens, fences could appear. In the case of refusing to have a private land for the ground floor apartment, negotiations could start with the other apartments for claiming that land. The rest of the parcel belongs to the community (co-owners) for common uses.
<b>Conditions</b>	Private land could be formed with the agreement of all the owners of the parcel. The owner of a private land would have to pay the bigger part of the land ownership taxes and then automatically the co-owners of the building parcel would have to pay less.
<b>Rules</b>	The size of the private land should be defined by leaving the space for the common use of a parcel unless the community agrees differently. Constructions should be light, like terraces or roofs, and the project of the constructions should be agreed with the co-owners of the common parcel.



Fig. 3.52. Existing situation of the area  
Source: googlemaps. street view.



Fig. 3.53. Existing situation of the area  
Source: googlemaps. street view.

Block of the socialist housing estates. Existing house and it;s parcel.

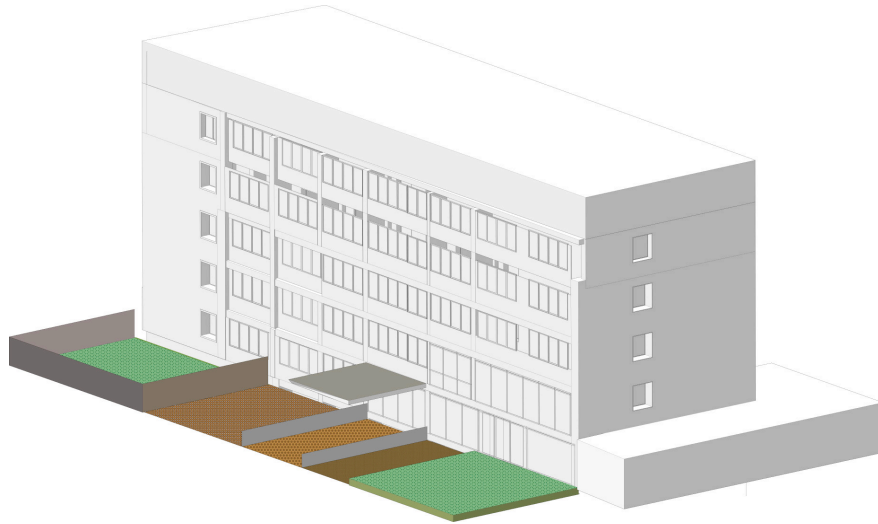


Fig. 3.55. Possible division of the land for private gardens  
Source: Author's drawing

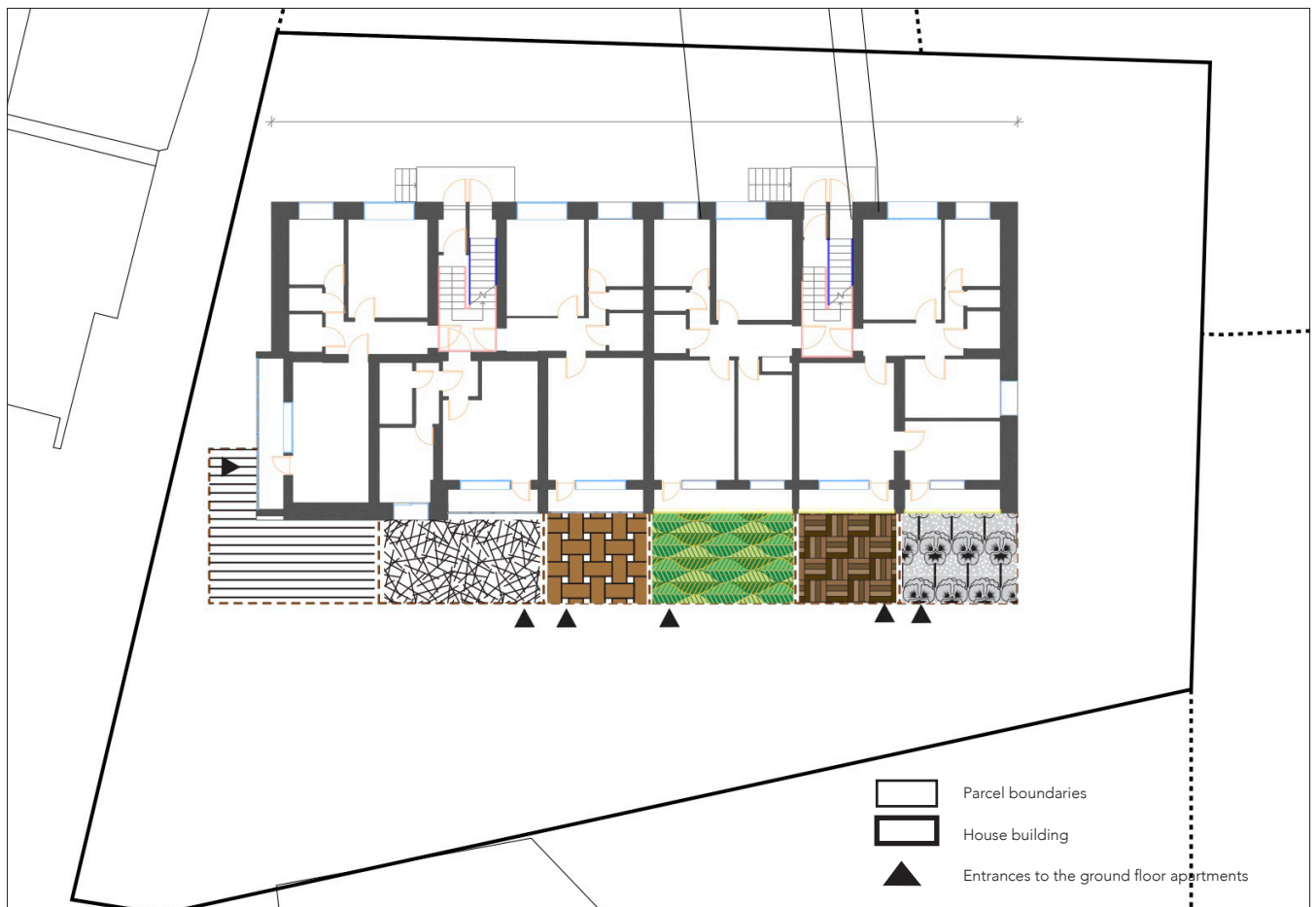


Fig. 3.54. Possible division of the land for private gardens  
Source: Author's drawing



Block of the socialist housing estates. Existing house and its parcel.

### References for restructuring mass housing estates - private gardens, terraces



Fig. 3.56. Private gardens of housing estates in im Erdgeschoss, Germany  
Source: <http://www.jeder-qm-du.de/>



Fig. 3.59. Private terraces in housing estates in Leinefelde, Germany  
Source: <http://www.sfa.de/>



Fig. 3.58. Private entrances of housing estates in Halle, Germany  
Source: <http://www.jeder-qm-du.de/>



Fig. 3.59 Private gardens/terraces of housing estates in Leinefelde, Germany  
Source: <http://www.muck-petzet.com/>



### House building renovation and transformation. Extensions of a ground ant top floor

<b>Key stakeholders</b>	The co-owners of the parcel, developers
<b>Possibilities</b>	<p><b>For the residents.</b> The residents of the ground floor could extend their apartments. The residents of the upper floor apartments could use the roofs of those extensions as the terraces.</p> <p>The residents of the top floor could extend their apartments by adding a new floor above.</p> <p><b>For the developer.</b> The developer could buy the ground floor apartment and extend it or buy the land next to the building and extend the sides of the building. If the residents agree the building could be extended for the constructions of new apartments. The developers could buy the top floor of the building and add one more floor for the new apartments.</p>
<b>Conditions</b>	<p><b>The residents</b> of the extended apartment automatically, according to the increased size of their apartment, pay the bigger part of the land ownership taxes.</p> <p><b>Developers.</b> If the extension does not belong to the owners of the building apartments, the owner of the extension becomes the co-owner of the parcel and has to pay land ownership taxes according to the size of the extension.</p> <p>The co-owners of the parcel could agree with the new extensions (especially with the bigger ones) with the conditions of renovating the building or common spaces, courtyards.</p>
<b>Building rules</b>	<p>The extensions of the ground floor should not block the entrances, pathways, or the defined spaces for the common areas. The projects of the extensions have to have an agreement of the co-owners of the parcel.</p> <p>In the case of the extending the sides of the building, it should be same height pr + 1 floor as the existing building.</p> <p>The constructions of the top floor should be light.</p>

### Renovation possibilities

Renovation of apartment block should encourage people not only to upgrade house energy efficiency but also the quality of life while improving house inside the plan. Flat and balcony extensions, lift construction would highly improve living conditions and value of the property. Basement level and roof use would create better conditions for all inhabitants. Private terraces for first floor owners would increase safety and property value. Light construction roof penthouses would extend top floor flats, even new typology flats could appear. Residential buildings along the main streets and along the main paths are adjusted to the commercial functions on the ground floor. Multi-functionality would develop the attractive residential area, generate flows and improve safety. The possibility of new construction can be also considered. New houses should not occupy public places or worsen existing living conditions. New construction could form edges among existing buildings and form a block.

Recommendations for the renovation of apartment blocks of a Re-block project in a socialist microdistrict of Zirmunai in Vilnius:

- Staircases and lift zones should be convenient and safe;
- Lifts should be constructed, where needed;
- Extend balconies;
- Balconies should be glassed;
- Construction of additional facade to improve house efficiency and extend kitchen, dining, living zones, balconies is encouraged;
- Flat roof surfaces should be used for public terraces and placement of renewable resources;
- Light construction roof penthouses should extend top floor flats or add new typology flats to the block;
- Basement level should be used for bicycle storage, baby buggies;
- Along the main streets ground floor should be extended and adapted for commercial function, extended volume roof should be used for upper-level terraces;
- New window solutions should increase natural light inside;" (Zirmunai triangle local action plan, 2015).



Fig. 3.60. Existing situation of the area  
Source: Author's image



Fig. 3.61. Existing situation of the area  
Source: Author's image

Block of the socialist housing estates. House building renovation and transformation.

### Possible transformations of the building

Source: Author's schemes



Fig. 3.62. Possible extensions of the groundfloor  
Source: Author's drawing



Block of the socialist housing estates. House building renovation and transformation.

### References for restructuring mass housing estates - adding a top floor to the building



Fig. 3.63. Roof top extension  
Source: <http://www.lex-architecten.nl>



Fig. 3.64. Roof top extension  
Source: <http://www.contemporist.com/>



Fig. 3.65. Rooftop extension  
Source: <http://archidesignclub.com/>

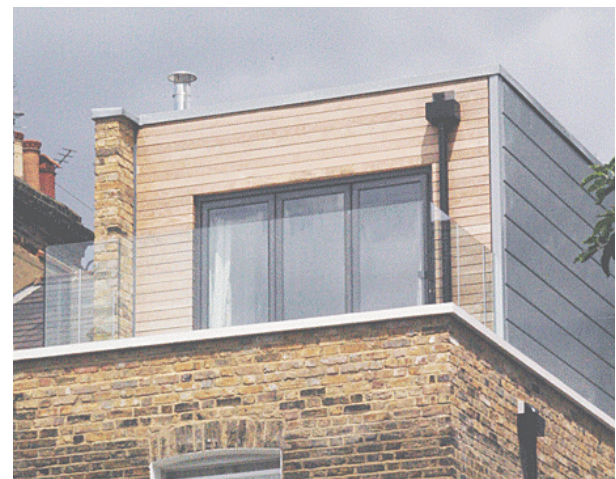


Fig. 3.66. Top floor extension  
Source: <http://ww38.studiob3.co.uk/>



Fig. 3.67. roof top extension  
Source: Authors image



### Block. Common areas and new constructions

A block with the existing buildings in it and new constructions should form more private space for uses of the block community, such as playgrounds, gardens, and parking.

The 'guidelines and recommendations' are set for the residents to provide the possibilities for new constructions and to get benefit from the developers into the upgrading process of their block. In case of new constructions, a block (re)development plan has to be prepared.

A redevelopment of a block has to follow the spatial development plan of the neighbourhood.





-  Existing buildings
-  Proposed private land for ground floor apartments
-  Proposed area for common spaces, courtyard
-  Proposed area for new constructions



Fig. 3.68. A block with courtyard and new constructions  
Source: Author's drawing



<p><b>Stakeholders</b></p>	<p>The co-owners of the parcel, developers, municipality</p>
<p><b>Possibilities</b></p>	<p><b>Courtyard.</b> To form a common space of the block -a courtyard, which could be used for community activities such as gardening, children playgrounds or the small storage buildings or the other constructions.</p> <p><b>New constructions.</b> New constructions could appear in a newly formed parcel of the empty land or could be the extensions of the existing buildings.</p>
<p><b>Conditions</b></p>	<p><b>For community.</b> If the community improves the environment of the block, municipality offers a reduction of land ownership taxes according to the investments the community put into the space improvement.</p> <p><b>For developers.</b> In the case of new constructions in a parcel of existing buildings, the community set the conditions for the developers such as renovation of the block or the building</p>
<p><b>Rules</b></p>	<p><b>For developers.</b> In the case of new constructions in the parcel of existing building, the developers become the co-owners of the parcel and have to share land ownership taxes.</p> <p>In the case of the new constructions on an empty parcel, a municipality could sell the land for a low price in an exchange that a developer improves the block environment. The new constructions of the block should follow the spatial - functional organization of the neighbourhood plan.</p> <p>The new construction should form a block and should improve the quality of life in it..</p>

**PARKING. (in a block)**

According to a Re-block project the suggestion is that one apartment would have one parking lot for free and for the extra there would be an extra fee. From extra fees the fund could be created in order to build new parking places.

In the case of new constructions, a developer could provide the parking places in the underground parking.



Fig. 3.69. Existing situation of the area  
Source: Author's image



Fig. 3.70. Existing situation of the area  
Source: Author's image

Block of the socialist housing estates. Block. Redevelopment possibilities of a block

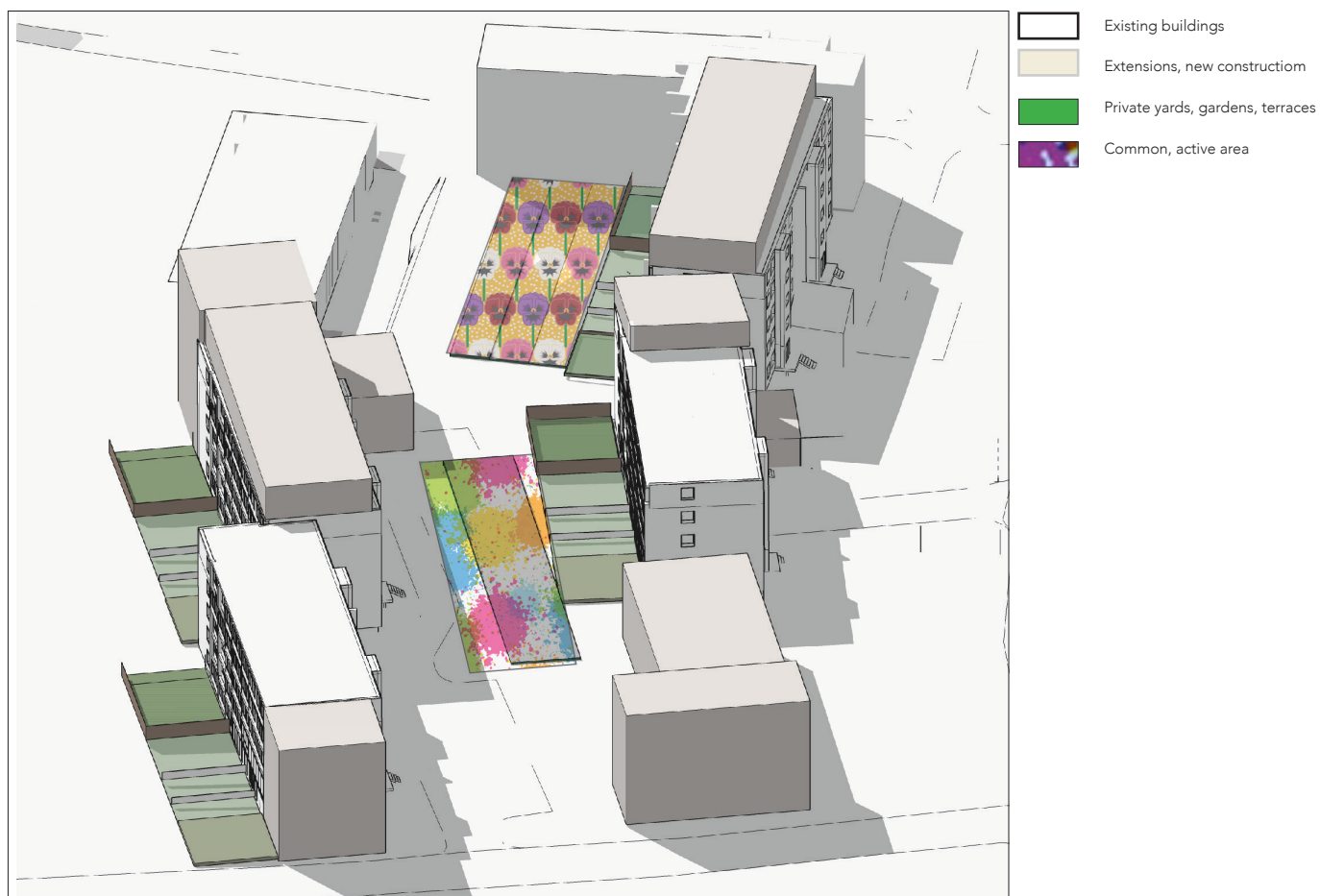


Fig. 3.71. Possibilities of a block redevelopment  
Source: Author's drawings



Fig. 3.72. Possibilities of a block redevelopment  
Source: Author's drawings



References for restructuring mass housing estates - courtyards



Fig. 3.73. Storage buildings in a courtyard  
Source: <http://www.publicspace.org/>



Fig. 3.74. Storage buildings in a courtyard  
Source: <http://www.publicspace.org/>



Fig. 3.75. Storage buildings in a courtyard  
Source: <http://slabintheface.weebly.com/>



Fig. 3.76. Garden in a courtyard  
Source: <https://smartgrowthamerica.org>



Fig. 3.77. Garden in a courtyard  
Source: <http://photos2.meetupstatic.com/>



Fig. 3.79. Courtyard of housing block  
Source: <http://www.greenroofs.com/>



References for restructuring mass housing estates - new constructions and extensions



Fig. 3.80. House Neumann. New construction in housing estates in Neubrandenburg, Germany  
Source: [//www.architonic.com](http://www.architonic.com)



Fig. 3.81. House Neumann. New construction in housing estates in Neubrandenburg, Germany  
Source: [//www.architonic.com](http://www.architonic.com)



Fig. 3.82. Reconstruction of a housing estates in Leinefelde, Germany  
Source: <http://www.muck-petzet.com/>



Fig. 3.83. A gallery in a housing estates block in Berlin  
Source: <http://www.jeder-qm-du.de/>

### Block of urban villas

In a spatial development plan, the intensification of a "Dzuku" street profile is provided. The blocks in the public backbone zone have to form a perimetric built-up street type in order to recreate a historical structure and to create more livable and vibrant street profile.

