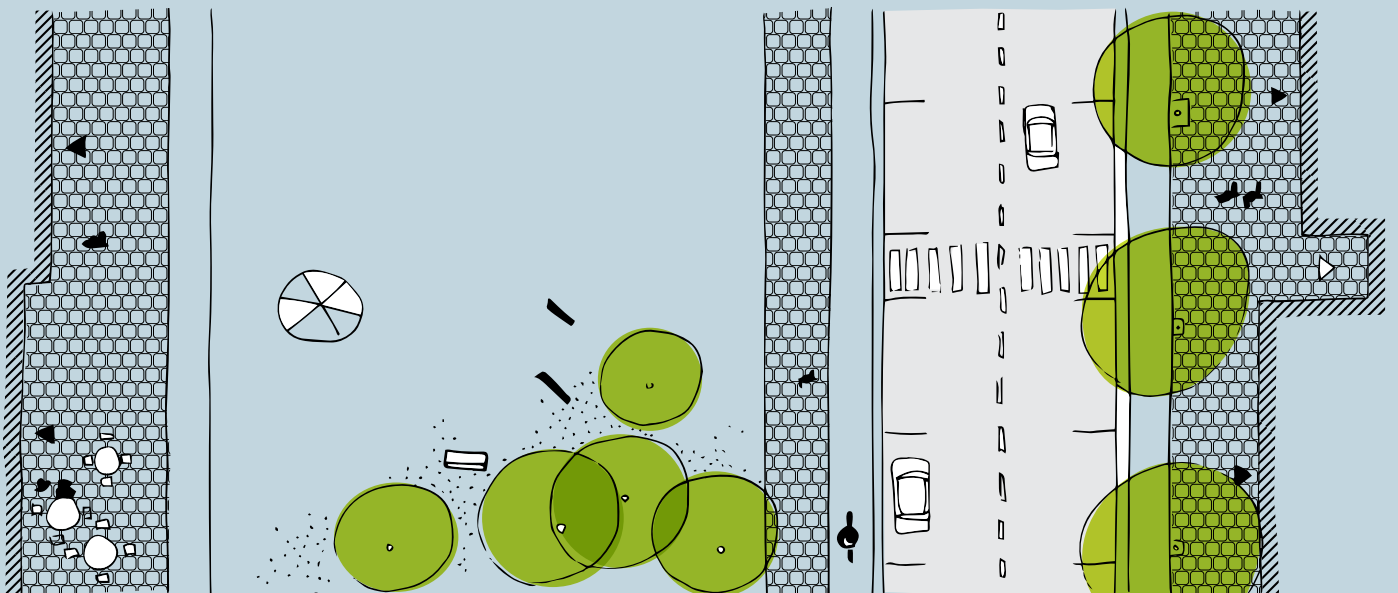
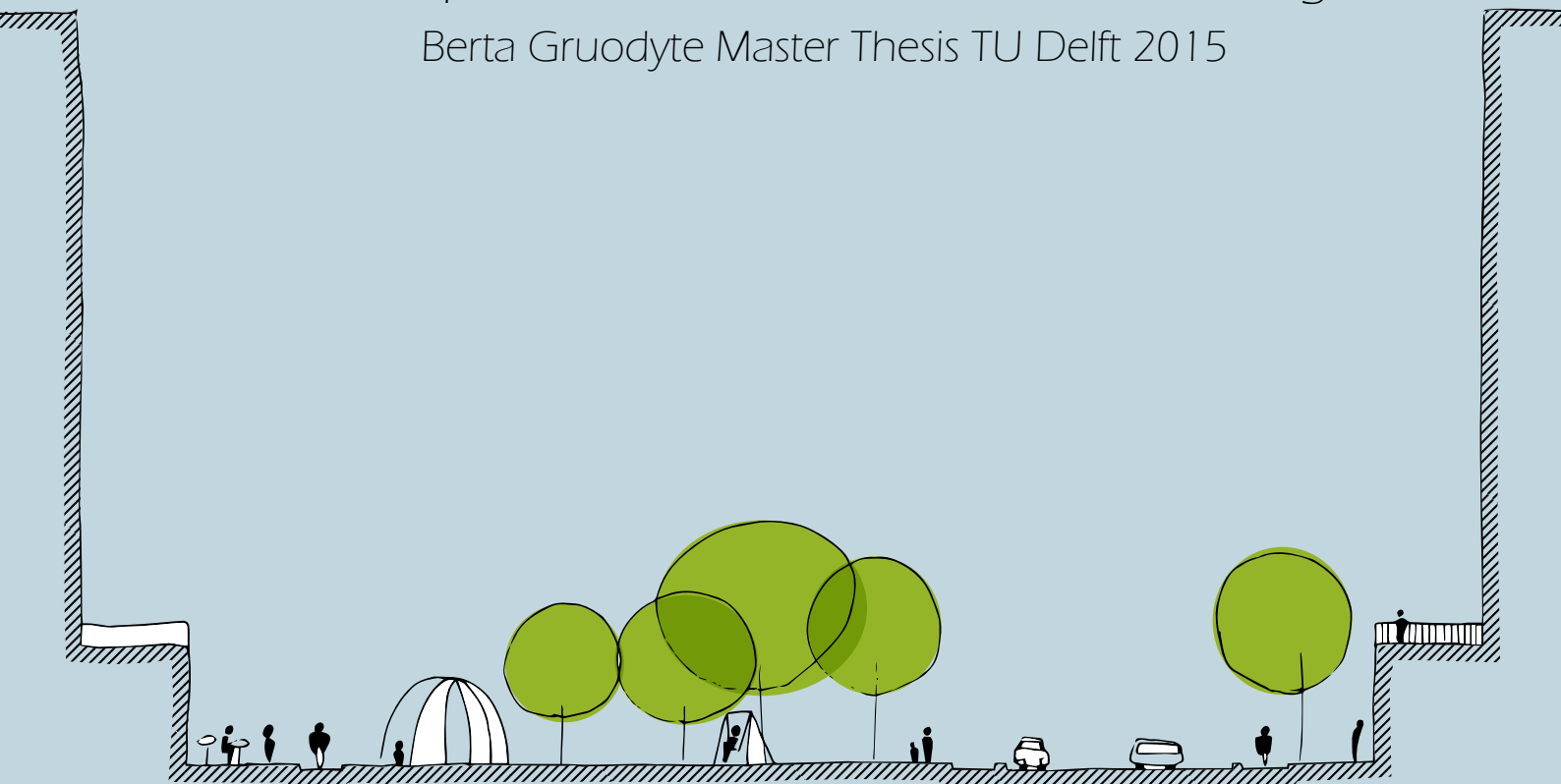


# Enabling inhabitants to act sustainably From dispersion to concentration in Kaunas region

Berta Gruodyte Master Thesis TU Delft 2015



## MASTER THESIS

Berta Gruodyte  
Student ID 4319478  
bgruodyte@yahoo.com

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### Research group:

Regional governance, planning and design  
Department of Urbanism  
Faculty of Architecture  
TU Delft

### The first mentor

Wil Zonneveld  
Studio of regional governance

### The second mentor

Daan Zandbelt  
Studio of urban fabrics

Faculty of Architecture, Delft University of Technology  
MSc Architecture, Urbanism and Building Sciences  
MSc track Urbanism

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library website:  
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Enabling inhabitants to act sustainably  
From dispersion to concentration in Kaunas region

Berta Gruodyte, TU Delft 2015

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## Thesis plan

In this part of thesis paper, it will be explained why this topic was chosen, what were the main focus points and general overview of the situation in Lithuania.



## PERSONAL MOTIVATION

Growing up in sprawled place, always having a troubles as a youngster to reach home without a car, walking long distances and waiting for hours for a bus - that is my personal experience with urban sprawl in my homecity. And it was about ten years ago, when only some people lived like that.

Now, when the housing areas are growing rapidly around the major cities in Lithuania, one could expect a growth of public transport, but it is far from what is happening. The suburbs are spreading in an ever-increasing scale, the distances are becoming greater and greater, and there are more cars on the streets than ever before.

Secondly, my personal motivation for choosing Kaunas and Vilnius involved familiarity with the context, accessibility to information and my interest in the regional planning.

My academic motivation for this project was born out of the realization that regional planning is an extremely neglected field in Lithuania.. And urbanism is also discipline, that has been overlooked - from the years of independency there were no official urbanists assigned. Therefore, the problems of urban sprawl are not being taken care of at all, and there are few people talking about that.

Of course, there are a lot of additional problems that are created by the absence of proper regional and urban planning creates. For example, on the right you can see separate plans for the city of Kaunas and for the Kaunas region municipality. Instead of creating an integrated plan for the entire region, including the city, the plan for the Kaunas region municipality excludes the city entirely. This creates the so-called doughnut effect.

View of Kaunas city. Source: [www.skyscrapercity.com](http://www.skyscrapercity.com)



# INTRODUCTION

This graduation thesis consists of a few parts and it will be overviewed now.

In the first part (thesis plan) the main problem issues in Kaunas region is reviewed, from where research questions and sub-questions derive. Methodology and theoretical framework is also discussed in this chapter.

The second part of the thesis contains the research component of the project. First part of the research is analysis of spatial planning system in Lithuania, with special emphasize on existing plans and their influence on sustainable growth and dispersal. Second part of research is spatial analysis. Firstly it starts with top-down analysis of region from economical, urban structural, social and transportational perspectives. Detailed spatial analysis of 4 chosen types of neighbourhoods are being carried out afterwards.

The third chapter is a design part. Here, I introduce my solutions and toolbox together with exemplary implementation designs. One of the neighbourhoods is presented in a detailed manner, whereas the other two are demonstrated in general aspects.

Graduation thesis is summed up with reflection of the project.

## STUDIO CHOICE

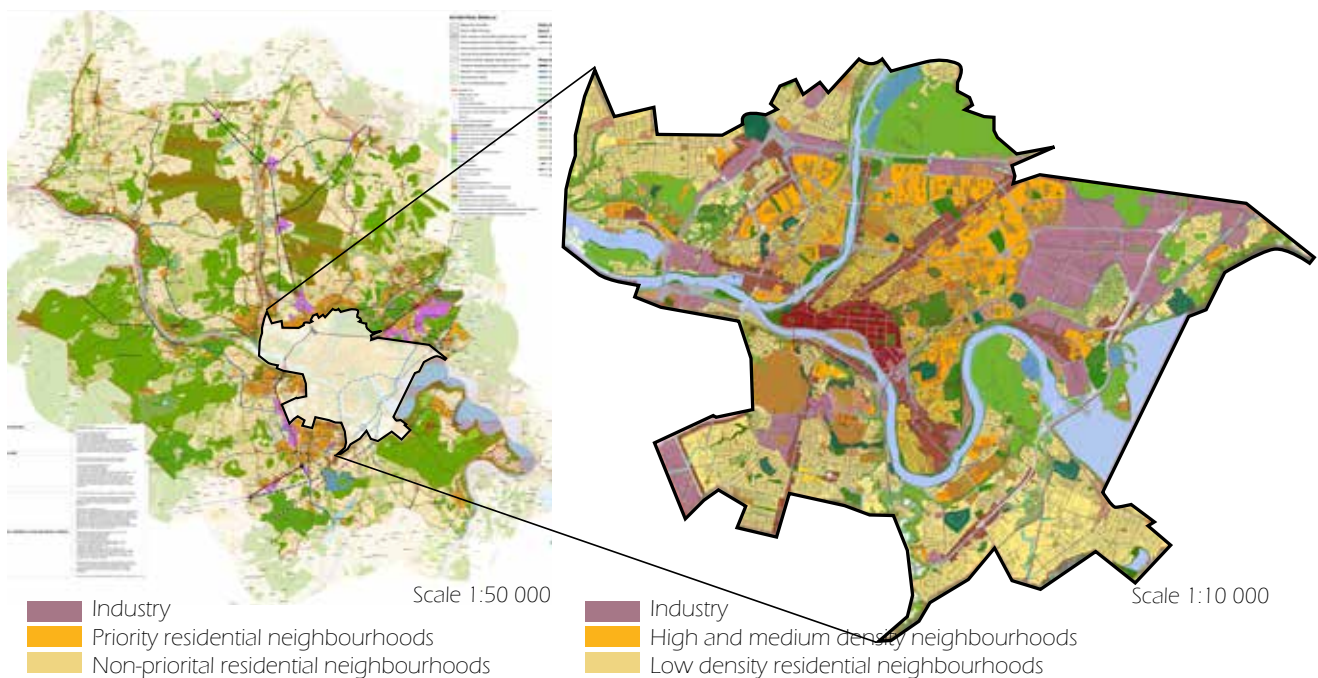
We live in times, when travelling from place to place is easier than ever, when going from one side of the Europe to another takes only a few hours by plane or a day by car. The world is shrinking, as our possibilities are growing.

Therefore, regions are starting to look smaller and smaller for us and in the nowadays world-wide context it's just a miniscule piece. This is causing a lot of people to stop defining their place, and just start living a bit everywhere - work in one city, go to gym in another one and sleep in yet another one. This is the time, when cities cannot be planned only in their legal boundaries as all regions are starting to become one entity, one mechanism, one system.

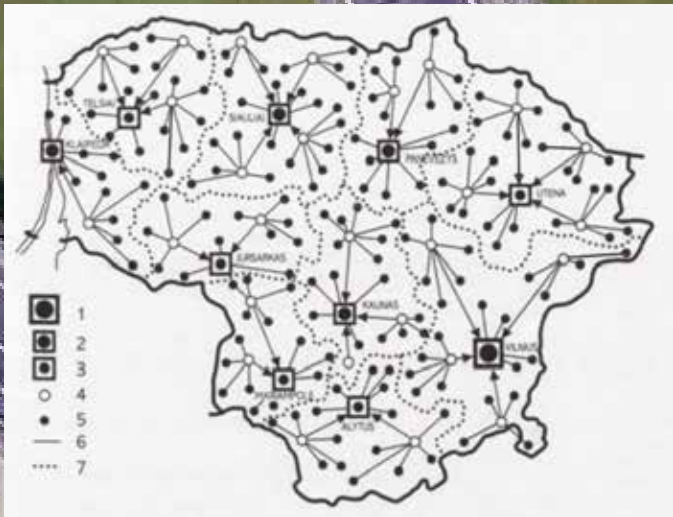
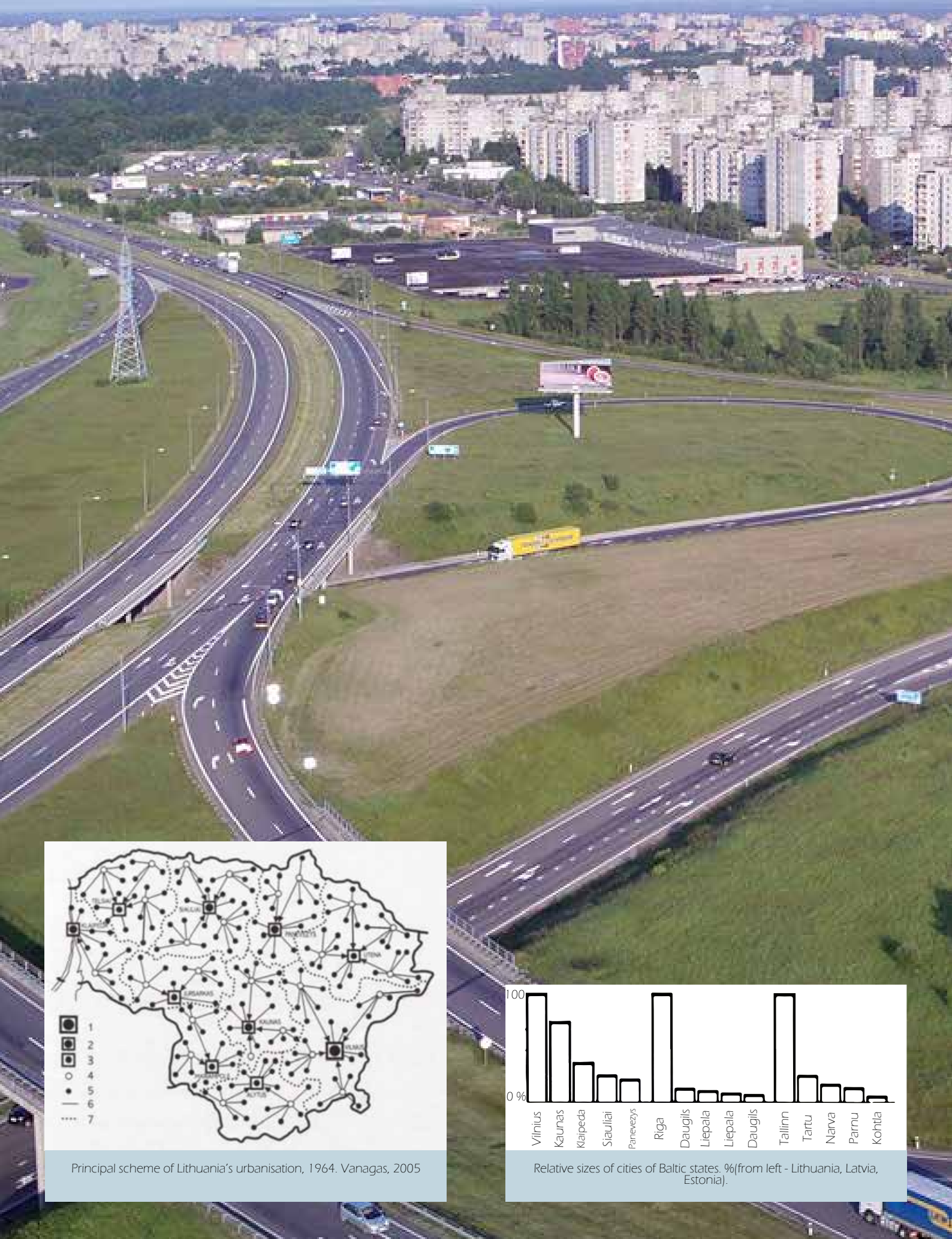
That is why regional governance studio is leading me into my graduation, where I am trying to seek for Lithuanian regional planning answers. Regional planning in Lithuania is not a very common topic, there is hardly any literature on how regions should work or how they evolved particularly in there. There is also no education or anything close to regional planning.

Spatial planning system in Lithuania is not working efficiently, which is a common flaw in post-socialist cities due to the lack of institutional coordination in planning, insufficient financing and poor implementation of laws and regulations.

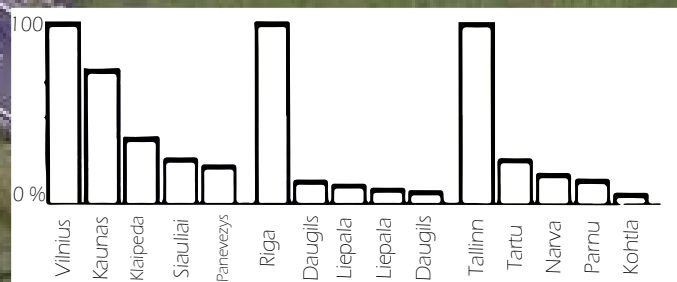
This is the studio, where the most knowledge about regional planning can be gained and it is the main issue of my project. Of course, only from foreign literature it can be learnt and studying international examples is the best place being where planning is efficient - in the Netherlands.



Current situation of regional planning in Lithuania - main cities planned separately from surrounding municipalities. Source: [www.kaunoplanas.lt](http://www.kaunoplanas.lt)



Principal scheme of Lithuania's urbanisation, 1964. Vanagas, 2005



Relative sizes of cities of Baltic states. % (from left - Lithuania, Latvia, Estonia).

## PROBLEM FIELD

First spatial planning concepts were adopted in soviet times, as a way to reinforce industries in the country. At that time all the spatial planning decisions were done by government as private developers did not exist. After gaining independence without having strong planning system everything started to shift to the hands of private developers and investors. Therefore, at the moment we have poorly planned urban structures. I will overview the planning practices during the soviet period and the current situation in more detail.

### SOVIET PERIOD

After the World War II, when Lithuania became part of the Soviet Union, planning developed together with the whole culture of the soviet planning system. The key feature of the said culture was the fact that government authorities were virtually the only proactive entity in social life. As there existed only one character in social life, there was one relation, i.e. the relation of authority with itself. As a result, there were no problems concerning planning.

Despite those facts, Lithuania managed to create a specific national plan. The first schemes of territorial planning were elaborated in the year 1958. The prime schemes of regional planning aimed at balanced development of cities and towns and a process of deconcentration of new industry compared to the other Soviet republics including Estonia and Latvia. In this way polycentric model was adopted, which nowadays could be defined as deconcentrated concentration.

The implementation of this national planning had some unexpected results. It led to relatively small growth of Russian nationality people (from other soviet countries) in Lithuania. Small cities didn't look so attractive for them and as a result they did not create strong communities as happened in Latvia and Estonia. After independence those people either emigrated or assimilated into culture, with the exception of a larger population of Russian speakers in Vilnius, the capital of Lithuania. (Vanagas, J. et al. 2002).

But even though everything was planned by government, from perspective of sustainability it was a very effective system. High densities in the cities were regulated by standard size per-person in apartment. This meant that individuals were not permitted to purchase real estate, instead people had to wait for their turn on the list of apartments assigned by the state. The same system was applied for transportation - you could only get a car, when you would get a permission from government. At the same time public transport oriented urban structure was developed.

Nowadays this polycentric model is very controversial. The country was following this urban pattern of decentralised cities, but it was not able to keep the connections between the cities. Now, it is more accurate to say that in the polycentric country model we have monocentric regions.

Polycentricity brought to Lithuania scattered cities all around the country. Nowadays not having a core city becomes an obstacle in attracting international investors and becoming a

part of the wider European structure.

On the other hand this model has brought some good outcomes as well. One of the most important ones is balanced economical growth of all the regions. Also, previously mentioned social aspect has been very important as well.

### TRANSITION TIMES

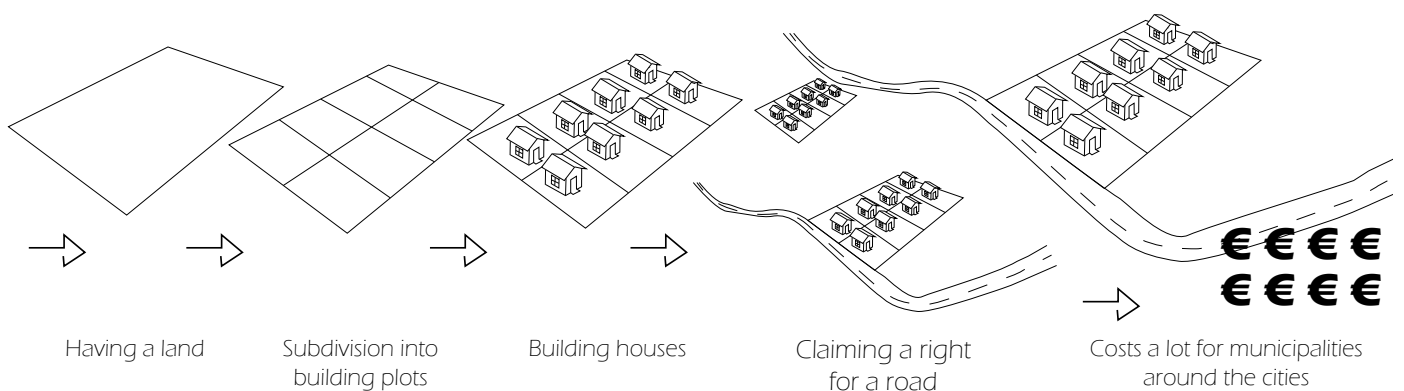
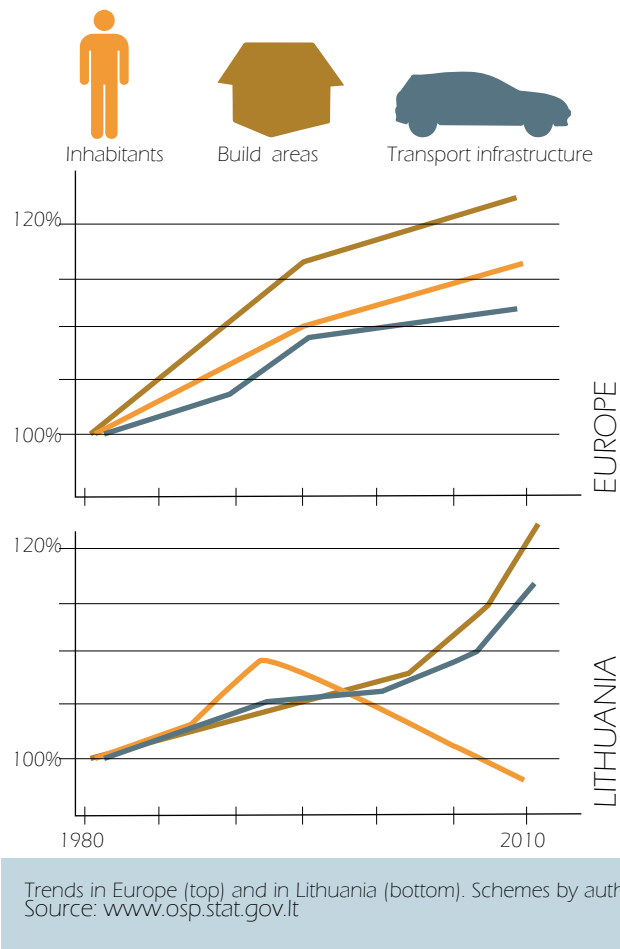
The planning system of independent Lithuania was developed through controversial political and cultural contexts. The process of the planning system formation was rather slow; even though the economical development pace was rather fast. Hence, there were very few changes in the material environment during the first years of independence. The Law on Territorial Planning (Lietuvos Respublikos teritoriju planavimo istatymas) was first enacted in 1995, and this is still the most important law in terms of planning in Lithuania nowadays, all the other laws such as The Law of Regional Development are of lower importance.

This process was followed by vast sub-urbanisation. The economic situation in the country was improving rapidly, as well as the people's desire to have the kind of Western lifestyle that they were observing in the movies and personal trips abroad. This led to urban sprawl developments, without actually understanding them - it was a symbol of welfare. Even the architects, the experts, were not inclined to control this expansion, which at the time seemed to be merely a natural feature of a capitalist society. The lack of planning resulted in extremely rapid construction, which could be described as a poorly organized process from the point of sustainability (Bardauskiene, D., & Pakalnis, M. 2012).

Unfortunately, little has changed and the rapid construction is still an ongoing process. Sadly, the negative effects of it are rarely discussed or examined.

### CURRENT SITUATION

Today spatial planning system in Lithuania is working very insufficiently, which is a common occurrence in post-soviet countries. The lack of institutional coordination in planning, insufficient financing and poor implementation of laws and regulations frequently lead to chaotic development patterns, suburban sprawl, decline of socialist housing estates, and surge in illegal construction. The current system also produces negative social outcomes, such as decline in communal living standards, privatization of public realm, and social stratification (Stanilov K., 2007:9).



Scheme showing how new neighbourhoods are being created. Made by author.

## PROBLEM FIELD

### URBAN DISPERSION

Growing economy and land privatisation brought to Lithuania a lot of urban changes. As the Bruegmann states in his book "Urban sprawl: compact history" urban sprawl comes to the countries, where the people becomes rich enough to afford it. It is happening the same way in Lithuania only few decades later than in the Western Europe countries.

Residential developments are growing vastly in the whole Kaunas region. These developments are mostly low height and low density neighbourhoods which are far from the existing public transportation routes and urban facilities.

But the sprawl in Lithuania varies from Western countries. The usual process involves city people moving to the suburbia, people from country side and immigrants are moving to the city centre. However, in Lithuania this standard process is disrupted by a third direction of movement: abroad. Huge amounts of people are emigrating from the cities as well as from rural areas. In past decade alone Lithuania lost 28% of it's population. Kaunas region in this period lost 20%, Kaunas city - 22%, but Kaunas municipality was growing - it gained 8% of inhabitants. Of course, it doesn't cover overall loss, but a few trends are very clear here - moving to suburbia and emigrating.

In conclusion, while the dispersion is mostly caused by a growing number of people in other Western cities, in Lithuania this process is more complicated due to high emigration and decline of population. The growing dispersion combined with a decreasing number of inhabitants means that fewer people have to pay for the expansion and maintenance of infrastructure to growing suburbs (graphs on left).

### TRANSPORT

Newly built developments in Kaunas region are not only of very low density, but are also built in a very scattered manner. Some of construction companies are developing new neighbourhoods attached to existing ones, but a lot of housing are built in random places in a middle of agricultural land, far from existing roads. After a few more houses join the initiator, neighbourhood is formed and it then has a legal right to ask local government to pave a new road to the neighbourhood:

*"...there is not an easy task to reject the foreseen "hyper - development" due to the landowners who think that it is a "legal expectation". (Bardauskiene, D. and Pakalnis, M. 2011)*

Naturally, the local governments find themselves in a difficult position as they are pressed to find money not only to pave a large number of new roads, but to maintain them later on as well.

The quality of existing roads has been a serious issue in Kaunas city for a long time now, since the budget for road maintenance consistently falls short of the actual needs for repairs. A few years ago, the situation reached such a dire point that large protests were held.

### PUBLIC TRANSPORT

It is no surprise then that the government has not been able to keep up with the developers' pace in expanding the public transportation network. There are a few soviet-built railway lines connecting several towns, but they cover only a small fraction of the entire region. The region does have an extensive bus system, but it is still far from fulfilling the needs of people living in the further developments.



Following the society's need of transportation and governance ignorance, private investors developed a new private transportation network by using the mini-buses ("mikriukai"). As this was very fast transport, it saved people living in suburbs a lot of commuting time. The mini-bus network connected various towns in the region to Kaunas, as well as the various boroughs within the limits

of Kaunas city.

Recently, when government noticed that minibuses are in some places overtaking the publicly owned public transport, it was decided that it was time to do something about this parallel system of transportation networks. The city government incorporated minibuses in existing public transport system and are gradually getting rid of them.

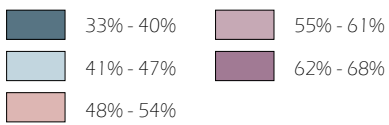
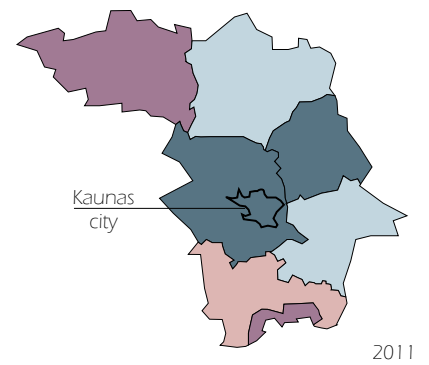
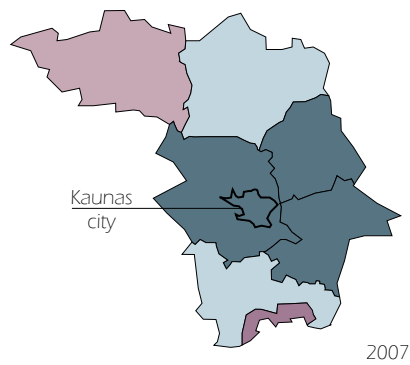
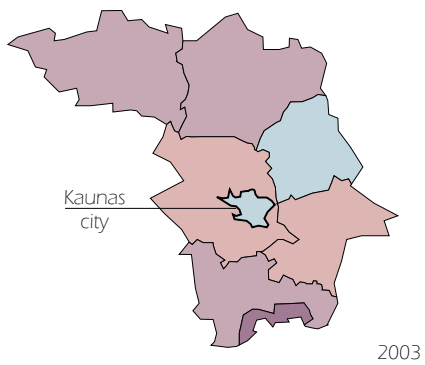




## LANDSCAPE

Lithuania is known for its big forests (which take 34% of its territory), lakes and rivers. It is common practice to spend time in the forests not only relaxing, but also picking berries and mushrooms. People are still close to nature as only few urban generations of people grew in cities. There is no doubt, I also personally feel very attached to the issue of saving Lithuanian natural landscape and want to not forget this part.

It is no longer enough to leave the city limits to reach nature. The sprawl of housing developments means that people have to go further and further to escape urban landscape, whereas nature is becoming a thing found in reservations rather than an integral part of the entire country.



Elections to municipality, by percentage, showing how much people are related to the place they live in by percentage of voters there for local elections.  
 Source: [www.osp.stat.gov.lt](http://www.osp.stat.gov.lt)



View of Kaunas region sprawl. Source: <http://www.skyscrapercity.com/showthread.php?t=1172347&page=6>



# PROBLEM FIELD

## SOCIAL SEGREGATION

One more problem, that occurs in suburban municipalities in Kaunas region is segregation. Territory can be divided into a few parts - the parts, where people are moving from the cities, new suburban neighbourhoods and areas further after them, where people are emigrating from (Bardauskiene, D. and Pakalnis, M. 2011).

Dispersed territories create a few distinct problems. As already explained before, people living in these areas are putting a lot of pressure on local governments for not only roads, but various facilities as well. Another social problem is that those people are not getting involved into life of the municipality that they newly belong to and they are identifying themselves as inhabitants of Kaunas city. This creates boundaries between the people that actually live there, and commuters who are only coming to their "home" to sleep every night. This negative effect is very obvious from the voting patterns in the past few years that are displayed in the graphs to the left.