From the original structure, there are only fragments left- "stand-alone" urban villas (figure 3.84) and few fragments of a perimetric structure (Figure 3.85).

It is proposed to densify the remained "stand-alone" villas (private houses) by adding new, same scale and architecture, volumes next to it and to adapt them to mixed-use residential/commercial functions.

The blocks of urban villas which are not on the public backbone and appeared after the mass constructions are proposed to be modified but leaving the typology of urban private villas with the gardens. It could be the alternative to the suburbs, a typology for families with private gardens.

The urban wooden villas, which remained in an original urban structure, is proposed to be preserved as a low scale private houses with the gardens.



Fig. 3.84. A fragment of perimetric built - up type  
Source: Author's drawing

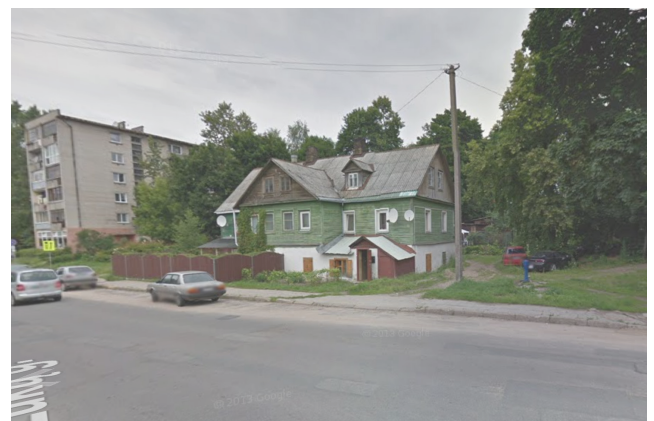


Fig. 3.85. "Stand alone" wooden villa  
Source: Author's drawing



### Block of urban villas on a public backbone

Selected blocks are in the zone of public backbone and suppose to form a street profile. The existing buildings of the blocks are wooden villas from the year of 1940 with some utility buildings next to it. Both residential villas and utility buildings are in very poor conditions and do not have a proper water and sewage supply infrastructure.

In a spatial development plan, it is proposed to densify these blocks by adding new constructions. Originally next to those villas were the buildings which were destroyed. New constructions in the blocks are proposed.

The existing buildings do not have formed parcels around them. It is proposed to form the parcels around the existing buildings by the original structure of the parcels before occupation.

Owners of a parcel have to pay land ownership taxes to the municipality.

New parcels of the empty land are formed for the new constructions according to the original street built-up structure.

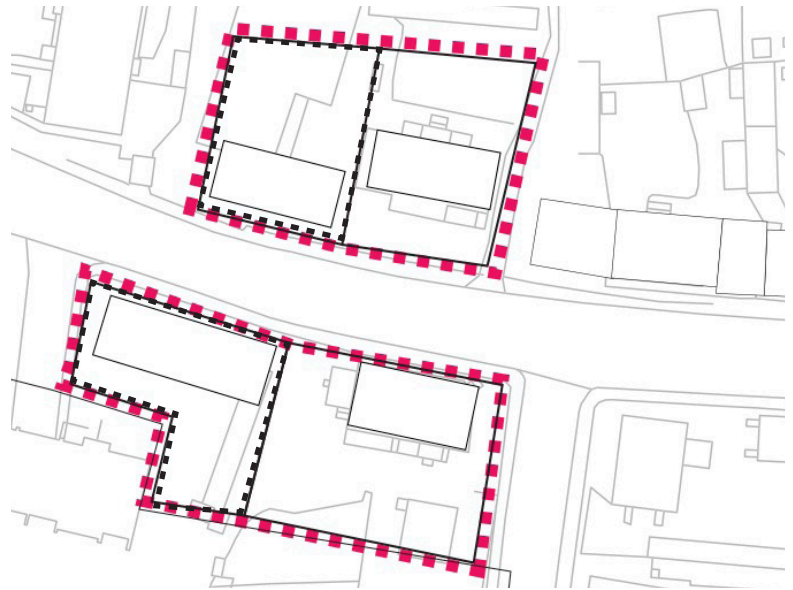


Fig. 3.87. Preserved scale and architecture blocks, proposed to be densified by perimetric built-up type  
Source: Author's drawing

-  Block boundaries
-  Parcel for existing building
-  Parcel for new constructions

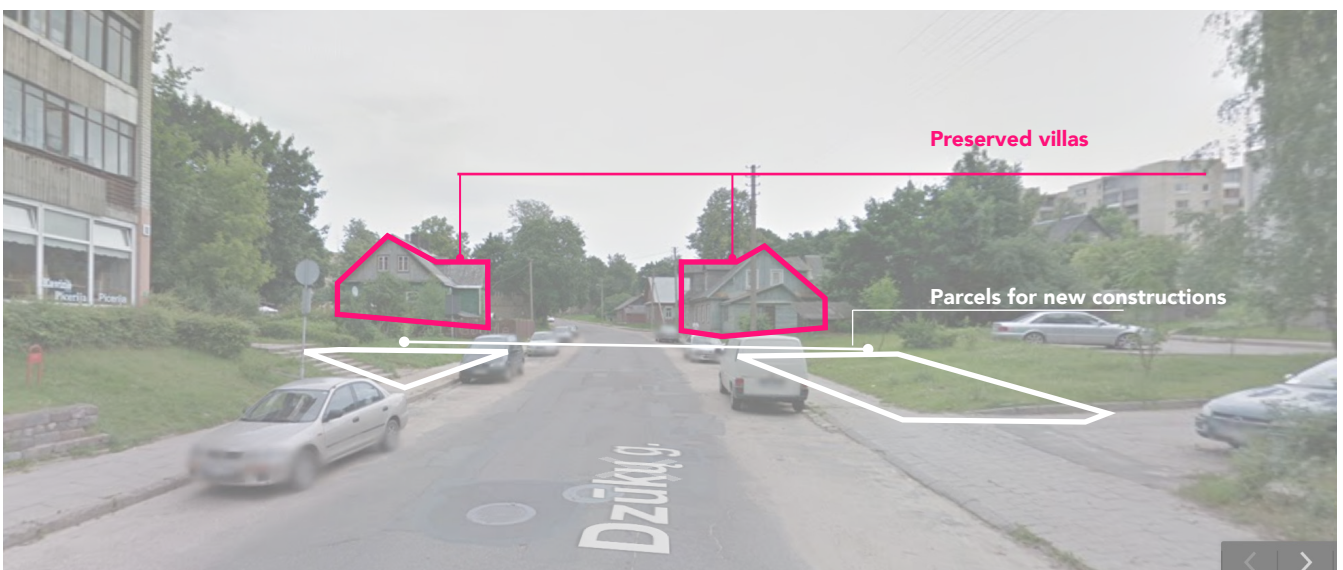


Fig. 3.87. Urban villas blocks - existing buildings and new constructions  
Source: Author's drawing

## Redevelopment of urban villas block

<b>Stakeholders</b>	Residents of a block, developers, municipality
<b>Possibilities</b>	<p><b>Existing residential villa.</b> Because these urban villas are very spacious, has several owners, or part of the building is not used or abandoned, a part of the building could be sold.</p> <p>Owners of a villa could sell the ground floor for commercial uses or the 2nd floor/attic for the new apartment construction with separate access.</p> <p><b>New constructions.</b> New residential mixed use constructions could appear in newly formed parcels.</p>
<b>Conditions</b>	<p><b>For existing residential villa.</b> Owners of the villa could sell a part of the building for a very low price with the condition that a developer will upgrade a building and provide it with the water supply system and/or also upgrade the courtyard.</p> <p>The residents of newly constructed apartments or the owners of the commercial premises become the co-owners of the building and a parcel. Thus they have to pay a part of landownership taxes.</p> <p><b>For new constructions.</b> In the case of new constructions in an empty parcel of a block, the municipality could sell the land for a low price with the condition of a block improvement, such as water supply infrastructure, courtyard improvement, etc.</p>
<b>Construction rules</b>	<p><b>For reconstruction of the existing residential villas.</b> In the case of 2nd floor/attic reconstruction to new apartments, small changes could be made - construction of separate access to the floor, adding roof windows, enlarging existing windows and etc. But the main volume and architectural style has to remain the same.</p> <p>In the case of ground floor reconstructions to the commercial uses also small changes could be done, such as larger windows, additional doors, etc.</p> <p><b>For new constructions.</b> The new constructions of the block should follow the spatial - functional organization of the neighbourhood plan. The building has to be the same scale and similar architecture as the existing ones on the street.</p>

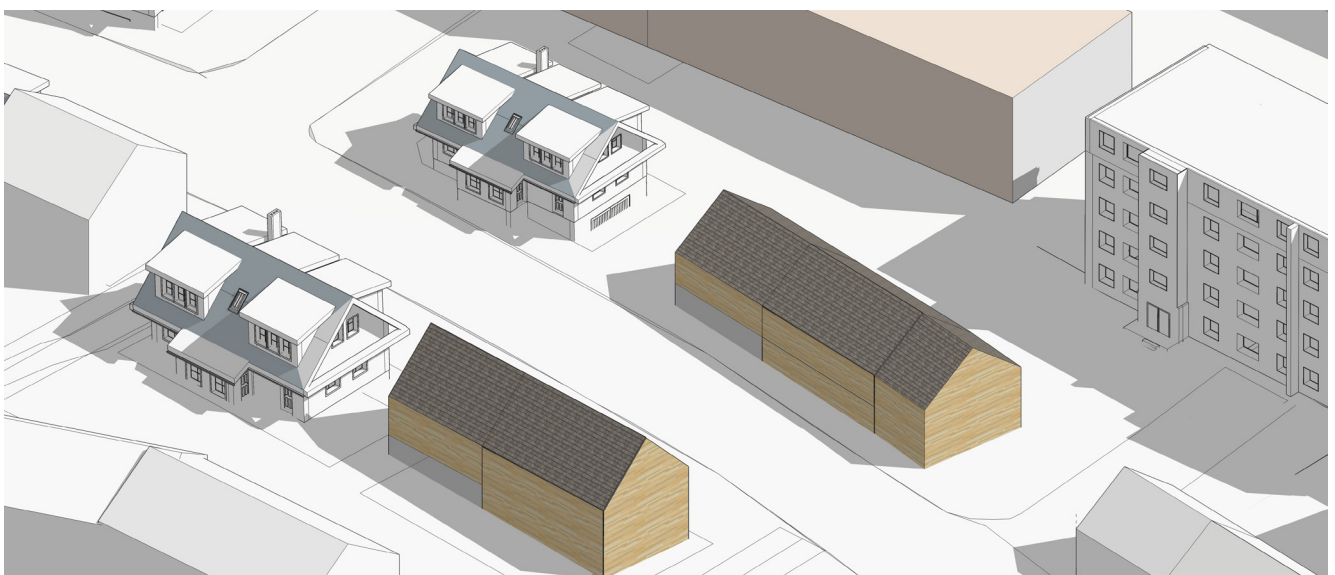


Fig. 3.88. Urban villas block - possible developments  
Source: Author's drawing





### III.IV. INTERACTIVE TOOLS

To ensure participation in planning it is suggested to create an interactive tool for preparation and implementation of a neighbourhood plan. Interactivity and participation level differs in functions of the plans, for instance - "plans on the maps" are only providing information and do not provide possibilities for interaction, "tell it on the map" tools such questionnaires, surveys and polls allow interaction and participation. In the following section, different types of interactive planning tools are analyzed. They are divided according to the table (Fig. 3.89) which was done combining E- participation ladders, functions of public involvement from the "public participation spectrum" and tools in e-planning. A table is explained more explicit in a chapter "participation and planning support systems". Interactive tools are analyzed to get inspiration for creating a framework for the interactive tool. A framework of an interactive tool is proposed on the basis of the existing interactive map of Vilnius.

A chapter "interactive tools" consist of the sections:

1. Examples of interactive tools
2. Existing interactive map of Vilnius
3. Proposal of a framework of an interactive tool
4. Neighbourhood plan integration into the tool

Interactivity	Function	Tools	Activity
online service delivery	inform	"plans-on-the-map"	information
online discussion	consult	"tell-it-on-the-map" questionnaires surveys	commenting marking discussing
online opinion surveys	invlove/callaborate	"tell-it-on-the-map" questionnaires, surveys polls	commenting marking discussing voting polling suggesting critisizing
online decision support systems	empower	the planning competitions website	voting polling suggesting critisizing

Fig. 3.89. Interactivity, functions and tools  
Source: Author's scheme

**Interactivity - Online service delivery. "Plans on the map"**

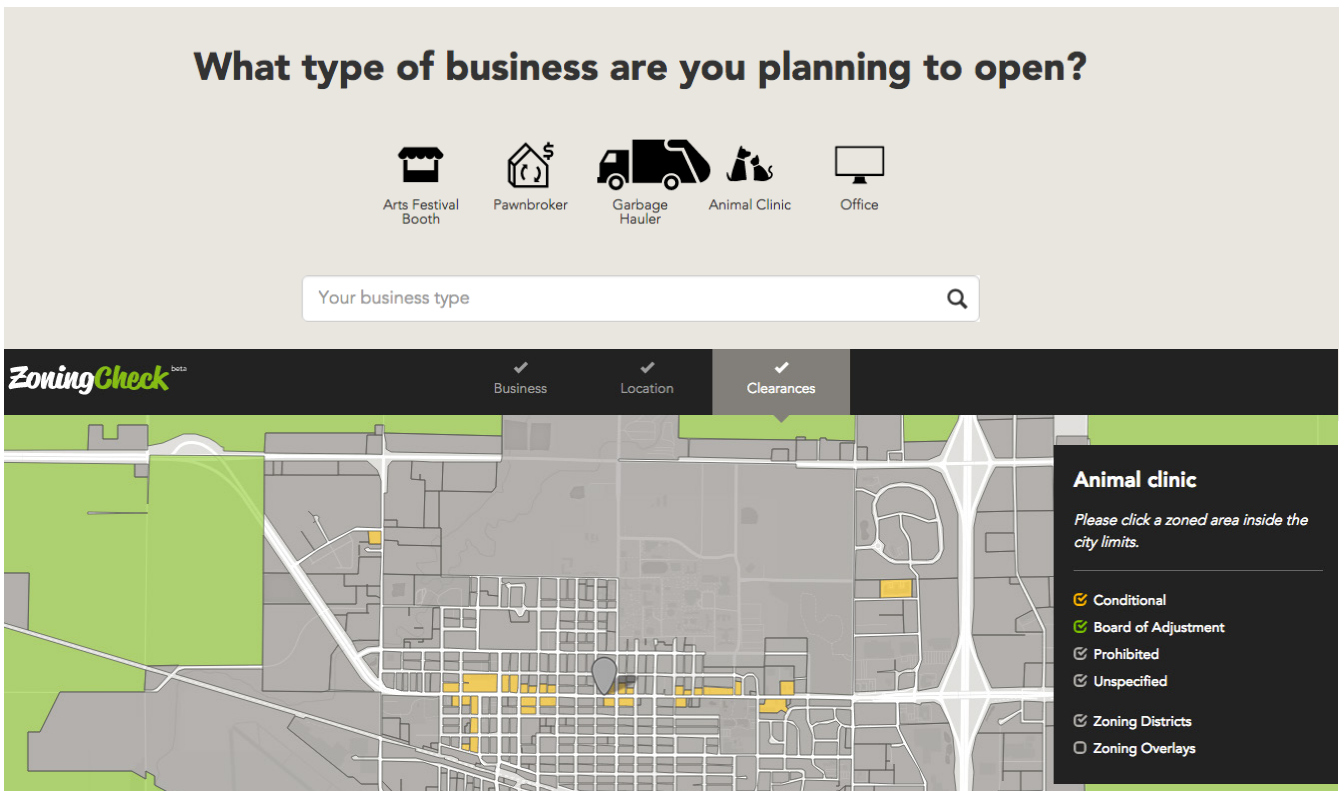


Fig. 3.90. Zoning check  
Source: <http://zoningcheck.us/>

Information providing tool.

"ZoningCheck is a tool that makes it easier to understand how the zoning code impacts a particular land use. It provides a customized zoning map for each land use, by showing where the land use will be permitted, conditionally permitted, or prohibited.

This tool simplifies the site selection process by showing you where your project is permitted.

ZoningCheck makes it easier for businesses, entrepreneurs, and private landowners to figure out what and where they can build. ZoningCheck starts with the intent of the query (i.e., Where can I build a media business in Oakland, CA?).

The data in ZoningCheck is imported directly from the city's municipal code and GIS resources" (Source: <http://zoningcheck.us/>).

**Application to the proposed interactive tool.**

Could be applied as an information providing tool in a case to inform the private investors where and with what conditions they could invest/develop in the area.

Interactive tools - references.

### Interactivity - Online opinion surveys. "Tell-it-on-the-map"



Fig. 3.91. Ouseburn Valley Master Plan  
Source: <https://ouseburn.commonplace.is/>

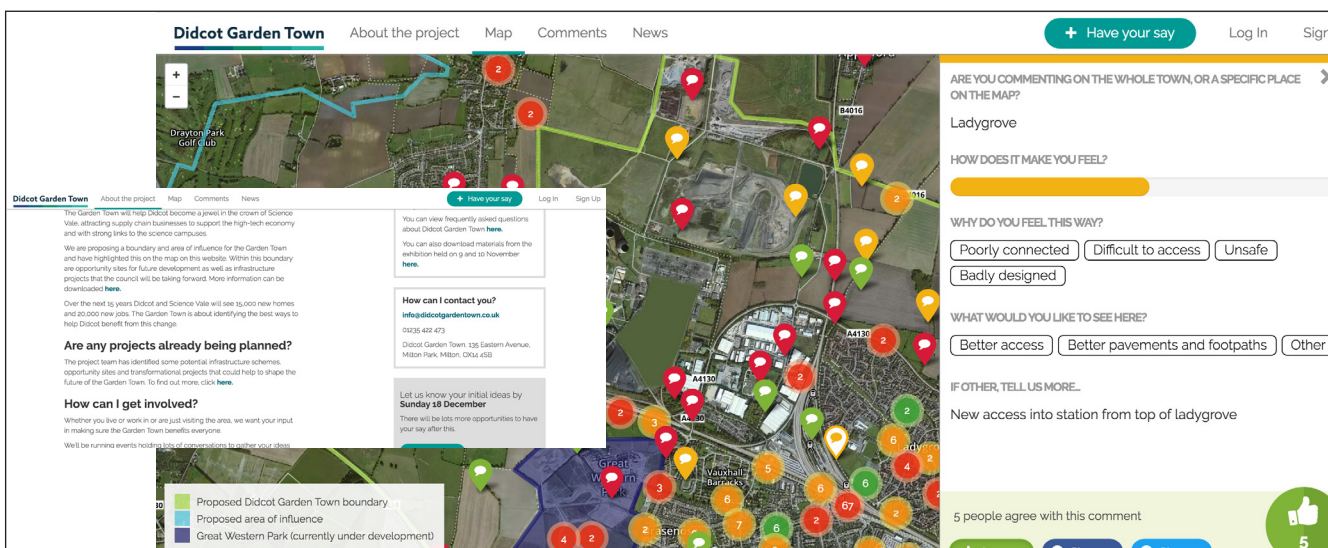


Fig. 3.92. Didcot garden town  
Source: <https://didcotgardentownplan.commonplace.is/>

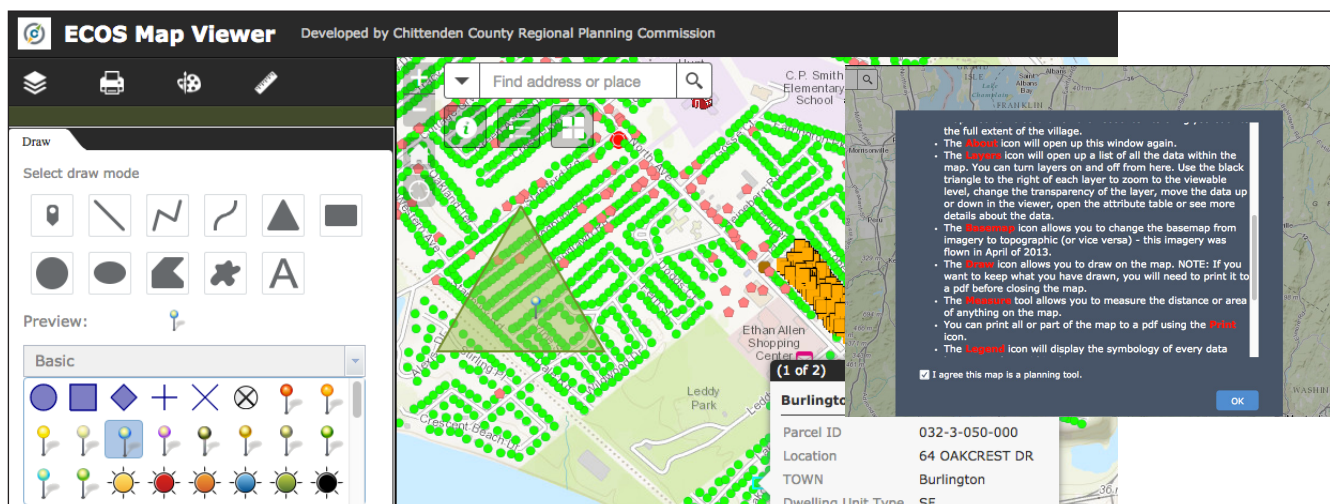


Fig. 3.93. Ecos project  
Source: <https://ecos.fws.gov>



### **Ouseburn Valley Master Plan**

"The Ouseburn Valley, Newcastle upon Tyne is developing a phased master plan. The application "Commonplace" is used to underline the commitment to working in partnership with the community. At the current phase, there are few development projects posted, and the community can see the proposals of the projects, visualizations and leave negative or positive comments and feedback". (Source: <https://ouseburn.commonplace.is/>)

### **Didcot Garden town**

"In a preparation process, of a master plan for a town people can suggest their ideas through the interactive application "Commonplace".

Before preparation of draft vision and plans for Didcot garden town, people could add suggestions and ideas about development vision for the future of Didcot Garden Town. After that, according to all views, ideas, and opinions, a draft masterplan was announced according to all views, ideas, and opinions.

Councils are urging everyone who lives, works and visits Didcot and the surrounding villages to comment on these initial proposals by Friday 28 February 2017. Feedback received through the interactive application, along with direct correspondence and meetings with community representatives, will help shape the final delivery plan to be published." (Source: <https://didcotgardentownplan.commonplace.is/>).

**ECOSProject** "is an innovative plan built on a broad community outreach strategy and designed to engage a broad cross section of the County's business community and residents, with the emphasis focused on regional sustainability including housing, transportation, the regional economy, energy, environmental quality, and land use. The site gives residents an opportunity to participate in local events and provide critical feedback through the interactive website, allowing community members themselves the power to help to shape the future of this region" (Source: <https://ecos.fws.gov>)

### **Application to the proposed interactive tool.**

"Tell in o the map" tools such as questionnaires, surveys polls - could be used for preparing the neighbourhood plan. The drawing tools could help people to express their ideas and disagreements about the plan. Those tools will help to create a neighbourhood plan through the participatory approach. As in the project - Ouseburn Valley master plan - giving comments on a proposed projects would let avoid conflicts of private - public interests. In Naujininkai neighbourhood plan case this could be applied then preparing a public/commercial projects, public spaces, or when preparing a neighbourhood plan.

**Interactivity - online decision support systems. The planning competitions, voting websites**

**Gabba Ward Community Projects Funding 2016-2017**

Residents of the area can vote for the public space they believe most important to improve and investments should be put there. After the deadline, the public space which has the most votes will be improved. The other act the residents can do is to say their ideas and suggestions for improvement. Also, at the same time, it is a platform for crowdfunding for the public spaces improvement.

To participate in this system people need to create an account and need to be enrolled to vote within the area, or they need to show that you're a stakeholder with a special interest in the area

Suggesting Projects. Residents have until the deadline to finalize their vote on which projects are prioritized. Residents use the public workshops and the online forums to discuss what changes are their biggest priorities and generate solutions that respond to those local needs.

**Application to the proposed interactive tool.**

A voting tool could be applied in the cases of the public projects or investments of the public spaces. Also, the suggesting tool could be added - residents can say their ideas and suggestions for improvement the public spaces/objects.

Crowdfunding platform could be added to collect the money for the community important places when a municipality does not provide financing.

The screenshot displays the 'GABBA WARD OF BRISBANE CITY COUNCIL' community online voting system. At the top, a red box indicates that voting for this round of funding is closed as of 19 September 2016. Below this, there is a section for 'ELIGIBLE PROJECTS' with a 'SUGGEST A PROJECT' button and a 'SORT: Date Suggested (newest to oldest)' dropdown. Three projects are listed:

- Lights in Picnic Shelters Kangaroo Point**: Estimated Cost: \$ 6,000. 24 suggestions, 12 votes, 0 dislikes. Suggested by Nicole Laffoley. Description: Raised by Kangaroo Point Neighbourhood Watch- Many of the picnic shelters around the river at Kangaroo Point are lacking lighting. This project proposes adding lighting into the unlit shelters.
- Small Skate Park in 4101**: Estimated Cost: \$ 60,000. 25 suggestions, 14 votes, 0 dislikes. Suggested by Nicole Laffoley. Description: Suggested on behalf of Caroline Milne A skate park would be great for teenagers. We have so many play parks for young children but nothing for teenagers.
- Communal Toy Share/Swap in the Park**: Estimated Cost: \$ 1,500. 3 suggestions, 0 votes, 1 dislike. Suggested by Kristian Horvath. Description: Install a small bin or book case stocked with balls and toys for the community to

On the right side, a detailed view of the 'Gabba Ward Community Projects Funding 2016-2017' is shown. It includes the fund amount (\$350,000.00), voting start (10-Aug-2016), and voting end (07-Sep-2016). A 'Hide Details' button is present. Below this, the 'How the System Works' section explains that residents suggest project ideas via public meetings and/or the website, and that suggestions flow to Brisbane City Council for cost estimation. A 'Quick Explanation of our Trial Participatory Budgeting System' link is also visible.

Fig. 3.94. Gabba Ward Community Projects Funding 2016-2017  
Source: <http://gabba.freewill.vision/>

**Current interactive map of Vilnius**



## Current Interactive map of Vilnius

A basis of the proposed interactive tool is a current interactive map of Vilnius.

The existing map of Vilnius is mostly a giving information map. The forms of the interactivity are service delivery and online discussion.

Service delivery is a form where the users of the map can see the information on the selected theme and can use measurement tools to measure the area. It is a "plan on the map" where the information is given but there is no possibility to interact. The provided information is about planning documents - such as land use, information about the buildings energy efficiency (figure 3.96, 3.97) or information about childcare centres - whether where are open places or not.

Information provided on the interactive map is divided into themes.

In the theme city management, a level of interactivity increases.

The interactivity - Online discussion - allows comments on a map. Registered Users of the map can leave comments about the environmental problems of the surrounding areas. The problem has to be defined by an address, and it is marked on a map by its location. Problems are registered, and municipality reacts to them depending on its importance and capacity to solve. The problems, for example, are the slippery road or the old tree which has a risk to fall. (figure 3.98.)

**Scale:** The scale is flexible. It is possible to zoom out

to the boundaries of the municipality of Vilnius and zoom into the scale of the building.

**Themes:** The interactive map provides THEMES - "buildings and constructions", "permits for constructions", "city management", "territorial planning documents".

Depending on a theme an interactive map provides the information. The information could be seen in different layers and explained in a legend. There are tools which provide a possibility to measure the distances of the area.

For example:

On the theme "buildings", when the map is zoomed into the building scale, there is a possibility to select a building and get information about the year of construction, energy efficiency, the administration and etc.

This interactive map of Vilnius - is not a planning tool but a platform of giving information.

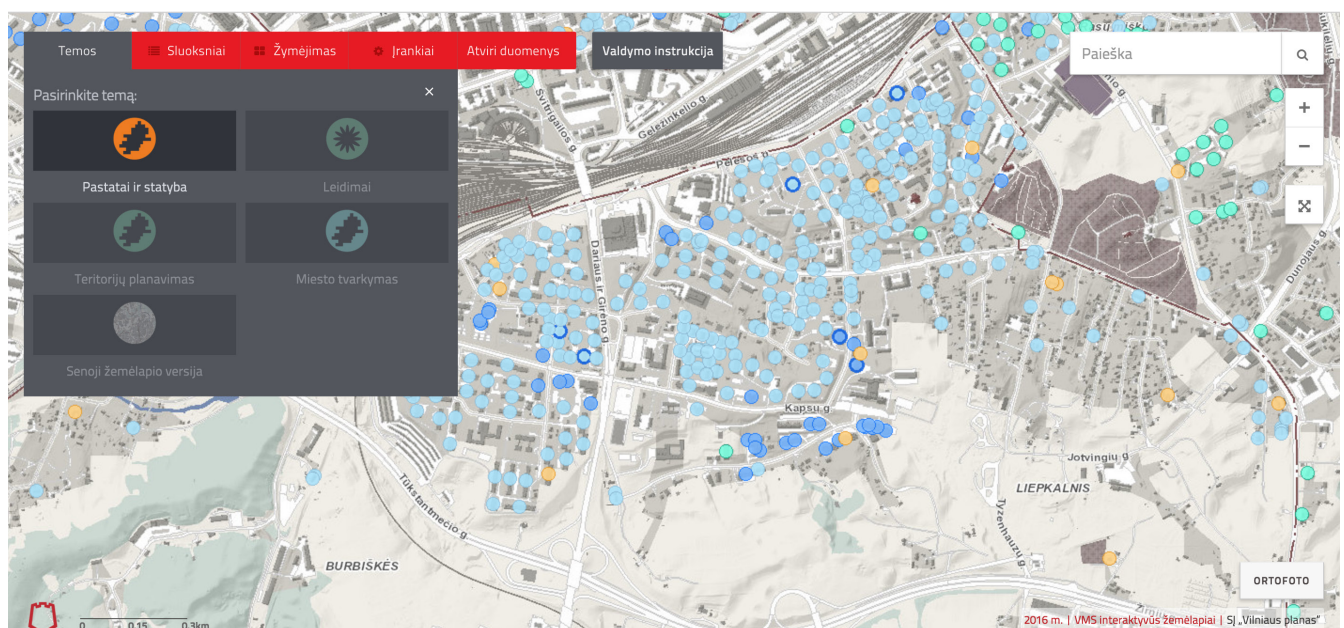


Fig. 3.95. A screenshot of a current interactive map of Vilnius  
Source: <http://maps.vilnius.lt/>

Interactive tools - Current interactive map of Vilnius

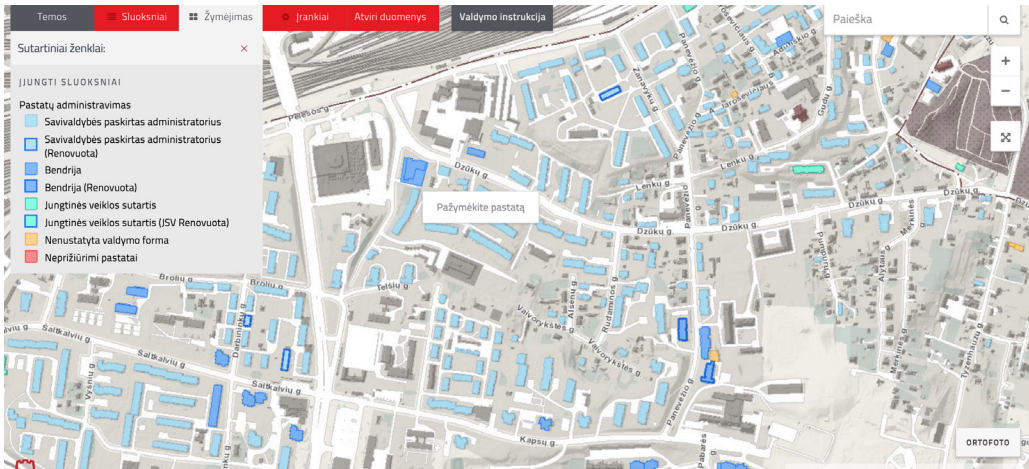


Fig. 3.96. A screenshot of a current interactive map of Vilnius. Theme - "buildings and constructions."  
Source: <http://maps.vilnius.lt/>