Middle and peripheral zone of an urban region is a destination for the flow of the affluent people from the city. An area almost right behind it serves as a kind of social "trash can" of the city. The aging population and emigration creates an abundance of unoccupied and relatively affordable housing options in many villages and towns in Kaunas city region. Such a supply generates flows of socially disadvantaged groups (e.g. the unemployed, substance abusing individuals and families, who often have young children) from the city to the country. Those newcomers often cause various problems both to local inhabitants and government.

## REGIONAL PLANNING AND GOVERNANCE

There are three levels of planning in Lithuania (graph on left). All of the lower plans have to follow the National plan of Lithuania, while lower plans have to always follow higher level plans as well.

The largest issues that this system creates occurs at the municipality level. Here, some bigger cities (including Kaunas and Vilnius) have their own right to plan city separately from the rest of municipality, so the outcome of it is two plans of a similar scale. They end up addressing the same problems, being influenced by each other's issues, and attempting to solve

## PROBLEM DEFINITION

Even though Kaunas is growing economically and its urban network is sprawling, the number of inhabitants is declining. Urban sprawl is causing social problems, maintenance of facilities, public transport system and infrastructure is becoming difficult as Lithuania is turning into car based society.

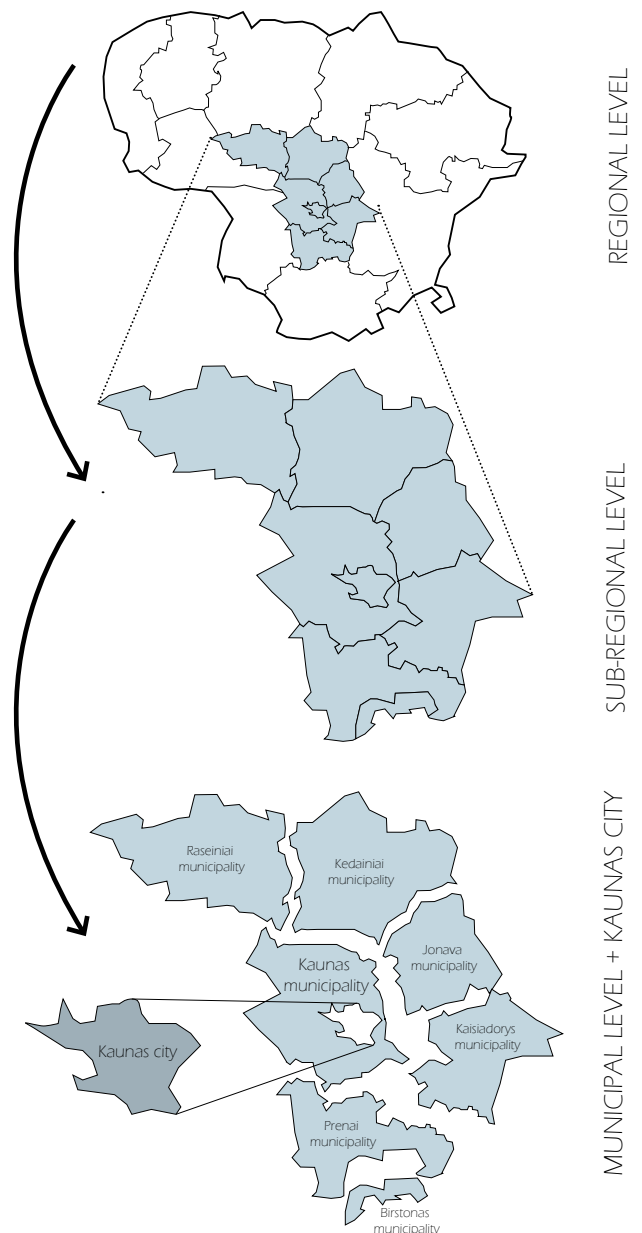
The relation between planning system and developers is very poor as the government doesn't have clear future goals and it's objectives are very vague. Complicated bureaucratic planning system is creating a perfect space for market driven developments, which are hardly supervised and which drive most of the current urban sprawl.

these intersecting issues separately. In the research part of this thesis extensive analysis of the plans is done and even though in Kaunas no analysis of this situation in Kaunas, was carried out, but a few paper were written about Vilnius city:

*"Cooperation between Vilnius city and Vilnius district in regulating Vilnius city sprawl is almost inexistent and there are no premises for this in the nearest future." (Burneika, D. and Ubareviciute, R., 2011)*

Another part of the problems stemming from the governance. It seems that plans are drawn up merely to comply with the law, but they are not followed properly. Instead, the construction of housing developments is driven nearly entirely by market players, who do not shy away from employing bribes or conducting direct negotiations with specific government employees whose ethical standards may be sub-par.

PLANNING LEVELS IN LITHUANIA



Scheme made by author

A creative group of artists (called Z999) decided to draw people's and governments attention to the very poor condition of Lithuanian roads by creating a photo shoot around potholes in Kaunas. Source: [www.laughingsquid.com](http://www.laughingsquid.com)



## RESEARCH QUESTION

How to direct urban dispersion in chaotically growing Kaunas region to a sustainable direction?

Sub-questions:

(analytical questions)

- How is the region of Kaunas developing over time in terms of dispersion?
- What are the main issues of urban dispersion preventing sustainable growth?
- What are the main problems in governance leading to urban dispersion?
- What are the main issues in plans considering the dispersion and sustainable growth?
- What are the main issues in implementation of the plans of Kaunas region and Kaunas sub-regional levels?

(planning and design questions)

- How can regional planning help solve urban sprawl and create sustainable environment?
- What tools in regional, city and neighbourhood governance can help reach regional strategy?
- What spatial changes can make existing neighbourhoods more attractive and lively?
- How to direct a region toward sustainable growth, when resources are limited and the planning base is poor?

## AIM OF GRADUATION PROJECT

This graduation project can be characterized as 'Research driven Design', within which the research and the final design proposal are of equal importance.

The main goal for the 'Research' part consists of the following key elements:

- Understanding different urban patterns and social aspects connected to them in Kaunas region;
- Understanding how the spatial planning in Lithuania works and how it influences our physical environment;

The 'Design' part of the project has the following main aims:

- Creating toolbox for different neighbourhoods in order to rise quality of life in Kaunas region and reduce amount of people moving to suburbia;
- Creating a visual design solution for one of the chosen neighbourhood (spatial design) and showing how the toolbox would work;
- Creating brief designs showing implementation in other areas.

The information derived from the 'Research' part is needed in order to find the 'missing links' that should be solved, to have a basis of strong characteristics that can be used for the design and to select the final case for the design proposal. The main aim of the design part is to envision possible sustainable future plans and show how some changes in regional

## RELEVANCE

governance policies can influence the future of the region.

### SOCIAL RELEVANCE

Lack of regional strategical planing and insufficient governance towards urban spread is causing a lot of social problems such as the increasing dependence on private transportation and the creation of segregated areas. Less privileged people (jobless, with a lot of kids, substance abusers) are migrating to areas just outside sprawled metropolis region creating social seclusion (Burneika D. and Ubareviciene R. 2011).

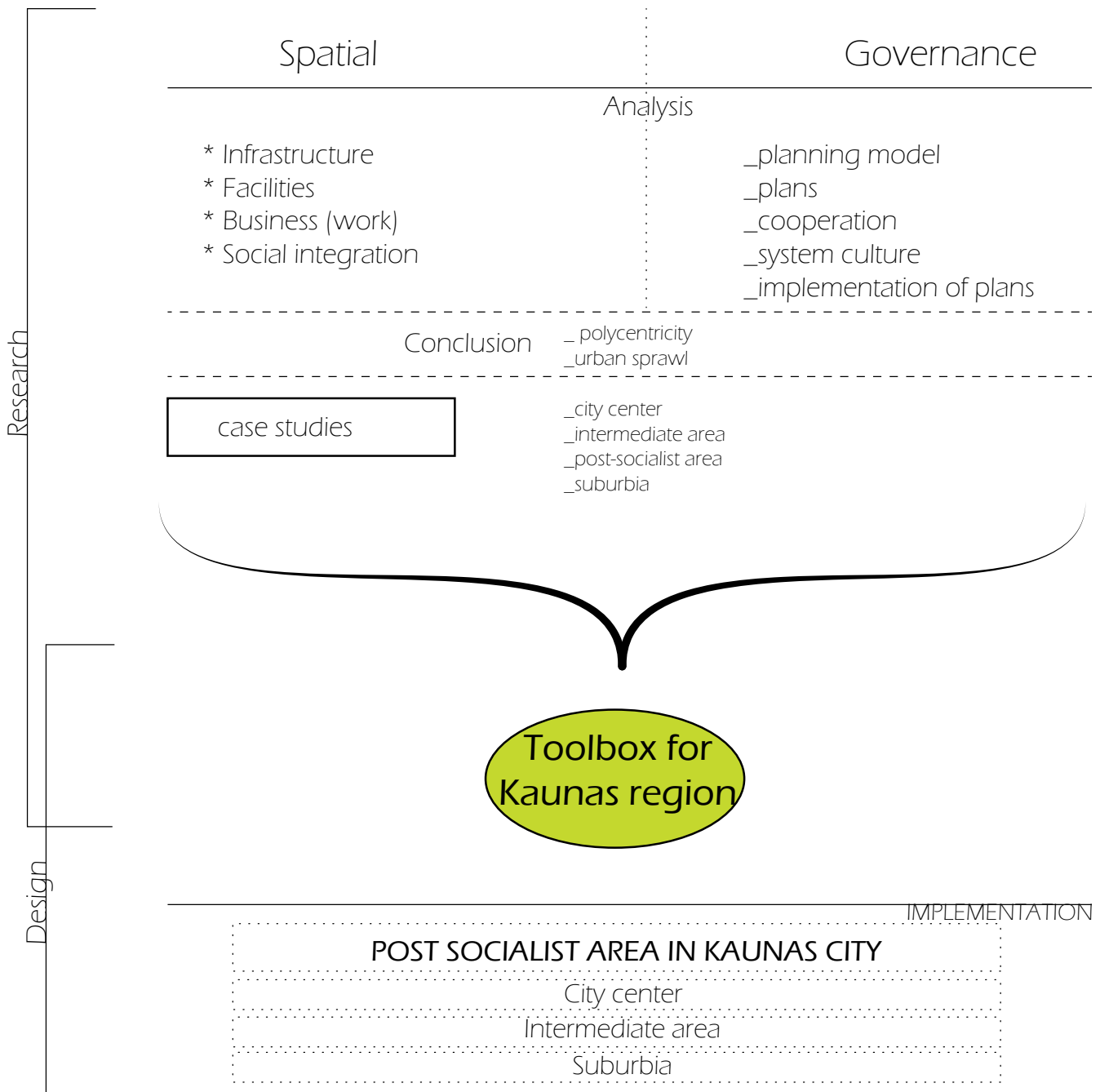
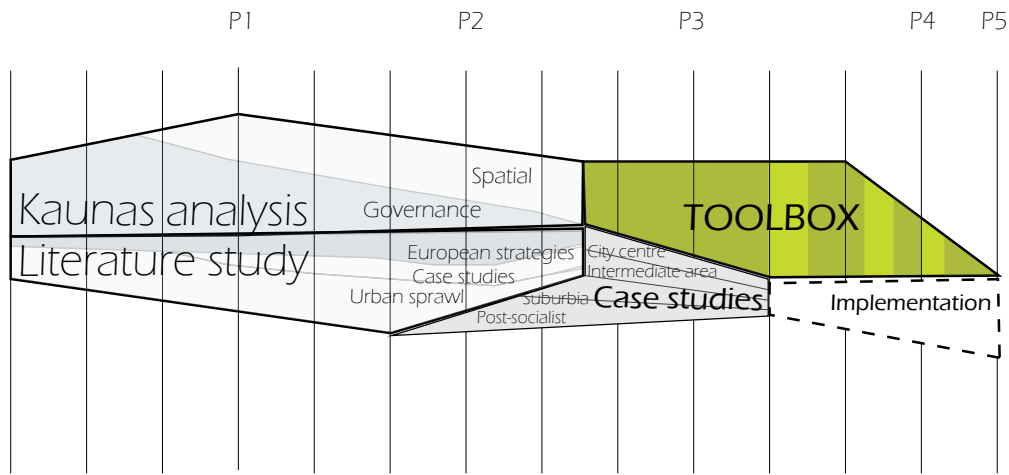
Firstly, government is not capable to maintain vast infrastructure anymore. Low quality of roads already leads to conflicts between inhabitants and local government. Cities also are not able to provide people with public transport and dispersed places are only reachable by privately owned transport or minibuses.

Secondly, urban sprawl creates social problems in the new neighbourhoods, where social infrastructure is not accessible and people are not even identifying themselves as the inhabitants of that municipality.

### SCIENTIFIC RELEVANCE

The topic of regional planning is not very common in Lithuania. There is no study program of Urbanism in the entire country, only general Architecture degrees are offered by Lithuanian universities. That is reflected in the regional and strategical spatial planning in the country - hardly any publications talk about that, few books are published. And even the books that have been published are mostly about the capital city, whereas Kaunas and other parts of the country are ignored nearly completely.

Another fact worth mentioning is that urban sprawl is a new concept for Lithuanians. In fact, the phrase "urban sprawl" does not even have an official translation in Lithuanian language (urbanstinis driekis, urbanistinis chaosas...). Even though the amount of dispersion is sometimes analysed in research papers, the findings rarely reach the people outside of the academia (Vysniunas, A., 2013).



Structure of graduation thesis and timeline. Note - sizes of blocks are depending on amount of attention put on it. Made by author.

# METHODOLOGY AND THEORETICAL FRAMEWORK

The graduation approach is “research driven design”, which means that design is based on theoretical and spatial research. Theories and methods are changing depending on the stage of the project. I started from analysing extensive literature on Lithuanian housing market, as well as the history of national and Kaunas region to understand better on-going processes. This is followed by analysis of existing system of spatial planning and governance, the relation between Lithuanian real estate market and urbanists, architects. To enhance analysis interviews with architects, urban planners, local people and other people involved in process are done.

The methodology can be divided into several parts. The first part is research of Lithuania in the context of urban sprawl in it, as well as spatial comprehension. In the second part is literature review about urban sprawl, where different theoretical frameworks will be analysed and its relevance in Kaunas will be discussed.

## SPATIAL PLANNING AND GOVERNANCE

In order to answer my research questions through the final design product I started from the top-down analysis of spatial planning and governance system in Lithuania through different scales. To achieve this a few different methodologies were used:

- \_literature study (of particular literature about spatial planning in Lithuania, for example COMMIN (The EU compendium of spatial planning systems and policies,) 2005, );
- \_study of existing plans concerning sprawl (National plan 2005, Kaunas regional plan 2005, Kaunas sub-regional plan 2005, Kaunas city plan 2014);
- \_comparative study (to understand better implementation in other countries) (PLUREL reports);
- \_interviews to get a better knowledge of planning culture or other specifics of planning that have not been analysed in the available literature.

My theory paper is based on this chapter as a first attempt to find problems in spatial planning and governance in Lithuania as they are the key reasons highly causing sprawl. Obviously, they are not causing sprawl by itself, but they are creating the perfect conditions for it to happen. At the end of this chapter the most important changes to the current system will be highlighted.

## COMPREHENSION OF LITHUANIA (KAUNAS REGION) SPATIAL ASPECTS

In order to answer my research questions about spatial aspects in Kaunas region, analysis was done about it based on criteria important for urban sprawl and sustainability, such as densities, work places, use of roads/public transport.

In this part literature about urbanism in Lithuania will also be analysed - Miskinis A. (1991) “Urbanism of Lithuania: past, present, future”, Butkus T. (2014) “City as an event” and others to analyse historical growth of the cities in the region.

## THEORETICAL RESEARCH

After analysing situation in Lithuania in detail, analysis of broader literature follows. This way better solutions for Lithuania, Kaunas region can be chosen and it will help me to identify the focus points of urban sprawl strategy.

Firstly, urban sprawl should be defined. For example, according to Bruegmann, urban sprawl could be defined as:

*“...low density, scattered, urban development without systematic large-scale or regional public land-use planning.” (Bruegmann 2005:18)*

There are various definitions of urban sprawl, and it is important to note that the actual form of it can take drastically different shapes across the world. In the case of Lithuania, the major problem seems to be the vast gap between existing land-use plans and the actual implementation of the policies by the real estate developers. That is why my theory paper is about spatial planning and governance in Lithuania and the particular case of Kaunas region

Later on toolkit oriented literature is explored and EU reports is analysed about urban sprawl - European Environment Agency (2006). Urban sprawl in Europe: The ignored challenge. Also, some other literature concerning design: Galina Tachieva (2011) “Sprawl Repair Manual”. Finally, the examples from different countries discussed in Commin reports will be overviewed in order to find possible ways to improve Lithuania’s current system. Moreover, the role of planning laws in shaping the cities is emphasized by looking into A Lehnerer’s “Grand Urban Rules”.

## THE CASE STUDIES

To understand better how different neighbourhoods work, case studies of typical neighbourhoods were done, as a way to see each one of them and their spatial conditions.

Here, field work was done, as a way to grasp them better and to see spatial aspects, that are making places feel one way or another. Also, were carried out in order to find out the expectations and needs of different groups of people.


## DESIGN

Based on the findings of a regional survey, theory and case studies, my gained knowledge was implemented in the design process to reach relevant outcome. Dispersal repair should be introduced in all off the different neighbourhoods, assuming that it is precisely their qualities that are pushing developments towards dispersion.

Based on it, first part of design is creating a toolbox. It is divided according to the case studies (different types of neighbourhoods). In this part tools involving different stake holders are designed. It is important that these tools enable everyone (singular inhabitants, various businessman, government) to



A creative group of artists (called Z999) decided to draw people's and governments attention to the very poor condition of Lithuanian roads by creating a photo shoot around potholes in Kaunas. Source: [www.laughingsquid.com](http://www.laughingsquid.com)



take actions towards sustainable growth. The toolbox works as a strategy to improve the entire region through small scale interventions.

In the end, showcases for chosen neighbourhoods are shown, as possible scenarios of future, emphasizing the role of toolbox. One neighbourhood is being explained in detail - the people involved, the connections of some actions with others, and the possible outcomes. The other three neighbourhoods are being shown generally.

## THEORY PAPER

Theory paper was written under a topic of spatial planning system analysis in Lithuania. Parts of paper are used in spatial planning system analysis chapter of graduation.

Question - what are the main forces in spatial planning in Lithuania, causing urban sprawl and what are the key points of regional governance and its impacts on these developments?

### Theory paper abstract

The history of the Lithuanian regional spatial development is not long. The first national spatial plan was created in 1960s introducing polycentric model and spreading out industries throughout the entire territory of Lithuania. In those times this model was the perfect way to keep the identity of the country. Nowadays with this polycentric model and capital far from the centre of a country, with European importance road (via Baltica) not even going through it, Lithuania is facing a lot of problems in attracting international investments. Nevertheless the sprawl off the main cities is bigger and bigger issue as the number of inhabitants is getting lower, while the number of housing units and the infrastructure is getting bigger. Lithuania is turning into car based society.

The paper analyses spatial planning and governance in Lithuania and how it influences urban sprawl. It discusses about governance and its influence on planning from first plans – soviet times, transition times after gaining independence and finally analyses existing plans and looks into their relation with sprawl in Kaunas region. In the end, critical points and forces are being defined as points of changes and improvement.

Keywords: urban sprawl, city region, urban region, Lithuania, Kaunas, double city, spatial planning.

## SUSTAINABILITY

Rapid urbanisation is the most complex and important socio-economic phenomenon of nowadays, appearing worldwide and as discussed previously in Lithuania as well. This process represents major and irreversible changes in production and consumption, and the way people interact with nature. It is therefore somewhat surprising it is only recently that cities and the urbanisation process started to be looked at through a sustainability lens.

The perception that cities play a key role in sustainable development only started to become popularised and mainstreamed into policy making and planning since the early 1990s. This new perspective rapidly gained momentum and widespread adherence on the urgent need to promote sustainable cities. Until now the idea has been evolving, and the meaning of it has also been changing and gaining different shapes, different words were being adapted to represent sustainable ideas, such as 'eco-city', 'smart-city', 'green urbanisation'. Therefore, the definition of 'sustainable' faded during time and has a different meaning now. In the end, is it all just about the greening of the built environment and urban form?

In order to answer this question I am basing understanding of term 'sustainability' on the most classic and known definition of it by Brundtland Commission which was the first organization that mentioned this term in 1991:

*"Development that meets the needs of the present without compromising the ability of future generations to meet their own needs. It contains within it two key concepts:*

- *the concept of needs, in particular the essential needs of the world's poor, to which overriding priority should be given; and*
- *the idea of limitations imposed by the state of technology and social organization on the environment's ability to meet present and future needs."* World Commission on Environment and Development (WCED). *Our common future*. Oxford: Oxford University Press, 1987 p. 43.

Since popularisation by the Brundtland Report, sustainable development has been described as the intersection between social, environmental and economic goals. Each of them can be explained like this:

Economic sustainability is understood as the capacity and ability of a practice to be able to put local/regional resources to productive use for the long-term benefit of the community, without damaging or depleting the natural resource base on which it depends and without increasing the city's ecological footprint. This implies taking into consideration the full impact of the production cycle.

Social sustainability refers to the fairness, inclusiveness and cultural adequacy of an intervention to promote equal rights over the natural, physical and economic capital that supports

the livelihoods and lives of local communities, with particular emphasis on the poor and traditionally marginalised groups. Cultural adequacy means, in this context, the extent to which a practice respects cultural heritage and cultural diversity.

Ecological sustainability pertains to the impact of urban production and consumption on the integrity and health of the city region and global carrying capacity. This demands the long term consideration of the relation between the state and dynamics of environmental resources and services as well as the demands exerted over them.

The sustainability of the built environment concerns the capacity of an intervention to enhance the livability of buildings and urban infrastructures for 'all' city dwellers without damaging or disrupting the urban region environment. It also includes a concern for the efficiency of the built environment to support the local economy (Allen A. 2009).

While talking about sustainable cities these features are highlighted by Nigel Richardson. Prepared for by the Ontario Round Table on Environment and Economy.:

More sustainable	Less sustainable
Compact forms of residential Development.	Low-density, spread-out residential development.
Mixed land use; homes, jobs and shopping in close proximity/TD.	Segregation of land uses: homes, jobs and shopping separated into uniform tracts or concentrations.
Employment based primarily on education and skills.	Employment based primarily on environment polluting or non-renewable resource based industry.
Movement on foot and by bicycle and public transport.	Heavy dependence on private cars.
Natural open spaces; protection of wetlands, woodlands, stream valleys, habitat, etc.; use of manure, compost, integrated pest management, etc.	Destruction of natural landscape; "manicured" parkland with exotic species; heavy use of chemical fertilizers; herbicides, pesticides.
Reduction of waste; recovery, re-use and recycling of waste materials.	Landfills, incinerators.

According to these features existing plans of Kaunas region are being analysed to see their sustainability potential ( analysis of planning system).

## SUSTAINABILITY IN THE CONTEXT OF LITHUANIA: ARCHI-URBO-POPULISM

Trend of sustainability also reached Lithuania. Here, it evolved and changed its meaning radically. The word 'sustainability; assimilated with ecological, green developments. Therefore, nobody even understands what does it mean anymore, as populist politicians, public relation specialists and officials are using this term like a magic word while promoting projects.

Lithuanian urbanist and academician A. Vyšniunas called this process archi-ubo-populism, as its just a very sonorous phrase (Vyšniunas A. 2012 Who is an architect? Designer, building process administrator or somebody else?).



This trend is also visible in planning in Lithuania. Here, plans are supposedly adopting sustainable ideas and following its concepts, but on the other hand it is only booming phrase:

*"Here we can see paradox - even though sustainable developments were distinguished as the official concept for development, government institutions approved plans for residential development taking enormous countryside territories without any vision or substantiation." (Juskevicius P. 2013:13)*

The expression 'sustainability' works like a curtain: planners, architects and especially their public relation agents are using it to cover whatever is being made in the plans. It is very clearly visible if you compare sustainable concepts with existing developments:

public transport - private cars;  
compact city - suburbanisation, dispersion;  
social integration - social differentiation;  
functional integration - functional zoning.

In one of the previously mentioned articles, A Vysniunas argues that the root of the current problems lies in the education system. According to the author, the poor quality of architectural studies leads to the concentration of influence in the hands of people who have little or nothing to do with the field of architecture.

#### PERSONAL POSITION IN SUSTAINABILITY CONCEPT

As being notified in the research question this graduation project is aiming towards sustainable growth of Kaunas region. According to worldwide known understandings of sustainability I try to adopt these ideas to Lithuanian context.

Sustainability is being understood here as a combination between the three pillars of economic development, social equity and environmental protection, where convergence of these different pillars is one of the biggest importance. The sustainability of the built environment concerns the capacity of an intervention to enhance the livability of buildings and urban infrastructures for 'all' city dwellers without damaging or disrupting the urban region environment. It also includes a concern for the efficiency of the built environment to support the local economy.

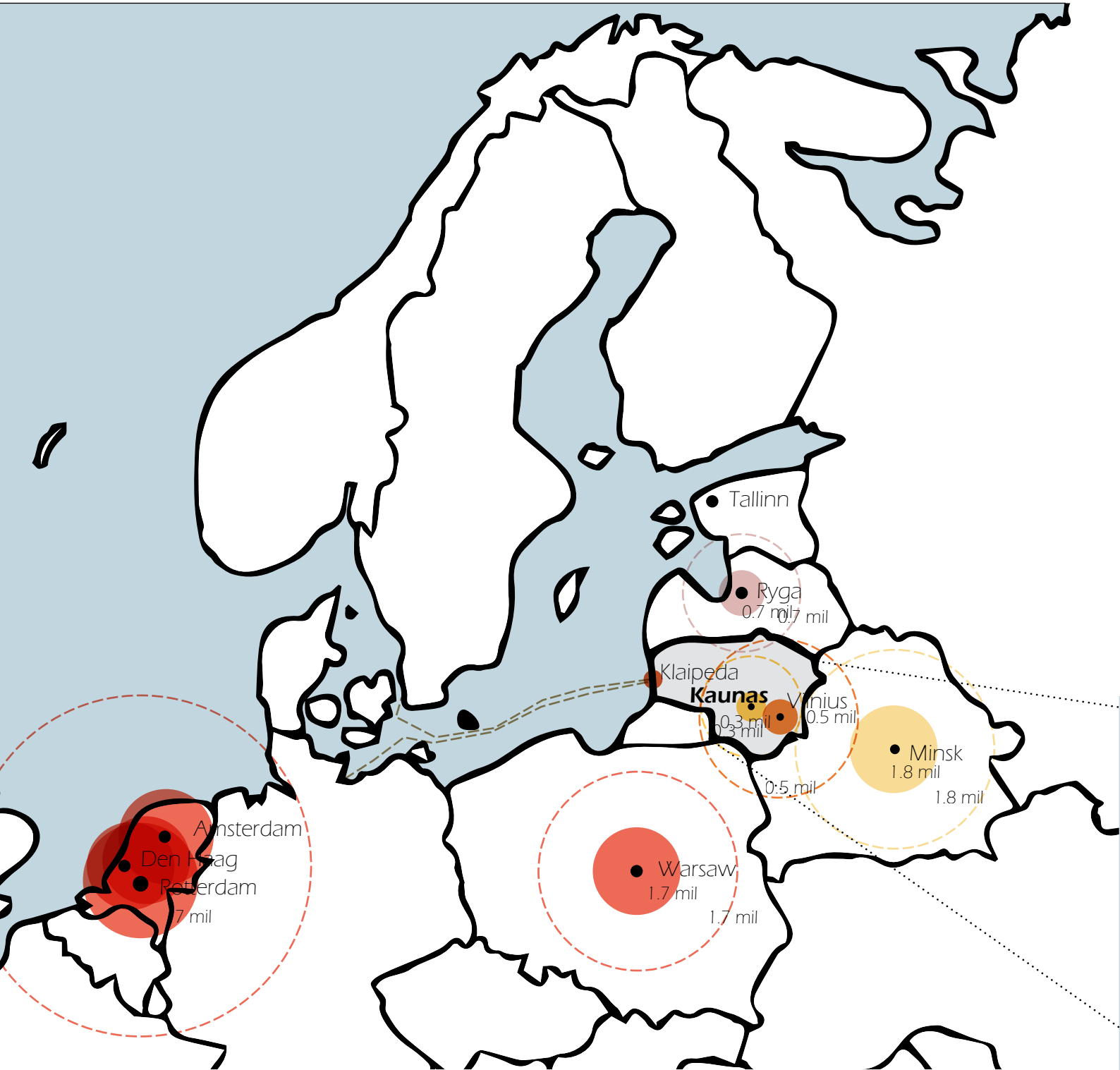


# Research

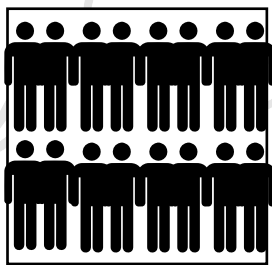
Research part consists of three section - analysis of planning system, spatial analysis of Kaunas region and the case studies. Each of them are separate chapters.



**Context** To figure out how to deal with problems in the region in this chapter, the entire place will be analysed in more detail. Starting with historical overview of growth of developments and then shifting to how the region looks now - what are the main markets in there, the main social structures, distribution of work places as well as living places/inhabitants.



Netherlands



406.7 ppl/km<sup>2</sup>

16.9 million



2.9 million

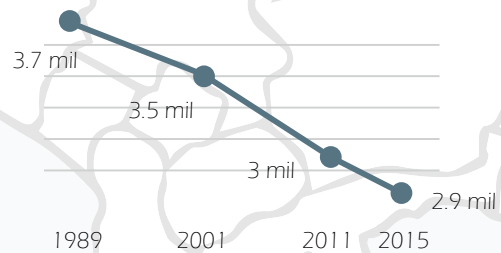
41,543



65,300

45 ppl/km<sup>2</sup>

Lithuania



Number of inhabitants in Lithuania. Source: image by author based on stat.gov.lt

## Context

Lithuania is located in the geographical centre of Europe and is transition point between Eastern and Western Europe. Lithuania is the most Southern country of the three Baltic states and is the biggest by size. There are 2.9 million inhabitants, but the numbers are decreasing. Compared to other Baltic states, Lithuania has more a equally spread out population over the country, which is a consequence of polycentric industrialisation in Soviet times.

Kaunas city is the second largest city in Lithuania by population and the fourth biggest in Baltic States. Lithuania's capital is Vilnius with more than six hundred thousand people and Klaipeda is the only port city with more than two hundred thousand people.

Since 1990 Lithuania gained independence from Soviet Union and since then the country has been a democratic republic.

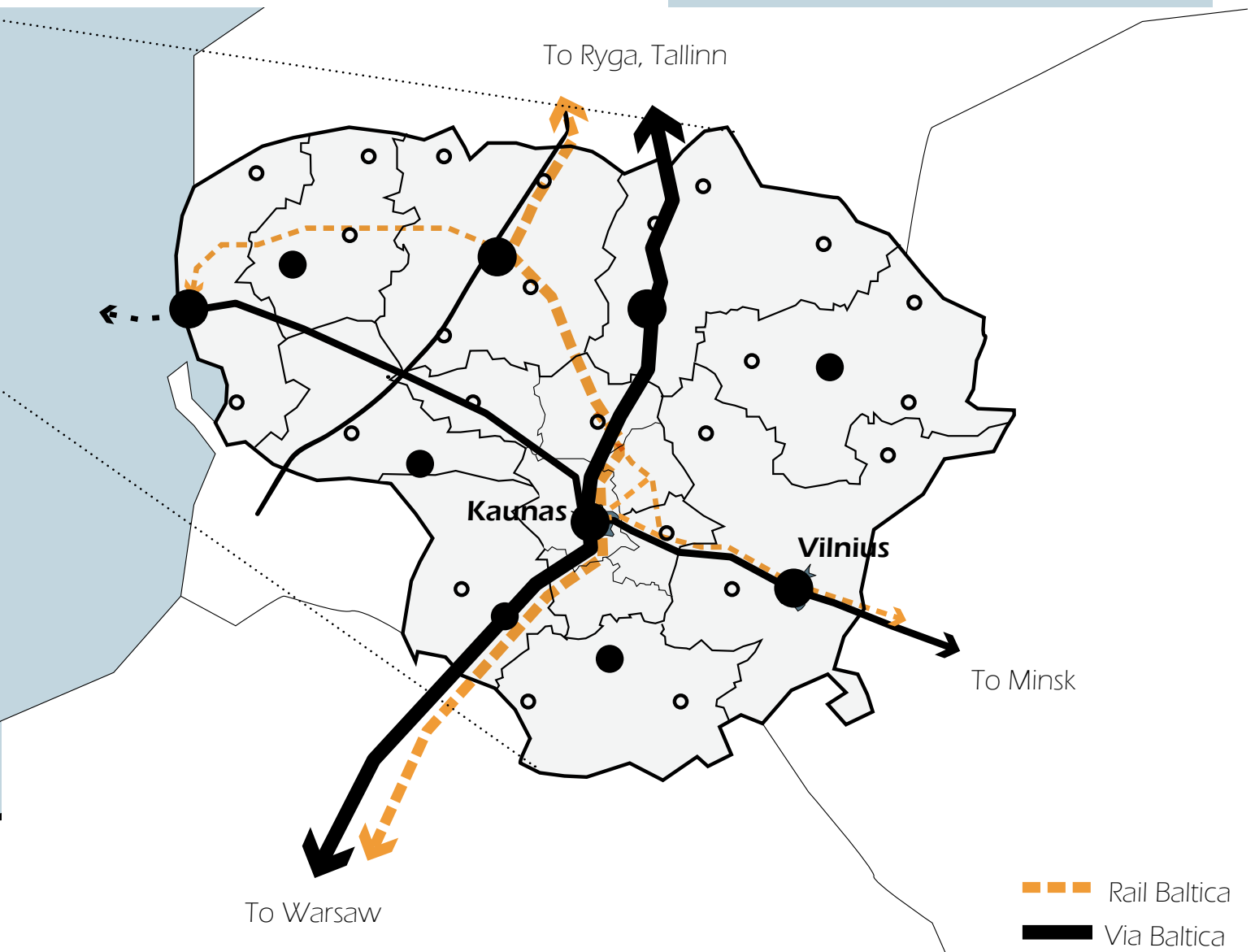
Because of forced industrialisation in soviet times, Lithuania has a spread pattern of its cities. This was the first urbanisation of the country (before there were only 20% of the people living in the cities). At the moment around 65% of population is urban.

After getting independence and especially after entering European Union, Lithuania experienced a huge emigration of people, looking for a better living conditions, jobs.

This situation started to get better in 2003 when the economic situation began improving. And even though country is still facing some emigration, the numbers are not so high anymore.

The biggest growth is in the biggest cities - Vilnius, Kaunas, Klaipeda, while the people in rural areas are still migrating to the cities or abroad. This process creates gap between rural and urban areas in Lithuania -economically prosperous and economically weak places.

Main infrastructure corridors in Lithuania. Source: image by author



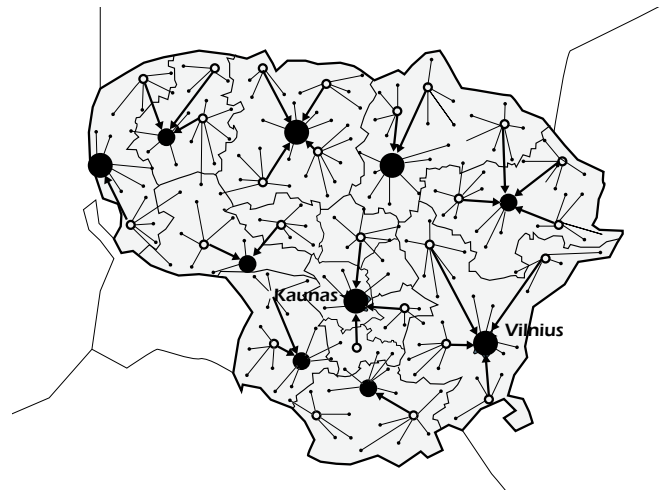
The history of Lithuania dates back to settlements founded many thousands of years ago, but the first written record of the name for the country dates back to 1009 AD.

Lithuanians, one of the Baltic peoples, later conquered neighbouring lands and established the Grand Duchy of Lithuania in the 13th century (and also a short-lived Kingdom of Lithuania). The Grand Duchy was a successful and lasting warrior state. It remained fiercely independent and was one of the last areas of Europe to adopt Christianity (beginning in the 14th century). A formidable power, it became the largest state in Europe in the 15th century.

In 1385, the Grand Duchy formed a dynastic union with Poland through the Union of Krewo. Later, the Union of Lublin (1569) created a Polish–Lithuanian Commonwealth.

In 1795 Lithuania became a part of the Russian Empire until the 20th century. This can mark the beginning of Russian culture making cultural and political influence on Lithuanians. On February 16, 1918, Lithuania was established as a democratic state. It remained independent until the onset of World War II, when it was occupied by the Soviet Union under the terms of the Molotov–Ribbentrop Pact. It was followed by an occupation by Nazi Germany after the Nazis waged war on the Soviet Union.

Then Lithuania was again absorbed into the Soviet Union for nearly 50 years. Those days the Communist party played a dominant role in every field possible, including planning. One of the most influential moves was force of industrialisation in the country. Differing from other countries, Lithuania adopted polycentric model, spreading all the industries, which showed some positive results after gaining independence.



Plan for polycentric industrialisation, 1965. Source: image by author based on Vanagas

**1795** Lithuania became a part of Tsarist Russia

**1918** Lithuania declared independence

**1920** Vilnius was occupied by Poland

Capital and all government institutions moved to Kaunas city

**1941** Lithuania was occupied by Nazi Germany

**1944** Lithuania was occupied by Soviet union

**1965** (Timeline ends)



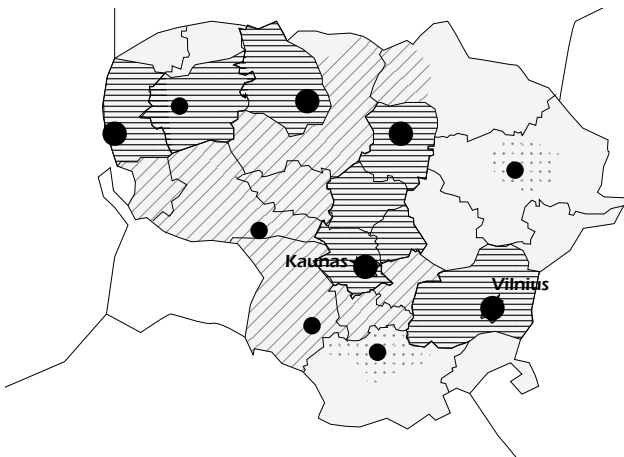
# HISTORY

In 1990 Lithuania re-gained independence from USSR and in 2004 it joined European Union and NATO. In last decade Lithuania had one of the highest economic growth rates in EU. Lithuania conducts most of the trade with the EU. Via Baltic is European highway corridor passing through Kaunas and new European standard railway line is on the plans to end in Kaunas.

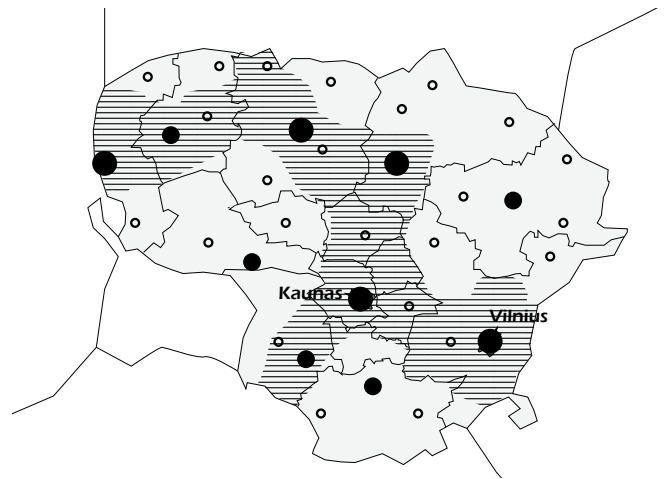
main cities started to grow, rural areas - decline.

Since independence country is based on a market-oriented economy and western social values. The biggest changes were collapse of industries, liberalisation and privatisation. All these changes influenced the structure of the cities. According to K.Stanilov it resulted in decrease in institutional coordination, living standards (especially in the cities), quality of public transport. It is being noticed, that re-establishment of private property had an influence on suburbanisation as well.

Country was not able to maintain polycentric system, so the



Plan how developments spread after independence. Source: image by author based on Vanagas



Conceptual map of Lithuania's national plan. Source: image by author based on Vanagas

ded industrialisation  
national plan



Independence  
Free-market  
Privatisation



National plan

Entering EU



1990

2004

2005

KAUNAS REGION (CITY)



600 000 inhabitants	94 %	93 %
316 000 inhabitants	3 %	4 %
	0,25 %	0,25 %



Kaunas basketball team

IX B corridor

Rail Baltica

Via Baltica

HIGHWAYS

Lithuanian highways are a part of the Trans-European Network (TEN-T). Highway Via Baltica, joining Eastern and Western parts of Europe (Poland, Germany to Estonia and Latvia) is going through Kaunas city. Perpendicular to that another European importance road IX B goes from Lithuanian port - Klaipeda, passing Kaunas city and going through Vilnius to Belarus.

Kaunas is located in the middle of infrastructure network of European importance, which plays a major role for development of the city.

BASKETBALL

Basketball is called a second religion in Lithuania and people are very passionate about it. Therefore Kaunas and Vilnius are very competitive in this sphere. Kaunas is leading in sports sector. It is not only because local team, but also because there is Lithuania Sports University.

But in reality cities are competing in everything: from sports to businesses.

Kaunas

30 min to the city

Rail Baltica

Via Baltica

IX B

RAIL BALTICA

Rail Baltica is one of the priority projects of the European Union: Trans-European Transport Networks (TEN-T). The project is supposed to link Finland, the Baltic States and Poland and also improve the connection between Central and Northern Europe and Germany. The route is estimated to be completed by 2024. In Lithuania it will go through Kaunas city and passing by international Kaunas airport.



Important economical hub, research centres, etc.

Railroads

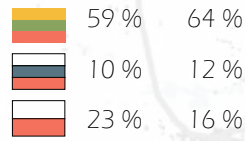
Main infrastructure

# KAUNAS - VILNIUS METROPOLITAN REGION

## AIRPORTS

Both Kaunas and Vilnius cities have international airports. Vilnius airport specifies in transportation of passengers while Kaunas specifies in transportation of cargo. During last years Kaunas airport lost his power, especially because of the economical crisis. The airport is still not capable to gain back its importance and numbers are still declining. Vilnius city airports importance is growing during the recent years, but it is facing other issues now. Vilnius city airport is located in proximity to the city centre, but there is no more space for expansion. On the other hand Kaunas airport is further from the city has more room for enlargement. Moreover, with the new Rail Baltica line going through Kaunas airport it gains even more potential to grow.

## VILNIUS REGION (CITY)



810 000  
inhabitants  
523 000  
inhabitants



Vilnius basketball team



3 corridor

Vilnius

7 min to the city

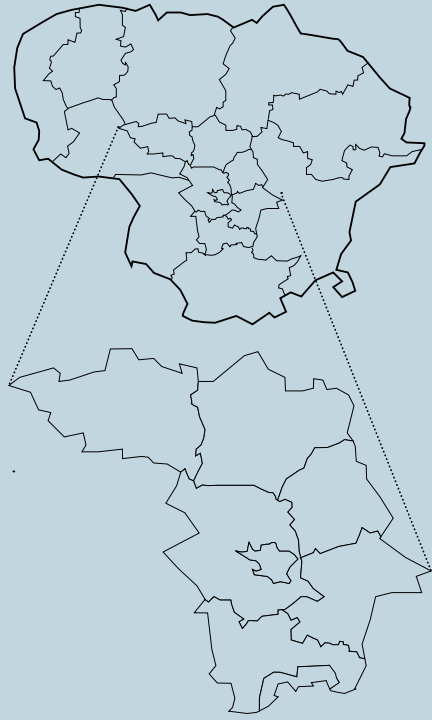
Belar

## CONCLUSION

To sum up it can be concluded, that even though Vilnius is a capital city its peripheral position in the country gives more potential to Kaunas region, where there are better road and air connections with Europe. Therefore, it can be expected that Kaunas will grow economically and gain more and more power in national scale.

10 km

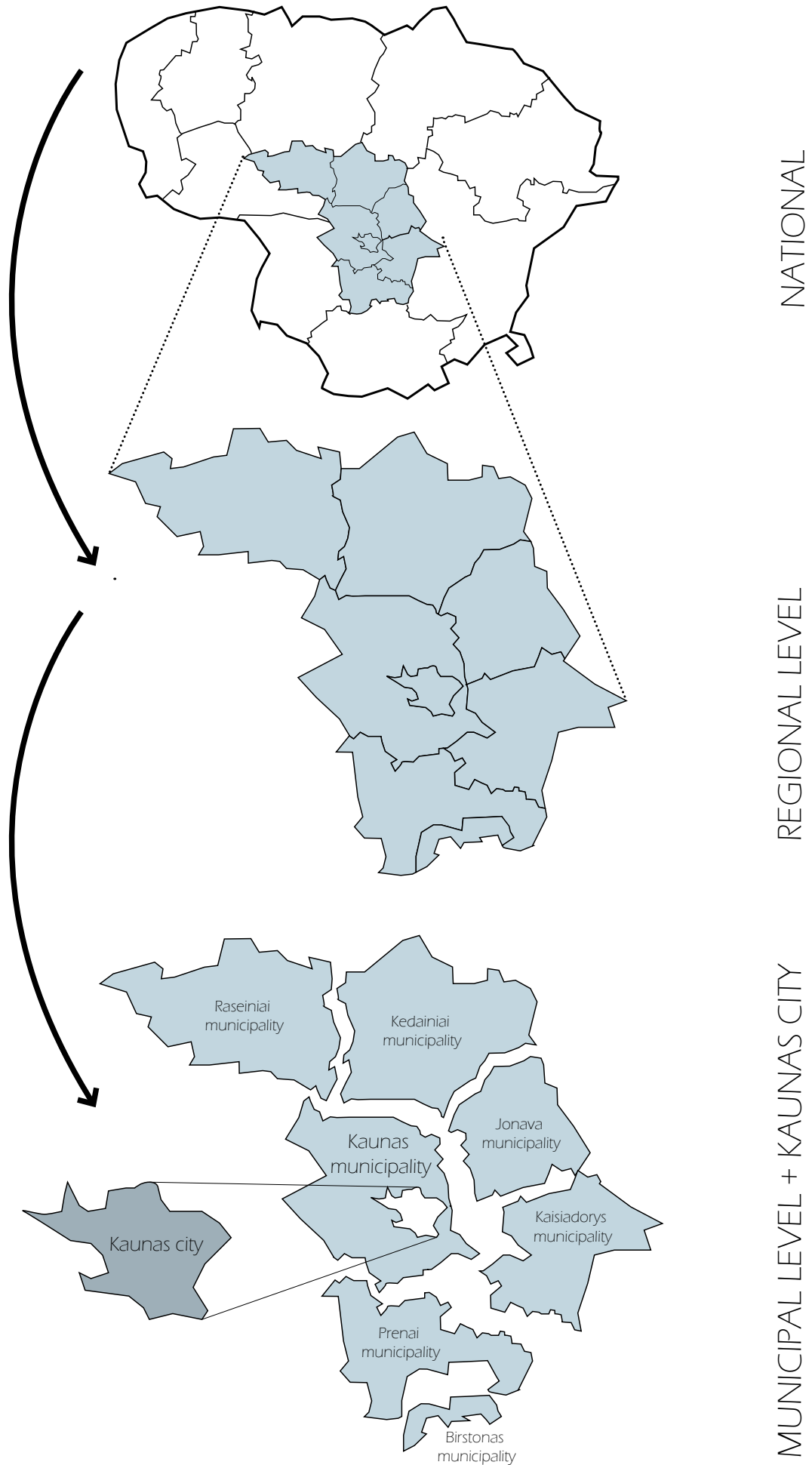




## Planning system

In this chapter analysis of planning system will be spoken about in order to gain better knowledge how government influences developments. Starting from changing governments and their spatial impact to analysis of existing plans through different levels and to what future they are leading to. After implementation and performance of plans is discusses to know the importance of governance in Lithuania.

# PLANNING LEVELS IN LITHUANIA



# OVERVIEW

## INTRODUCTION

This part analyses planning system and its changes. Special emphasis is given to existing plans and their relation to sprawl.

The paper is started by introducing general model of planning in Lithuania and its changes from soviet times. In the end of the first chapter it is being discussed how the plans are being done in Lithuania, who is involved in it. This chapter is based on COMMIN reports, articles from Vanagas et al, Barauskiene et al., Ubareviciene et al.

Later on existing plans are being overviewed from the angle of sustainability and their impact on sprawl is being discussed. Attention is put on housing, infrastructure, public transport as the key features for sustainability. This chapter is based on these existing plans - National plan, Kaunas regional plan, Kaunas sub-regional plan and double city plan.

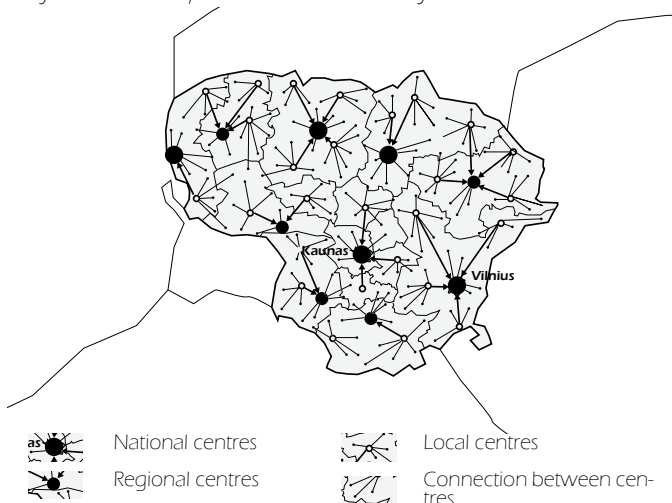
The outcome of this paper is defining the spatial planning and government forces having an impact on sprawl in Kaunas region.

## SOVIET TIMES

Planning system in Lithuania evolved in soviet times, when their regime was forced on every field possible. On spatial planning as well.

The first national plan was made in 1965, where the polycentric model was adopted as a Soviet Union needed to build new industries. This was a beginning of planning system.

Those days the Communist party played a dominant role in the planning process. Only gradually the Soviet scientist and planners gained a role in this process. The Communist party (supported later by the professionals) was the sole decision-maker in the planning process, while the remaining segments of the Soviet society were reduced to the role of (a supposedly enthusiastic) executor of the Party's order.



Scheme of Lithuania's polycentric plan, adopted in 1965. Source: made by author, according to Vanagas

Since the Soviet party was practically the sole actor in the planning process, there was no need for special legal regulations. The Soviet planning history is composed mostly of directives, methodological instructions and norms.

The subordination of urban and regional planning to economic central planning was a key feature of the Soviet model of planning and administration. From the very beginning, this planning was characterized by urban concentration and great labour-consuming content. Extensive industrial production formed the huge "combinats," groups of enterprises (as the technological factor) and mass employment of people into public production (the social factor), which also was a key factor of regional planning in Lithuania.

*"Soviet economists believed in the effectiveness of such urban units: the bigger the city, the higher the labour productivity, the more speedy the fund return, etc." (Vanagas et al, 2011:77)*

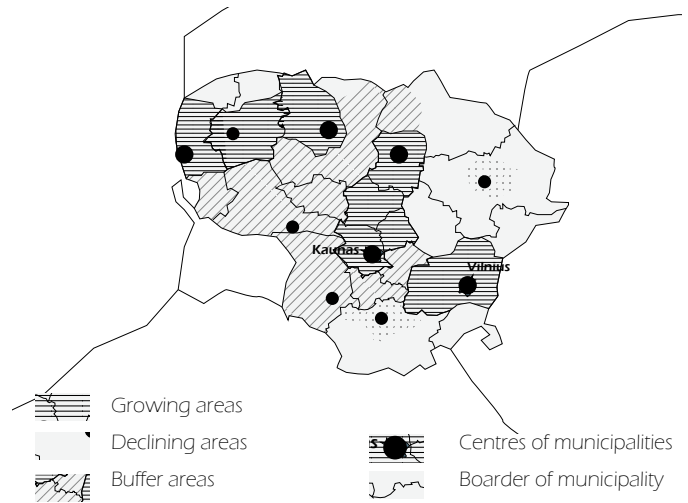
In Lithuania the plan adopted in 1965 following the need of CCCP spread the industries through all the territory of the country. However creation was rather tough:

*"Unfortunately the positive proposals in physical planning were often denied or ignored by the high authorities of Soviet power (both from the central all-union and local institutions)." (Vanagas et al, 2011:86)*

but nevertheless it had some positive results discussed in previous chapter.

## PERIOD OF TRANSITION

The planning system of independent Lithuania was developed through controversial political and cultural contexts (COMMIN). The process of the planning system formation was rather slow; however, economical life was developing rapidly. There were very few changes in the material environment during the first years of independence. The Law on Territorial Planning (Lietuvos Respublikos teritoriju planavimo



Scheme of Lithuania's developments after in period of transition. Source: made by author, according to Juskus.

istatymas) was first enacted in 1995, and this is still the most important law considering planning in Lithuania nowadays, all the other laws (such as The Law of Regional Development (Regionines pletros istatymas)) are placed below it.

In the transition times, country was not capable to maintain extensive polycentric system. Big cities started to work like magnets attracting new inhabitants, creating more jobs. In the same time smaller cities were shrinking, people were leaving them, they were economically inactive. The model of growth changed from system of centralities to growth of regions. The model that was created by this self-guided and market-driven growth is demonstrated in the graph/map in the lower right corner.

According to N. Pichler-Milanovic, understanding that urban development, which has been quite strictly controlled in the socialist period, shall again be governed by the planners has been observed only since 2000. Until then, urban and regional planning was neglected because the priority was given to economic reforms, economic regeneration and connotations that this type of planning had with the former soviet regime.

In 2000 new elements appeared in planning system as a consequence of preparation to enter EU. Regional planning became of higher importance and Law on Regional Development (Regionines pletros istatymas) was issued in 2002. The objectives of this law are to solve economic and social problems.

### LEVELS OF PLANNING

There are three levels of planning in Lithuania. In next chapter those plans of Kaunas city will be discussed in more detail. All off the lower plans have to follow the National plan of Lithuania, while lower plans have to always follow higher level plans as well.

1. National level - The master plan of the territory of the Republic of Lithuania
2. Regional level
3. Municipal level / local level

There are a lot of contradictions in these planning levels. At the municipality level some bigger cities (including Kaunas and Vilnius) have their own right to the plan city separately from the rest of the municipality, so the outcome of it are two plans on the same scale, having a lot in common or influenced by one another's problems. Those problems are solved

separately, creating so called 'doughnut effect'.

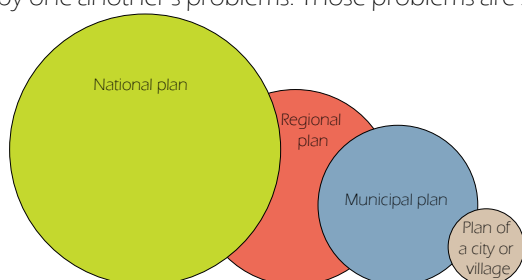
Efficiency of these levels should be mentioned as well. According to Tiskus G., even though the hierarchy of the plans is clear, but in real life they are repeating one another. The scales of national and regional plans are not very different, in the end regional plan is only repeating national plan, but not detailing it enough so it could be defining it more precisely. According to Tiskus, regional level is generally useless and the planning system could work without it (graphs below).

### STRUCTURE OF MAKING PLANS

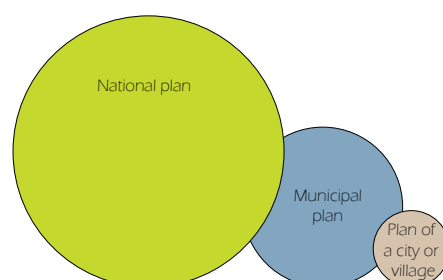
Depending on the level of planning, an organiser of planning can be the Government or its authorized entities of public administration, the county mayer, the director of the municipal administration.

The organiser of planning (in the case of general and sometimes special planning), referring to the approved Planning Works Programme, announces the procedure for choosing a planner of the master plan who is outside government. On choosing the winner of the said procedure, the organiser of planning together with him/her conclude a contract about the performance of planning works, a works task and a timetable for the fulfilment of works are hereto attached. As demonstrated by the real-life experiences the organiser and planner's relations are very different during the planning, depending on the type of plan, locality and concrete sectors. However, even here the organiser's participation can be so active that some Lithuanian experts in the sphere of planning are worried with a decline of professionalism.

The system of territorial planning in Lithuania differs from that of in other European countries: (in the event of special and detailed planning) organisers of planning can be not only the State or municipality institutions, but also legal persons. Governing institutions of municipalities organise contracts regarding the transfer of the rights and duties of the organiser of the detailed territorial planning to the land owner, manager or user. Existence of this element in the system of planning is the fact that detailed plans must be drafted ion a lot of occasions (there is a relatively small number of cases, when one can do without the detailed plan), whereas the municipal funds are not sufficient for their preparation.



Hierarchy of existing plans. Source: Tiskus G.



Possible hierarchy of plans. Source: Tiskus G.



## NATIONAL PLAN 2002

The national plan was commissioned by the government and drafted by the department of Environment. It is of a national importance and had to be confirmed by parliament. The plan is valid until 2020.

First of all it should be noted, that this national plan followed the tendencies of growing Lithuania. As explained before, Lithuania was not capable to maintain extensive polycentric system and it started to grow not in the centres anymore, but in the regions, where bigger cities were attracting more development. The new national plan adopted and merged both of those models - it created a backbone of the country, where regional growth was already an ongoing process and gave some strength to other areas by strengthening their local centres. Kaunas and Vilnius are being ranked as internationally important hubs and smaller cities such as Siauliai and Penevezys are being defined as country important cities. Depending on its type of centre, each territory is assigned a priority level for growth, and a corresponding amount of investment funds from the government.

The plan is made in scale 1: 400 000 and does not have a very high level of detail - it marks only large areas. The plan distinguishes these different areas - urban and nature structures, cultural heritage, recreational areas and main infrastructure, as these elements are sufficient to reach goals of the plan (Tiškus 2010).

In the plan problems of the country are described in general terms. For example, the plan names what the main social issues are, but does not address the reasons why these problems exist in the first place. Urban problem of not good distribution is mentioned as well as not good connection of facilities.

It is mentioned in the plan that because of insufficient resources, cities and urban areas have to be improved by quality, not

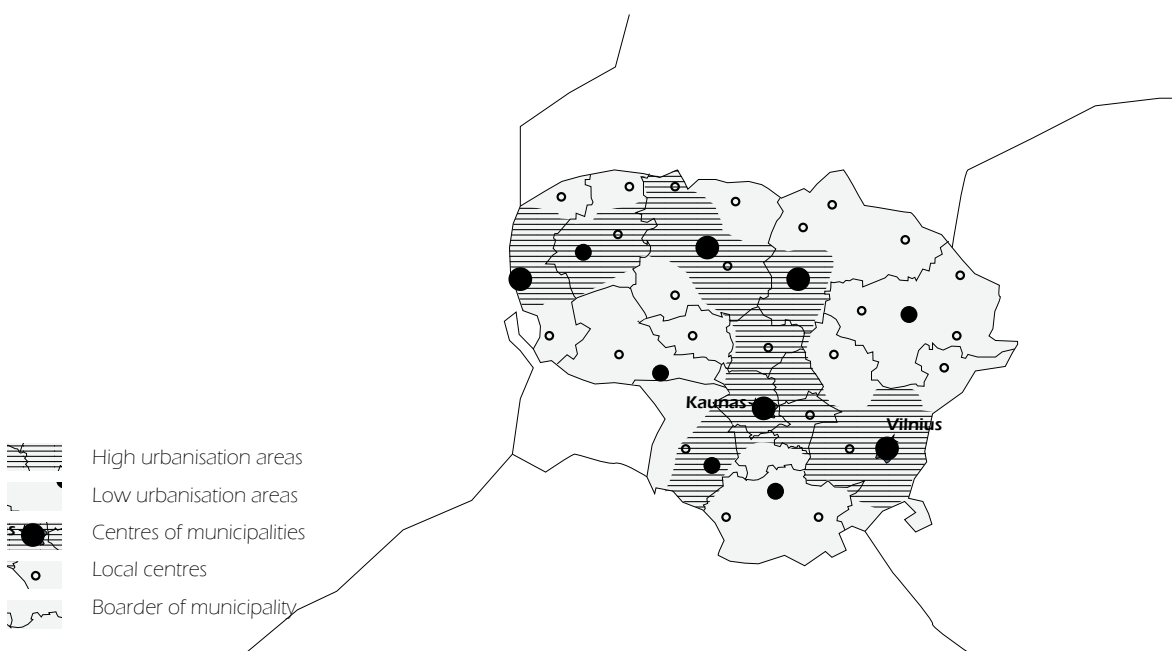
by quantity. Also, plan attempts to promote concentrated urban development:

*"to develop rational and purposeful balance between inhabitant concentration and depopulation tendencies by strengthening weak parcels of urbanised territories"*(National plan of Lithuania 2004: 13)

On the other hand, it lacks clearness:

*"Despite the fact that in preparing plan projects, calculations (e.g. dealing with the needs of a living place) are really performed; the objectives are not indicated in plans specifically (in number)." (COMMUN 2007)*

*"The objectives of master plans are indicated rather abstractly for the most part. For instance, "develop city economy, culture, science and education and other ranges, based on the concept of sustainable development, create a healthy, comfortable to live in and safe environment, unique cityscape, and foster nature diversity; strengthen democracy and city self-governance, unite citizens into communities. Integrate city community needs and co-operate with local civic organisations; initiate and participate in international municipal co-operation projects."(COMMUN 2007)*



Scheme of Lithuanian national plan. Source: made by author, according to Juskus.

# KAUNAS REGION TERRITORIAL PLAN 2005

The plan is ordered by chief of the regional government. As this chief is working straightly for government and is responsible for ministries, this plan is also of national importance. Moreover, it is not obligatory to make these plans, according to the Law of territorial planning, if the chief of regional government is supervising, participating and monitoring development of municipal plans to ensure compliance with Lithuania's national plan.

The plan is valid for 10 years and is made in scale 1:100 000 and the purpose of it is to create a more detailed version of the national plan specifically for the region. But as the scale is still very big it is hard to detail national plan and it rather just repeats it ( G.Tiskus 2010).

Firstly, even in the beginning it is hard to understand the plan, as the goals and objectives are merged together. For example:

*“develop and improve current spatial structure situation of region, form and develop it's urban system” (Kaunas regional territorial plan 2005:7).*

In the plan a lot of attention is put into villages and their role in the region, they want to improve it and revive it, modernize it. That's one of three main goals, but it doesn't talk about its relation with cities - about how many people commute, how many people are actual rural inhabitants.

Kaunas regional territorial plan also talks about some controversial things, that at that time were not seen as problems. Here I am talking about urban sprawl. Two flows of people were identified in the planning - one moving to the city and another one moving out of the city. Both of them are characterised as positive flows:

*“These processes are more and more intense despite the fact, that the number of inhabitants in cities are getting lower (except Vilnius city). Both of them have a lot of urban qualities. First one is influencing reno-*

*vation of old social neighbourhoods, conversion and modernisation of industrial areas. The second one reveals the main urban governance attributes of region.”(Kaunas regional territorial plan 2005:29)*

It is not noticed that these tendencies usually lead to an urban sprawl. However, in a different part of the same documents the authors do note that:

*“Fast suburban garden type urban developments can cause critical situations for connections and services for those territories.” (Kaunas regional territorial plan 2005: 13)*

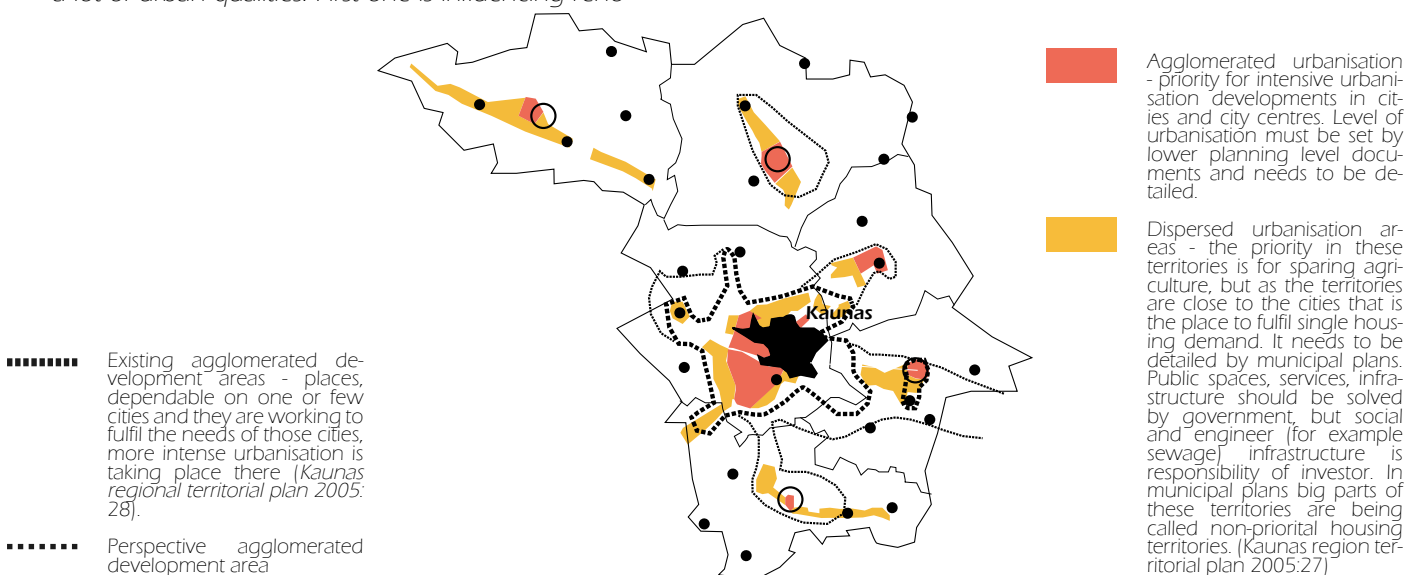
Suggested solution for this is simple - balancing the density in both urban and rural areas.

The problem of communication between government institutions is mentioned, but only in the section for protected nature areas, it is not mentioned anywhere else in the document.

The plan of the region divides structure of territory into a few parts, where two of them are urbanised:

- agglomerated areas, where priority is for intensive urbanisation in the city centres and around them, but it also states that real priorities should be decided by local governments.
- dispersed areas, where priority is for small farms (as it is close to the cities) and private housing. The numbers should be detailed by local authorities (Kaunas regional territorial plan 2005: 27).