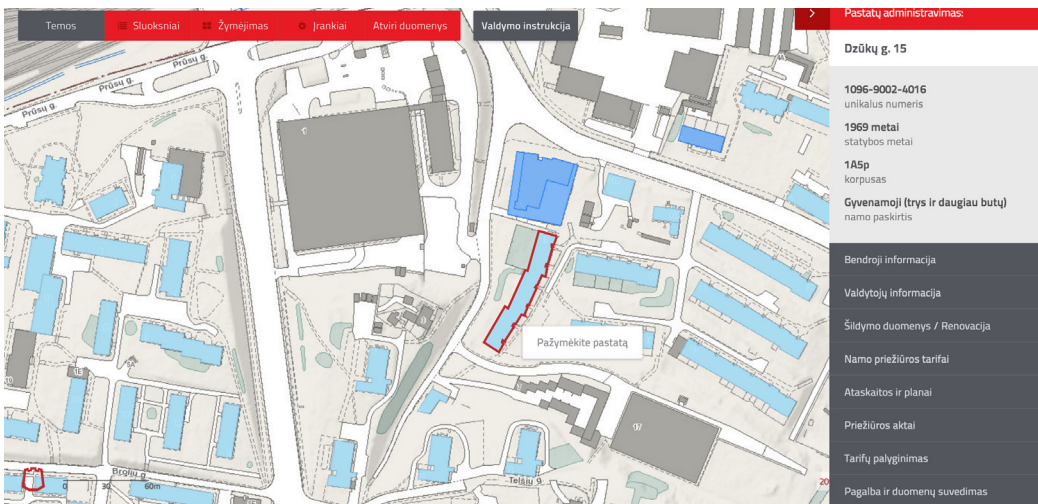


Fig. 3.97. A screenshot of a current interactive map of Vilnius. Theme - "buildings and constructions". Information about the selected building.  
Source: <http://maps.vilnius.lt/>

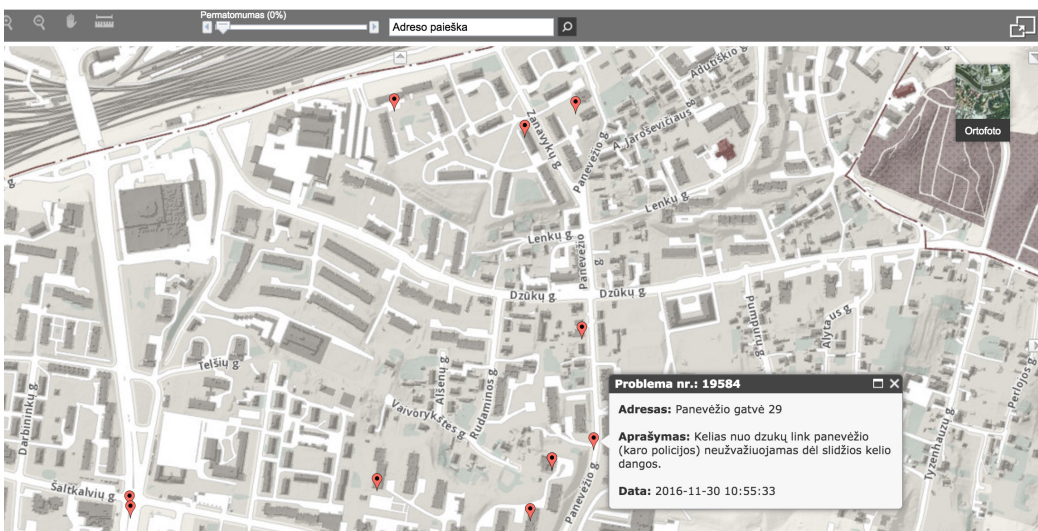


Fig. 3.98. A screenshot of a current interactive map of Vilnius. Theme - "city management". A comment about the problems  
Source: <http://maps.vilnius.lt/>

## Proposed framework for an interactive planning tool

**Current interactive  
map of Vilnius**

+

**Additional themes  
and tools for inter-  
action and partici-  
pation**

=

**Interactive  
planning tool  
for a neigh-  
bourhood**



## A proposed framework for an interactive planning tool

It is proposed to create an interactive online tool to reach participatory planning processes. The proposed tool would be on the basis of an existing interactive map of Vilnius which was described in a previous section "current interactive map of Vilnius". To switch an interactive map of Vilnius into the interactive tool for planning, the themes and tools should be added to increase a participatory and interactive level in the existing framework.

The current map is a giving information map which does not provide interaction and participation. In a proposed framework it is suggested to add interactivity levels which provide participation - "online discussion" with the function to consult, "online opinion surveys" with the function to involve and collaborate and "online decision support systems" which empowers in planning processes.

Tools - questionnaires, surveys, polls, drawing and marking tools, platform for posting - are added to create an opportunity for participation

Levels and functions of interactivity, participation level, function in an interactive tool differ on a theme. The themes are discussed in a further section "themes". Interactivity forms - "informing and consultation" - where community participate by discussing, commenting or criticizing but still are not involved in a final decision making. This refers more to district scale projects and plans.

More interactive functions - "involving and collaboration" - provides possibilities to vote and criticize the proposed plans or projects.

The participatory level increases on the more local scale.

### objectives to the interactive plan:

- to involve community, municipality and business representatives into a planning process and dialogue with each other.
- to provide accessibility. Plans are accessible to all target groups; all documents and plans have to be into a language and media which is understandable to different stakeholders.

- to ensure transparency. The transparent process where everybody is aware, use of public money, conditions for investing in certain projects. The interactive plan has to develop strong relationships with stakeholders
- to provide understandable information to all stakeholders. People directly affected by plans and decisions have a reasonable awareness of the processes and manageable expectations.

### SWITCHING THE MAP INTO THE INTERACTIVE PLANNING TOOL

Existing framework of an interactive map of Vilnius

+

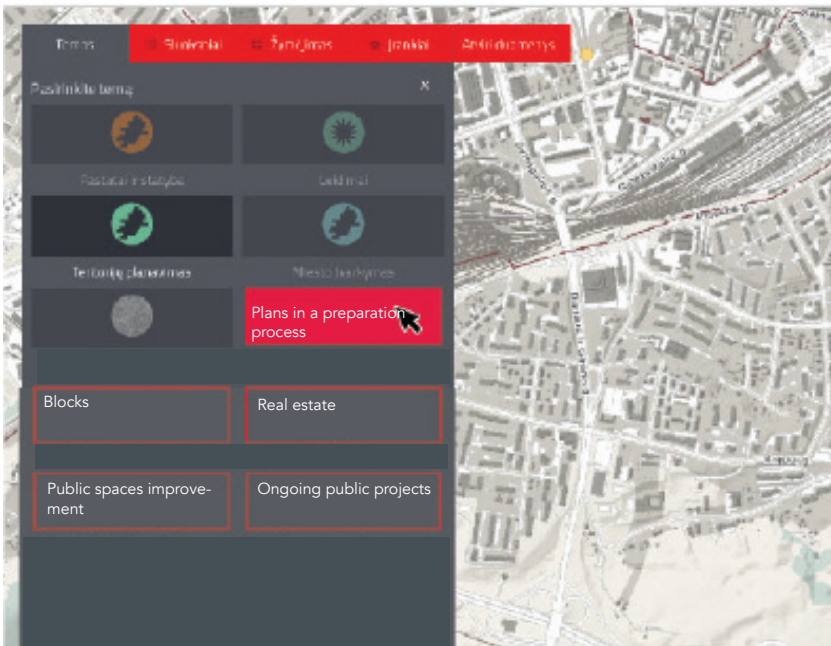
Themes and Tools for interaction and participation

+

neighbourhood plan  
spatial development plan and guidelines and recommendations

Form	Interactivity and function	Possibilities to interact by	Tools
"Tell it on a map"	Online discussion - to consult, inform	Commenting, discussing and giving feedbacks	Questionnaires Surveys Polls
"Post it, share it on a map"	online opinion surveys - to involve and collaborate	Voting, polling, suggestions and criticizing	Drawing, marking tools. A platform for sharing and posting
The planning competitions website	online decision support system - to empower	Sharing, posting, co-planning, co-implementation	

### Adding the themes



Added themes

To switch a map into the tool it is proposed to add themes on the existing interactive map of Vilnius :

- Plans in a preparation process
- Blocks
- Real estate
- Improvement of the public spaces
- Ongoing public projects

In every theme the level of participation and interactivity differs. This will be explained in the following sections.

Fig. 3.99. Added themes to the interactive map of Vilnius  
Source: Author's drawing, based on interactive map of Vilnius: <http://maps.vilnius.lt/>

Layers. Added themes have the layers as it is in the current interactive map.

Tools. To increase interactivity and participatory levels, the tools are added - questionnaires, surveys, polls, drawing, marking tools, platform for sharing and posting.

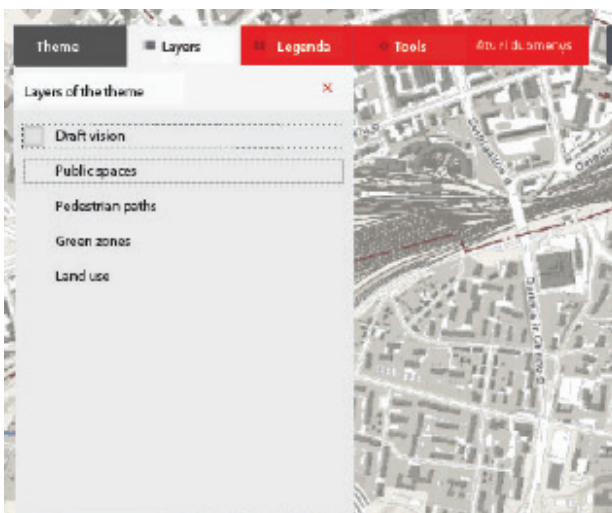


Fig. 3.100 Proposed framework of an interactive tool  
Source: Author's drawing, based on interactive map of Vilnius: <http://maps.vilnius.lt/>

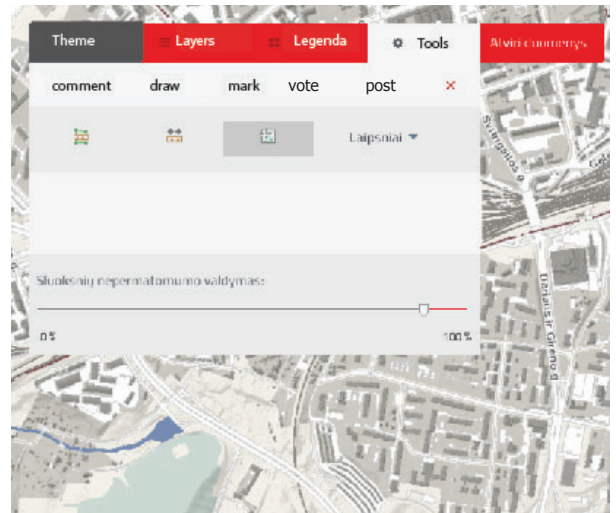
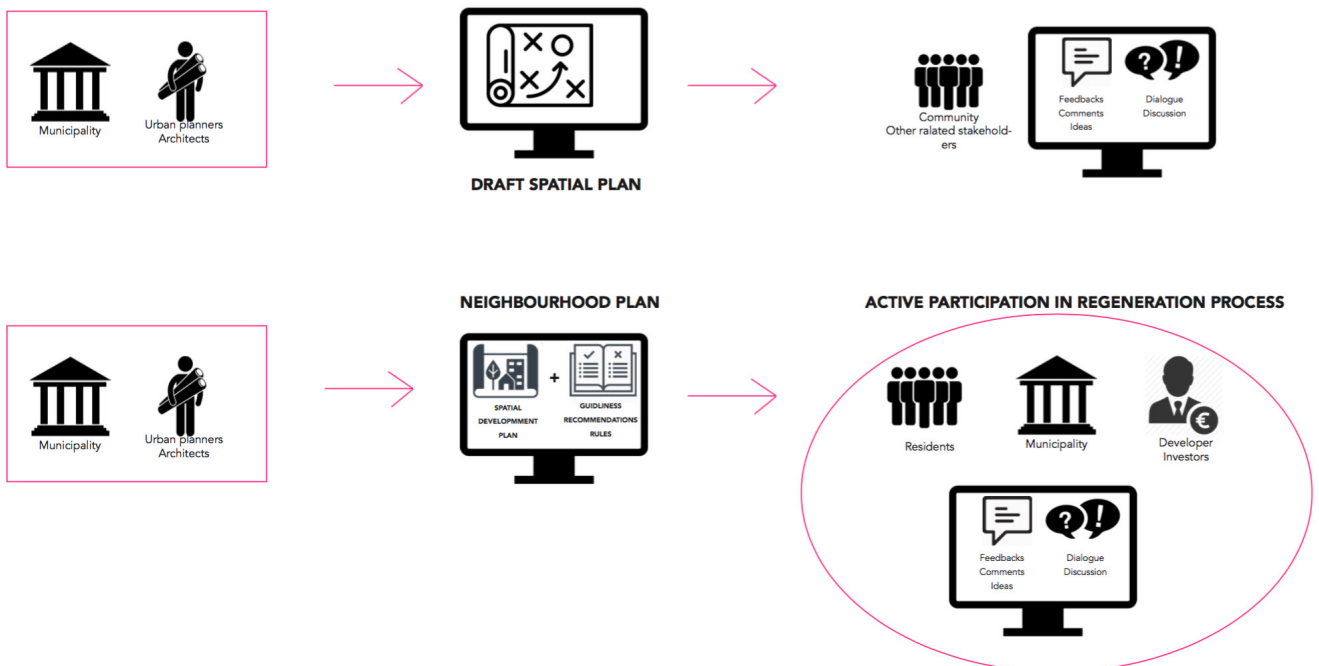
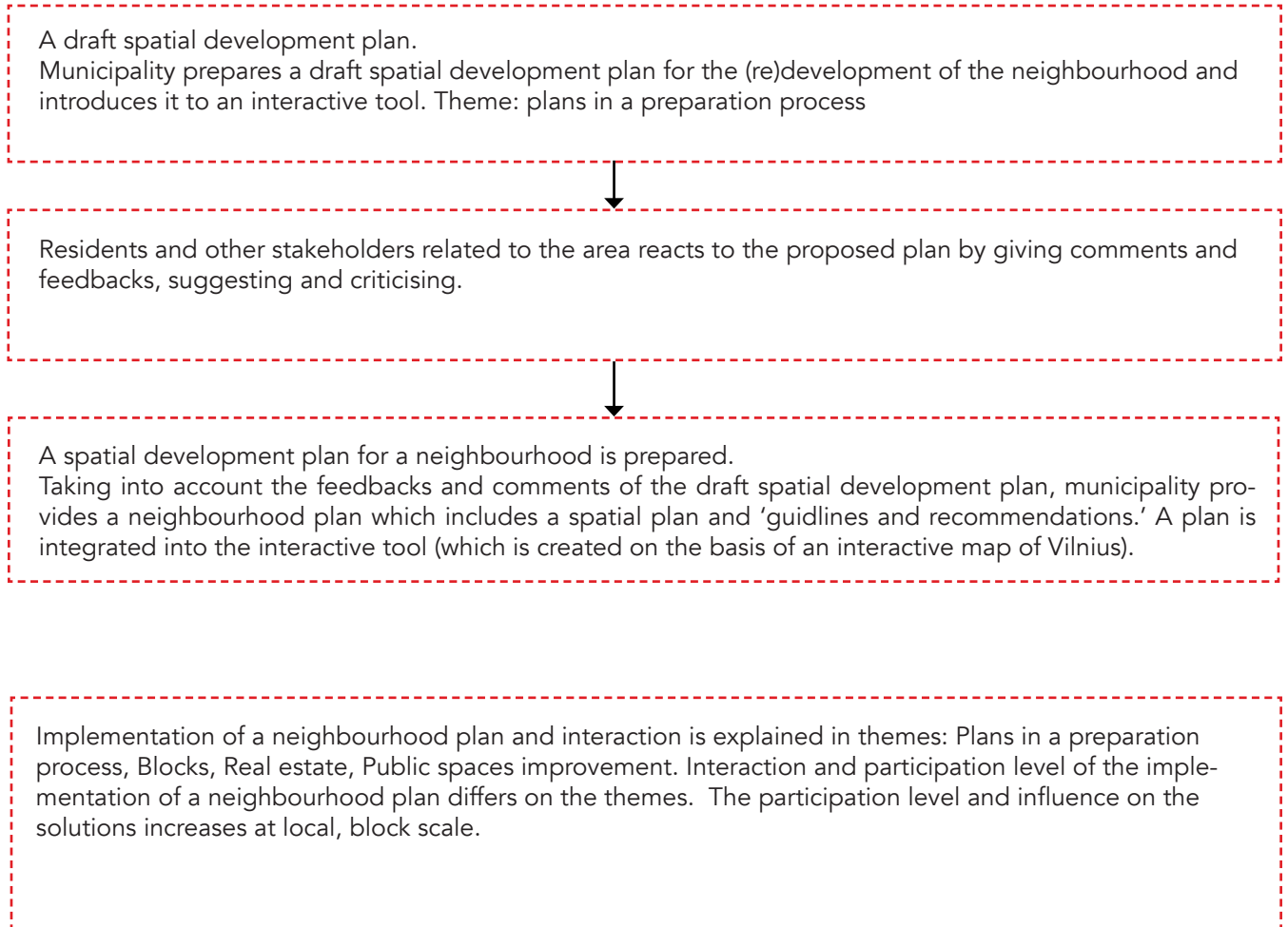


Fig. 3.101. Proposed tools for an interactive tool  
Source: Author's drawing, based on interactive map of Vilnius: <http://maps.vilnius.lt/>

# Interactive tool + neighbourhood plan

Process of a neighbourhood plan integrated in an interactive tool





Interactive tools. Interactive tool+neighbourhood plan. Theme: plans in a preparation process.