Even though that the authors of the document state that the region is being urbanised following the concept of double city (Kaunas regional territorial plan 2005:28) in the plans visual differences between urbanisation towards Vilnius, or towards other areas are only marked as perspective agglomeration areas.



Scheme of Kaunas region plan urban structure. Source: made by author

# KAUNAS SUB-REGION MUNICIPALITY TERRITORIAL PLAN 2005

Kaunas sub-region municipal plan is organised by the director of municipal administration, who is also responsible for more detailed plans of a certain places in the region. The plan not only has national importance issues as the higher level plans, but also includes municipal solutions, but it is not highlighted which solutions are of which importance.

The plan is made for 10 years and is done in scale 1:50 000, which is a scale to create a plan in high level of detail.

The plan talks about urban sprawl as a negative process in the plan (Kaunas sub-regional territorial plan 2005:13), acknowledges the green footprint and talks about EUROPE 2005 The Ecological Footprint - EU Commission's proposal for a Declaration on Sustainable Development, acknowledges CO2 emission and more negative aspects that it is causing. To solve it the plan suggests to complete unfinished urban structures (Kaunas sub-regional territorial plan 2005:24) and to densify. Moreover, the authors suggest to build new residential developments only when they are no further than 600m from existing urban structures and the territory is reachable by public transport (10 min walk max). New roads are being formed only when there are 3 or more users.

It is defined that this area is in favour of inhabitants of Kaunas city:

*"Kaunas region - desired by Kaunas city inhabitants, single housing lovers" (Kaunas sub-regional territorial plan 2005: 17)*

## COLLECTIVE GARDENS CONVERSION

Another way of creating dispersed neighbourhoods that are spoken about in the plan is a conversion of a collective gardens into residential housing. These gardens are a relict of the soviet occupation period when due to severe food shortages in the stores people would grow their own vegetables and

fruit in small lots of land outside of the city limits.

Regional plan acknowledges that these neighbourhoods are self-responsible for their adjustment into housing neighbourhoods, for technical and social infrastructures. It's obligatory to make conversion plans for these kind of neighbourhoods, (Kaunas sub-regional territorial plan 2005:36) but this process does not include them into existing urban structure as the full components.

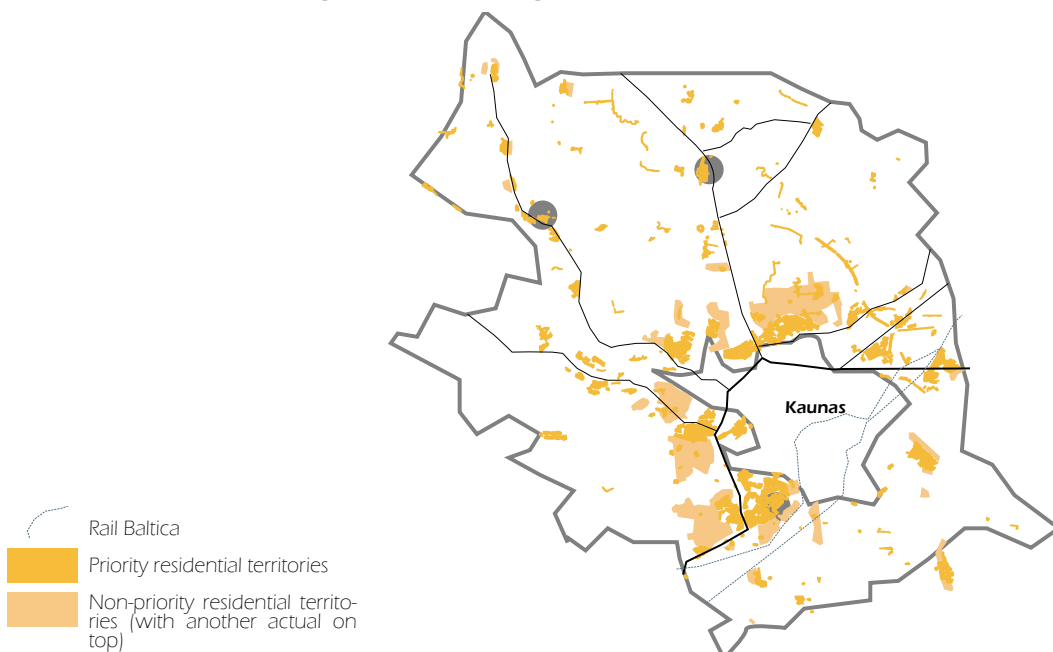
## INFRASTRUCTURE

The main goal is to reduce the number of cars on the roads by improving the public transportation system (Kaunas sub-regional territorial plan 2005:72).

Goal regarding the railway system are rather ambitious: not only developing a new fast train line connecting Lithuania with Latvia, but also updating old railroads to meet the European standards. The new fast train line would not only help to integrate Kaunas to the structure of Europe, but would also improve connections with local villages. The intention to improve connections with other villages appears generic because it is not visible in any plans. Planned time for implementation is after 2015.

Large growth is not projected for other means of public transportation. However, better connections with distant neighbourhoods and recreational areas are included in the plans (Kaunas sub-regional territorial plan 2005:77). Also, focus is set on popularisation of public transport and rise of quality not quantity.

Moreover, the attention is given to making new pedestrian and cyclers paths to connect smaller villages.



Scheme of Kaunas sub-region general plan - land use map. Source: made by author

# KAUNAS CITY MUNICIPAL TERRITORIAL PLAN 2013-2024

Kaunas city municipality territorial plan is one of the most recent and a thing to be noticed is that spatial and strategical plans are being made for 10 years by law, whereas it is never spoken about the further future.

Kaunas plan was ordered by the director of administration of Kaunas city.

The Kaunas city plan estimates that the number of inhabitants is going to shrink, not grow. Based on these assumptions plan is oriented towards renovation of existing buildings, especially residential soviet block buildings. The trend of moving out from the city territory is also discussed in the plan, finding it as a negative aspect. Solution in the plan is simple:

*"In order to reduce the negative influence because of imbalance in the demographic in different neighbourhoods in the city, the General Plan does not provide adding of new areas to the city territory." (Kaunas city territorial plan 2013:41)*  
*"At the higher need of low-rise housing the planed territories of multi- storeyed high-intensity in periphery areas of the city would be reduced and changed by low-rise low intensity housing areas." (Kaunas city territorial plan 2013: 41)*

Even though in the plan it is described that there are huge territories around the city that are supposed to be used for

small scale housing. However, the territories allocated for the small scale building are often not attractive to prospective home owners, who end up choosing to live in the Kaunas region because of lower land cost and easier obtainable permits.

With transport there is similar situation - the plan is talking about promoting public transport, cycling and walking, charging fees on private cars, it is even planned to make "Park and Ride" stops. In page 109 says that there are only 36% of people using public transport, but it is not clear who those people are, Kaunas inhabitants or everybody working there (commuters).

It looks like there are a lot of plans how to reduce the reliance on cars, but due to weak public transportation connections, they are not producing the desired effect. For example, "Park and ride" stops are being planned, but the number of public transport stopping there and its density is too low to choose it. It is not talking about how many people are actually commuting to the city everyday, which could help to get a clear image of a situation.



Kaunas city general plan 2013-2023 - main drawing. Source: [www.kaunoplanas.lt](http://www.kaunoplanas.lt)

# DOUBLE CITY PLANS

The first ideas of double city already date 2000, first cooperation started on 2002, which included 5 municipalities (two main: Kaunas and Vilnius, as well as Trakai, Kaisiadorys, Elektrenai). It was initiated by the municipalities themselves.

The main reasons to create this double-city was to get a status of EuroCity. By joining the cities Lithuania would gain two points: capital and 1 million inhabitants and would be entitled for the desired standard. This is very important for Lithuania as medium sized cities do not attract so much international investment. Creating double-city can also bring more competitiveness to Lithuania in the scale of Europe, where according to The Strategic Plan of Vilnius-Kaunas city Lithuania together with neighbouring countries is forming a weak point in EU.

Even though actual planning of the double-city is not so intense anymore, but it is included in the national plan 2004, as well as Kaunas regional and sub-regional plans.

Priorities in the project:

1. Connections
2. Economy
3. Tourism

Public transport

Double-city plan acknowledges importance of public transport and pays a lot of attention to it. One of the biggest issue is the plan of Rail Baltica, joining Warsaw with Tallinn and passing Kaunas city. This is not only a good chance to incorporate Lithuania to international infrastructure, but also to give more power to Kaunas airport, as the train line goes through there. To join Kaunas and Vilnius, there is a plan to create a fast train line next to the existing old one.

Public transportation at a smaller scale is not discussed much in the double city plans. Cities and regions have their plans, but there is no such an idea about creating one urban structure in Vilnius-Kaunas metropolitan region. The idea is to rather keep on having two points city with smaller cities in between.

Airport

Both of the cities have their own airports. It was decided that Kaunas city airport is going to be the main one for Lithuania following a list of advantages.

The idea of this double city is being noticed as a good initiative to create a platform for a cooperation between municipalities, but generally it lacks integration of all the regions into the plan, leaving only connection of Kaunas and Vilnius as important part, according to P.Juskevicius and V.Valeika (Juskevicius and Valeika 2013:31).

At the moment, despite the general issues included in national or regional plans, no further developments or detalisation is going on. Until now, bigger concern was to promote the plan, show it in various exhibitions, as there are no money for actual building, but even this is not going that smoothly anymore as cities are losing their interest in it:

*“But the opinion of Kaunas city municipality is a bit different about this situation. Kaunas generally doesn’t have too much interest in this as they are not giving any money neither for exhibition nor for conference.” (Ruciene:2015)*



Kaunas-Vilnius double city urban structure study map. Source: www.dvimiestis.lt

## COOPERATION

Officially there are no institutions or other planning ways of cooperative planning in Lithuania. Compared to other EU countries there the type of cooperation varies, but usually there is something, for example:

Latvia has inter-municipal planning in regional level;  
Norway also has inter-municipal planning in regional level.  
(COMMIN 2007, table 3)

### Double city

The only one formal co-operation between the cities is already mentioned plan of a double-city. It includes 5 municipalities - Trakai, Kasiadorys, Elektrenai, Kaunas and Vilnius.

The biggest problem occurs in a municipal level, where some bigger cities (Kaunas, Vilnius, Klaipeda) have their rights to plan the city separately from the rest of the municipality. These plans are of the same importance and there is no of-

ficial co-operation:

*"Cooperation between Vilnius city and Vilnius district in regulating Vilnius city sprawl is almost inexistent and there are no premises for this in the nearest future." (Burneika and Ubareviciene 2011)*

*"The sprawl of Vilnius city, according to some indirect indicators and field researches is wide spread phenomenon, which is not going to stop in the nearest future as well as conflict situations arising due to it." (Burneika and Ubareviciene 2011)*

Considering Kaunas situation similar problems occur (Kaunas region municipality and Kaunas city municipality). Plans are only joint in a technical way - joining roads, infrastructure, but not talking about social and urban patterns.



Typical new developments - in the middle of agricultural land one spot development. Source: photo taken by author.

# IMPLEMENTATION/PERFORMANCE

Officially in Lithuania there is a system of realization of plans: statutory basis requires preparing programmes pertaining to the realization of plans. Practice still stands behind the provisions; it is true that it is quite different in the preparation of various plans.

As there are not so many calculation in prepared general plans and financial substations are rather weak. COMMIN comments about this:

*“It is possible to compare Lithuanian master plans with the rules of the road. The rules “work”, if someone drives; these rules as such do not make the car drive.”(COMMIN 2007)*

A plan performs the role of activity restrictions rather than of its programme of future visions.

Nowadays, when the strategic planning is becoming of higher importance, it puts some financial level to planning - calculations are included. The problem then occurs in transition from strategic plans to detailed plans where some of calculations and financial priorities are lost.

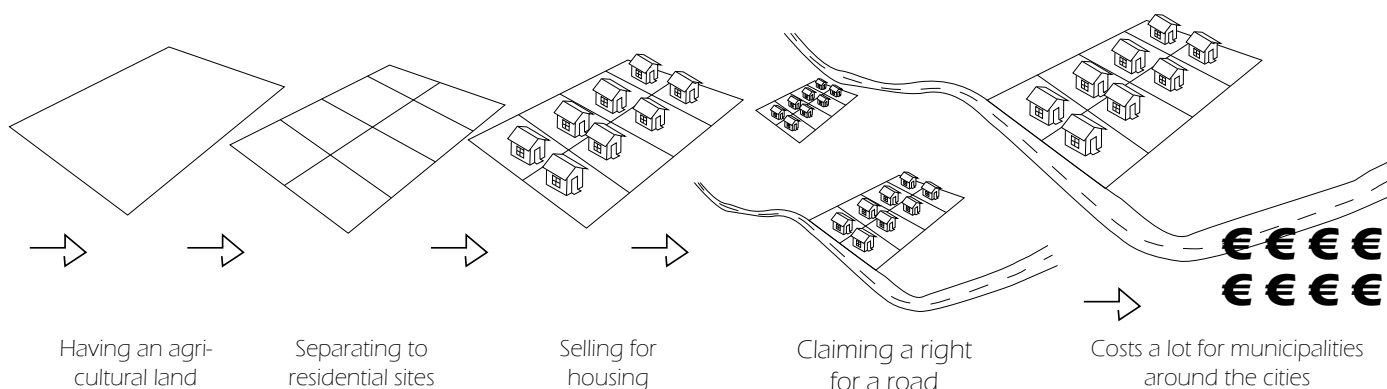
## Detailed planning

A completely different situation arises at the lowest level of

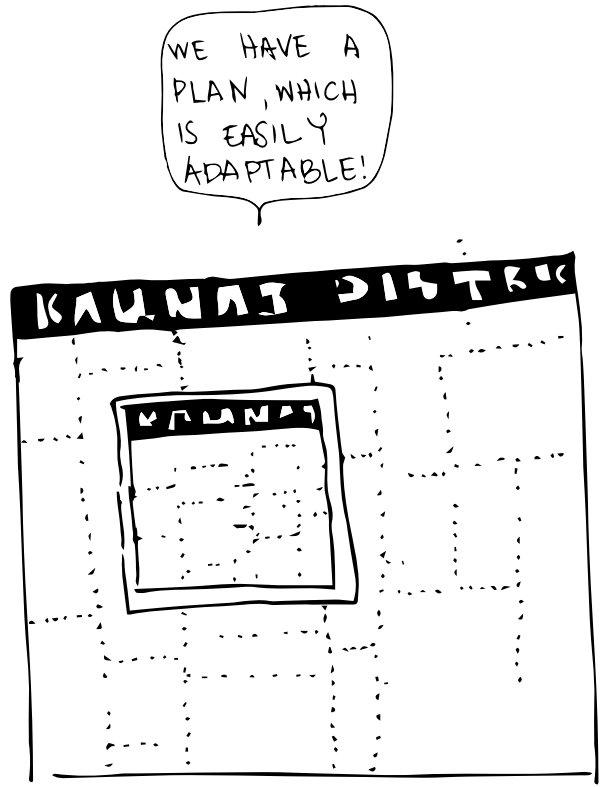
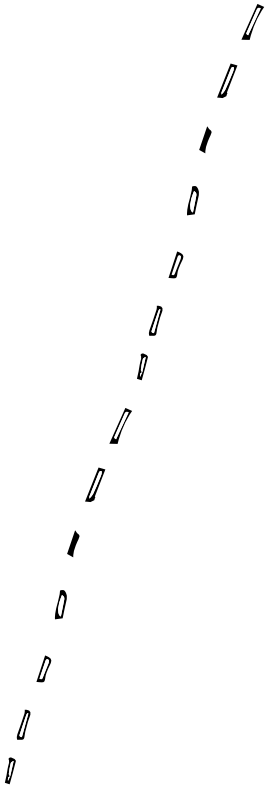
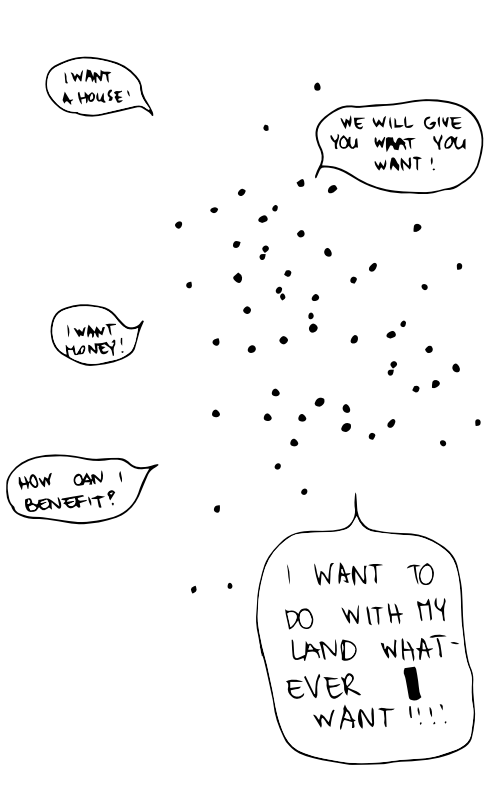
planning. Municipal plans are followed by detailed plans, but as the government does not have enough resources to make them this responsibility is transferred to developers. Here, municipalities’ powers are limited; they only issue conditions, co-ordinate and approve projects. In such cases, money is always lurking behind the detailed plans, while in cases of bigger projects, experts and consultants are necessary. This precisely includes sprawled territories, as detailed plans are usually done by private investors.

As solutions of master plans are not financed quite well, it is not clear when and what will happen or if it will happen at all according to those plans. The solutions of master plans were changed by municipalities relatively freely based on the Law of territorial planning (COMMIN 2007).

In Kaunas region it is very common for people, owning agricultural land in suburbs of the city to think its their legal right to do with their land what they want. Nowadays, when the market needs more housing, they can get best profit out of residential land. That is what they are doing: changing agriculture landuse to residential and as in the municipal plans huge areas are for non-priorital urbanisation (Kaunas sub-regional territorial plan 2005:27), it doesn’t mean that one can not build there.



Scheme showing how new neighbourhoods are being created. Made by author.





# CONCLUSION

Planning system in Lithuania was formed not very long time ago. First planning law came out in 1995, municipal, regional and national plans were adopted only few decades ago. Even though there are three levels of planning, they are repeating each other and according to Tiskus regional level plans are becoming unnecessary.

- Kaunas city as well as entire region miss long-term region-wide vision and strategy. Spatial and strategical plans are created for 10 years, while visions are not created at all.
- There is a big gap between master (territorial) plans and detailed planning. As the government takes care of master plans, setting higher priorities, there is not enough money for detailed plans, so only the city centres have them (in the end, they are highly regulated areas). Further from the city areas are only included in a master plans of sub-regions, but their detailed plans are usually made by private investors. In the end these areas have a wide land-use, enabling developers to spread easily.

## URBAN SPRAWL

A lot of issues are discussed in plans and in some levels also urban sprawl. For example, in national level these problems are not mentioned at all, in Kaunas regional plan these problems are mentioned, but as a good effect. Two flows of people are identified - ones moving to the city and other ones moving out of the city. Both of them are characterised as a good flows. The only thing that is suggested there is to balance life quality in urban and rural areas.

In Kaunas sub-regional plan urban sprawl is discussed in higher detail. Very explicit tools are suggested, such as not letting new settlements further than 600 meters from existing ones. Further developments are responsible for their technical and social infrastructure. But on the other hand, there are huge territories for single housing, enabling people to buy and build extremely cheap housing.

Another problem in Kaunas sub-region and city plans is that even though they don't want dispersed developments, there is no other alternative given for people, not enough attractive places to live are created in different locations. There are huge areas planned in Kaunas Master plan 2013, but nobody is attracted by them.

## PUBLIC TRANSPORT

In all the plans public transport is spoken a lot about as the way of development, but on the other hand it looks that it follows where housing goes (with a very hard task - to provide enough of it), not visa versa - housing comes where public transport creates perfect conditions. It should be noticed, that there is a little connection between public transport and new housing developments, relation how one influences another is not recognised.

## DOUBLE-CITY

What is not spoken too much about in double city plan is to create continuous urban structure in the region. The idea is to rather keep on having two centralities with smaller cities in between.

Some of the plans claim to follow the concept of a double city, some of them don't, but at the moment nor the planning of double-city neither any other part is implemented as none of the cities are interested in this concepts anymore.

The good part about double city is that it is creating municipal cooperation and increases discussions about relation between Kaunas and Vilnius cities.

## PERFORMANCE

There is a little connection between plans and what is actually happening in reality. As all new developments are market based short-term benefit projects and new plans are very open for interpretation new dispersed housing is fastly growing around the city. Also, there is no communication between governance and inhabitants (developers) as a strong restrictive planning is straightly connected with socialist times. Therefore, people are pre-set against any restrictions considering their land.



MARIUS IVASKEVICIUS

ARCHITECT WORKING IN 'KAUNO PLANAS' OFFICE THAT MADE A LOT OF PLANS FOR KAUNAS REGION, INCLUDING KAUNAS CITY PLAN 2014

**Planning system:** at the moment 'Kaunas plan' belongs to the municipal government, but planning process is still the same. Even though this office is working for Kaunas city municipality, it has to participate in competitions to plan Kaunas city or Kaunas region or any other place. Interviewee asked if it makes any difference for planning system answered negatively as in his opinion there is still a lot of research made before drafting plans.

According to Marius office noticed trend of **suburbanisation**, but it is not considered as a bad trend - it is a normal phenomena. Kaunas region municipality is glad to get more inhabitants. In his opinion Lithuanians are still farmers who want to live far from one another and have a plot of land. There are only a few urban generations in here and there are only few real city dwellers. Moreover, the distances in Kaunas region are so small, that even living in a suburbia takes you 15 min to get to city by car.

Asked about efficiency of municipal plans and the role it gives for the region interviewee replied that nowadays they are making as generic plans as possible so it would be easy to change it easily and possible when necessary. In his opinion, 10 years is long period and a lot of issues can change so plan should not be restricting too much.

Considering the growth of a city Marius sees a big problem in the city centre, as **heritage department** has a very high standards for renovation for old buildings and new developments. This keeps centre un-renovated and pushes inhabitants and developers to expand towards outskirts.

A good example of this could be a new house extension in Kaunas centre - a glass cube was put on a historical building. Society went viral after this, all expressing their dissatisfaction about ruined historical building. Heritage department got scared of criticism and made even more strict building policies, which led to even bigger stagnation in a city centre.

Marius also mentions that there is a big problem with quality

of suburban neighbourhoods in **aesthetical** aspect. As there is no aesthetical evaluation, people tend to build however they like. This trend probably came from soviet times, when everything was decided for you. Now people want to use their opportunity to show off.

Considering **cooperation** between Kaunas city municipality and Kaunas region municipality it exists in a very technical level - to join the roads. Even in this case there are some miscommunications, where different developments are designed for the same place.

Marius graduated architecture, just as all the other people in 'Kauno planas'. Asked was it enough **education** to work in an urbanism field he replies that university degree doesn't matter anyway - it only shows ones capability to learn, think critically. It is totally normal not to have education for exact position.

To have a final image I asked what in his opinion is the main thing that would help the planning system to work more efficiently. He replied this:

*"Political will. There is too much stagnation, it is scared of changes." M. Ivaskėvičius*



Controversially evaluated house extension in Kaunas city centre Source: [img.lrytas.lt](http://img.lrytas.lt)

## INTERVIEWS WITH PLANNERS AND ARCHITECTS



TAUTVILE DZIUGYTE

### ARCHITECT WORKING IN 'METRO' - OFFICE THAT IS MAKING A LOT OF HOUSING.

In Lithuania everything is planned separately - there are no big investors willing to make big neighbourhoods. Developers usually divide area into property plots and sell it separately. It also takes care of infrastructure, such as electricity and water, hardly ever he takes care of road. It is a common situation that after division and purchase of land plots it takes very long, till the road is built - some houses are built immediately, some after 10 years, so the need for road is not the same, which is causing a lot of problems between neighbours.

Sometimes neighbourhoods try to have a common aesthetics. Then after few meetings architect set building recommendations - from the colour of roof to the type of exterior tiles. But the problem is that Lithuanians are still thinking that the most importantly it is to stand out, show off that you can afford more expensive roof than your neighbour. In the end not only a few inhabitants follow recommendations and neighbourhoods still lack aesthetical quality.

Even in row-housing people manage to stand out. In this case developers only build back-bone of the house - walls, windows. But a lot of details are left to decide for inhabitants - exterior tiles, fences and another small architecture elements. In the end, even those few houses look completely different from one another.

Architect declares that in her opinion one of the biggest problem is planning of a well being (greenery, children playground, active leisure time places) for people. Usually low rise neighbourhoods don't have it at all as it is not built by developer. In the ones, that are done by developers well-being is implemented very poorly - a few places with grass, a few trees.

Moreover same happens for multi-storey residential buildings, where developer is not obliged to build it. These houses usually stay empty and naked in the space, not satisfying inhabitants of a building, who were promised happy life in greenery by visualisations from developers of building.

This problem is also visible in soviet-time housing. Houses are

in a very bad condition at the moment, because of expensive heating system, scarce parking places. The government puts some effort to improve it and to renovate. Renovation is usually done by putting a layer of insulation which actually only changes a colour of a house and a bill of heating. Nothing else is taken care of - staircase, children playgrounds, parking places - everything still looks bad and does not make these neighbourhoods attractive.

One of the main reason for this is transition to privatisation after gaining independence when people could privatise their apartment, but the area around still belongs to city. Now city doesn't take care of it, because it is not actually common city space, while people also don't do anything, as they don't own it either.

Asked about what she think should change the most in planning system interviewee recalled that generally municipal plans are considering places for new roads, places new housing, new development, but it is never discussed about renovation of places and improvement. Moreover she highlighted, that it is very important to use internal resources.

### CONCLUSION

City planners don't see suburbanisation as a problem, it is natural process. That is why no clear restrictions are being done. Moreover, city doesn't have a clear future vision, which makes it hard to guide a growth of developments.

Also, there is little attention paid for the good of people - as all developments are done by private investment, they are only thinking about near future. Public sector is not playing any role here, just creates conditions for private sector to work more efficiently, that is why it is never thought about well being of surrounding in new as well as old neighbourhoods.

## THE VINEX

National spatial planning in the Netherlands has traditionally been concerned with the main structure of urban and rural areas. The VINEX adds two new policy themes, directed at two very different scales: the Netherlands in an international context, and the everyday living environment (Ruimte voor 2015, 1993).

The role of government in the implementation of these policies varies according to the topic. Central government takes the initiative on policies involving the Netherlands in an international context, while working together with the provinces and municipalities on urban and rural planning issues. The responsibility for the everyday living environment lies with the municipalities; the role of central government in this context is restricted to stimulating developments and providing information.

The VINEX is a selective policy document. Policy is directed only at important social changes which will have far-reaching consequences for the design and use of space. The most important changes are: internationalization; emancipation and individualization; the tendency for government to make way for private initiatives; developments in telecommunications, agriculture and industry; rapidly increasing personal mobility; quantitative and qualitative water management; changing environmental standards; the quest for sustainable development; and the conservation of biodiversity.

Policy options for the everyday living environment.

The Ministry of Housing, Spatial Planning and the Environment's involvement in the everyday living environment has a "hands-off" character. The ministry is concerned with patterns of development which occur in many municipalities. Central government has various means at its disposal to assist municipalities with their policies: (changing) regulations, creating favourable financial conditions, introducing administrative conditions for cooperation between government and private initiatives, and providing support in the form of research and demonstration projects. Examples from the past are the urban renewal programme and the stimulation of new high density developments.

Spatial quality is expressed in terms of five basic values: a well maintained physical environment, a clean environment, a safe environment, a choice of physical environments, and spatial diversity.

- For a well-maintained physical environment, it is necessary to maintain and manage the built environment. This also applies to landscapes.
- For a clean environment, existing pollution must be cleaned up and (further) pollution of soil, air and water must be prevented.
- A safe environment involves first and foremost combating crime and designing the public domain in such a way that people feel safe.
- To guarantee a choice of physical environment, government must prevent the formation of ghettos in the cities and isolation in rural areas.
- Spatial diversity implies avoiding monotony.

## Demonstration plan

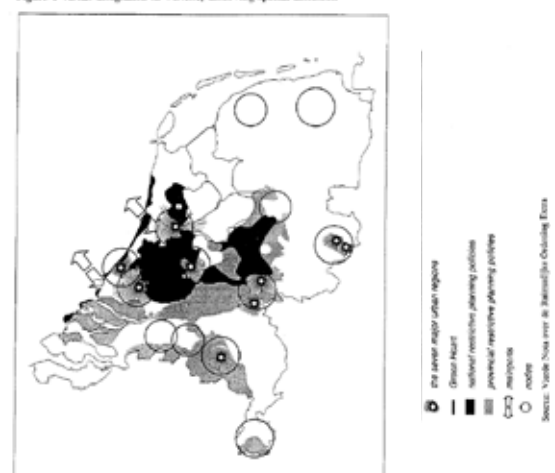
One of the policy instruments for improving the quality of the everyday living environment introduced in the VINEX was the "demonstration plan" project. We go into this in more detail because it has been successful in stimulating ideas for the design of the everyday living environment. Between 1989 and 1993, central government, the municipalities, water authorities, the provinces, consultants, trusts, other independent organizations and (residents) associations were invited to send in ideas for improving the everyday living environment. There were five themes:

- The public domain (maintenance and design);
- Post-war housing estates (raising the quality of urban design);
- Recycling (sound use of groundwater and surface water, energy and waste materials);
- Rural areas (new ideas for plan generation);
- Work and mobility (influencing the development of personal mobility).

Of the 600 ideas submitted, more than 50 have been worked up into demonstration plans with financial support from the ministry. Two million guilders were available each year for preparing the plans and publicizing them. At least three-quarters of these plans have been implemented.

The demonstration plan project is an example of influencing development through communication, forging links between the goals of central government and those pursued by others. The strategy was successful because it focused on specific target groups at a time when they were making decisions affecting the everyday living environment. Central government policy was not imposed upon them; rather, it was adapted to support the work they were doing themselves. A study into the impact of the project has revealed an important effect, namely, the generation of ideas. Without the project, about 40 per cent of the ideas behind the selected plans would never have seen the light of day. The project has led to further enrichment of half of the selected plans. Just 10 per cent would have gone ahead anyway without the project. An interesting phenomenon is that many ideas which were not selected during the project have found alternative routes for development (Kolpron Consultants, 1995). This project has allowed central government to help others choose their own direction for development.

Figure 1 Areas designated in VINEX, deserving special attention



# LESSONS TO LEARN FROM THE NETHERLANDS

## THE LADDER OF SUSTAINABLE URBANIZATION

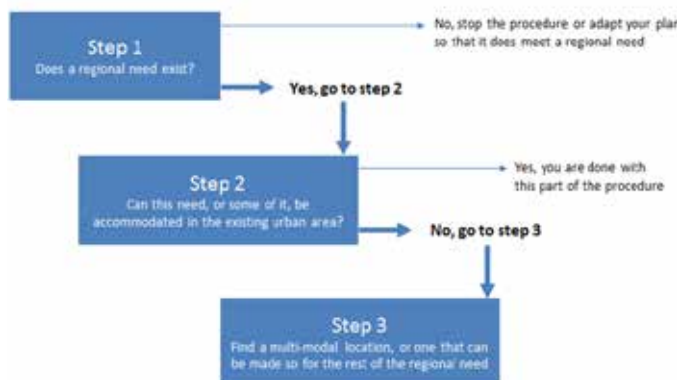
Nowadays The Netherlands is turning to softer planning and the ladder of sustainable urbanization was introduced in 2008. It is a combination of material and process norms concerning the spatial quality of urban and rural development. The ladder demands that all spatial plans providing for new urban development must argue how their decision-making takes general planning principles into account, but without any substantive obligation. It is a soft normative rule demanding justification and in this way inviting local actors and opponents to reason explicitly about the intended spatial quality.

The ladder of sustainable urbanization was established in a spatial planning law in 2012. It requires planning agencies to go through three steps of argumentation. They have to demonstrate the following evidence:

- a. Is there evidence of a regional need for the intended local or urban development?
- b. If so, can this intended development be realized within the existing built areas in this region (use of empty spaces or a reconstruction or transformation of built areas?)
- c. If not, is it possible to realize the intended development at nodes that are accessible via different modalities (or that can be made accessible)

Using the ladder to justify a proposed action is obligatory for all spatial plans but compliance is not monitored or enforced by the central government. Thus, political and planning agencies involved have to decide for themselves how extensive and precise their argumentation will be, considering that they could be challenged by groups in society with different claims with regard to the intended development. The outcome of this justification will become differentiated for different contexts and at different times.

After 14 months in force system can be evaluated. According to D.Evers (PBL) it showed low level of conformance and performance. Out of all plans submitted, there were only 8% that applied the ladder explicitly and full, 12% had incomplete/erroneous applications and 72% did not mention it at all. Even though the decentralisation of spatial policy and the introduction of the ladder was intended to improve flexibility in local decision-making, but is actually doing the opposite.



Procedural flowchart for the ladder. Source: Ministerie IenM (2012)

## ADOPTION IN KAUNAS (?)

Even though mentioned government policies have undoubtedly very good performance, their performance highly depend on the context of the Netherlands. The same policies could not be taken blindly and used in another places as it has to fit into existing context.