### Theme: plans in a preparation process

**Theme:** Plans in a preparation process

**Function:** To Involve and collaborate.

**Interactivity form:** "tell it on a map."

**Participation form:** Voting, polling, suggestions, and criticizing

**Tools:** Questionnaires, surveys, pools.

An interactive tool on a theme "plans in a preparation process" is needed to prepare a neighbourhood plan by co-planning with the residents and other related stakeholders. Residents have an influence in a decision-making process, but municipality takes the final decision according to the comments and feedbacks.

Information: When preparing a spatial development plan for a neighbourhood, a draft plan is introduced into the interactive tool (fig. 3.102).

Participation: The community of the neighbourhood

and other interested stakeholders participate in planning processes through an interactive tool. By giving they say about the proposed draft neighbourhood spatial plan. Using the tools such as comments or drawing tools they can interact with the proposals and suggest theirs (fig. 3.103, 3.104).

Using process: On a theme 'plans in a preparation process,' the boundaries of a plan appears (fig. 3102). By selecting the boundaries all the information and tools appear (fig. 3.103, 3.104).

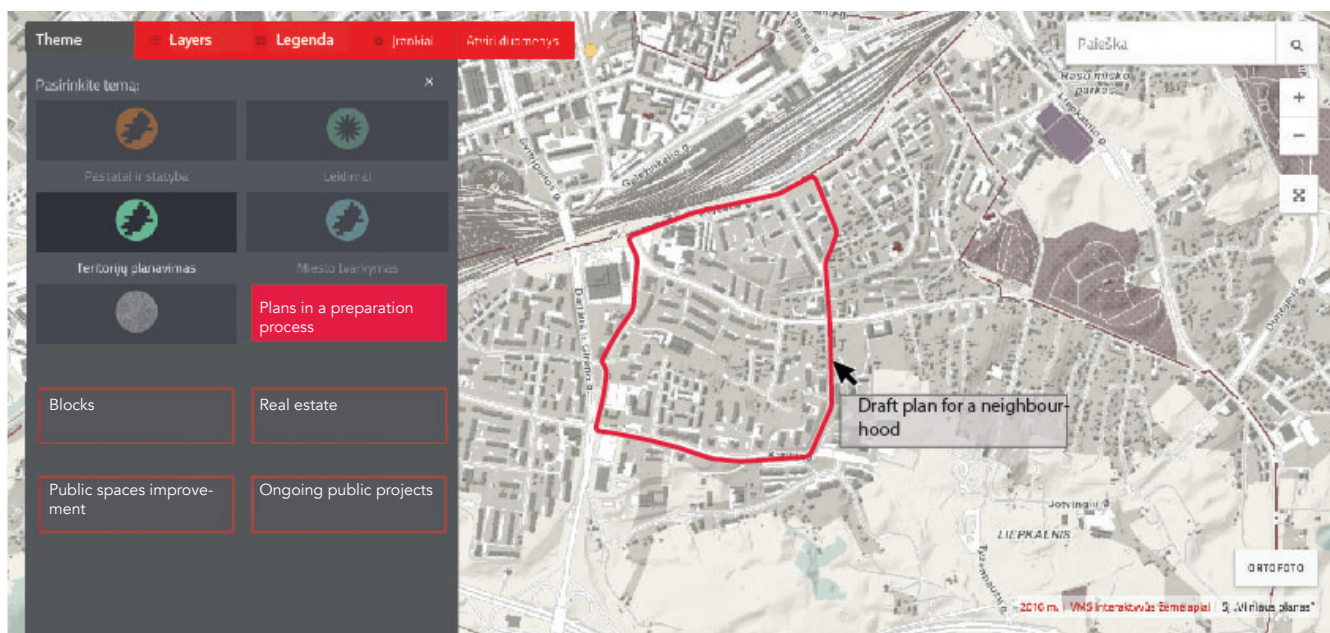


Fig. 3.102 Proposed interactive tool. Theme: plans in a preparation process  
Source: Author's drawing, based on interactive map of Vilnius: <http://maps.vilnius.lt/>

Interactive tools. Interactive tool+neighbourhood plan. Theme: plans in a preparation process.

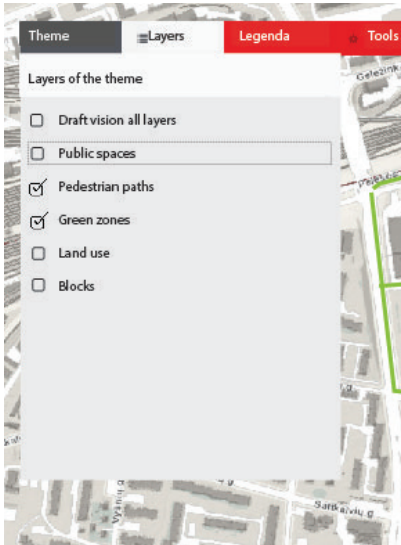


Fig. 3.103. Proposed interactive tool. Theme: plans in a preparation process. Layers  
 Source: Author's drawing, based on interactive map of Vilnius: <http://maps.vilnius.lt/>

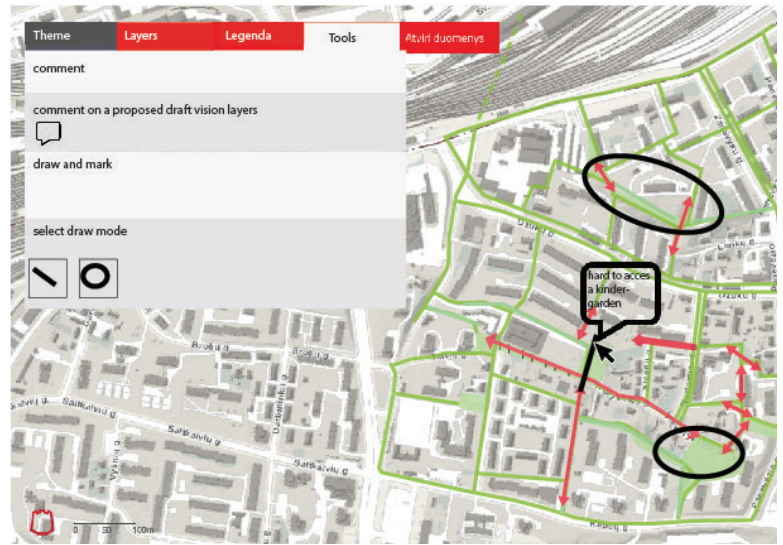
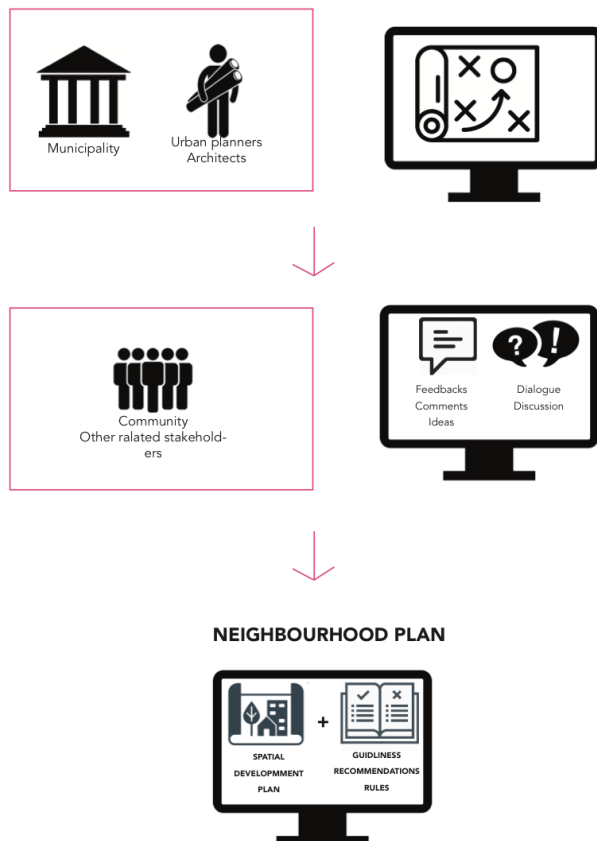


Fig. 3.104. Proposed interactive tool. Theme: plans in a preparation process. Tools  
 Source: Author's drawing, based on interactive maps of Vilnius: <http://maps.vilnius.lt/>



**Theme: blocks**

Information: On a theme “block”, the residents, developers and other related stakeholders get information about possibilities for regeneration and constructions in a block.

Participation: Stakeholders participate in (re)development and improvement of a block with reference to ‘guidelines and recommendations’ which are provided in an interactive tool. People interact on a discussion board and participate in a preparation of block (re)development plan or environment improvement process. How participation in a block (re)development and upgrading work, is explained in a theme “real estate”.

Using process:

On a theme, “block” users see the boundaries of the blocks. When a block is selected, the information with layers appears (fig 3.106). It is possible to choose a layer and get information about it. People can start using the ‘guidelines and recommendations’ of a particular layer for (re)development and improvement of a block.

**Preparation of (re)development plan**

Using the guidelines (which are explained in a neighbourhood plan “guidelines and recommendations”) of each layer, residents can prepare a redevelopment plan.

The community of the block is responsible for a preparation of a plan.

**Theme:** Blocks

**Function:** To Involve, collaborate and empower

**Interactivity form:** “post it on a map”

**Participation form:** Sharing, posting, co-planning, co-implementation

**Tools:** Drawing, marking tools, discussion board, a platform for sharing and posting.

On a layer “Renovation” it is possible to select the building and see the possibilities and conditions for housing renovation. If the person or the group of people are interested in one of the proposed option for housing renovation, they could start a discussion online. The case of involving the private sector in a renovation is explained in a theme: “real estate.”

On a layer “new constructions,” guidelines for forming a block and possibilities for new constructions are provided. The case of involving developers in new constructions of a block is explained in a them “real estate.”

In a theme “blocks” all information about possibilities for (re)developing and upgrading a block is provided.



Interactive tools. Interactive tool+neighbourhood plan. Theme: blocks

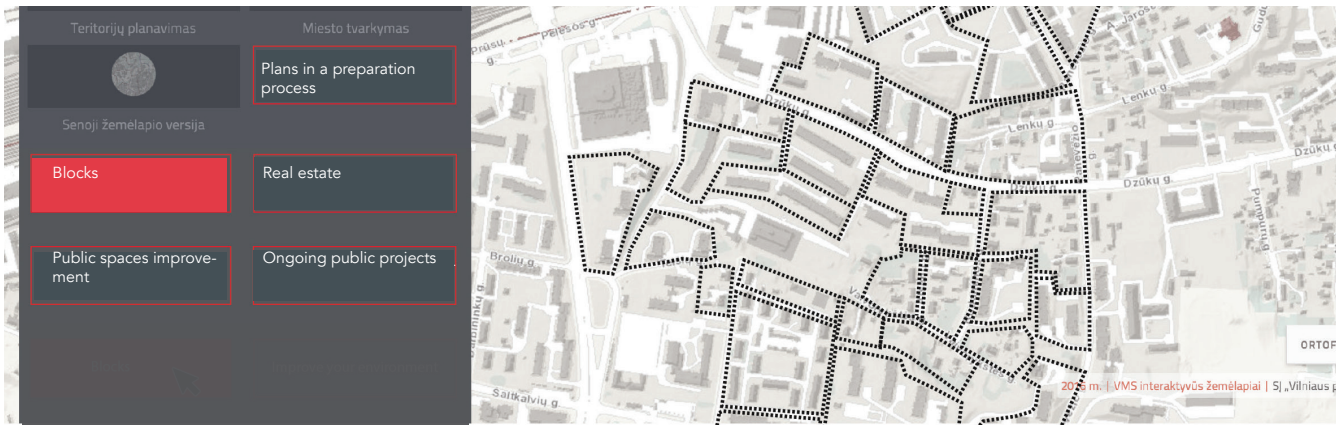


Fig. 3.105. Proposed interactive tool. Theme: blocks.

Source: Author's drawing, based on interactive map of Vilnius: <http://maps.vilnius.lt/>

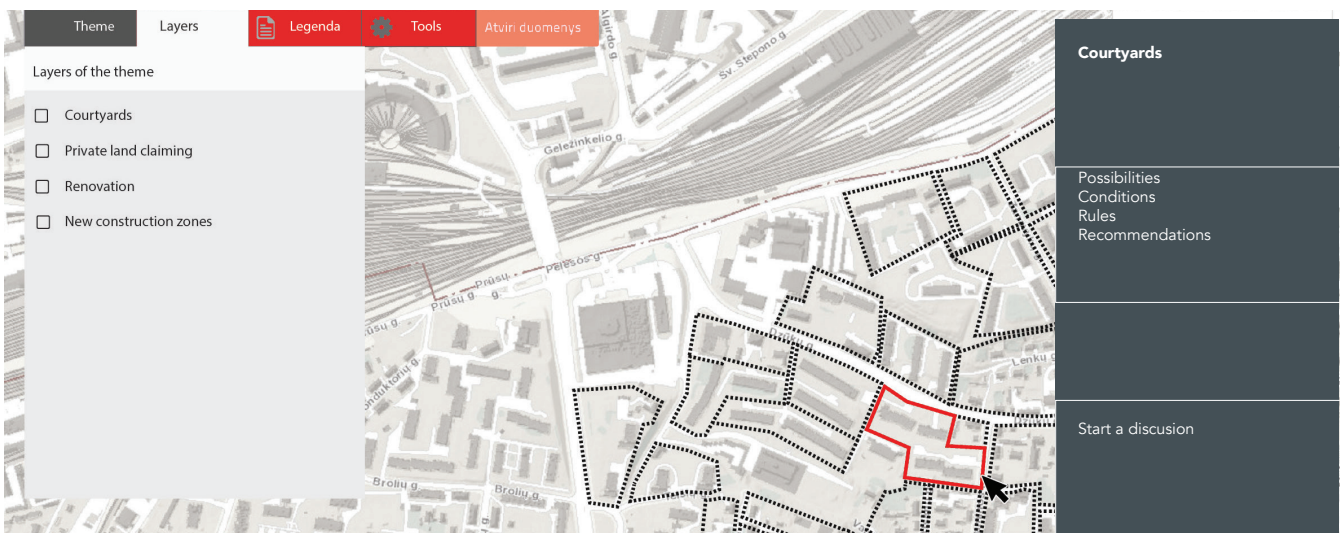


Fig. 3.106. Proposed interactive tool. Theme: blocks.

Source: Author's drawing, based on interactive map of Vilnius: <http://maps.vilnius.lt/>

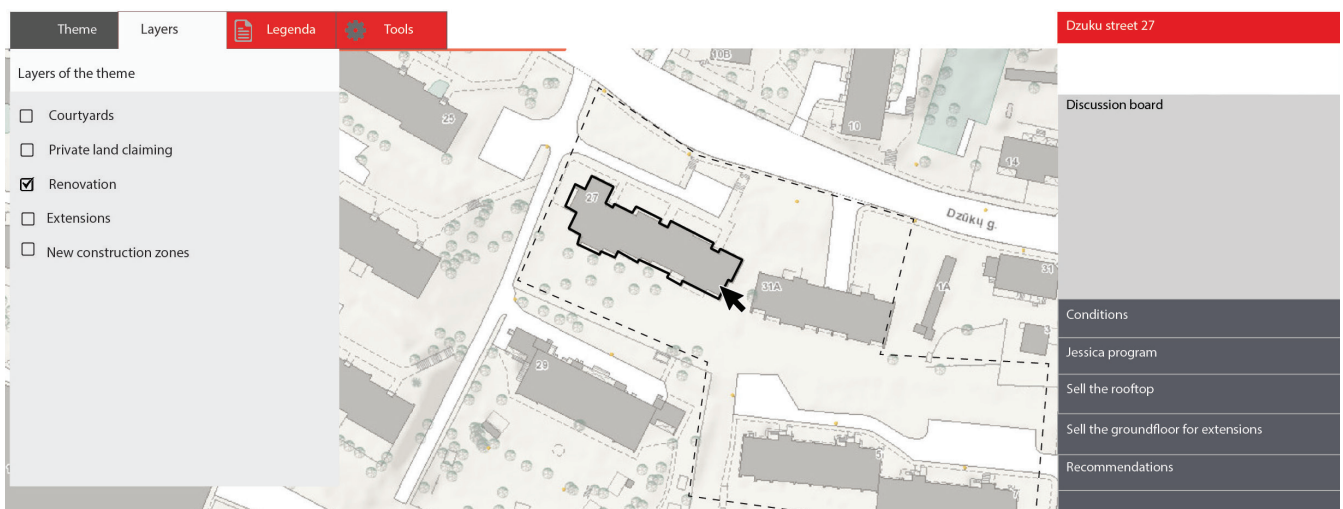


Fig. 3.107. Proposed interactive tool. Theme: blocks.

Source: Author's drawing, based on interactive map of Vilnius: <http://maps.vilnius.lt/>

**Theme: real estate**

On a theme "real estate", the owners can post about selling their property (building, part of the building or a parcel or part of a parcel). This would make the process of the block (re)development easier. In the case of selling the property, in reference to 'guidlines and recommendations' owners set the conditions with whom a buyer has to meet. Stakeholder interested in the area, see the property he could buy and invest with the conditions and possibilities (fig. 3.108). The working principle of a theme "blocks" is explained in the following cases:

**Theme:** Real estate  
**Function:** To involve, collaborate and empower  
**Interactivity form:** "Tell it, share ot, post it on a map"  
**Participation form:** Sharing, posting, co-planning, co-implementation  
**Tools:** Questionaries, Surveys, Polls, platfrom for sharing and posting.

**If residents are interested in:**

**Building renovation:**

Following the 'guidelines and recommendations' for renovation, residents decide to renovate a building, with the agreement of the major part of co- owners. They could post in the interactive tool on the theme "real estate", that a building or part of the building is for sale with the condition that the developer renovates the whole building or a courtyard.

**(Re)development of a block:**

With the agreement of the major part of the community of the block, the residents organize the (re) development plan. They hire an architect and the plan for (re)development is prepared which follows the spatial - functional organization and objectives of the neighbourhood plan.

When the plan is prepared, residents could act in the interactive tool by posting that there is a land for sale with possibilities for new constructions. Residents, in reference to 'guidlines and recommendations' set conditions for the new constructions. Developer on the interactive tool sees opportunities and conditions for possible development in a block. The area and spatial-functional solutions for possible new construction are defined. If a developer is interested in a proposal, he can start negotiations with the residents.

**If developers are interested in (re)constructions in the area in the case:**

**When a (re)development plan is prepared:**

Developer which has an interest in a particular area, sees on a theme "real estate", the property which is for sale( land for new constructions, buildings or building parts) and the conditions he has to meet (fog. 3.108)

**When a (re)development plan is not prepared for . a block:**

If a developer is interested in the area, but there is no (re)development or renovation plan prepared, he can get the information of possibilities and rules for new constructions on a theme "blocks" (fig. 3.106). A developer can propose to the residents to preapre a redevelopment plan referring to 'guidlines and recom- mendations' which are set for a block.

Interactive tools. Interactive tool+neighbourhood plan. Theme: real estate

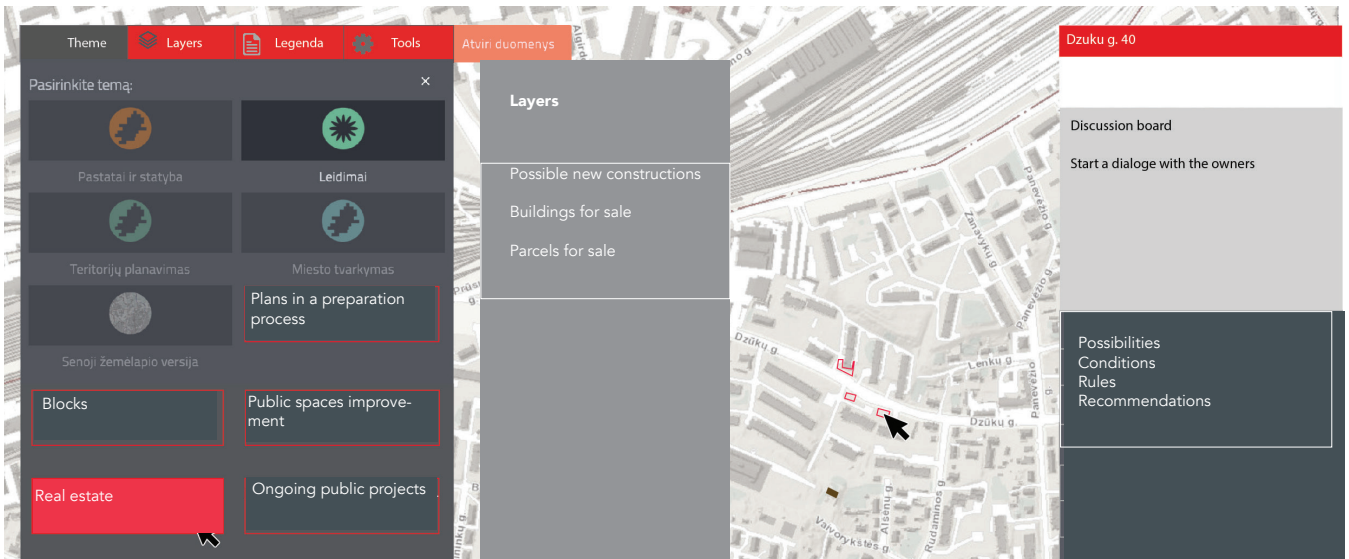
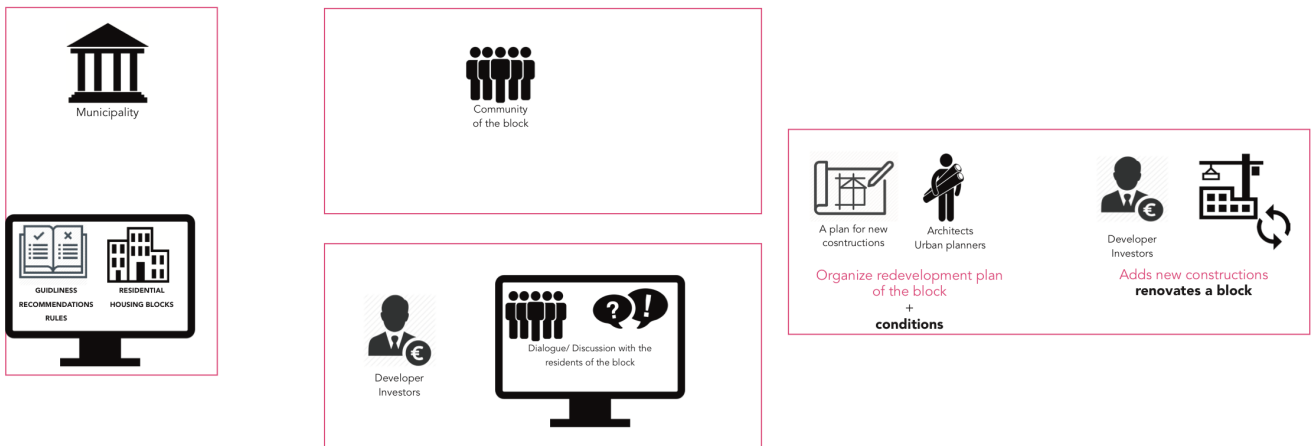


Fig. 3.108. Proposed interactive tool. Theme: real estate

Source: Author's drawing, based on interactive map of Vilnius: <http://maps.vilnius.lt/>





### Theme: improvement of public spaces

In a neighbourhood plan, public and public green spaces are defined as spaces for common use. All defined spaces in a neighbourhood are in a need of upgrading. When there is not enough financing coming from the municipality (what is usually a case) or no private sector investments, a community is encouraged to take the initiative to upgrade the spaces.

Information: The theme “improvement of the public spaces” provides information about the spaces in a need for upgrading.

Guidelines and recommendations for different types of public spaces are provided (presented in a chapter “guidelines and recommendations,” section “Public and green spaces”).

On a description board, the information is provided of the ongoing workshops for the space improvement, or possible financial help in the case if residents want to take the initiative.

Participation: If a person or a group of people are interested in upgrading the particular area, they can start a discussion with the community and the municipality, the users of an interactive tool are encouraged to propose their ideas about the improvement, to organize workshops and crowdfunding.

**Theme:** Improvement of public spaces

**Function:** To Involve, collaborate and empower

**Interactivity form:** “tell it on a map”, “post it on a map”

**Participation form:** Sharing, posting, suggesting, discussing, co-planning, co-implementation

**Tools:** Drawing, marking tools, discussion board. A platform for sharing and posting.

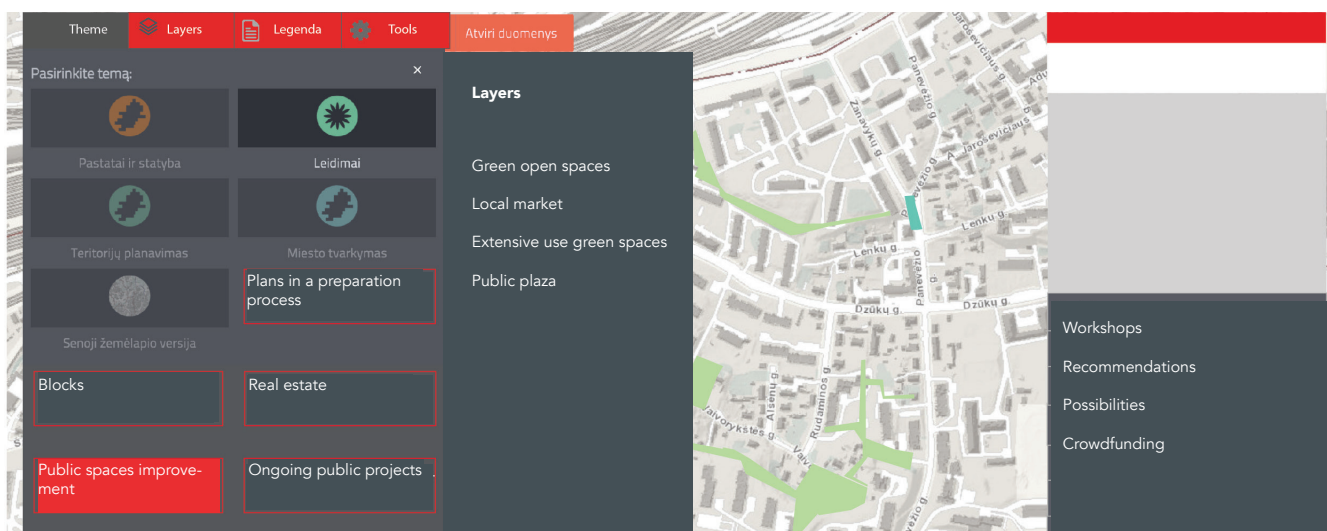


Fig. 3.109. Proposed interactive tool. Theme: public spaces improvements  
 Source: Author's drawing, based on interactive maps of Vilnius: <http://maps.vilnius.lt/>

**Theme: Ongoing projects**

Theme “ongoing projects” shows all ongoing projects in a zoomed area (fig. 3.110). An interactive tool works as a co-decision tool on this theme. On the prepared plans and projects users of a platform interact by voting, polling, suggesting or criticizing, giving feedbacks and commenting.

If the project is on the public backbone or the important nodes, the competitions should be prepared to empower residents to choose the best solutions by voting. On the projects such as public space residents, and other related stakeholders have to be involved in design and planning process. For instance, when preparing a project for the construction of a pedestrian bridge, all stakeholders have to be involved in a project preparation process in order to find out the best path and entry points where the bridge has to cross a railway ( fig. 3.111).

**Theme:** Ongoing projects

**Function:** To Involve, collaborate and empower

**Interactivity form:** “tell it on a map,” planning competition platform

**Participation form:** co-decision, voting, polling, suggesting, and criticizing.

**Tools:** questionnaires, surveys, polls

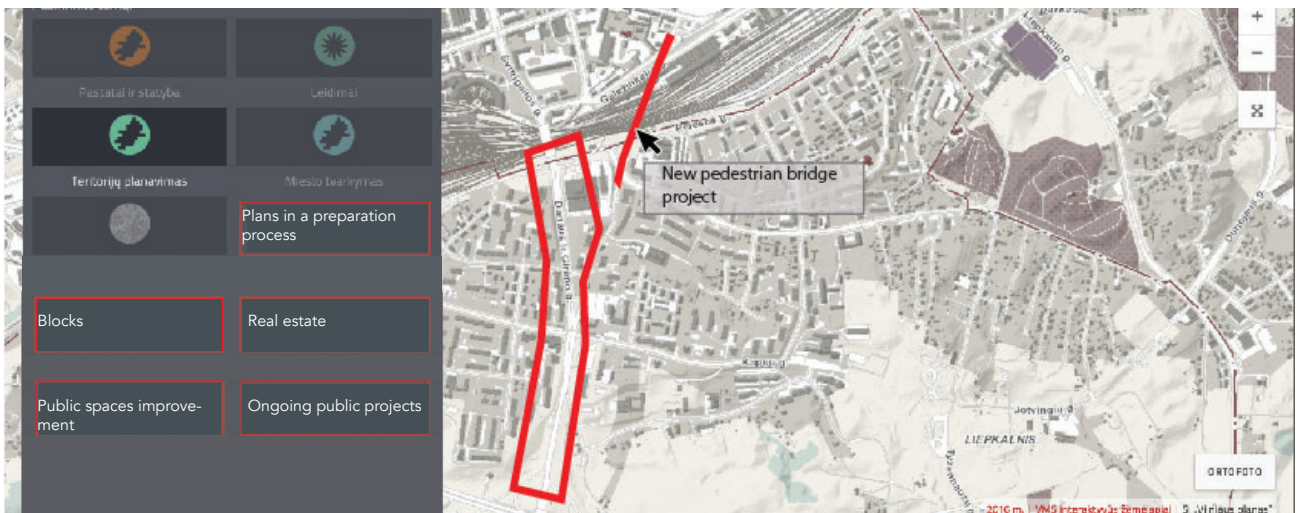


Fig. 3.111. Proposed interactive tool. Theme: ongoing projects. Source: Author’s drawing, based on interactive maps of Vilnius: <http://maps.vilnius.lt/>

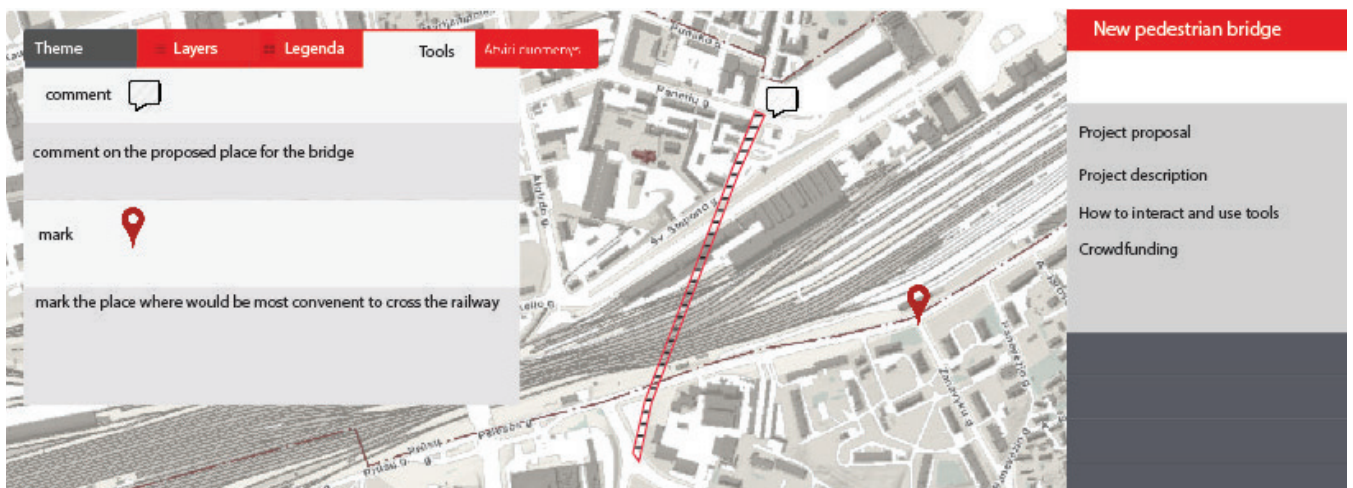



Fig. 3.112. Proposed interactive tool. Theme: ongoing projects. Source: Author’s drawing, based on interactive maps of Vilnius: <http://maps.vilnius.lt/>



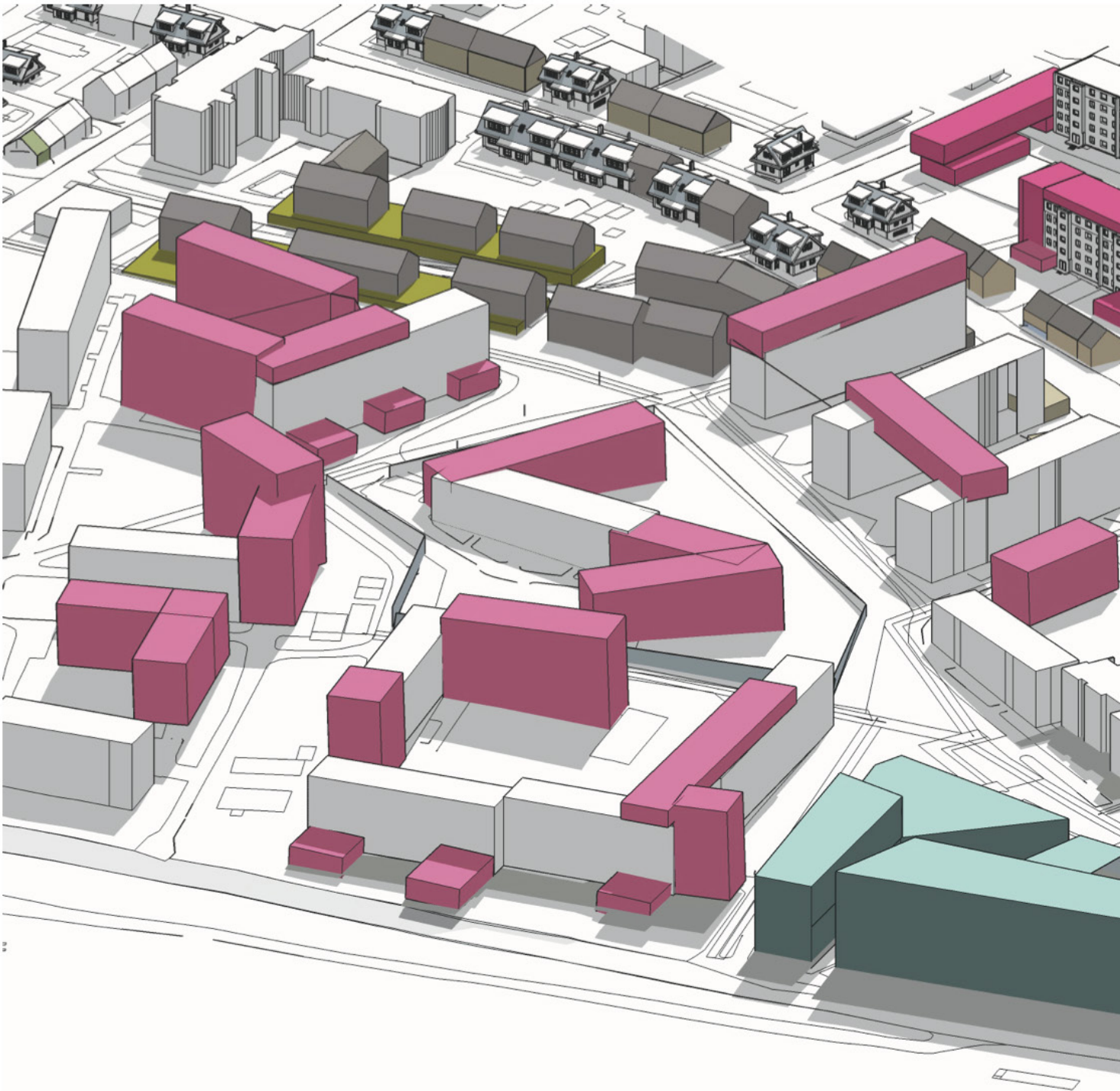
 New construction in socialist housing estates blocks. Same height +1 floor

 Urban villas. Up to 8meters height, small scale

 Socialist housing extensions on public backbone. Small scale, aup to 6-7meters.