As discussed before, Lithuanians have strong opposition towards restrictions. Therefore, the VINEX approach in a country scale would be a bit too challenging for Kaunas, as

On the other hand The Ladder of Sustainable Urbanisation is not so restricting policy, its rather a questioning policy for new developments. But in this case, some cultural aspects wouldn't let this policy to perform in Lithuania. The most important is bureaucracy, as the policy is not defined very precisely and varies from case to case it leaves a lot of space for interpretation. Therefore, its a lot of space for this bureaucratic mechanism to interpret policy the way they want it.

The second part of the VINEX approach is considered about everyday living environment, which is a close topic to this thesis. Here the main concern touches people and their quality of life and improvement of these environments in municipal scale. Approach, where central government has various means at its disposal to assist municipalities with their policies: (changing) regulations, creating favourable financial conditions, introducing administrative conditions for cooperation between government and private initiatives, and providing support in the form of research and demonstration projects could acceptable in a context of Lithuania, where are no such a thing at the moment.

The most important and successful tool here was a demonstration plan which allowed various actors to submit projects for improving everyday living environment. Here, government would subsidize best ideas. This way of improvement could be effective in Lithuania as well, as it includes various actors and their needs, is closely related to people being affected.



## Spatial analysis

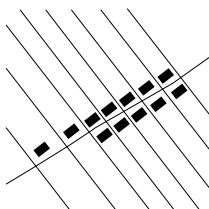
To know better how to deal with problems in the region in this chapter entire place will be analysed in closer. Starting with historical overview of growth of developments and then shifting to how the region looks now - what are the main market in there, the main social structure, distribution of work places as well as living places/inhabitants.

MEDIEVAL REGION  
14th century - 1795

Compact urban development, next to water and infrastructure.

Kaunas, as well as Kedainiai developed as gothic cities with rectangular street patterns. Kaunas was developed on the intersection of two rivers and main roads as a trade centre. City, as a typical medieval development, grew in a compact manner.

Villages at this time were growing in clusters. Group of farmsteads that have no clear plan. Many of the cluster villages were created around manors and churches. They were the self-sustaining centres for education, culture, production and consumption. Cluster villages bit by bit transformed into linear villages and church towns. Cluster and linear villages were developed a lot during the land reform in 16 century during which to intensify agriculture land was divided.



Nowadays cluster villages in Kaunas region are almost entirely gone, their original pattern is not visible anymore.

linear villages after land reform

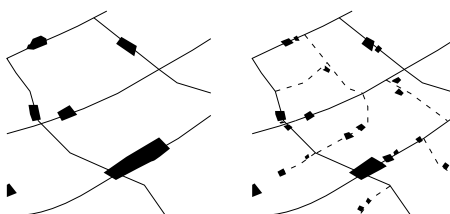
PERIOD OF RUSSIA EMPIRE  
1795 - 1918

When Lithuania was a part of Russian empire, development were based on industrialisation. Urban population was growing.

This led to expansion of cities and development of new urban neighbourhoods.

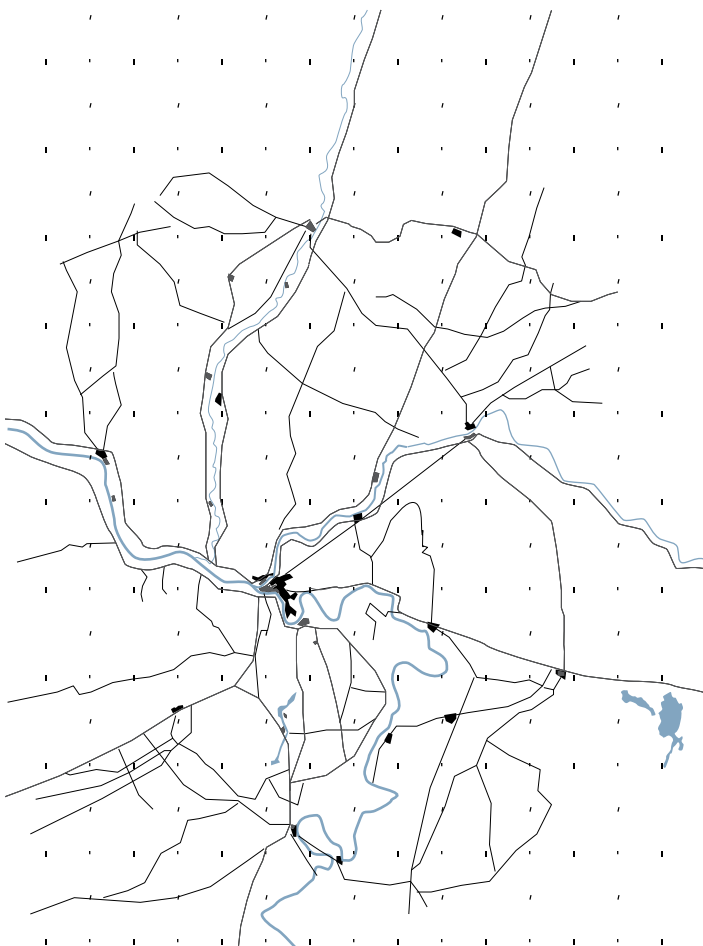
During these years, first railway and horse-tram lines were introduced in Kaunas city. Also, fortifications were built around Kaunas city.

In the beginning of this period villages and agriculture were declining. Linear villages started to loosen up, as a lot of abandon plots started to emerge. Therefore, villages lost their structure and started to grow chaotically. In western part of Kaunas region villages were being dispersed, as the reform of single farmsteads emerged in 1835 (Seselgis K.). This reform also led to growth of local infrastructure network.



before

after





# HISTORY OVERVIEW

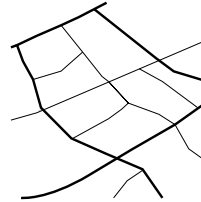
## 1918 - 1940 PERIOD

Lithuania declared independence and capital temporarily move to Kaunas, because Vilnius was still occupied. Plans to improve the city were done.

Expansion of industries were opened in Kaunas city, close to the train station because of the good connection. Therefore residential city parts were expanding to the northern side. City villas were being built there and connected to the city with a funicular. In the city there were also a lot of new developments being built, that are now being considered to get into UNESCO heritage.

Today city villas type residential neighbourhoods in Kaunas are popular among residents due to human scale considerable green environment and proximity to the centre.

During this period, clearer infrastructure hierarchy was established because of the growing industries and importance of Kaunas city in national scale.



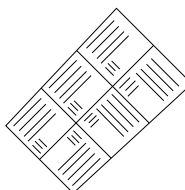
clear hierarchy of infrastructure

## SOCIALIST REPUBLIC 1940 - 1990

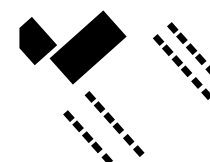
As already discussed in previous chapters socialist era had a huge impact on planning. As it was the end of private ownership a lot of people started to migrate to the cities. Industries were growing and enormous new developments took place around Kaunas as well as other bigger cities in region, polycentric model not only in entire country but in Kaunas region was established. Polycentric model is comparable with nowadays acceptable decentralised concentration concept (Cirtautas M. 2013).

Socialist housing was usually either 9 or 5 storey buildings. These 'sleeping' neighbourhoods were extending the city in a compact way and public transport was playing major role. For city inhabitants there were created new areas for gardening in proximate distance from a city.

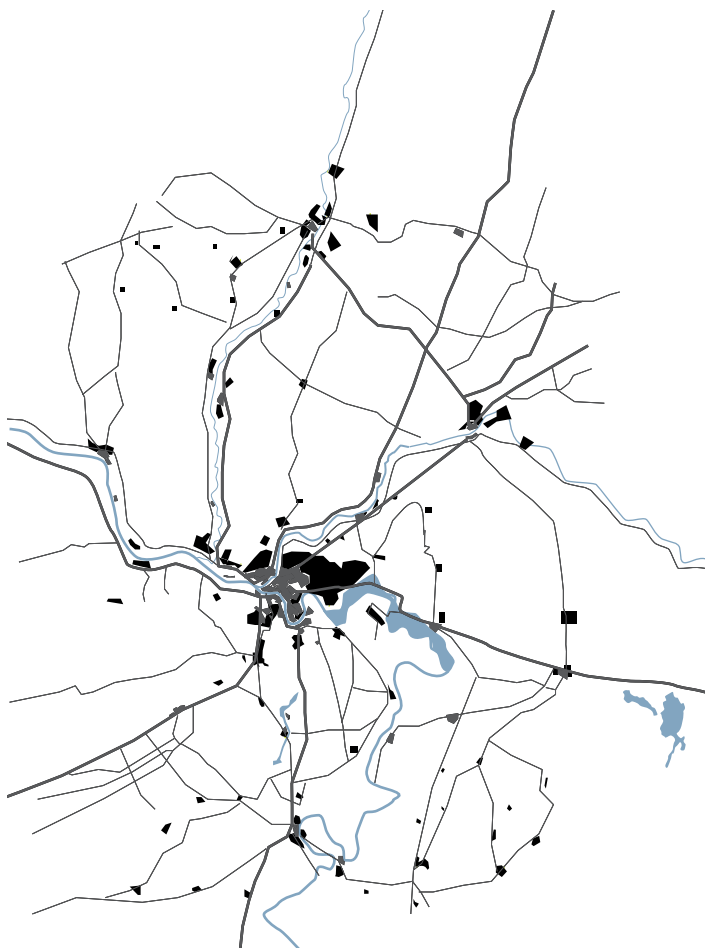
New territorial unit - collective farm village was formed during this period, when a lot of rural inhabitants were relocated to uniform collective farming villages, which were distributed evenly throughout the region. Since Kaunas region is especially suitable for agriculture, collectivization here was very intense process.

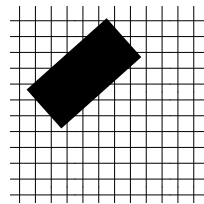
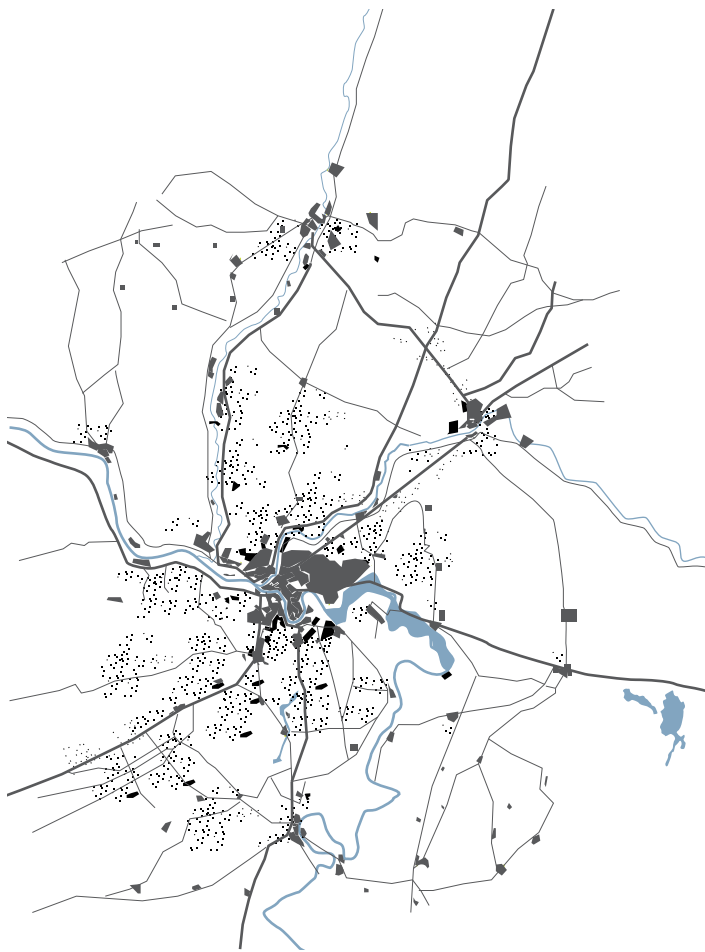


summer gardens

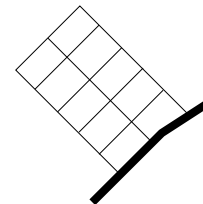


collective farms





commercial development



division of agriculture land



suburbanisation

## TRANSITION TIMES 1990 - nowadays

In 1990s Lithuania got independence. After political changes urban development of polycentric Kaunas region was discontinued, as a country was not able to financially maintain polycentric system. The further developments were also affected by economic restructuring, de-industrialisation, negative demographic trends, traffic problems and “planning vacuum”, which could be explained as the lack of planning standards and incompetence of local government, which was responsible for controlling land-use development processes in the cities and around them. According to N. Pichler-Milanovic, understanding that urban development, which has been quite strictly controlled in the socialist period, shall again be governed by the planners has been observed only since 2000. Until then, urban and regional planning has been neglected because of the priority being placed on economic reforms, economic regeneration and the connotations of such planning with the former Soviet regime. All this has led to the deregulation of urban development and the strengthening of private capital role in the urban development processes. The latter has been one of the driving forces behind urban dispersion processes in Kaunas region. (Pichler-Milanovic N. 2007, Burneika, D. 2008, Juškevičius, P., Vitkauskas, A. 2001).

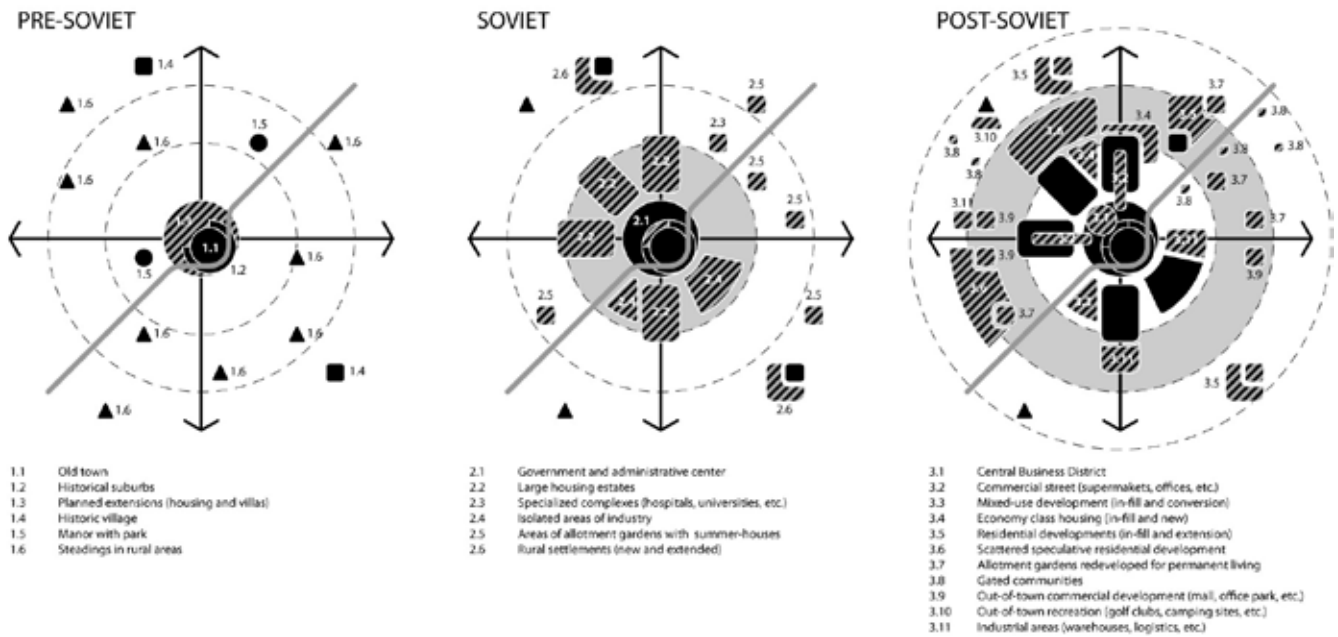
The past two decades of urban development in Lithuania can be divided into two phases. The first decade of independence did not produce the intense external urban development because of uncompleted institutional reforms, unfinished land

restitution and most important - low income. Even though some residential developments emerged in outskirts of the cities, but the first decade of urban development was marked mainly by active commercial development rather than residential boom on the city outskirts.

Later on completion of institutional reforms, adoption of laws regulating urban development, and rise of income enabled residential construction to expand. Therefore, single-family houses were started to be built rapidly with most noticeable changes taking place on the outskirts of cities. Usually they were built as economy class apartments near Soviet housing estates. However, the majority of housing units in one or two apartment buildings were built in large cities and municipalities adjacent to them. New suburban housing types emerged in the 2000s as well. Although single-family houses were continued to be built randomly and in leapfrogging patterns, now this was done in larger groups, which sometimes assumed characteristics of gated communities. The second decade also showed a significant trend of agricultural areas massively being converted and divided into smaller residential plots (Cirtautas M. 2013).

Socialist lifestyle became extremely uncomely to the society and example of Western Europe started to make a huge impact which became a desperate wish to become “like the others”. Stanilov refers: “the post-socialist reforms in the CEE region can be depicted as an attempt to make a desperate leap from totalitarian existence to capitalism in a matter of only a few years. Therefore, it is not surprising that the post-socialist city takes on many of the characteristics of the North American patterns of urban development, rather than settling in on the more balanced model of Western European urbanization.” (Stanilov, 2007:7)

# HISTORY CONCLUSION



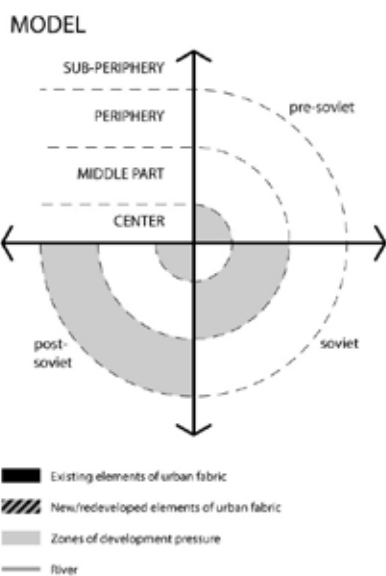
Changing form of cities - conclusion of historical overview. Source: Cirtautas M. Urban sprawl in major Baltic cities

Since Kaunas region mostly expanded during the second half of the 20th century under the Soviet regime, cities in the region (especially Kaunas) inherited features attributable to the post-Soviet city. Therefore, it can be described as a structure consisting of three rings.

Central part is a result of city's organic growth till the middle of the 20th century. It includes the old town and other older neighbourhoods (historical suburbs), new town with rectangular street pattern, historical quarters of villas, etc. During time this part has been affected by the establishment of new commercial and administrative centres, various changes.

The second half of the 20th century was dominated by the construction of large housing estates on the periphery, which formed the foundation of the middle part of a city. This area is also characterised by large forest parks, situated between residential estates, isolated industrial areas, specialised complexes (hospitals, universities, etc.). The middle part is not static. There are also some new elements, which have been built in recent decades: commercial and entertainment centres, new apartment buildings, etc.

Suburbs physical fabric consists of historical homesteads and villages, garden communities, newly built quarters of single-family houses, highways, modern warehouses and logistics centres, recreation complexes, etc. There is also a lot of open space, which formerly dominated throughout suburbia: fragments of agrarian and natural landscapes.



Model of changing form of cities - conclusion of historical overview. Source: Cirtautas M. Urban sprawl in major Baltic cities



Source: [www.smarttravel.ee](http://www.smarttravel.ee)



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



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



Source: [www.miestai.net](http://www.miestai.net)



Source: [birštonas.sanatorija.lt](http://birštonas.sanatorija.lt)



Kaunas is the second biggest city in Lithuania. It is located in intersection of two biggest Lithuanian rivers, which gives a lot of greenery and nature to the entire region. Moreover, it is also intersection of the main roads not only in local, but European scale. These characteristics influenced a lot how the region looks now.

#### Jonava

Jonava is the second biggest city in Kaunas region. Achema, the largest fertilizer factory in the Baltic states, is located nearby and it plays very important role not only for the city, but for entire country.

#### Kedainiai

Is one of the oldest cities in the region (after Kaunas) and it still has preserved old town. City is important for its food reproduction and chemical production. In XIX century local Jews started cucumber business and the city now has cucumber festival and is known for that.

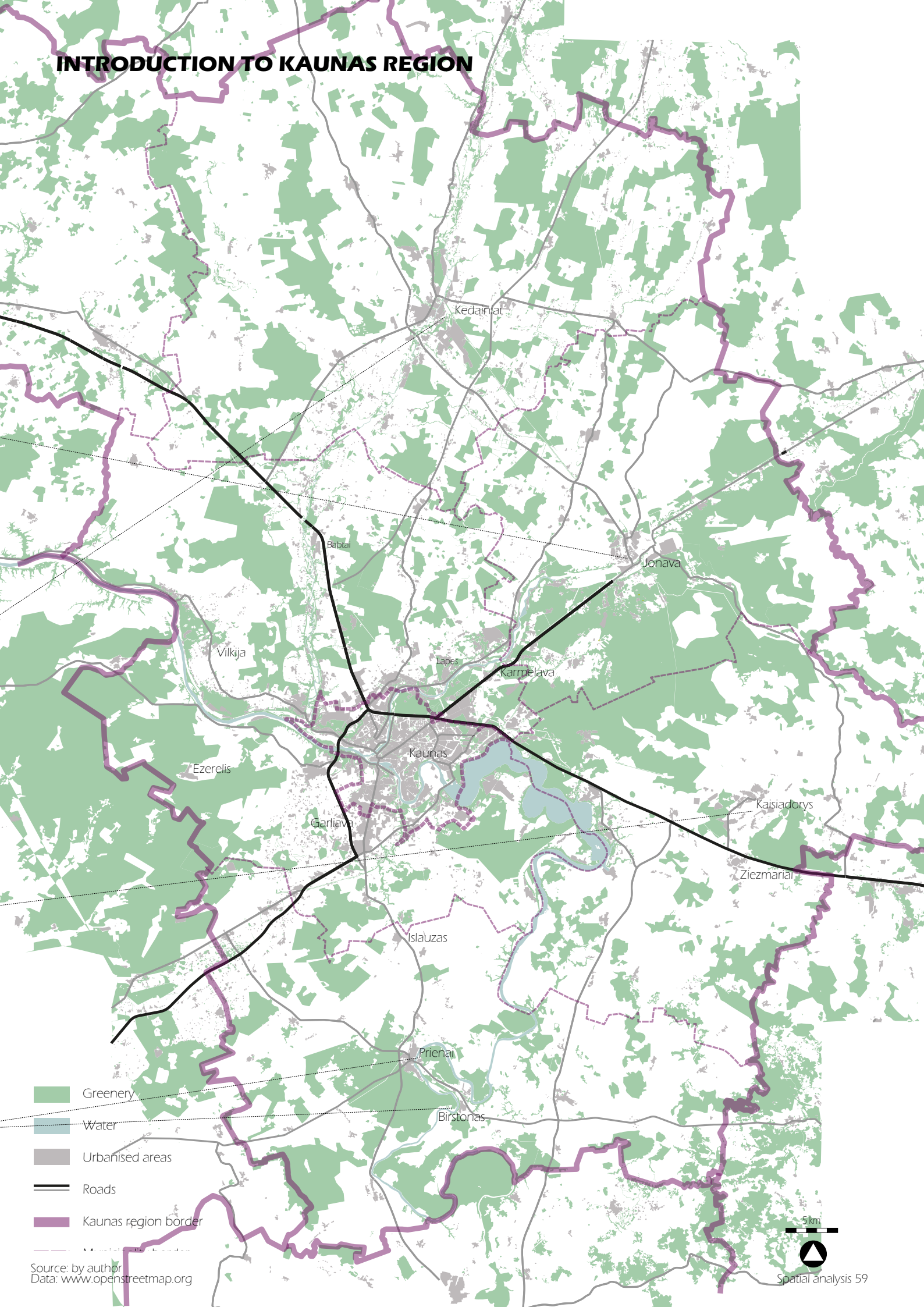
#### Kaisiadorys

This city is located on the railway line connecting Kaunas and Vilnius and it grew from village to the city when the rail road was built. Nowadays the most important thing in the city is The Lithuanian Veterinary Institute.

#### BIRŠTONAS AND PRIENAI

It is a balneological resort and a spa town. Birštonas is known for its mineral water. This water is used by sanatoriums for mineral water pools and baths. City is surrounded by pine forests and the Nemunas River, which is very good for the ill. It one of the most favourite summer resorts.

# INTRODUCTION TO KAUNAS REGION



- Greenery
- Water
- Urbanised areas
- Roads
- Kaunas region border

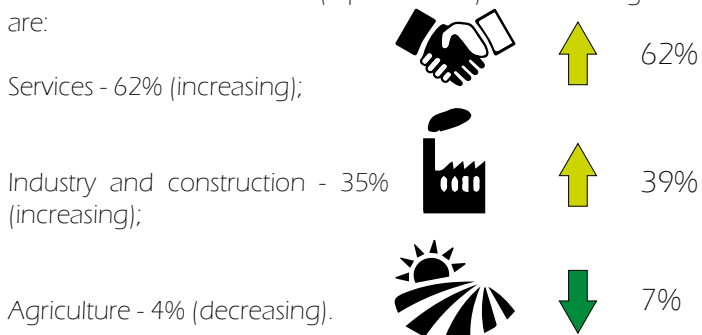
Source: by author  
Data: [www.openstreetmap.org](http://www.openstreetmap.org)





Region is finishing its transition from industrial to service based economy - besides the logistics and transportation, region has well developed light and heavy industry and service sector. Region produces 19,4% of Lithuanian GDP, while 14% of it is produced in Kaunas city.

The main economic sectors (input to GDP) in Kaunas region are:



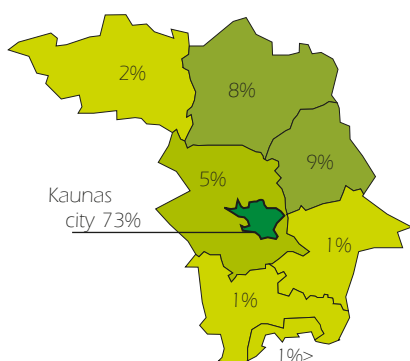
The most developed industries in Kaunas are: food and beverage industry, textile and light industry, chemical industry, publishing and processing, pharmaceuticals, metal industry, wood processing and furniture industry. Recently information technology and electronics have become an important area of business activities in Kaunas.

Distribution of economical developments throughout region is still influenced a lot by the industrialisation from soviet times, when polycentric model was applied. During that time a lot of cities became industrial clusters and still keeps on the same track - Kaunas, Kedainiai, Jonava. In the smaller villages, businesses could not maintain themselves and a lot of them moved to bigger cities.

### DISTRIBUTION OF WORKING PLACES

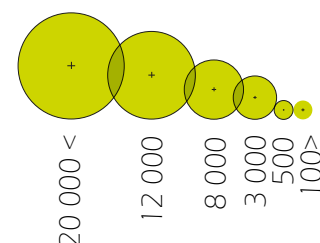
The same situation is with distribution of a working places, where polycentric model is still very visible, but smaller cities and villages are constantly loosing their work position. This creates migration of people from villages to cities looking for a job (see chapter 'Social structure'). A big amount of population keeps on living in rural environment, commuting to their working place.

in the region - 8 per cent)

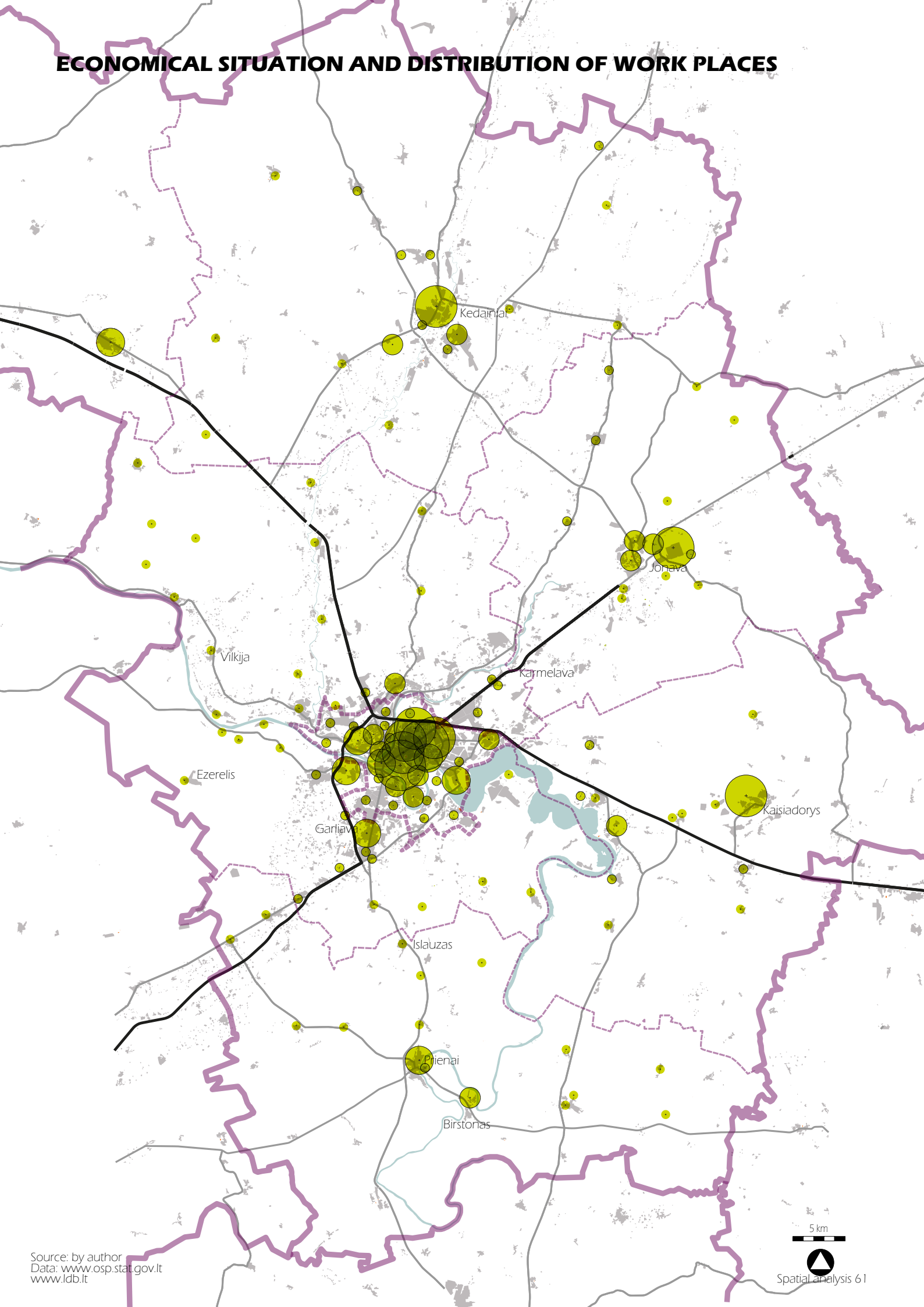


Scheme showing distribution of production of GDP in separate areas in the region, showing that 74% is created in Kaunas city. Source: made by author, data: www.ldb.lt

### Distribution of working places



# ECONOMICAL SITUATION AND DISTRIBUTION OF WORK PLACES



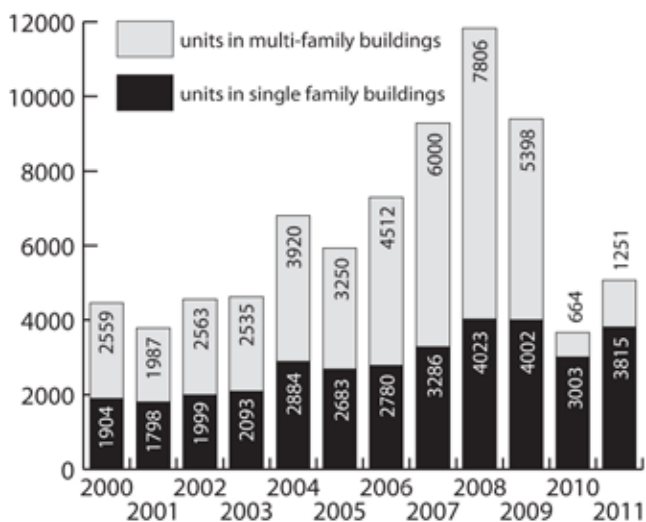
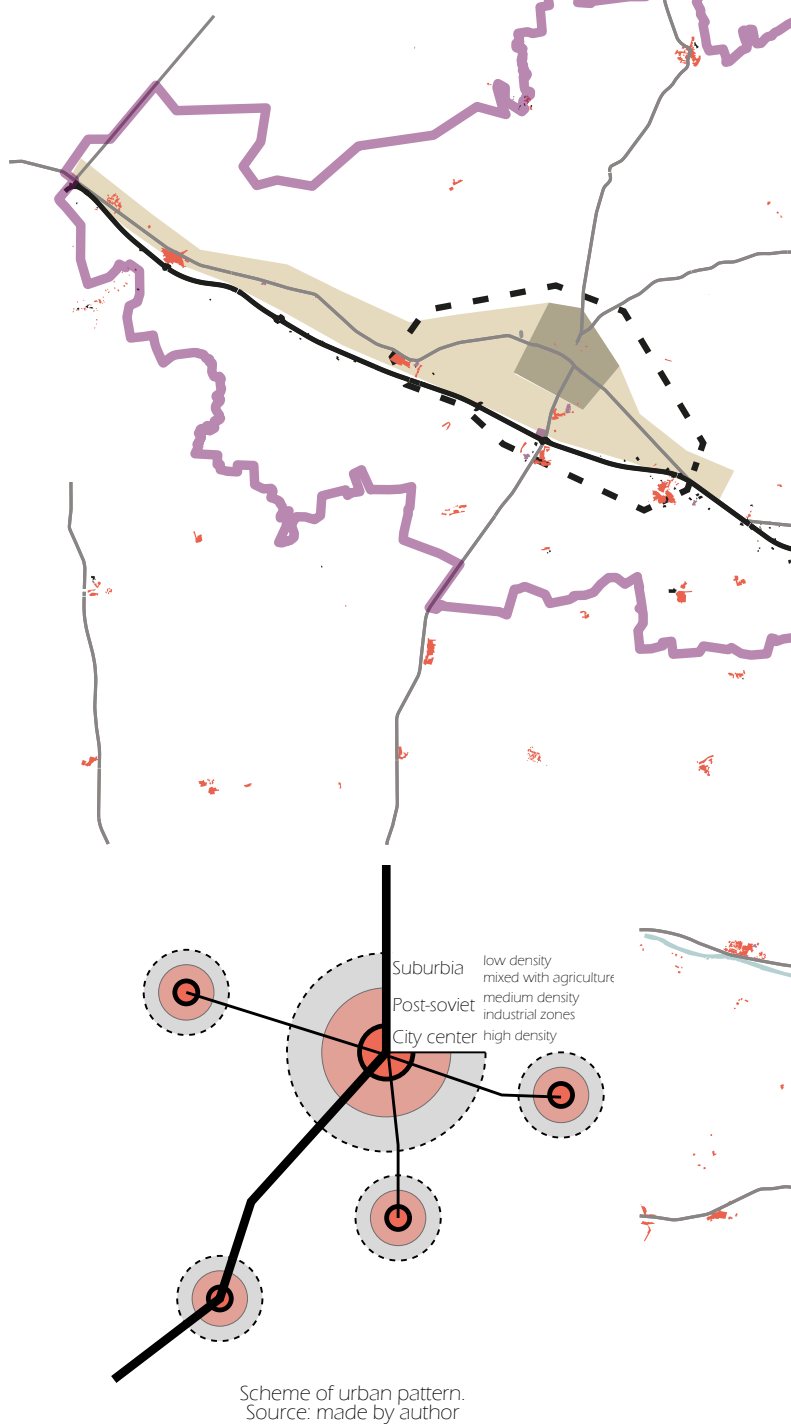
Urban structure of the region is very visible from historical point of view - cities were growing densely. Nowadays built massive amounts of individual housing outside of the cities creates sprawled patterns (black colour in map).