 Conversion of industrial site

 Modified urban villas . Up to 15meters height





Construction possibilities



## V. CONCLUSIONS

The aim of this graduation project is a (re)development of a neighbourhood in a deteriorating district of Naujininkai, Vilnius. A neighbourhood faces the major issues which are common in the districts around the city centre built in Soviet times. Worn out building environment, ageing, low-income population lead to threats of social segregation. A revitalization of this kind of neighbourhoods is an important issue for the city. There is a need to attract more people in the more central areas because the city has huge sprawl issues. Also, to prevent the Soviet neighbourhoods from degradation, social mix in the area is essential.

Following the aim of the project, a research question was raised - ***“how to arrive at sustainable urban regeneration in the socially declining neighbourhood of the district in Naujininkai, Vilnius, by introducing an alternative planning method which encourages participation.”***

This main question was tried to be answered partly by research part - where more explicit subquestions were raised, and partly by design part with reference to research conclusions.

Design aim was to create a neighbourhood plan for sustainable (re)development.

### ***Involvement of the community and other stakeholders in planning and upgrading processes***

One of the objectives was to revitalize the area by involving the community and other stakeholders in planning and upgrading processes.

From empirical research, it is clear that In the case of Vilnius, there is not enough finance to regenerate the deteriorating areas. Besides, residents are passive in the taking care of their surroundings. This is partly caused due to the unclear ownership - a common problem in the socialist housing estates, and due to the poor people living in the area, who even cannot afford taking care of their houses or apartments.

In the case of the constructions of a private sector happening in the districts (usually the big supermarkets), they do not provide benefit to the area, and usually, residents are not involved in the planning process of these projects.

A proposed neighbourhood plan encourages people by giving 'guidelines and recommendations' to improve their environment. 'Guidelines and recommendations' explain how the improvements could be made, and how 'win-win' situation between private-public sector could happen in the upgrading processes.

A plan provides the possibilities for new constructions in the neighbourhood in order to attract developers to invest in the area. New constructions are needed to

densify the area and to get a benefit from new developments in upgrading the surroundings. Also, housing typology for young families could be provided, and architectural aesthetic aspects could be added.

The destroying of the existing poor condition housing is not proposed because is not really possible due to the multiple ownership. Renovation and restructuring could make these estates an attractive accommodation.

### ***From the top-down planning to participatory and from zoning to strategic***

The other objective of the design was to switch planning from the top-down to participatory and from zoning to strategic. From empirical research part, it is clear that most of the plans do not tackle the major issues of the area, there is no actual participation in planning culture and planning is based on functional zoning. It is not clear how plans for a neighbourhood unit have to be prepared. Recently, in 2014 a neighbourhood scale was introduced in a planning system. A plan for a neighbourhood falls in the level of comprehensive plans. It should define the functional zoning, the possible construction heights and intensity. Mainly it is a bit more detailed comprehensive plan of a municipality. After the 2014 changes in a planning system, when a detailed plan was eliminated, land use of a parcel can be easily changed, and no additional planning documents for the constructions in a parcel are required. According to the experts, this plan brings the unfavourable implementation of the comprehensive plan of the municipality. Before and after changes in spatial planning, the public interest is not protected, developments are profit-oriented and constructions are happening not taking into account the surroundings. This new scale plan, which is still not well defined, does not provide one spatial vision and objectives which direction a neighbourhood should develop.

The proposed neighbourhood plan is alternative planning method which encourages participation, provides guidelines and one development vision/plan.

In a current spatial planning system, a proposed plan could be as the alternative to the existing neighbourhood scale plan, which falls into the category of comprehensive plans. For more local(block) scale (re) development, a more detailed plan has to be prepared which follows a neighbourhood plan and its objectives, and has to be approved by a municipality.

### **Dilemma between control and self-organization**

The third objective of the design was to solve dilemma between control and self-organization.

In the case of the spatial planning system in Lithuania, a control is needed in the planning at neighbourhood/district scale. In many cases the development is happening chaotically, considering private person needs, but not taking into account the surrounding environments. This planning based on separate parcels leads to the low quality of urban structure and unsustainable development paths.

One spatial plan/vision for a neighbourhood unit is needed to protect heritage, natural assets, to ensure the quality of spaces and to control the development of separate parcels which would have to follow the neighbourhood plan.

At the more local/block scale in a neighbourhood plan a guided self - organization is proposed. A plan provides guidelines and recommendations for block redevelopment, improvement of public spaces and encourages bottom-up initiatives.

An interactive tool is proposed to integrate a neighbourhood plan with its spatial plan and guidelines. It should help to organize the dialogues between the community, private sector, and municipality, to make the easier process for the implementation of the neighbourhood.

An interactive tool ensures transparency in planning and with a set of 'guidelines and recommendations' encourages participation in a planning process.

### **Participation**

A neighbourhood spatial development plan has to be prepared with a participation of the community and other stakeholders. When preparing a plan, the comments and feedbacks of the public should be taken into account. The public has influence in a decision-making process but municipality takes the final decision taking into account the heritage, natural assets preservation, sustainable development values.

The participation level in the decision-making process increases at the local/block scale. People are encouraged to organize a (re)development plan of a block or (re)designing local public spaces. However, it has to follow a neighbourhood plan and its objectives.

The interactive tool should work as a helping tool for guiding a self-organization and make easier processes of the (re)development plan implementation. A platform for sharing and posting for possible new constructions and the platform for the dialogues and negotiations should attract new developments in the neighbourhood.

The interactive tool could actually encourage participation because residents of Vilnius are actively using the current interactive map of the city.

### **Conflicts**

There is possible dissatisfaction among the residents of increased taxes for land ownership. The owners of the apartments in socialist housing estates and the owners of urban villas, where the parcels around their buildings are not formed, currently they pay the land ownership or land rent taxes only for a land which is under the building. In the case, if a parcel is formed around the building with the yard, parking places, the owned land becomes bigger, the percentage of the fee increases. But in that way owners would be motivated to take care and invest in their own land as municipality reduces taxes in that case. And to cooperate with developers and let the developments in their own land in order to share the taxes and also get renovation benefits.

In the cases if the owners of the building refuse to form a parcel around their buildings, the land still belongs to the municipality and new parcel could be formed, which could be sold or rented for other constructions.

There is the possibility of conflicts among the residents when preparing a (re)development plan for a block, disagreements could appear about the solutions of the plan. Most likely conflicts could happen among older people and young people who want the improvement of their block/house. Usually, older people in Lithuania are afraid of the changes and do not trust any developer.

There could be possible conflicts among the developers and residents in the cases that developer does not agree with the set conditions, and then a (re)development/renovation in a block will not happen.

Nevertheless, this kind of plan could work as a trial project in the case of a neighbourhood regeneration, because anyway, no progress in the revitalization of the area is happening, and almost no investment or new residents are attracted.

Probably because of mentality, people are not easy to involve in public life in Lithuania, they tend to be closed. This neighbourhood plan with its guidelines and recommendations requires a lot of cooperation between various stakeholders and the municipality. It might be very challenging for the residents as they do not want to get engaged.

An interactive tool could ease a process of cooperation, as all the information, discussions and participation can happen online. A spatial plan and guidelines integrated into a tool in the way which is easy to understand and it is supported by visuals which can be linked to concrete situations.



## **PART IV. REFLECTION**

# REFLECTION

## **The relationship between the theme of the graduation lab and the subject/case study which was chosen within this framework (location/object)**

One of the explored aspects of urbanism research theme Complex cities, is how spatial planning and strategy making, contribute to the diminishing environmental threats and weak governance. 'Complex Cities' emphasize relations among design, planning, and politics. The chosen subject and site is responding to these relations. During the graduation, I have tried to connect aspects of spatial planning, strategy, and guidelines for small-scale design interventions and decision-making model proposals. The project's location is the partly historical suburb, partly socialist housing estates neighbourhood in Vilnius, Lithuania. Lithuania is one of the countries that have been for 50 years a part of a communist block. Central planning and planned economy highly influenced the form of cities, traditions of spatial planning and the habits of people to use space. After becoming independent, cities went through a complex period of transition from communist ideology to free market economy. Places like the post-socialist neighbourhoods do not receive enough attention from the municipalities and are becoming deteriorating places of the city with growing social problems. The city planning and strategies do not take enough attention for revitalizing those areas, and there are no strategies for improving them. The deterioration of the neighbourhoods is the result of market-led planning. The development of the city is happening in outskirts of the city while the socialist housing estates are left neglected and losing the young and with higher education level social groups. With the research, I tried to find out what and how planning policies and strategies could help to revitalize the neighbourhoods and what could be the different approaches of planning make the areas more attractive for the residents and investors.

## **The relationship between the project and the wider social context**

Analyzing the issue of socialist and other deteriorating neighbourhoods of the city and how spatial planning influences the development and what planning guidelines could be made for the revitalizing those areas, is important for the wider context: On the one hand, the majority of residential neighbourhoods in Lithuania that host the largest number of people are the socialist housing estates. They are neglected by municipalities, and if the living quality in those areas continues to decline, people will continue moving out to the suburbs, and this can lead to major social and environmental problems of the city. There is a necessity to find ways to adapt these areas to current needs of people and to attract the new developments for creating a social mix in the area. There is a threat to those areas becoming "the dead zones" of the city in between the city centre and the suburbs. It is relevant to create the alternatives for the suburbs and to avoid of having so-called "dead zones" around the city centre. It is important to decrease threats of socio-spatial fragmentation on the city scale and to prevent the socialist housing estates from degradation. The issue of territorial planning is relevant to Lithuanian cities in general. All areas: suburbs, inner cities, and socialist housing areas are planned without coordination or understanding the local needs. Planning is based on standards and norms. Graduation project emphasizes a need for one spatial plan, guidelines and preparation and implementation of plans through the participatory planning approach. The plan which would guide people to the area improvement and encourage to take care of their environment.

## **The relationship between research and design**

The design goal of the project was to create a neighbourhood plan for a sustainable urban regeneration, which would be the alternative planning method to the existing one and would provide the guidelines for the improvement and development of the area by involving the residents and other stakeholders in planning processes. In order to propose a regeneration plan for sustainable development, it was important to define what sustainability and sustainable urban development are. The theoretical research gave the guidelines how to develop a neighbourhood plan - sustainable urban regeneration has to be done through an integrated approach, and at the local scale, it is important to form the sustainable communities and involve citizens in the planning process. Thus, the research on participatory planning and helping tools was done. It was concluded that online applications could help to involve communities to participate more actively in the planning process and also to make it more transparent. In order to create an interactive tool framework the references of the existing interactive tool and how do they work were analyzed.

To find out the key issues and principles how the post-socialist city of Vilnius and Soviet micro-district developed the socialist city and socialist housing estates were analyzed. From the analysis, it was clear that in post-socialist cities there is an issue of migration to the suburbs, and the housing estates built in Soviet times are neglected. Socialist housing estates are under threat of degradation and social segregation. Thus, social mix, and attracting young people, families in those areas are important. When preparing a neighbourhood plan, this led to the solutions, that the new developments and different typologies of housing have to be provided.

From a research of Vilnius, it is clear that district of Naujininkai is in a need of revitalization, but any of the revitalization, regeneration plans were prepared. The municipality does not have enough financing for revitalizing these areas, financial support from the private sector is needed. However, conditions for private sector developments have to be provided. Otherwise, the practice in Vilnius shows that developments are happening chaotically and not taking into account the surrounding areas and public interest. Thus, in a proposed plan a spatial vision for the neighbourhood was provided which all (re) constructions have to follow. In the plan, the possibilities for new constructions are provided in order to attract investments in the area.

The analysis of Naujininkai defined the weaknesses and strengths of the area. A broad analysis of its spatial and the social issues were carried out. Research helped to understand the problems and values of the place. It helped

to design an urban structure of a neighbourhood and to define the parts which need to be strengthened, where could be a starting point for revitalization.

The inspiration for spatial initiatives on socialist housing estates was taken from the analysis of mass housing restructuring examples in Germany.

The aim of the research of a spatial planning system was to find out how it is related to the issues of the city and the district, and how prepared plans try to tackle the issues of the area.

From the analysis, it is clear that the current planning documents do not provide one vision and plan for a development of neighbourhood unit. Planning is fragmented, based on zoning and detailed planning for individual parcels. Plans do not provide guidelines, and there is a very weak public participation culture, participation happens only in the public projects.

The proposed plan provides a spatial development plan, where all the (re)developments have to follow it, and the guidelines which encourage people to (re)develop their neighbourhood and actively participate in planning. An interactive tool is proposed to ensure transparency and participation in a neighbourhood planning and implementation process.

## **Methods are chosen for the graduation project:**

The methods used for research were a literature review, mapping, other desk research and site visit.

The literature review was used for understanding sustainable urban development and regeneration principles and general concept of participation in planning. The literature of post-socialist city helped to understand the context and current urban processes in Vilnius. As the focus of the project is socialist housing estates, it was necessary to comprehend development principles of them.

The research of spatial planning system was done mainly reviewing the literature of the law on territorial planning and reviewing the planner's view and comments on it. Analysis of current spatial development plans - comprehensive plan of Vilnius and detailed plans in Naujininkai shows how the spatial planning documents influence development patterns of the city and the district.

For the context analysis of Vilnius and Naujininkai, the methods like the statistics, data, and analysis of planning documents were used. It helped to understand a spatial, social structure of the city, and define the main urban development issues.



Mapping method helped to define the different building typologies, the historical structure and heritage. It was necessary to recognize different terrain heights and how it influences the structure of the neighbourhood. The spatial and functional structure of the neighbourhood analysis helped to establish pros and cons of the current structure, identify which parts need to be redeveloped and restructured.

The field work was also an important method for Naujininkai analysis. Visual analysis and evaluation of the site were done during the site visit; it revealed the physical condition of houses and public space. Moreover, by visiting and experiencing different neighbourhoods their street life, safety feeling can be compared. Mapping and site visit analysis of the site helped to provide a spatial design for a neighbourhood.

Methods used for design. Analysis of the examples of interactive planning tools helped to create a framework for an interactive tool, where a neighbourhood development plan could be integrated. The analysis of mass housing estates reconstruction in Germany helped to provide the guidelines for the opportunities of spatial initiatives for the redevelopment of socialist housing estates.

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Fig. 4.1. A panoramic view of Naujininkai  
Source: <http://pamirsta.lt/>

# Social sustainability in post- socialist city

Social segregation in socialist housing estates and the ways to reach social sustainability

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## Abstract

Post-socialist cities, after the collapse of Soviet Union, have experienced big political, social and economic changes, that affected urban development a lot. It seems that the direction the city is moving is away from sustainability (Tosics 2004). The attention to sustainability last decades are mostly on environment and economy, social sustainability is left undescribed. Social sustainability will be an important helping tool for shaping the cities in the next decades (McGreal, 2010).

The post-socialist city has a big sprawl issue, which encourages the use of private cars and also leaves declining and deteriorating inner city areas resulting in social segregation and exclusion. The most segregated areas are left in socialist housing estates. Poor building environment, monofunctional sleeping districts populated by ageing and economically weak groups are in contrary to the term of social sustainability. In this paper, the issue of socialist housing estates in Lithuania through the aspects of social sustainability will be discussed.

A social sustainability approach could strengthen the economic and environmental and derive from inclusive urban planning strategies. There is a need for new urban planning strategies and the approach of social sustainability in socialist housing estates. (Buinevicius 2012).

Despite unfavourable environmental and social conditions more than a half of the population of Vilnius live in the socialist housing estates. (Vilniaus planas 2007). The current approach of upgrading socialist housing estates is focusing on the energy efficiency of the buildings but is not solving the social issue which is the sharpest. (Pakalnis, 2016)

The objectives of this paper are to find out in what ways social sustainability could be reached and what are the possibilities to decrease social segregation.

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**Key words** –social sustainability, socialist housing estates; segregation; exclusion; urban strategies; role of urban designers and planners; building environment; social diversity

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## 1. INTRODUCTION

The big issue of the current urban development of post-socialist cities is the direction it goes – away from sustainability. Transition period left deep marks in urban development and planning. (Tosics, 2004). One of the major problems in Lithuania is suburban sprawl. Low-density constructions are happening on rural land, they lead to the heavy use of the private car, result in resource inefficiency, impact on the landscape, traffic and air quality problems. (Urbact in Lithuania). Suburban sprawl is leaving undeveloped territories in the city centre and neglected districts built in Soviet times around it (Stanilov, 2007).

Chaotic expansion of new settlements in outskirts of the city led to the ageing urban population of the districts built in Soviet times: older people stay in socialist housing estates while young families with higher income move to the suburban areas. People do not want to stay in estates built on Soviet times due to the lack of care of housing blocks and its surroundings. There is obvious socio-spatial segregation by income, age and education (Pakalnis 2016). Those factors are on the contrary to social sustainability approach.

The objectives of this paper are to define what social sustainability is and why it is important for the city and to find out how to upgrade socialist housing estates through a perspective of social sustainability.

### **A brief historical introduction to urban development of Vilnius in transitional period**

After the fall of Soviet Union, a celebration of freedom and capitalism appeared. Moving out of the districts built in Soviet times to the outskirts of the city and building a private house became a common pattern which is happening in today's city. This pattern led to the car based development, decaying public transport, deteriorating socialist housing estates, construction of big shopping malls, a concentration of functions in the city centre. (Stanilov, 2007)

Most researchers of post-socialist cities indicate the obvious differentiation trends of urban social spaces

- increasing social disparities, growing residential segregation and social exclusion as an important

The prognosis of social degradation and segregation in socialist housing estates is partly because of deteriorating building environment, partly of applied modernist planning principles and partly of the transition to free real-estate market, where opportunities for choosing other housing alternatives appeared (Dekker, Munsterd and van Kempen, 2007). In a processes of expansion into suburbia where higher income and young people are moving out to the outskirts, the neighbourhoods built in Soviet times around the city centre become ageing and places for socially and economically weak groups. However, Soviet microrayons - apartment blocks built in Soviet occupation period accommodate the majority urban population of Lithuania. In the chapter below, social segregation and deterioration of soviet neighbourhoods, how and when they became most vulnerable areas is discussed.

## 2. SOVIET MICRORAYONS AND SOCIAL SEGREGATION

City planning for Soviet Union countries had a specific meaning. First, it was important to create an industrial modern city, with newly built residential areas (microrayons) around working places. Second - to achieve political ideology – collectivism (Smith, 1996).

One of the most important political and ideological goals for a socialist society was the principle of class equality and housing policy was one of the instruments to achieve this objective. In the socialist city, equal access to the same type of standard housing for all social groups was ensured (Struyk, 1996).

The term to define socialist housing neighbourhood is microrayon. Traditional microrayons were built by satisfying socialist society ideologies: a balanced amount of houses, facilities and infrastructure. All microrayons had a clear structure and a lot of public space (Stanilov, 2007). In order to assure equality of living standards, specific norms were developed to determine the type and size of the required services, including schools, playgrounds, libraries, hospitals. In reality, only a few of the planned facilities and services were provided and the microrayons worked as sleeping districts of the city. Microrayons were planned under standard project according to population size with almost not taking into account the needs and traditions of local communities (Stanilov 2009).

The consequence of Soviet urban planning is that Vilnius now has strict functional zoning of "industrial" and "sleeping" districts. This caused unequal distribution of living and working places. And this structure automatically increases irrational mobility in the city (Vilniaus planas 2007).

### **Socio-spatial segregation**

After the fall of Soviet Union, social segregation was not remarkable in the first decade. Later, income inequalities have increased and socioeconomic segregation has grown. Also, housing alternatives and changed housing policy had an impact on spatial segregation (Sykora, 2009).

The effect of spatial segregation could be clearly seen in urban areas of new residential complexes, suburban – private houses, gentrifying neighbourhoods. People with higher income choose newly built apartments or private family houses on the outskirts of the city while the lower income population stay in the Soviet blocks. (Sykora, 2009). Now they become monofunctional sleeping districts, with a lack of jobs and cultural opportunities as well as decaying physical conditions (Buinevicius, 2011).

Due to the privatization, the renovation of the apartments buildings is complicated. Green spaces of socialist housing estates became the parking lots (Muliolyte, 2012). Due to deteriorating building environment, today apartments built in Soviet times are the cheapest housing of the post-socialist city. Segregation will increase and microaryons will attract more socially and economically weak groups. (Temelova, 2007). Thus, problems of socialist housing estates should not be postponed. As those areas in most post-socialist cities occupy the biggest part of the city and accommodate the biggest part of the population. There should be regeneration and renovation programs and plans for restructuring those estates.

Segregation could be reduced when those parts of the city go through a process of socio-spatial upgrading. (Sykora, 2009). How social sustainability could be reached will be discussed further in the paper.

## **3. SOCIAL SUSTAINABILITY AND URBAN DESIGN**

### **Sustainability and sustainable development**

"Sustainable development is a development that meets the needs of the present without compromising the ability of future generations to meet their own needs." (WCED, 1987, p37).

Sustainable development covers three pillars - "economic, environmental and social". (GSDR, 2014)

### **Social sustainability**

Sustainability in terms of environment and economy is well described while social sustainability is more difficult to define. The outcomes of social sustainability usually are more difficult to identify than environmental ones. Indicators of social sustainability could be measured by the local community needs (McKenzie, 2004). Social sustainability covers the concept of social equity, social needs and the sustainability of communities. (Bacon, Cochrane and Woodcraft 2013).

According to Woodcraft, four dimensions define social sustainability: "amenities and infrastructure, social and cultural life, voice and influence, and space to grow" ( Woodcraft, Bacon, Caistor-Arendar, Hackett, 2011). (Fig. 1).

Recently, next to the traditional social policies like human rights or housing, there are themes on participation, social cohesion or happiness and quality of life appearing (Fig. 2) (Colantino, Dixon 2009).

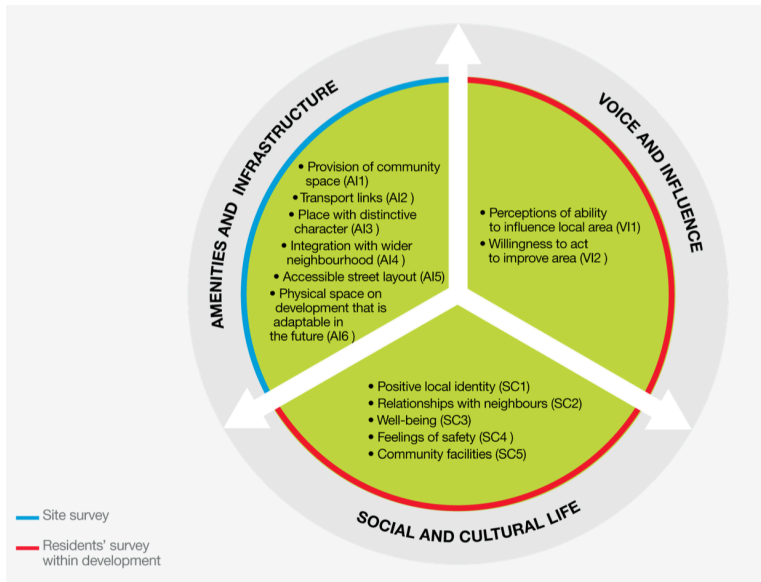


Fig. 1 The 13 indicators for measuring social sustainability organised within three dimensions. (Source: Social Life/Berkeley Group 2013.)

Traditional	Emerging
Basic needs, including housing and environmental health	Demographic change (ageing, migration and mobility)
Education and skills	Social mixing and cohesion
Employment Identity, sense of place and culture	Equity Empowerment, participation and access
Human rights and gender	Health and Safety
Poverty	Social capital
Social justice	Well being, Happiness and Quality of Life

Fig. 2 Traditional and Emerging Social sustainability Key Themes  
Image source: ("Measuring Socially Sustainable Urban Regeneration in Europe". Colantino, and Dixon, 2009

### Social sustainability and design process

For social sustainability, the importance of the process is the same as the result. It is crucial, in the process of planning and designing, to involve the community and the outcome of design has to be combined with social aspects. (Palich and Edmonds 2013)

However, in urban planning and design, social sustainability is not well integrated and described (Bacon, Cochrane and Woodcraft 2013).

According to Woodcraft, social sustainability should be seen as " process for creating sustainable, successful places that promote wellbeing, by understanding what people need from the places [where] they live and work. Social sustainability combines the design of the physical realm with the design of the social world – infrastructure to support social and cultural life, social amenities, systems for citizen engagement and space for people and places to evolve" (Woodcraft, Bacon, Caistor-Arendar, Hackett 2011 p. 16).

Urban planning and design could work as a component for creating social sustainability by involving communities in designing their future and encouraging interaction between community and governance (Palich and Edmonds 2013).



### Sustainable communities

Designing for social sustainability means designing diverse communities and involving them in the designing and planning processes (Palich and Edmonds 2013)

"Social sustainability occurs when the formal and informal processes; systems; structures; and relationships actively support the capacity of current and future generations to create healthy and livable communities. Socially sustainable communities are equitable, diverse, connected and democratic and provide a good quality of life." (Mckenzie, 2005, p-24)

In case of Vilnius, Lithuania, there is very little attention given to building socially sustainable communities in urban planning, and especially in deteriorating districts as socialist housing estates sustainable communities could be barely found.

In the majority of the neighbourhoods, especially in those built in Soviet times, the social diversity is seen neither in age nor in income.

The most diverse in terms of income and age communities can be found in historical suburbs of Vilnius. Those areas have comparatively mobile population (about half of them moved in after the independence), high-income arrivals live next to the local residents, usually low-income, retired people (Krupickaite, 2011).

A different situation is in housing estates, built in Soviet times, where the fastest social degradation is expected. For instance, there was a survey made in one of the typical neighbourhoods in the Soviet microdistricts – Karoliniskes. It has very low mobility, since 1991, only 31 percent. Today there is still social diversity, but more and more low income and education people are moving in. Furthermore, there is an ageing issue, 34 percent of the neighbourhood is older than 50 years. On a contrary, suburbs have relatively young and high-income population. They are socially very homogeneous (Krupickaite, 2011).

### **Social sustainability and relation with environmental and economic sustainability in urban development and regeneration**

Currently, social sustainability in sustainable urban development and regeneration agenda was recognized as an important part and obtain political and institutional confirmation. In Europe, since the 1990's social sustainability approach was integrated into environmental and economic fields of sustainable urban (re)development (Colantonio and Dixon, 2009).

However, the main focus of sustainable development is on economic and environmental sustainability and social sustainability is seen as an emerging component in those two fields. It is not well defined and clear how to create socially sustainable places that would be also environmentally sustainable (Woodcraft, Bacon, Caistor-Arendar and Hackett, 2011) It is suggested that social sustainability could be seen as a "finality" of the (re)development, and economic and environmental dimensions as tools to achieve it (Assefa and Frostell, 2007) .

### **The role of design working towards social sustainability**

Socially sustainable urban developments should diminish social inequalities and improve the quality of living environment. Social infrastructure such as job opportunities should be provided (Chan and Lee, 2008).

### Design for social sustainability – inclusive design

Social sustainability should be reached through the integrated approach, which means that not only the outcomes are set but also the implementation should be carried out. Furthermore, design outcomes should be linked to the social infrastructure and through the process of planning and design, there should be communication with the community (Palich and Edmonds, 2013). Sometimes, the process of planning and designing to social sustainability is more important than the outcome. An inclusive design can include the community in the process of planning, by that to connect people and to create social links within the community and also to empower people through involving them in a decision-making process. (Palich and Edmonds, 2013).

Inclusive design means to involve all social groups in terms of age, income and education and to include wide scope different ideas and views (Palich and Edmonds, 2013).

### Architect's role in inclusive design process

As it was mentioned before, to achieve social sustainability it is crucial to involve the community in the planning and design process. An architect or urban planner/designer could be as an intermediate between all stakeholders (private and public sector) to reach the best result. An architect should use different tools to reach and involve all community members in the process of design (Palich and Edmonds, 2013).

In the report "Design for social sustainability" was identified how an architect could involve the community in planning and designing built environment and public space. (Fig 3.)



Fig. 3. Building blocks: Voice and influence.

Image source: ("Design for social sustainability. A framework for creating thriving new communities ". Woodcraft, Bacon, Caistor-Arendar, Hackett, 2011)

### Sustainable communities

In urban renewal projects, social sustainability could be enhanced by particular elements. These elements or indicators are: the access for everyone to needed social infrastructure (school, hospitals, elderly homes), security and safety (in the streets courtyards), sense of community, access to green infrastructure, the level of pollution, the quality of built environment, provision of jobs and access to open spaces (Chan and Lee, 2008). Thus, building sustainable communities in urban (re)development projects is one of the key elements.

Sustainable communities according to ODPM, have eight characteristics (Fig. 4).

1. **Active, inclusive and safe** - *fair, tolerant and cohesive with a strong local culture and other shared community activities*
2. **Well run** - *with effective and inclusive participation, representation and leadership*
3. **Environmentally sensitive** - *providing places for people to live that are considerate of the environment*
4. **Well designed and built** - *featuring quality built and natural environment*
5. **Well connected** - *with good transport services and communication linking people to jobs, schools, health and other services*
6. **Thriving** - *with a flourishing and diverse local economy*
7. **Well served** - *with public, private, community and voluntary services that are appropriate to people's needs and accessible to all*
8. **Fair for everyone** - *including those in other communities, now and in the future.*

Fig. 4. Eight key characteristics of Sustainable Communities

Image source: ODPM, 2006

### Socially sustainable strategies to achieve physical outcomes

The outcomes to be socially sustainable should provide basic social infrastructure (for leisure and community gathering spaces), well-connected transport infrastructure and priority for pedestrians and bikes, ensure the respect of cultural and historical heritage (Woodcraft, Bacon, Caistor-Arendar and Hackett, 2011). Also, to create social and cultural life, the sense of local identity should be created. The places such as cafes, open spaces, playgrounds have to be provided. The neighbourhoods should be well connected to each other to enhance community interaction (Woodcraft, Bacon, Caistor-Arendar and Hackett, 2011).

### Adaptable design

In today's world, while everything is rapidly changing, for socially sustainable urban (re)development, it is very important to be flexible and adaptable. Design should encourage the temporary use of the spaces and also buildings adaptable to the changes - housing or community buildings (multi-use buildings). The plans for (re)development should ensure participation in planning in the later phases (Woodcraft, Bacon, Caistor-Arendar and Hackett, 2011).

### Participation, community and neighbourhood

In urban renewal and regeneration projects, "community" and "neighbourhood" are the key focus of social sustainability. In practice, a participation of the local community, consultation and involvement in planning processes are crucial. Usually, regeneration projects are happening in the neighbourhood with a socially weak population (in terms of income, education or age). A regeneration project usually is prepared to attract new people to the area in order to achieve social diversity and reduce social segregation. It is crucial to integrate newcomers into the area by workshops or networking events of the neighbourhood. Also, it is very important for the local government to ensure local community involvement as the higher income people may have an effect on housing, local economic activities and services, and local communities could be unintentionally displaced. (Colantonio and Dixon, 2009)

## 4. CONCLUSIONS

Going through a challenging transitional phase, microrayons – housing estates built during the Soviet occupation, became deteriorating areas of the city. They accommodate the majority of the population of the cities of Lithuania and are in a need of regeneration. Socialist housing estates are monofunctional, lack of jobs and cultural opportunities, with decaying building environment. Due to the lack of care of housing blocks, infrastructure and surrounding areas people with higher income are moving out to the suburbs, and socially weaker groups are moving in. There is obvious social segregation by income and age. Thus, it is essential to solve social issues within these areas and to propose a regeneration program.

The current approach of the issues of socialist housing estates is basically economic and partly environmental, mostly focusing on energy efficiency and high heating costs. A socially sustainable approach could be helpful to solve complex issues and also to strengthen environmental and economic sustainability programs and to develop integrated planning strategies. Social sustainability could be an integral part of socialist housing estates regeneration proposals. Planning and designing through socially sustainable approach means building sustainable communities.

Architects, urban planners and designers could play an important role in building socially sustainable communities. The involvement and participation in the planning process is a key element for sustainable communities. Architects and urban planners could become intermediate between all stakeholders – public and private sector, and provide opportunities to all the interested groups to participate and have a voice in shaping the built environment. Also, in the process of regeneration, it is important to protect the local communities from unintentional displacement.



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