Residential developments are following best connections through roads, where they can easily reach the city with a car. One more very important criteria while choosing a place for a house is nature - people like areas closer to nature, rivers, forests, which is also visible in expanding areas.

Patterns of moving people are very clear and strong. Following that, in Kaunas regional plan there are a lot of areas chosen for this kind of sprawled purpose:

**Agglomerated urbanisation** - priority for intensive urbanisation developments in cities and city centres. Level of urbanisation must be set by lower planning level documents and needs to be detailed.

**Dispersed urbanisation areas** - the priority in these territories is for sparing agriculture, but as the territories are close to the cities that is the place to fulfil single housing demand. It needs to be detailed by municipal plans. Public spaces, services, infrastructure should be solved by them, but social and infrastructure is responsibility of investor. In municipal plans big parts of these territories are being called non-priorital housing territories.



Land use/cover classes

- Continuous urban fabric
- Discontinuous urban fabric
- Industrial and commercial areas
- Areas from Kaunas region plan 2005
- Agglomerated urbanisation areas
- Dispersed urbanisation areas
- Existing agglomeration interest areas
- New agglomeration interest areas
- Kaunas region border
- Municipality border
- Roads
- Water

Current trends of housing types - single-family housing is a lot more popular than multi-family housing. Source: Cirtautas M. Urban sprawl in major Baltic cities:74.



# URBAN STRUCTURE



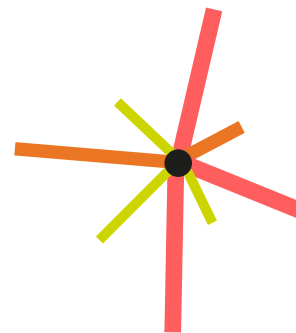
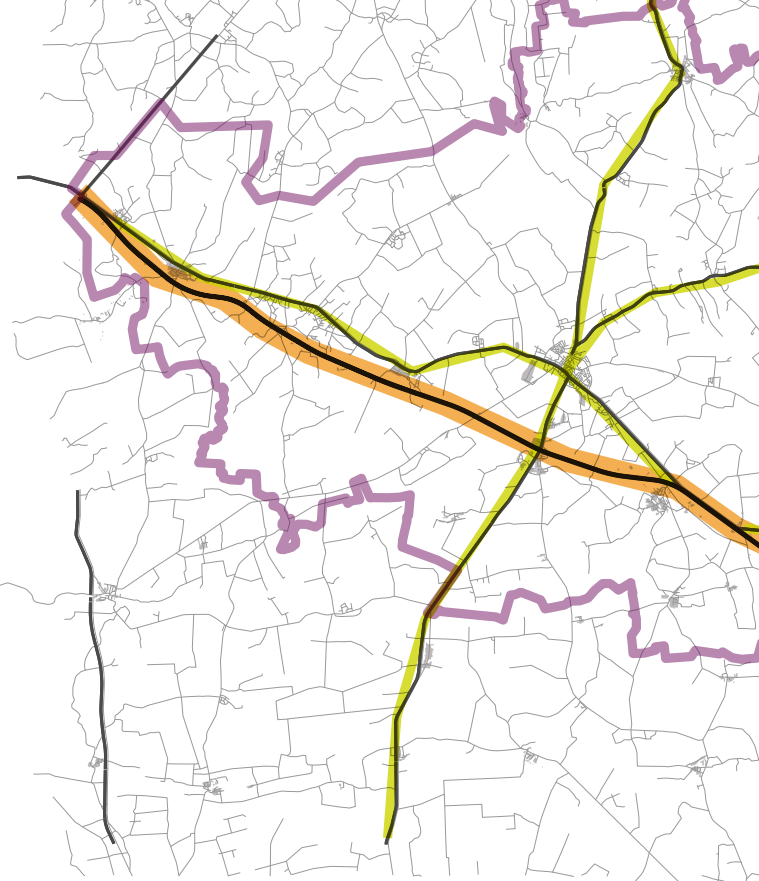
Kaunas region has an extensive infrastructure network.

Many roads and highways were by big part of European Union developments and are creating a very strong backbone in the region, connecting Kaunas city not only to other cities in Lithuania, but also to neighbouring countries.

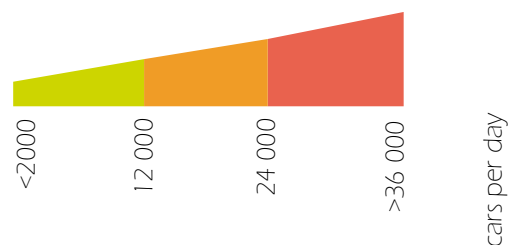
On the other hand, infrastructure of local roads is extremely extensive, where no clear hierarchy is visible. Regional roads can be distinguished, but all the other smaller are fading into one importance network. Moreover, private developers are allowed to build new roads by themselves, which leads to even faster growth of local infrastructure.

Infrastructure in Kaunas city as already mentioned before is not maintained properly. As Kaunas city is still building new developments inside the city, there is not enough resources to maintain existing infrastructure.

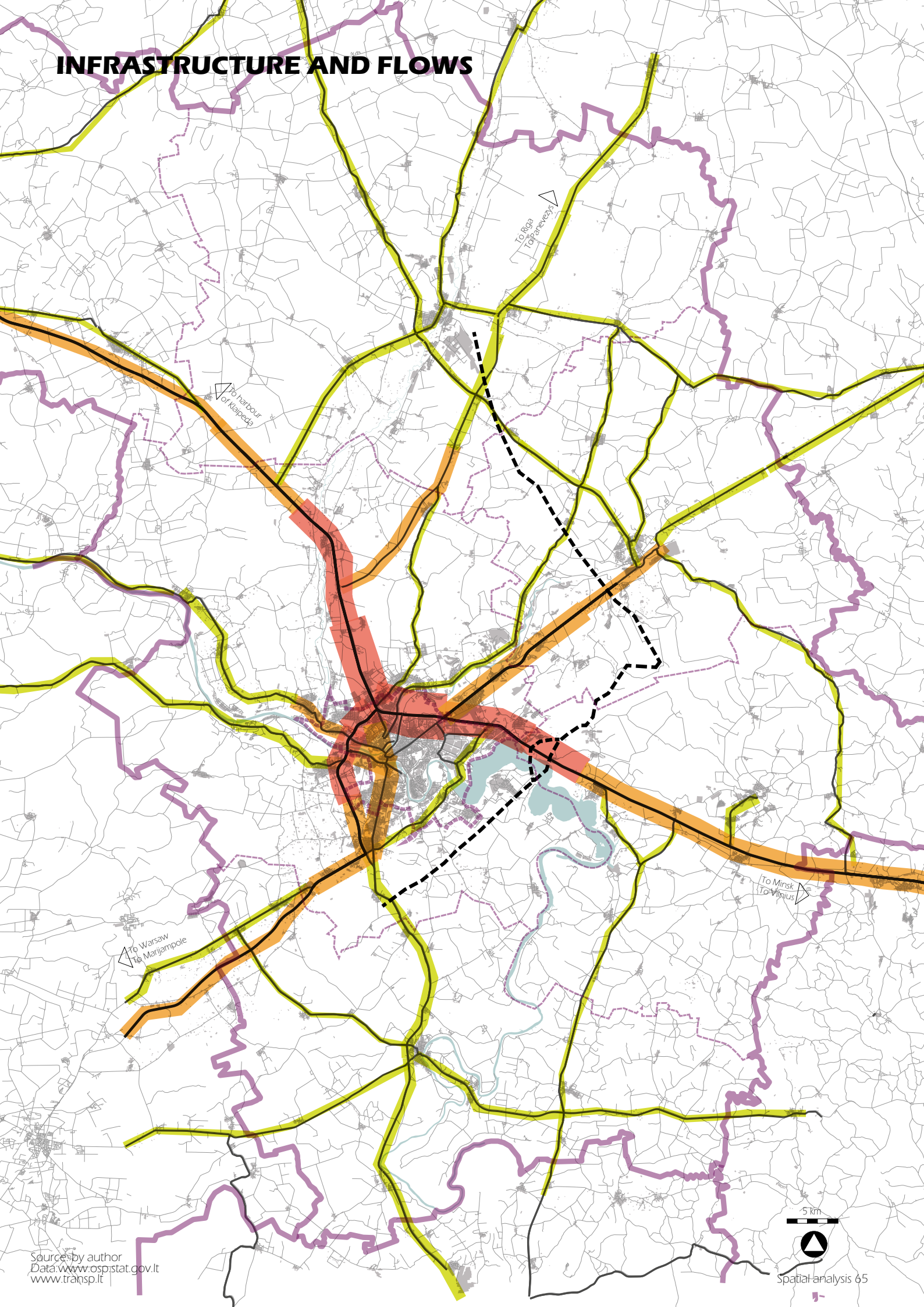
It is very clear that existing infrastructure is based on centrality, where all movement is from periphery to the city centre. No clear patterns of commuting to other cities in the region are visible from transport intensity.



Scheme of intensity of transport.  
Source: made by author



# INFRASTRUCTURE AND FLOWS



Public transport network in Kaunas region is based on trolleybus and bus lines in the inner Kaunas city, mini-buses, regional buses and intercity buses.

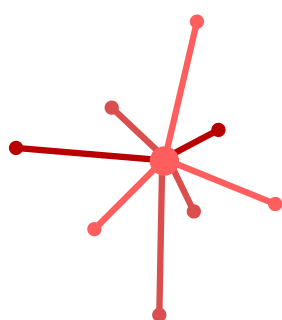
Trolleybus lines are dependable on electricity wires, so their network is not extended a lot and is mainly based on city centre and few destinations around. This is still based on soviet legacy, as no new lines were made during the independence years. City busses have more spread network. Those two systems form very strong public transport network in the city, while only few destinations outside that are included in this network.

The most important public transport for people living outside city are mini-busses and regional buses. Their network is not so broad and intensity highly depends on the line. Some of them are very strong - going few times per hour, while some are only going once or twice a day, which is not enough for people to use for daily basis.

Intercity busses are only having from point to point system, where bigger cities are incorporated.

Generally public transport system is oriented in a model village - city, instead of creating network of communications system where one village could benefit more from its neighbouring village.

Railway system in the region is not very intense as there are only few lines. Those lines have locally stopping trains. Big opportunity can be used while making Rail Baltica in a region, as a way not to only join the region to Latvia and Poland, but also a line to reinforce local public transport connectivity.

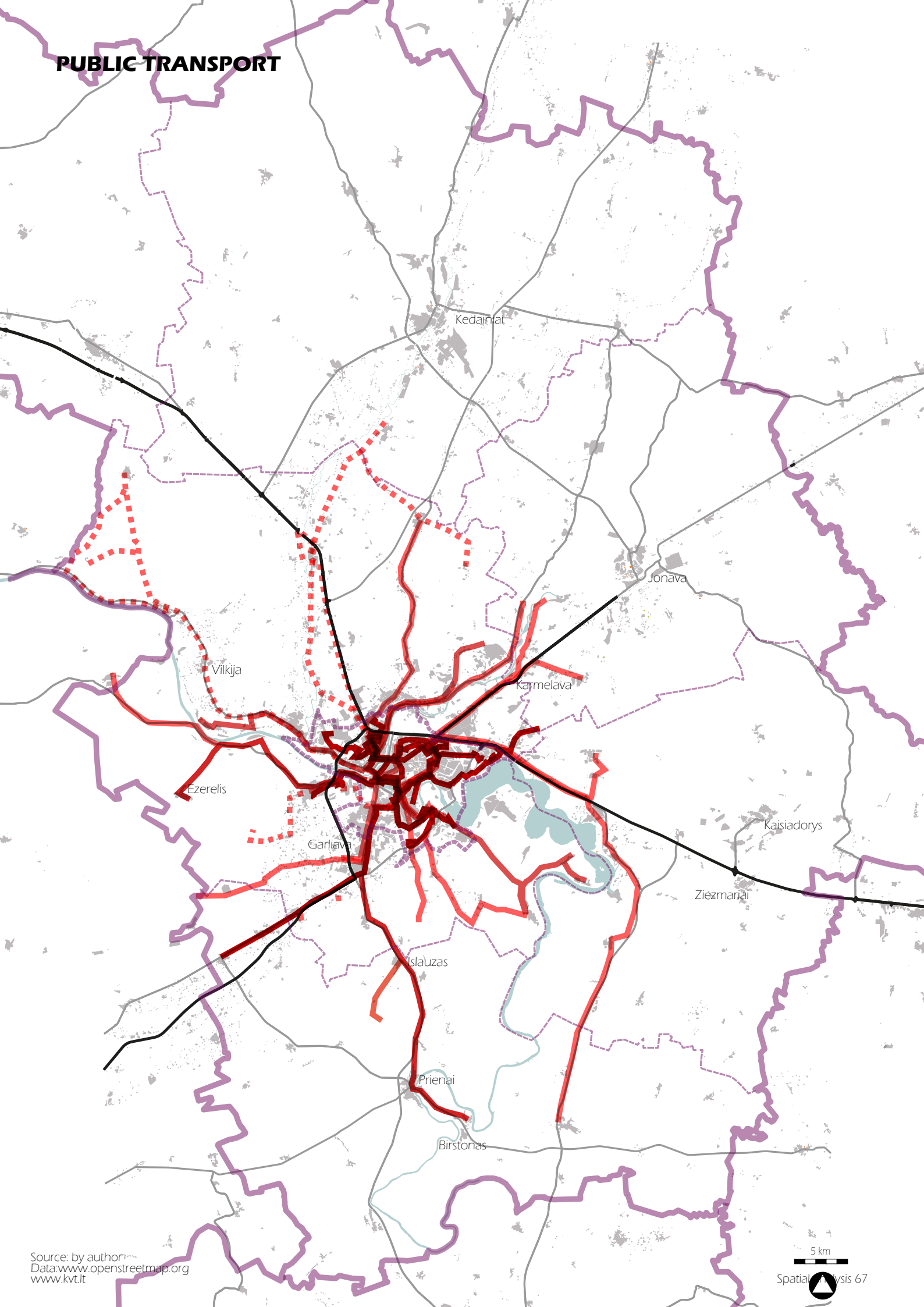


Scheme of existing public transport network

Public transport by intensity


- Very intensive public transport (3 and more time per hour)
- Intensive public transport (1-2 times per hour)
- Not very intensive public transport (1 time per hour)
- Not very intensive public transport (less than 10 times per day)
- Not intensive public transport (1-3 time per day)

# PUBLIC TRANSPORT





Together with polycentric growth of industries in 70s, extensive social structure was also created.


After independence it became hard to maintain all extensive social infrastructure, as people were migrating looking for better living conditions and jobs. Four different trends can be identified (Ubareviciene R., et al. 2011):

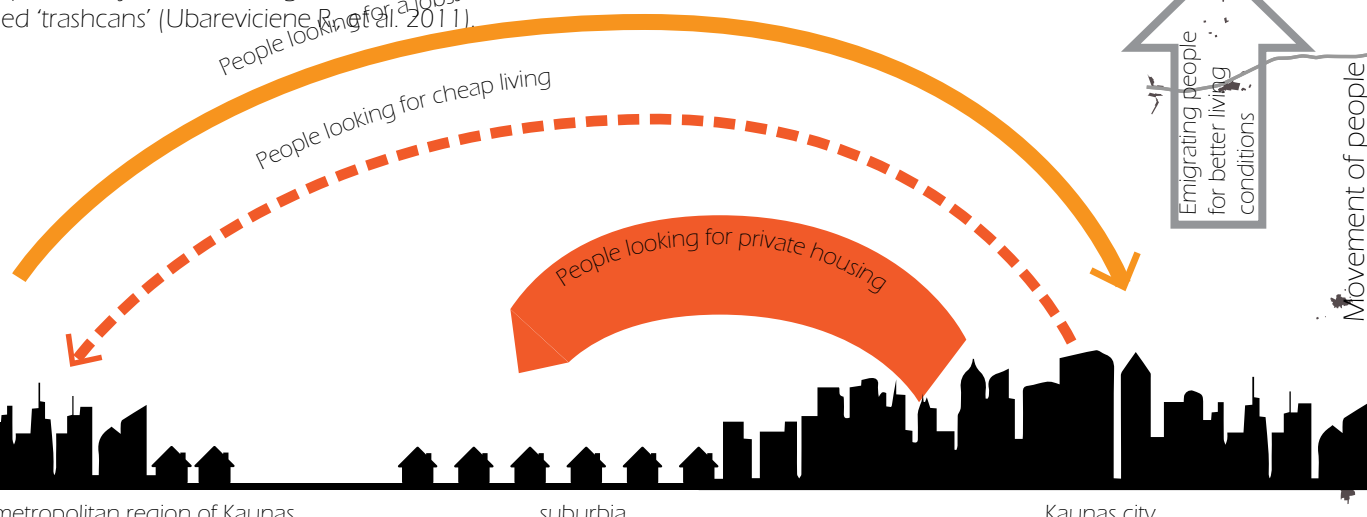
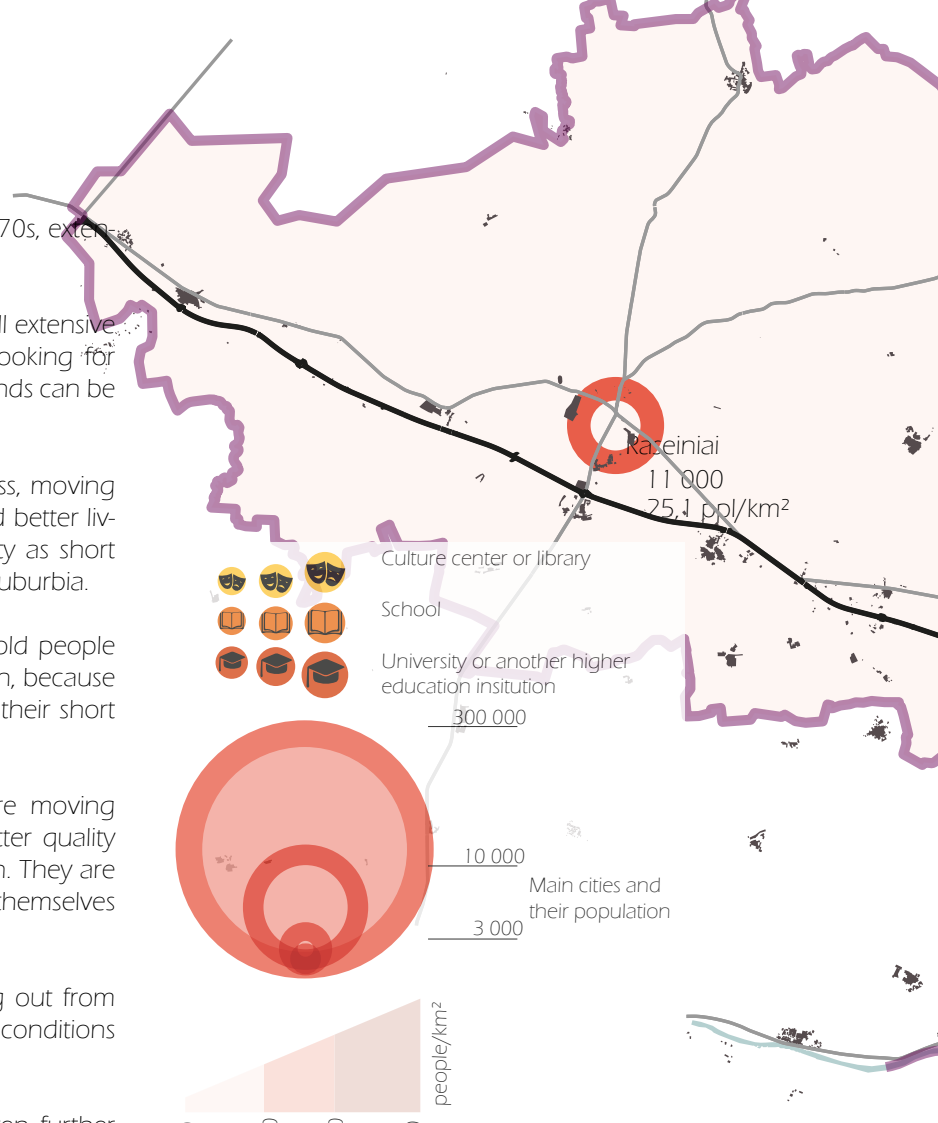
 The biggest group of people is working class, moving from rural areas to cities looking for jobs and better living conditions. They are considering the city as short term stop before they will afford a house in suburbia.

This way, in a city there are mainly young and old people living and not so many are interested in renovation, because either can't afford it or they are considering it as their short place of living.

 People, having better financial situation are moving to suburbia looking for cheap housing, better quality housing as well as to have their own garden. They are usually not involved in local life and consider themselves Kaunas inhabitants.

 Another flow of people are people moving out from Kaunas city abroad, looking for a better living conditions there.

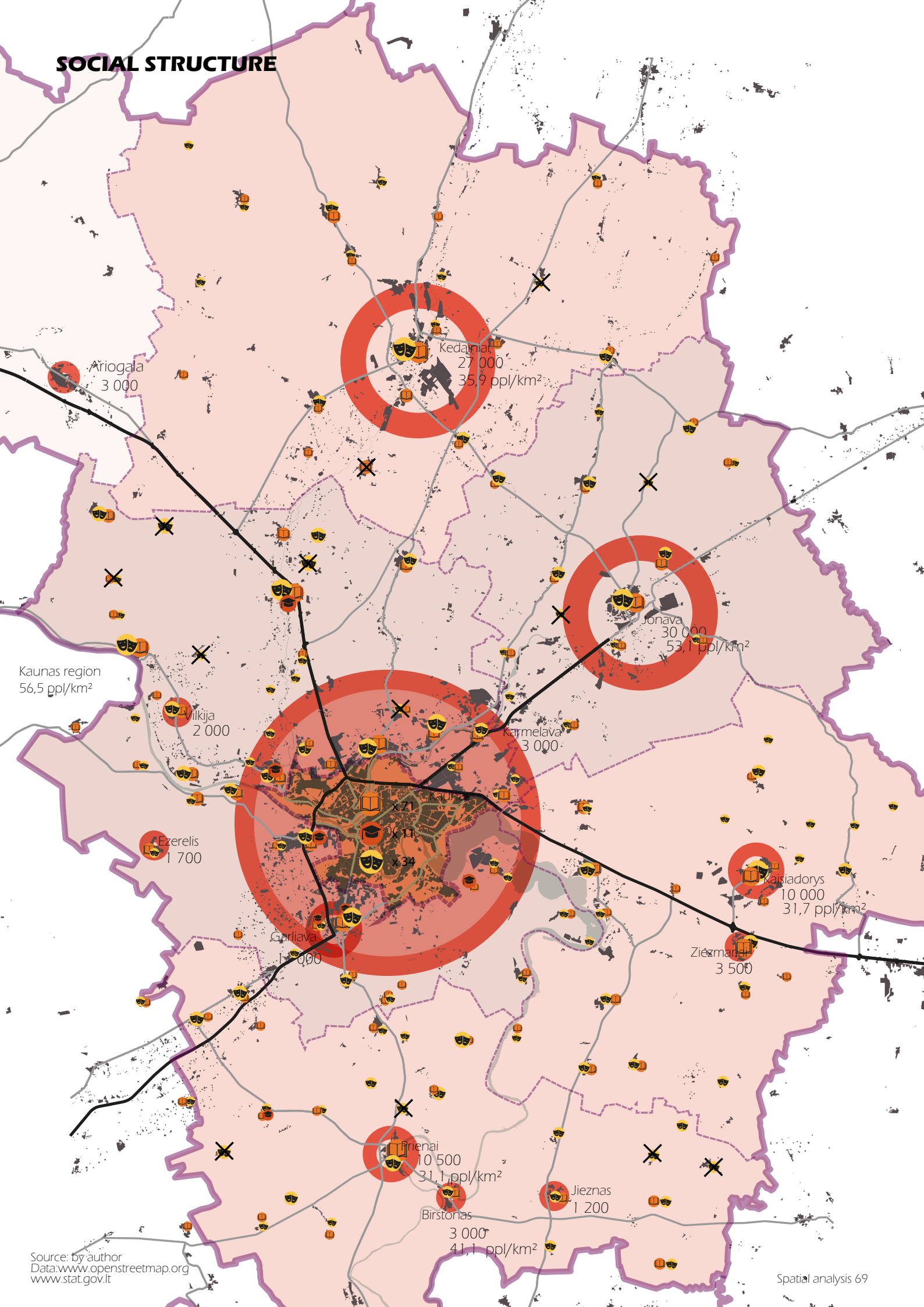
 There is a group of inhabitants moving even further from metropolitan area of Kaunas city. Those are socially disadvantaged, looking for cheap living and they are not particularly interested in good work, they could be called 'trashcans' (Ubareviciene R., et al. 2011).



	Cities out of metropolitan region of Kaunas	suburbia	Kaunas city
GENERAL ACTORS	Elderly Farmers Deviant people	Middle class families Rich families	Elderly Students Young families Single people
PROBLEMS	Not enough resources to maintain social infrastructure - shutting down of schools, kindergardens  Deviant people create problems for local governments	Social exclusion	No renovation Not created satisfactory places for families

Scheme illustrating main people movement trends and the problems. Source: made by author.

# SOCIAL STRUCTURE

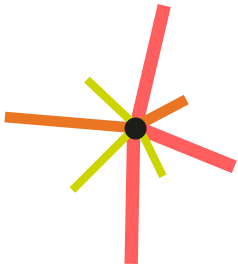






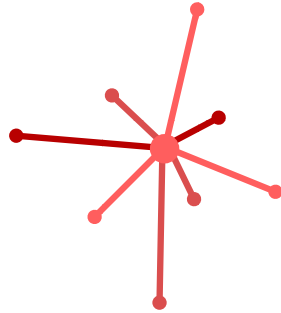
# CONCLUSION

## INFRASTRUCTURE



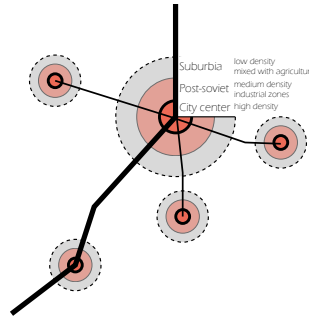
Scheme of intensity of transport

## PUBLIC TRANSPORT

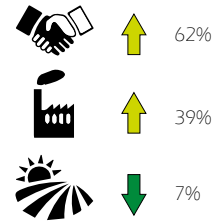


Scheme of existing public transport network

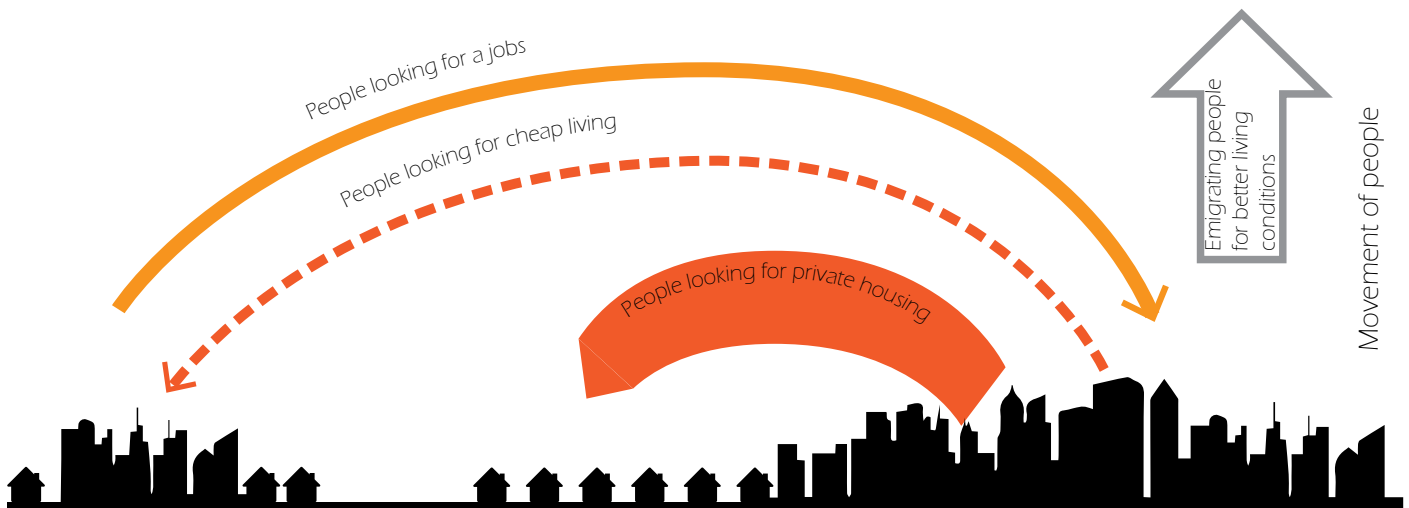
## URBAN STRUCTURE



## ECONOMICAL SITUATION



## SOCIAL STRUCTURE



It is clear that in Kaunas region huge impact is done by market driven developments. As the model of polycentricity was not able to be maintained businesses clustered around the main cities and roads.

This creates migration of middle class people from villages to bigger cities to look for a job and better living conditions, as villages are losing facilities in there.

On the other hand inhabitants of the cities are migrating to suburbs looking for cheap housing, where lack of governmental guidance leads to dispersed growth.

These processes are putting a lot of pressure on government, as the need for transport infrastructure is growing because of the growth of car dependency. Government is already not able to keep up with growing needs.

To conclude it can be said that this unsustainable short-term based growth will cost more and more to maintain it and the government can not afford it.





## Case studies

After analysing region different types of neighbourhoods can be identified. In this chapter they will be analysed in detail in order to better understand how they function. To know what are the main features to change groups of actors are being analysed, trying to understand better what factors are playing the main role while choosing a place to live in. Drawn from this in the end of a chapter it is being concluded what features of each neighbourhood are the most important to change.

Deriving from historical and spatial analysis of Kaunas region different types of neighbourhoods can be identified. They are defined according to these criteria:

- density
- construction time

Piece of Kaunas region is chosen, as a showcase of all identified types of neighbourhoods. Certain sites in each of them were chosen as a way to analyse the main features. Moreover, analysis of inhabitants is included in this chapter as a way to understand the main needs of market better.

### NEIGHBOURHOODS

City centre - can be defined as historically evolved centres, with high density and high amount of facilities.

Intermediate area - can be very various, from historical suburbs of singular houses, new multistory residential houses, mixed up with 5 storey soviet housing to small industries or even soviet industrial blocks. These areas emerged unplanned or planned only partially and has a very unclear structure.

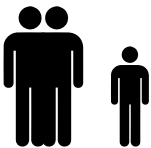
Post-socialist neighbourhoods - soviet neighbourhoods built in 1980s, that consist of high rise residential buildings and a lot space around them.

Suburbia - can be defined by low density, big building plots and single households. It emerged in last 20 years.

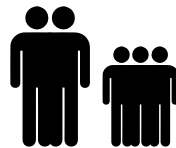
### INTERVIEWED PEOPLE AND THEIR NEEDS:



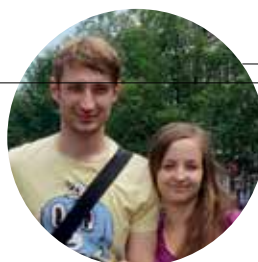
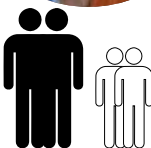
Looking for nature, calm place to be alone



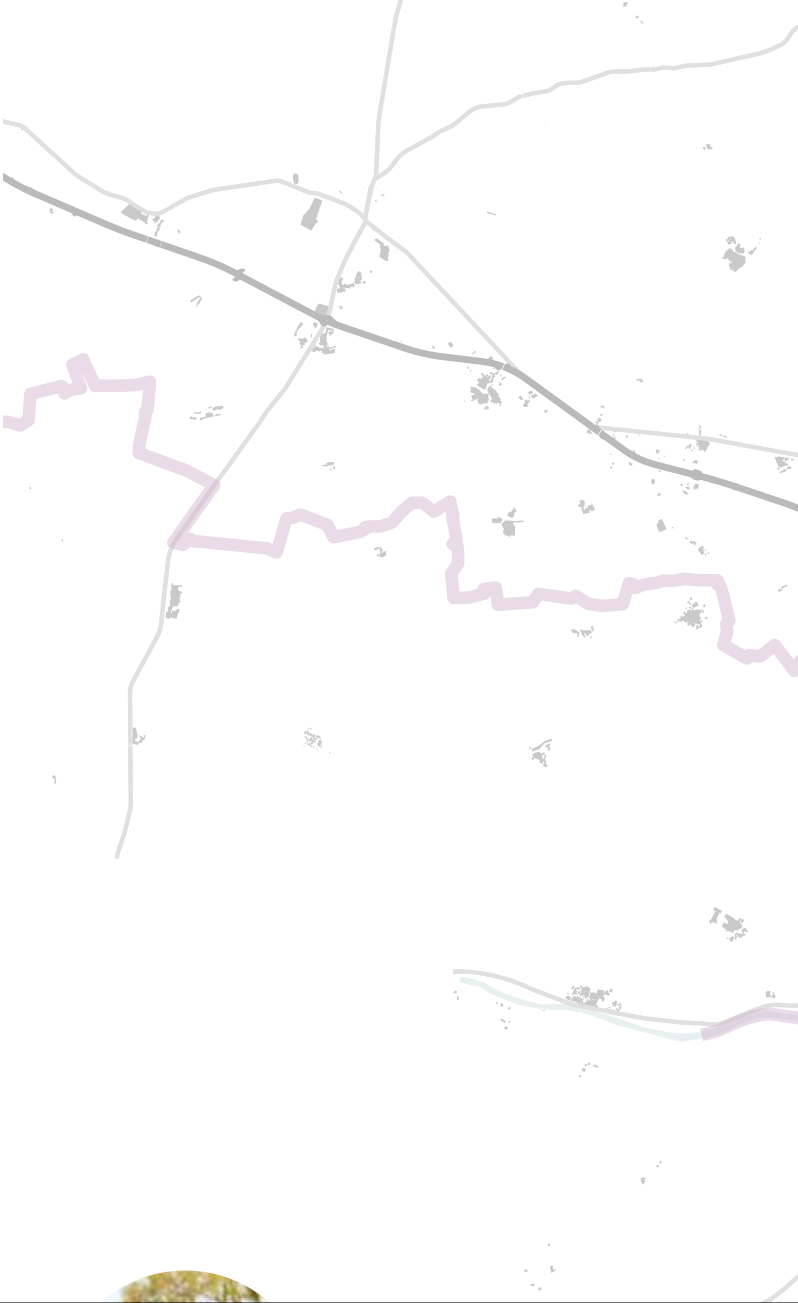
Looking for an apartment near to the city centre with good social infrastructure, public transport

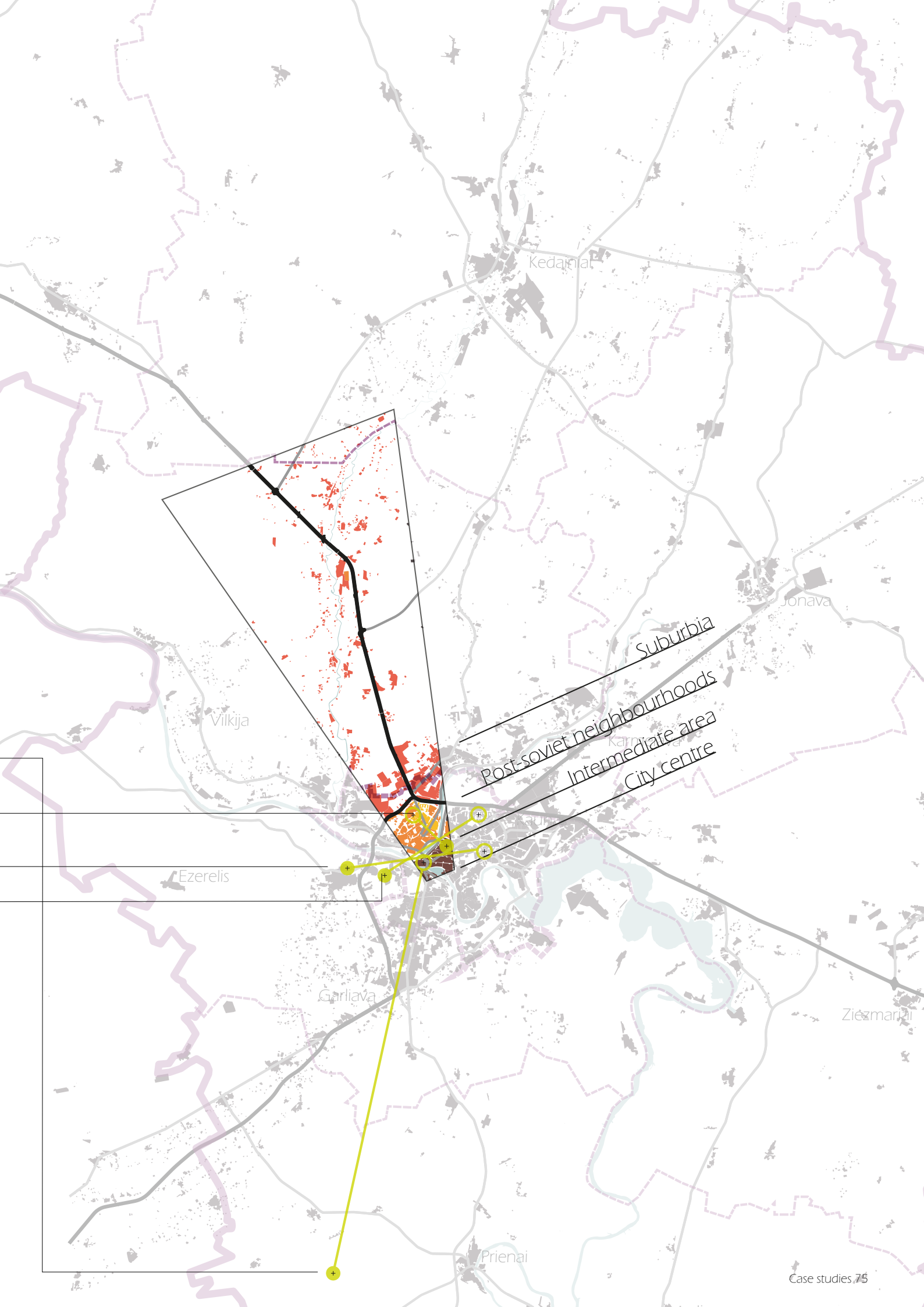


Looking for nature, calm place with land, but to still have interaction with neighbours, belong to neighbourhood



Looking for a house with garden for kids to play, easily reachable with public transport and with educated neighbours





Kedainiai

Jonava

Vilkija

Suburbia

Post-soviet neighbourhoods

Intermediate area

City centre

Ezerelis

Garliava

Ziešmariai

Prienai

# NEIGHBOURHOOD ANALYSIS

## DIAGRAMS TECHNIQUE

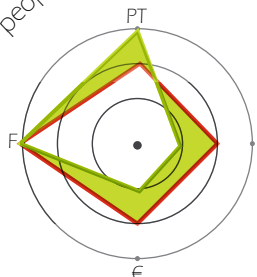
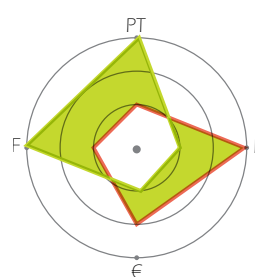
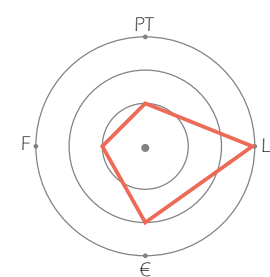
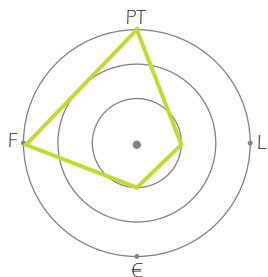
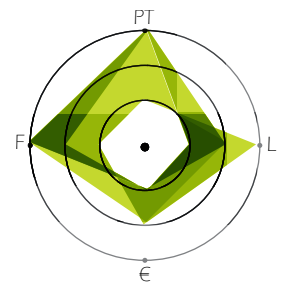
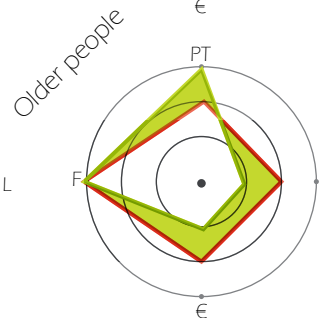
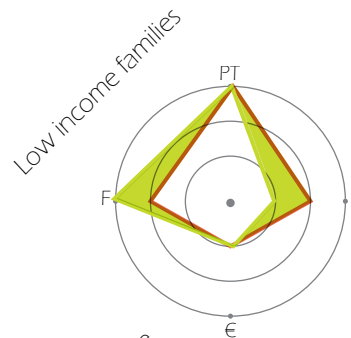
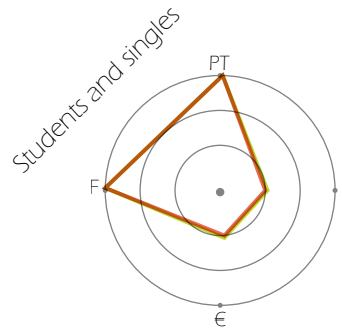
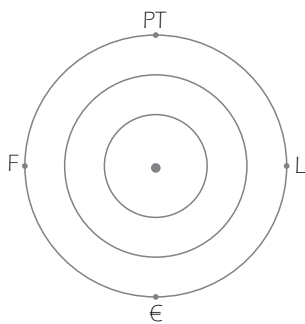
In order to analyse identified areas it is important to know why people chose one place instead of another, why they prefer to live in one type of housing, but not the other one.

To do that I am using the diagrams, where four main features are intuitively indicated - public transport connectivity, facilities, living conditions and price. In the same way inhabitants and their needs are analysed. This way, we can see where market and people are mismatching, what should be improved so it would become more attractive to live in. Moreover, it should be noticed that percentage of people wishing to live in there also makes difference while setting objectives.

Variables:

- Public transport (PT) - how accessible neighbourhood is by public transport (well accessible, some accessibility, no accessibility at all);
- Facilities (F) - shops, social infrastructure, daily services ( a lot/few/none);
- Living conditions (L) - cleanliness of surroundings, children playgrounds, parking lots (a lot/some/none);
- Price (€) - price to either buy or rent a house/apartment (high/medium/low).

## EXAMPLE



Features of post-socialist neighbourhood

What is important for middle class families

Mismatches - most important space for improvement for middle class people

What is important for other groups

Conclusion - what need to change

# INHABITANTS



JURGA AND RAIMONDAS

YOUNG FAMILY ( AROUND 34 YEAR OLD) WITH 3 KIDS, LIVING IN KAUNAS MULTISTORY NEIGHBOURHOOD, LOOKING FOR A NEW APARTMENT

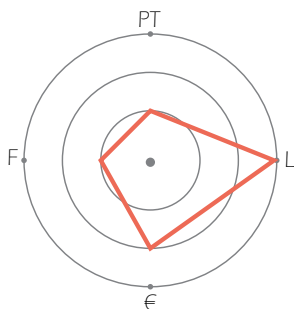
For 15 years this family lives in soviet high-rise neighbourhood, where their apartment belonged to grandparents. Because of the growth of family (3 kids at the moment), they are looking for a new place to live.

As the wife experienced in her childhood living far from the city, far from various facilities the qualities of the city are now appreciated a lot. Not to make the same mistake now, they are looking for a house in a city centre, where everything is easily reachable. There are not a lot of people choice in Lithuania, as the apartment in the city is just the same price as the house outside the city.

The problem that the family is facing is due to amount of the places to live for big families - all the new houses in the cities are oriented towards young people - studio apartments, one bedroom, maximum two bedroom apartments - that's not what this family is looking for.

Considering their current situation in existing post-soviet block houses family is mostly dissatisfied with a mess - there are 27 apartments using the same hallway and nobody feels responsible for it.

Considering the usage of the car or public transport, even though they are dependable on the car, they would love not to use it at all, that is the thing dragging family closer to the city. Even though they have 2 cars, they prefer to drive together whenever possible, issue.



AGNE AND BENAS

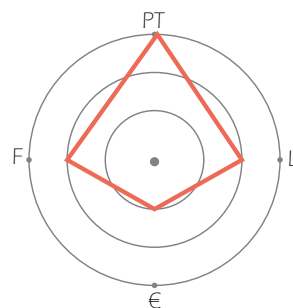
YOUNG FAMILY (AROUND 25 YEAR OLD) WITH 1 KID, LIVING IN MULTISTORY BUILDING IN KAUNAS, LOOKING FOR A PLACE TO MOVE OUT TO SUBURBIA

For few years this family lives in soviet multistory neighbourhood, where they got apartment from their parents. After getting a child they are looking for a bigger place to move out.

The most important reasons to move out from the apartment and from neighbourhood is because of the kid - in this neighbourhood (and actually all post-soviet sleeping neighbourhoods) live mostly older people or poor families, not-educated people. In opinion of interviewees it creates not a very nice environment for a small child to grow - he can learn 'bad' things in the streets, in school and kindergarten, where people are not a lot motivated to grow educated kids.

For them it is very important to have a piece of their own land, size is not such a big issue. Moreover, they are not using car a lot and they want to keep it that way. There are only few places in Kaunas region that offer such a living conditions and interviewees agree to pay more to get these kind of living benefits. Moreover, their desire to live near nice kindergarten and school should not be forgotten.

They choose row-house type apartment in Kaunas suburbia, where in-between single houses there are few row-houses of cheap 4 attached houses. In these kind of neighbourhoods there are not so much facilities, public spaces and roads are not being built and nobody knows when it will be done. But as the place is not very far from the city, there is still some public transport connections. And even though they are thinking to use it, but they can not avoid necessity to get a car.





RENATAS AND EGLE

FAMILY WITH TWO KIDS LIVING IN EXURBIA OF KAUNAS CITY

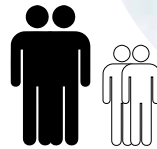
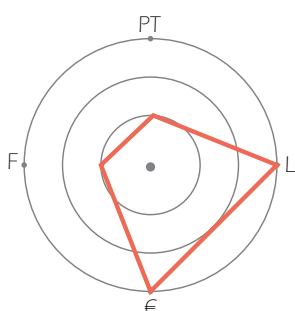
After living in a city centre - Kaunas old town - they got tired of it and decided to move out to live closer to the nature and further from the people.

Even though they liked living in city centre, they got tired of old neighbours, not willing to invest into house and all the noise from bars. Besides, apartment got too small for them. They moved 40 km away from Kaunas to live in a farmstead house away from everything.

They have 3 cars now and are working (kids are studying) in Kaunas city. Everybody uses their personal car for daily use and everything that they do is in Kaunas city - work, shops, even small grocery shopping. When they are at home for a weekend they either go for a walk, or take a car to recreational area of Birstonas to have a walk there. Not a lot more activities are in their living area.

Even though younger daughter asked if she likes to live here says yes, but older daughter hardly ever comes here - she has rented apartment in the city and visits parents once a month.

Interviewees told that they are not in communication with their neighbours, they are not planning to go to vote in municipal elections, because they don't see a reason to do it.



ALMA AND AURELIJUS

FAMILY LIVING FOR 20 YEARS IN SUBURBIA OF KAUNAS CITY, CHILDREN ALREADY MOVED OUT

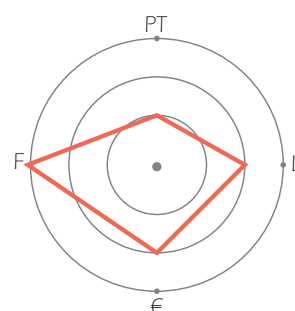
This family was one of the first people moving to suburbia. But in those days, it was not suburbia yet - it was a farmstead with big plot of land.

It was located in close location to existing urban structure - university village, together with typical soviet neighbourhood was to host students and professors. As it was formed in socialist times and had a very strong urban structure and all the necessary facilities, such as hospital and school, kindergarten.

And because of proximity to this neighbourhood it was possible to also use public transport with 30 min walk, so it was never a huge problem for kids, but for parents it was never good enough to use, so there was always two used cars in the family.

And even though family was always expecting for more urban growth around, as it was never being properly planned, there was always a lot of gaps of land separating house from their closest neighbours. 20 years already past when they made plans for new housing area, social facilities, connections, it is only now that urban structure started to grow according to the plan but the social infrastructure still needs a lot more time to be made and it's even hard to say when it will be done.

Family is saying, that even though location never felt very distant from the city, if they would have known that it will take so long to grow for urban structure, they would have considered other options of living.





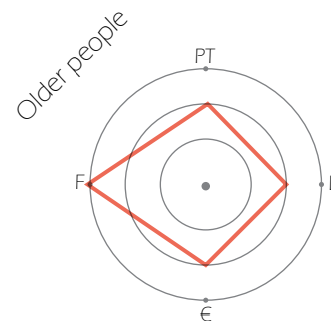
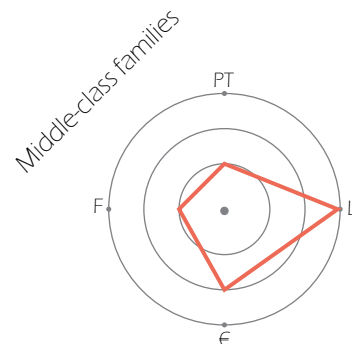
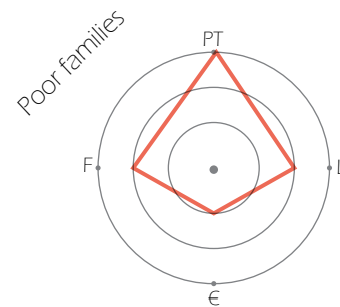
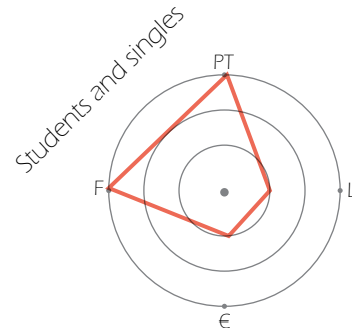
## CONCLUSION ABOUT INHABITANTS

During a field trip, interviews with people were made in order to understand some essential choices of a living place. Four different families were interviewed varying in age, preferred living neighbourhood and other features.

To conclude the analysis of inhabitants main groups of people and their needs can be identified:

- Students and singles - even though there were no interviews made with this category its size is very big and needs to be considered. Information about their needs is decided according to author, who belongs to this group.
- Low income people (Agne and Benas) - are families looking for a cheap housing. Living in a post-soviet neighbourhood, they can not afford neither to move to suburbia, nor they are interested in renovation of their current house, because they are waiting until they will afford a house in suburbs.
- Medium-high income families (Jurga and Raimondas; Renatas and Egle) - can be divided into few groups. There is a one type, that is looking for a comfortable family life in a city (centre, intermediate area), but there is not so many comfortable options for family with 3 kids. Other type is looking for better living conditions in suburbia, where they can get a house and a plot of land. This is a greater group by size.
- Elderly families (Alma and Aurelijus) - deriving from interview it is clear that these people are interested in living close to facilities and owning a house far in suburbia is not priority anymore.

These conclusions are shown in diagrams on the left and they are used to analyse all defined neighbourhoods.



To conclude Lithuanians still prefer to move to single houses, but it is highly dependable on the market that does not have any other places to offer as not so many new apartment buildings, row-housing are developed in a territory of a city.

People are not against post-soviet housing, but inhabitants dissatisfaction occurs because of the environment around them. It is not satisfactory and not taken care of.

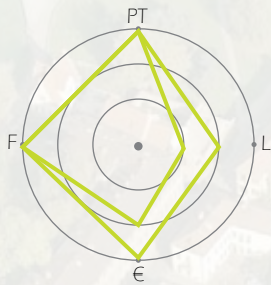
Lithuanian cities are known for their intensive greenery

Unused potential. Former factory 'Lituania'

City centre areas can be defined as historically evolved centres, with high density and high amount of facilities.

Features:

- very complicated renovation and new developments, because of a very strong heritage department influence. It rises prices.
- a lot of abandon or in bad condition building, factories, which have high potential for development.
- no market for big families. All new developments are mainly 1-2 room apartments.
- good accessibility by public transport connecting entire city.
- a lot of facilities.



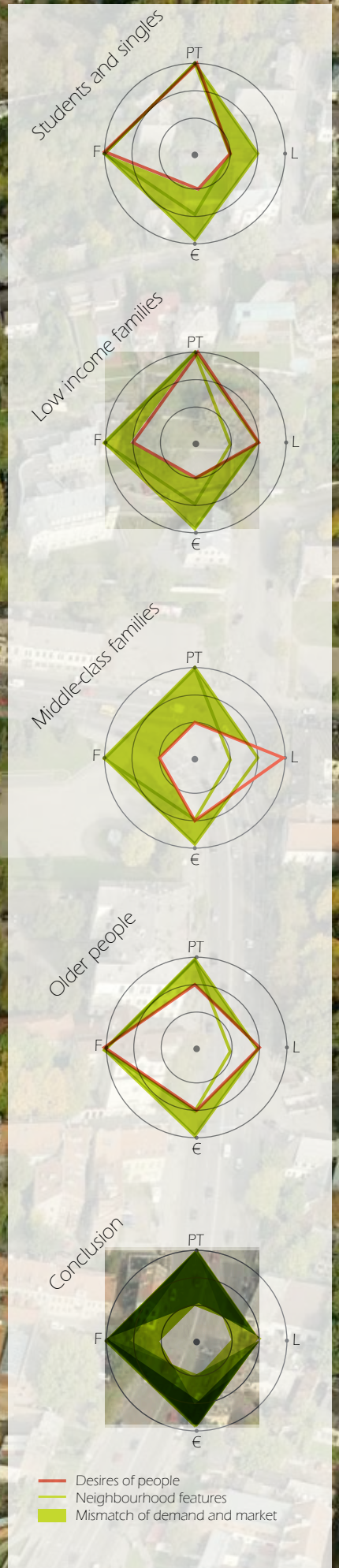
close to facilities

Pedestrian friendly environment

# CITY CENTRE

very good public transport system

As the heritage department puts very strict rules on city centre renovation is therefore very complicated and expensive

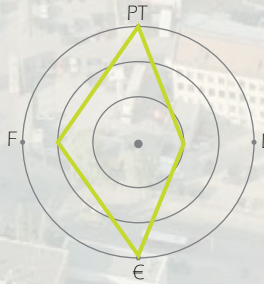


Source: bing.maps.com

These areas are very various - from historical suburbs of singular houses, new multistory residential houses, mixed up with 5 storey soviet housing to small industries or even soviet industrial blocks. They are the most diverse and culturally mixed places, where people live their entire lives in wooden houses or old houses are changed by multistory buildings. These areas emerged unplanned and has a very unclear structure.

Features:

- these neighbourhood mainly consist of single houses, that are bad quality and old, being sold for relatively high price
- few randomly mixed-in apartment building
- big industrial areas
- not clear streets system, they are in bad quality
- inner streets are in bad quality and neither bicycle friendly, not children friendly environments
- no local public space, no parks
- people tend to put high, not transparent fences
- close to the city centre, good connection by public transport



No public spaces!  
No parks!

Not clear roads system inside blocks

Industrial areas - soviet legacy

historical suburbs  
industrial areas from soviet times

# INTERMEDIATE AREA

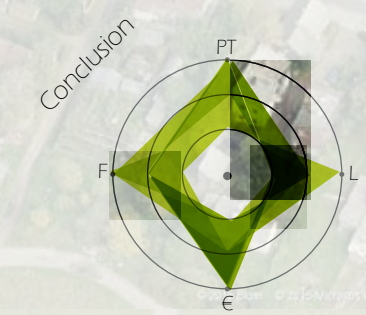
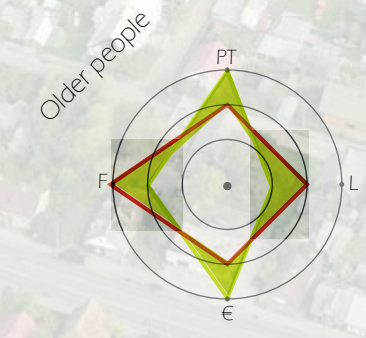
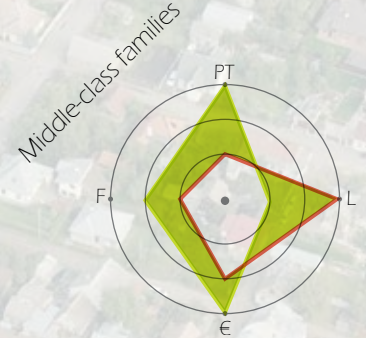
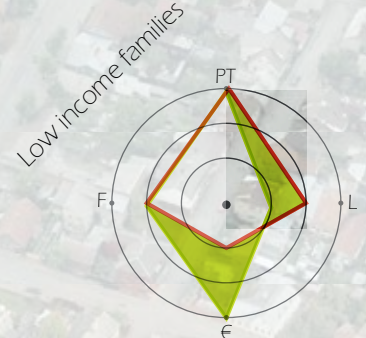
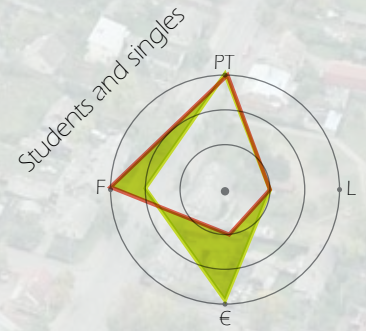
Few mixed up higher apartment buildings

Old houses, market price is equal for a new house in suburbia

A lot of low density single housing

Only few facilities

Well connected by public transport



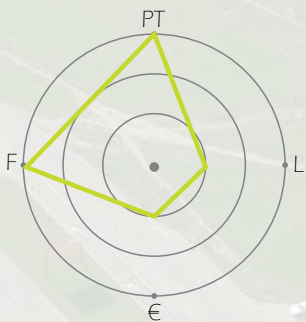
— Desires of people  
 — Neighbourhood features  
 — Mismatch of demand and market

Source: bing.maps.com

Soviet neighbourhoods - built in 1980s were developments based for public transport and shared ownership. Nowadays, a lot of features that were so idealistic, doesn't fulfil the needs of the society anymore and even more miss match were created when privatisation took place in 1990s, when Lithuania got independence. It was divided easily - everybody gets their apartment and 5 m of land around a house. Area in between belongs to government. As it is not priority for government to invest into semi-private spaces and there are no housing associations, nobody is taking care of this land where children playgrounds, stadiums and other facilities were not renovated since soviet times.

At the moment, there are mainly older people living, as they lived there all their life. It is also attractive place for young people (students) and poor families, because it is cheap place to live in.

- parking lots, children playgrounds are not being taken care off
- not enough parking spaces, as th
- shared stairways with a big amount of people, no fund for maintaining the building
- cheap housing
- close facilities
- good public transport



no inner street structure, its only courtyard rounds, no system there at all.

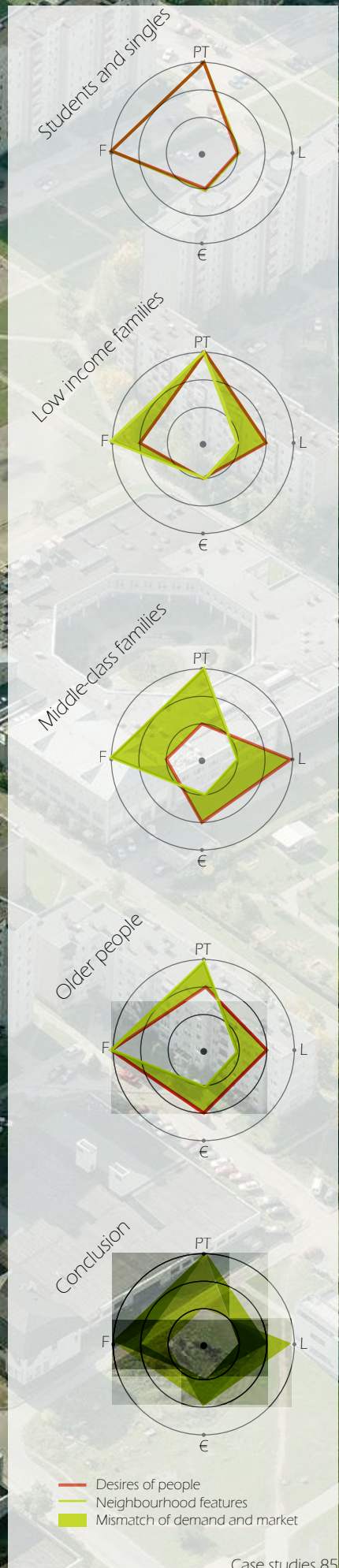
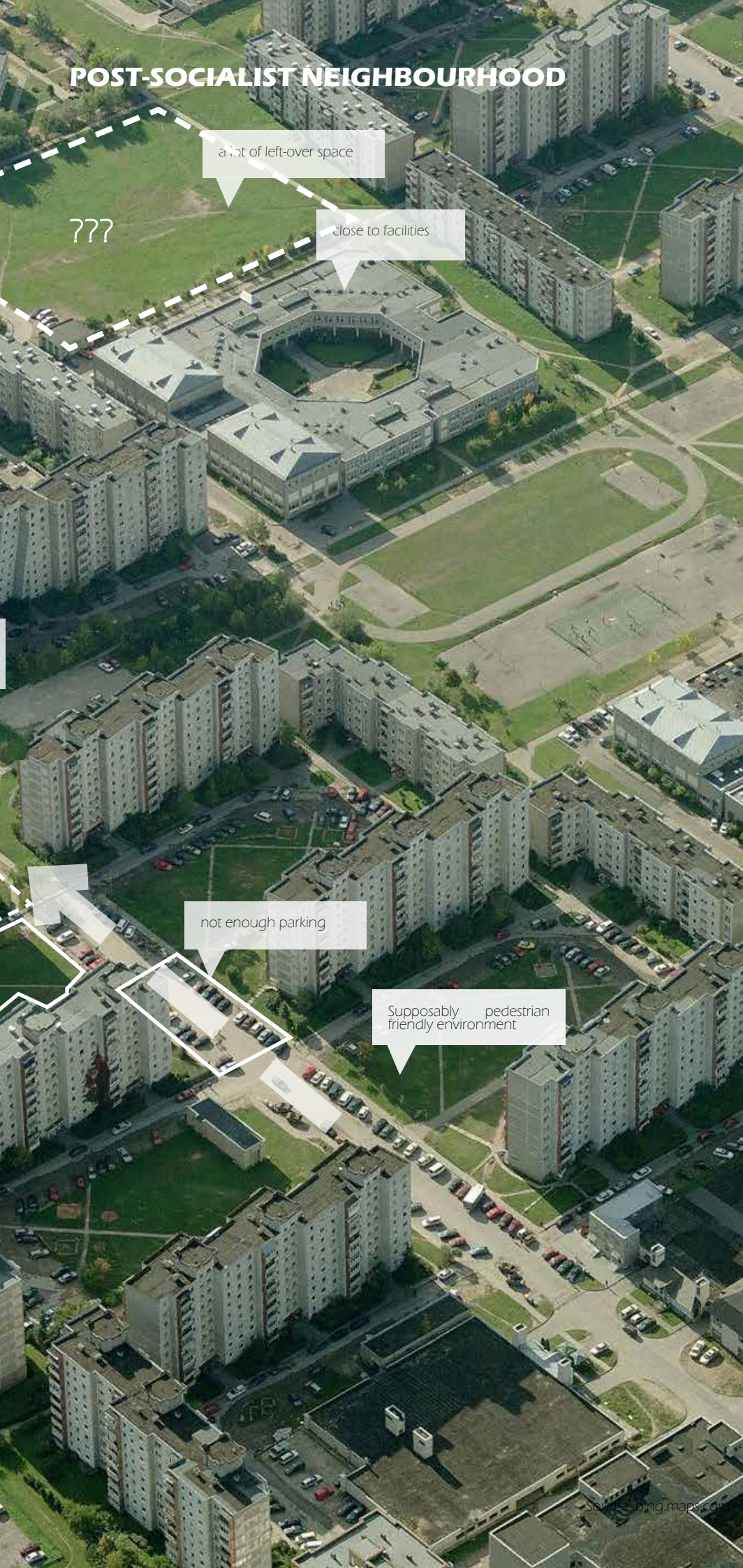
belongs to house

belongs to government - not taken care off

car oriented developments, shop hardly reachable by pedestrians

highway type street profiles surrounding neighbourhoods

# POST-SOCIALIST NEIGHBOURHOOD

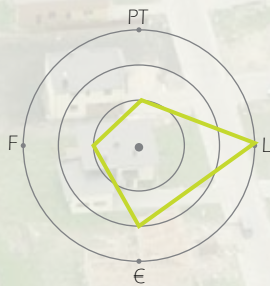


Suburban settlements emerged during last 20 years (see previous chapter) and are a consequence of market driven developments. They can be defined by low density, big building plots and single households.

Suburban settlements in Lithuania, compared to other ones in another countries, could be even called exurbia, as the difference is not so big between one and another in the context of Kaunas city.

The main group of the people living there are higher class people and middle class, who can afford houses there and as it is deep rooted for Lithuania ns - everybody wants to own a plot of land and have a house.

- no facilities
- good living conditions
- cheap price of houses and land
- close proximity to the city by car
- bad connection by public transport, exists in only few sprawled neighbourhoods



Social and engineer (for example sewage) infrastructure is responsibility of investor. (Kaunas region territorial plan 2005:27)

#### HOW DOES IT HAPPEN?

It is common sense that residential land is worth more, so land owners having a piece of agriculture land are changing the land use to residential and earning money this way. People, for who the most important thing is to have a house doesn't matter where are buying these plots of land.

Usually there are multiple developers and every house is being done separately. In the end it not only creates chaotically looking neighbourhood, but also creates problems to make a road.

For example, the inner road belongs to neighbourhood, but as all the people start building their houses in different time there is different needs to build a road. The same situation is with children playgrounds, where a lot of people claim that they are not going to use it.

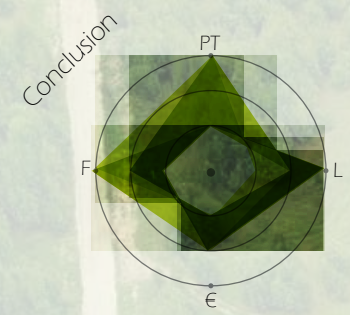
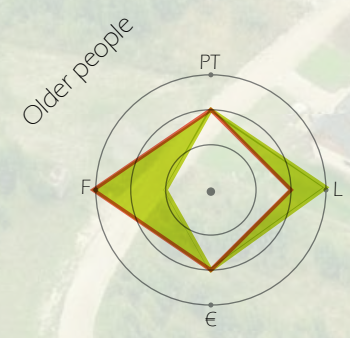
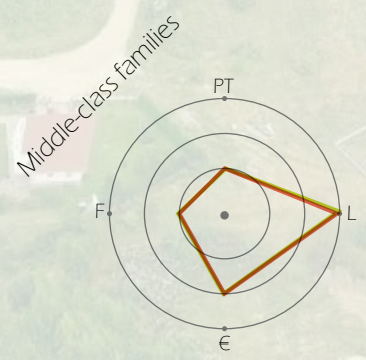
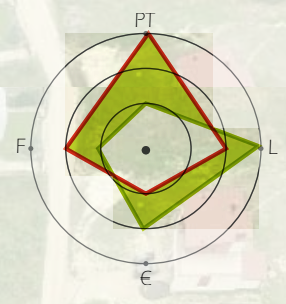
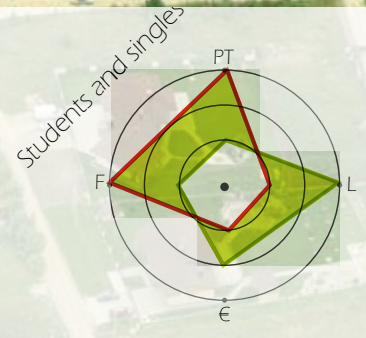
These kind of neighbourhoods also create problems for government and cost them a lot of money ( see chapter 'Planing system: implementation').



# SUBURBIA

No road pattern. Government is responsible for public spaces, services, road infrastructure. (Kaunas region territorial plan 2005:27)

Pedestrian unfriendly environment



- Desires of people
- Neighbourhood features
- Mismatch of demand and market

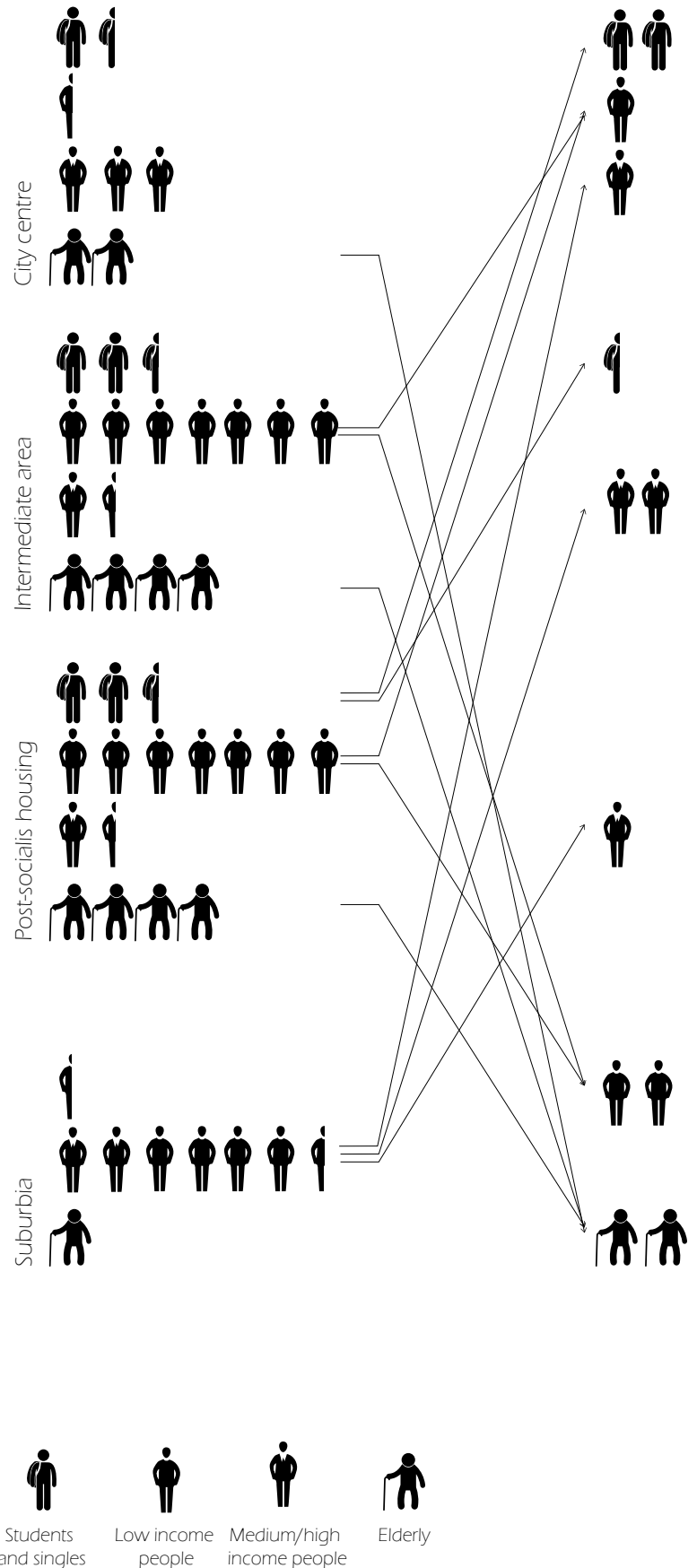
Source: bing.maps.com

Deriving from analysis preferences and objectives for planning are being set.

As the main objective of the design is to create sustainable future with concentrated developments, it needs to be detailed for every different neighbourhood.

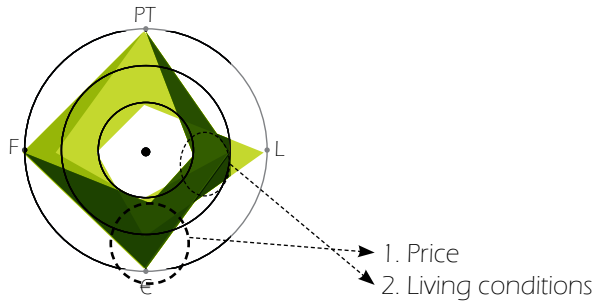
In order to reach it flows of people are being set to change in a sustainable way. The desirable interchange of flows are being shown in the scheme on left. Basing our future developments to reach this kind of movement of people, each neighbourhood different objectives are being set as an outcome of the case analysis.

Moreover, it can be concluded, that there is a huge gap between planning system and market - while governance is playing very small role all developments are being created by the market. In this case, market is only looking for short term profit and is creating unsustainable urban patterns.



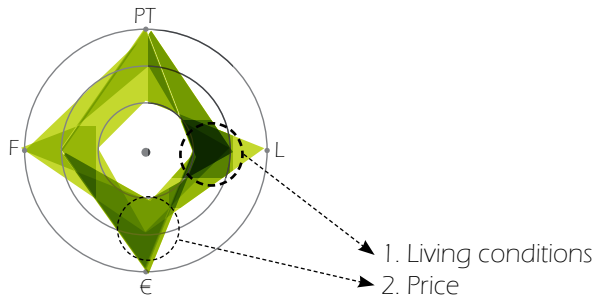
# CONCLUSION

## OBJECTIVES FOR EACH NEIGHBOURHOOD



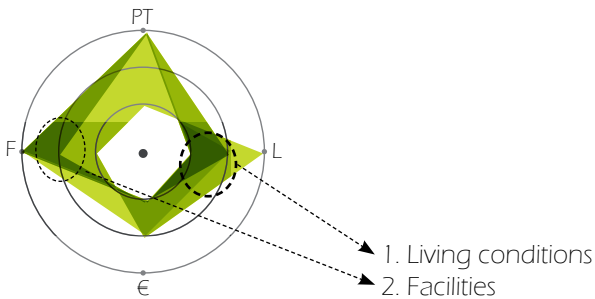
### City centre

- renovate and densify where possible;
- make it more reachable for middle class people, students and singles;
- trigger a usage of existing potential;
- extend pedestrian and cyclers friendly environments;
- bring shops back to the city centre.



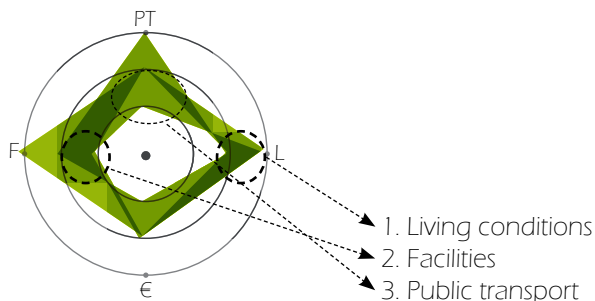
### Intermediate area

- re-new neighbourhoods - existing buildings, streets in sustainable way;
- bring livability to the streets, by making them pedestrian, cyclers and children friendly, perfectly suitable for different families;
- create communities to actively live in there;
- finish urban pattern and densify where possible.



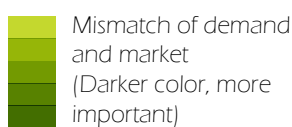
### Post-socialist housing

- make neighbourhoods more attractive and lively, so that families, students and other inhabitants would actually like to live in there, to stop emigration from that neighbourhood.



### Suburbia

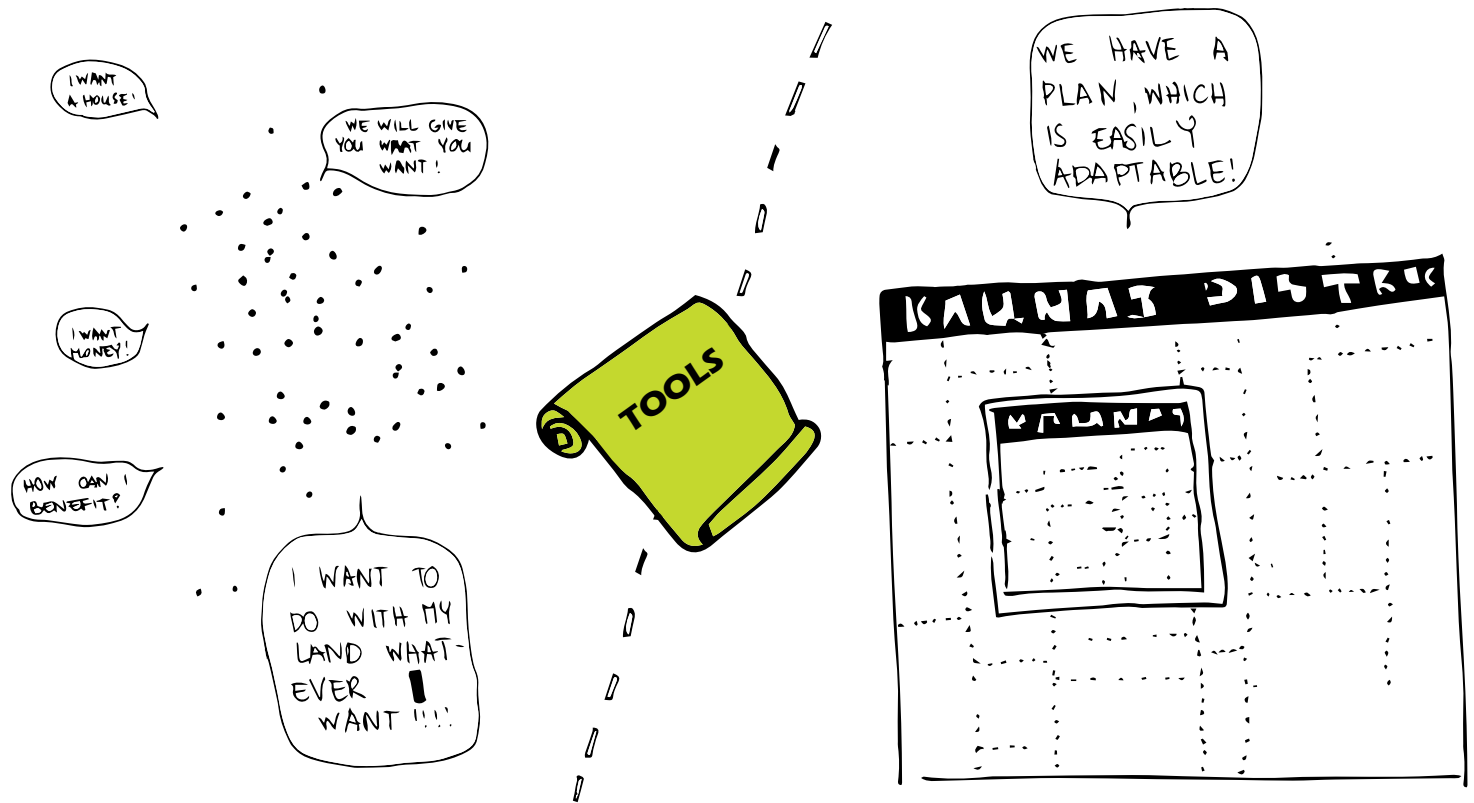
- finish unfinished urban fabric and stop extension of them;
- create more diverse environment and social mixture of people;
- create pedestrian-friendly environment with some activities in the streets and more diverse functions;
- densify urban pattern, so it would become public transport friendly environments.





## Design

Following research and conclusion from it design part is concentrating on sustainable future and set objectives can be reached through governance and planning tools.



Scheme by author

Deriving from analysis situation in Kaunas region can be concluded like this - on one side we have a group of multiple individuals - developers, builders, investors (market) who are aiming at short term benefits. On the other hand, there is the government and spatial planning system, that does not have clear vision in planning and create very flexible plans.

In this situation it is hard to envision sustainable scenario and simply create a new plan for a region. When future developments are driven by market and the government is trying to keep out of this process and moreover does not have financial capabilities for big changes, the question rises, how can a sustainable future be reached?

According to architect and author of 'Grand urban rules' A. Lechnerer, to express the vision in the form of precise plans has always been a core occupation of the designer. And that is what architects are trained to do. But on the other hand, it's people, developers that implement these plans, it's not the government, who actually drew the plan is implementing it.

For example, if the plan of a city is pointing, that the area is for housing, it does not necessarily mean, that housing will ever come there, it's developer who decide. And even though plans are envisioning sustainable future the role of developers in performance is essential. In the thesis, I am trying to create a realistic and reasonable way to reach sustainable future and solve existing problems by embracing the power of developers and inhabitants to create sustainable city.

**CONCEPT IS JOINING TWO ELEMENTS INTO ONE - THE GOVERNMENT INSTEAD OF FORCING PLANS AND REGULATIONS ON PEOPLE WOULD CREATE A SET OF URBAN TOOLS ENABLING INHABITANTS TO CREATE THEIR**

**OWN GOOD.** These urban tools would enable people to start creating a sustainable future of the region by themselves - create a room for it and giving understanding that their city is created by them, not by the government who is drawing a plans and not by the market who is doing it right now.

These tools supply design principles that represent alternatives and additions of existing conventional plan. Therefore, they are followed by exemplary showcases of implementation of tools.

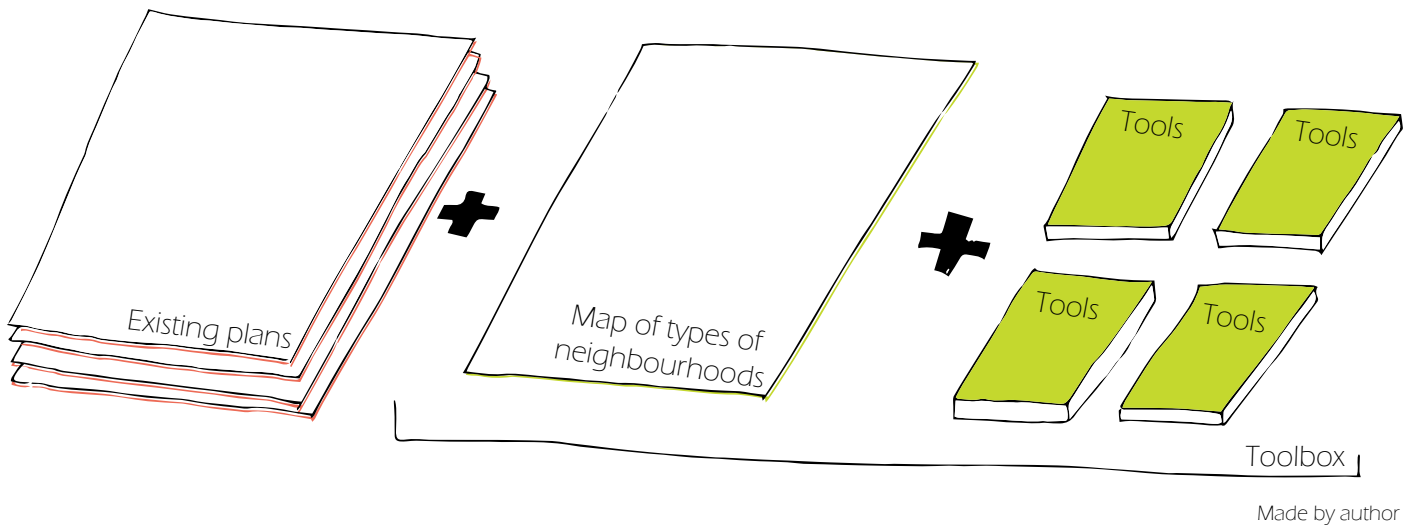
*"The enterprise of urban design - that is to say, the linking together of various design visions via the negotiation of a diversity of private and public interests - consists more of the conscious positing of rules than the drawing of plans." (Lechnerer A. 2009:58)*

#### PRECONDITION

One more step, that should be done according to concept, that is not a part of toolbox is establishment of Housing Corporation (HC). At the moment there are no housing association or corporation, the government is playing very small role in it. According to my research it is essential, to have it in order to make bigger and more coherent developments and distance housing from being pushed by market forces.

Housing Corporation should be either established by the government, or be highly connected with planning goals and actions, subsidised from government.

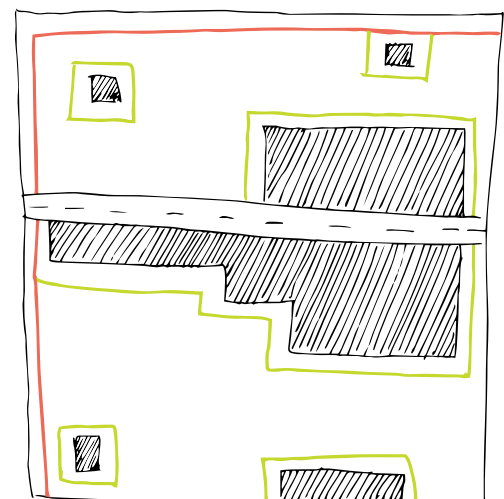
# CONCEPT



## RELATION TO EXISTING PLANS

As already mentioned, toolbox is addition to existing plans. As it does not create overall vision of the region, it directs region to a sustainable growth, without the government being the main builder.

Toolbox consist of map showing types of neighbourhoods and tools for each of them. As seen in a scheme on right, even though existing plans are allowing a lot of things, designed toolbox narrows openness. In an example, we see allowance for residential use. Even though plan allows it in exemplary neighbourhood, toolbox narrows it by defining distance until furthest building.



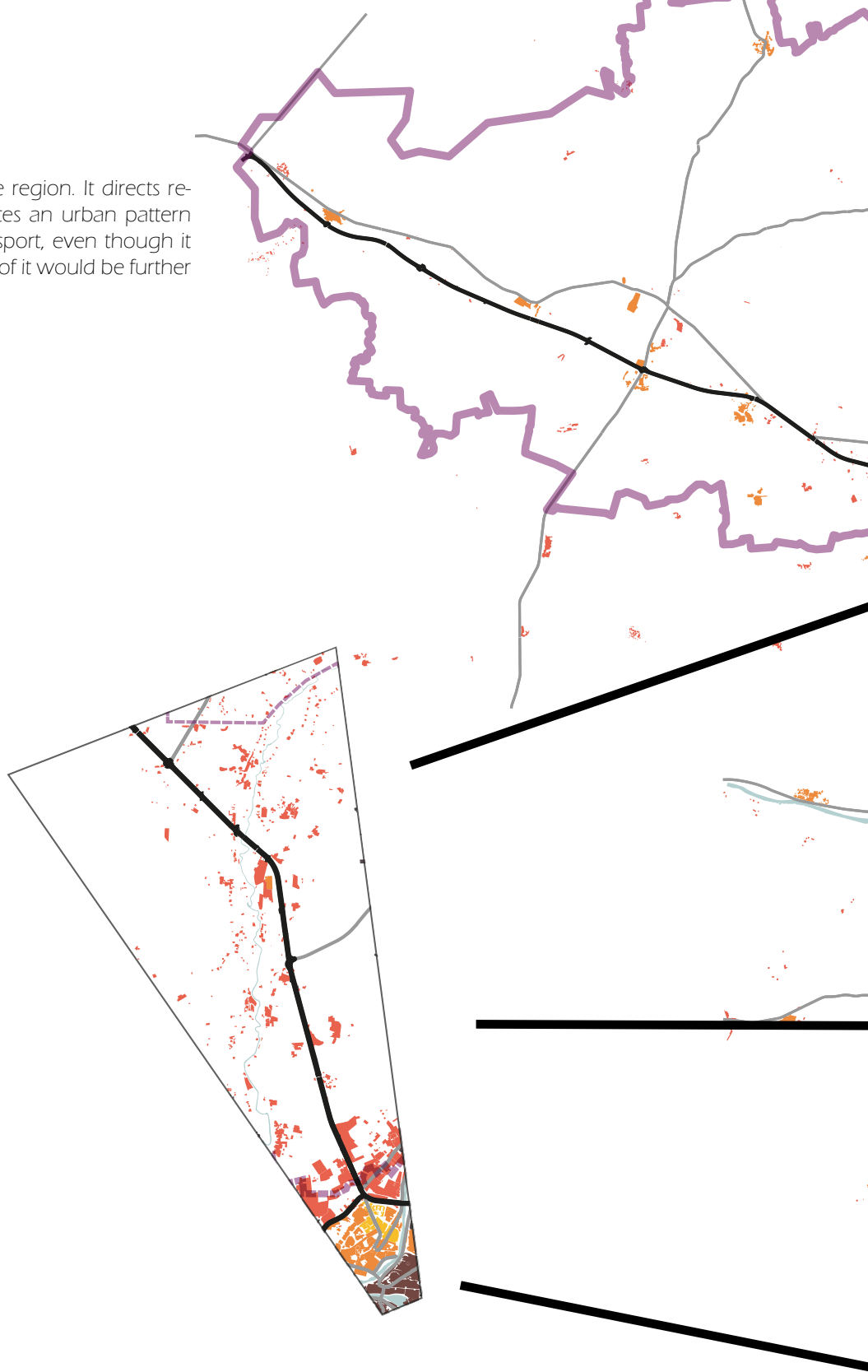
- Area for residential use according to existing plans
- Area for residential use according to toolbox

Made by author



Scheme illustrating how the tools were created, made by author.

TOOLBOX can be applied in the entire region. It directs region to a sustainable direction. It creates an urban pattern that can be well served by public transport, even though it does not provide it by itself. Application of it would be further step in operating the region.



- Suburbia
- Post-socialist area
- Intermediate area
- City centre



# APPLICATION IN THE ENTIRE REGION





Toolbox

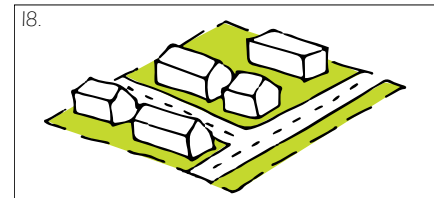
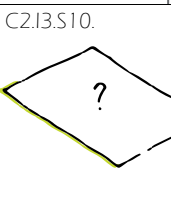
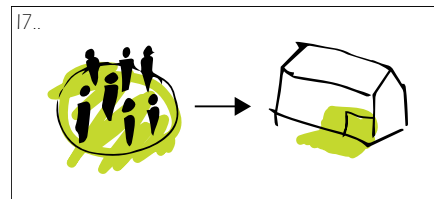
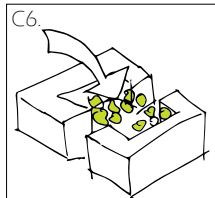
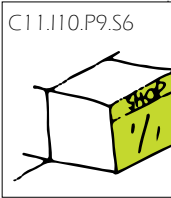
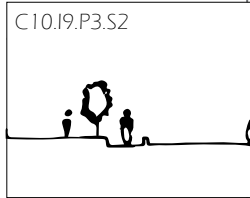
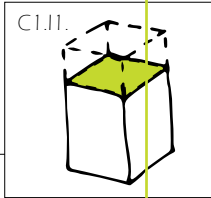
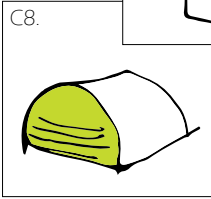
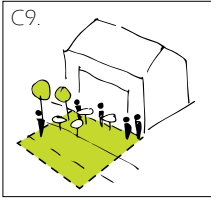
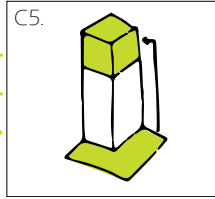
# CITY CENTER

# INTERMEDIATE AREA

Public space

Semipublic space

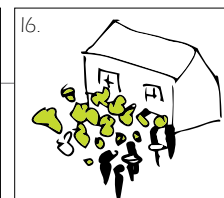
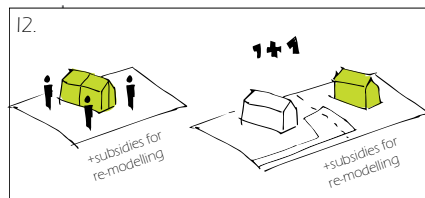
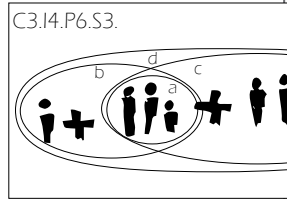
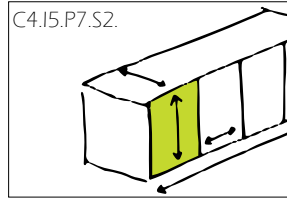
Private space



Scheme of tools shows relations between different tools. As they depend on type of intervention (public, semi-public or private) table is divided horizontally according to it. It is visible in which areas more attention is put into public space, where into private. The most extreme is the city centre, where almost all attention is to public spaces.

Same or adjusted tools are used for several neighbourhoods. According to it they can be divided to some groups - used for all areas (shown in the middle of a page), used in a few areas or specific for one neighbourhood. Related tools are connected with grey line.

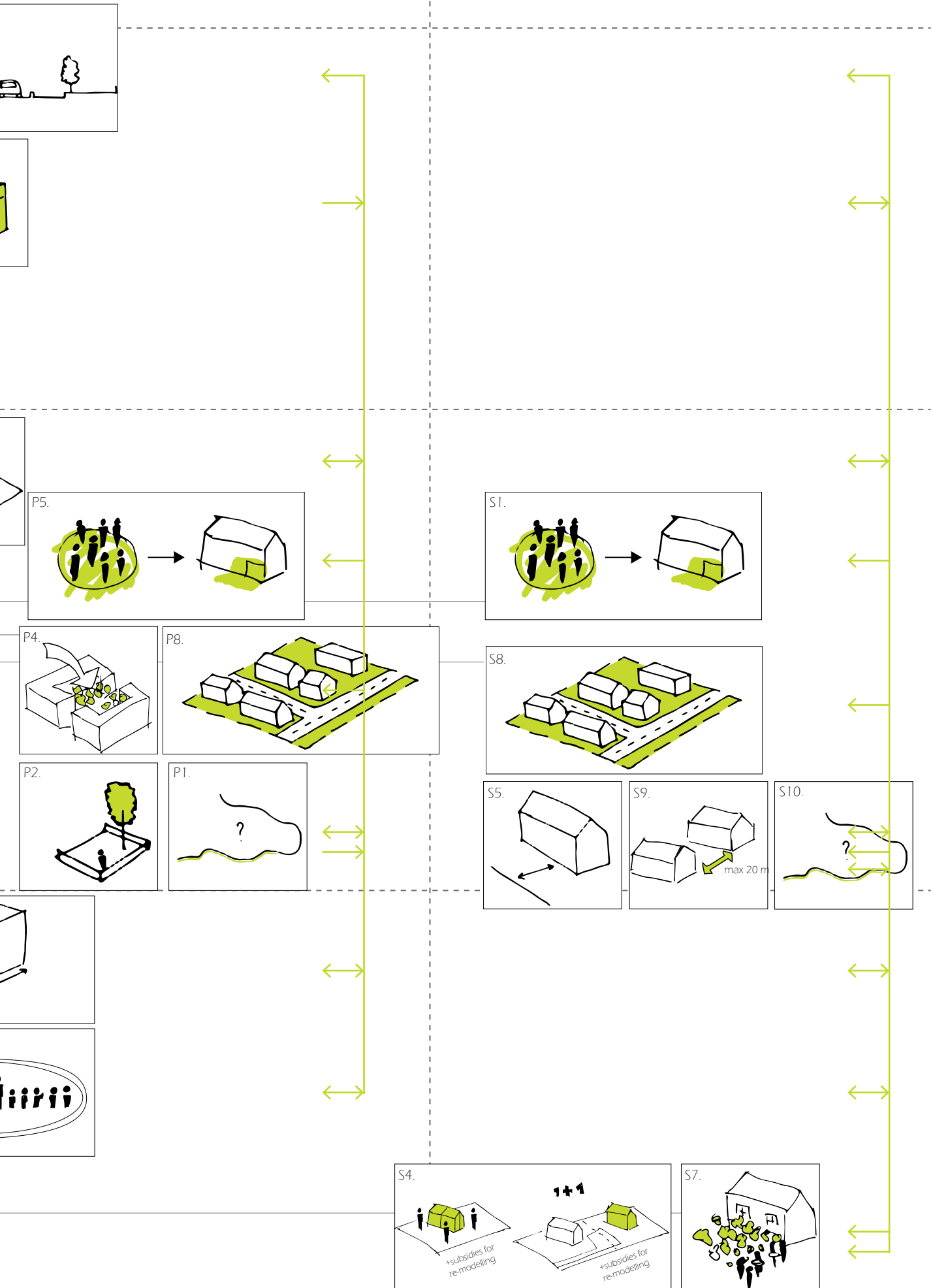
Money flows are shown in green lines. Depending on an arrow it shows either income or expenditure.



# SCHEME OF TOOLS

## POST-SOCIALIST

# SUBURBIA



	CHANGES	OBJECTIVES	HOW	
City centre	[Price]	To renovate and densify where possible in the city centre, make it more reachable for middle class people, students and singles, trigger a usage of existing potential or urban fabric and extend pedestrian and cyclers friendly urban structure, encourage small scale buisnesses.	Encourage easier renovation of old houses by decreasing influence of the heritage department	
			Encourage usage of abandon/ empty plots	
			Discourage people from having unused land and abandon buildings	
			Encourage different apartments in new/renovated buildings by tools (to create cheap housing and housing for big families)	
	Encourage different apartments in new/renovated buildings by tools (to create cheap housing and housing for big families)			
	All housing in is priorital to be row-houses facing the street with a few exceptions for high-rise residential buildings			
	[Living conditions]		Improve public spaces	Create high quality public spaces
			Improvement of courtyards/semiprivate spaces	Encourage renovation of courtyards
			Less cars in the streets - more pedestrian and cycling friendly areas(while living in a city is not comfortable to have a car)	House communities should start collecting money from inhabitants for maintenance of the building.
			Better condition of streets, pavement	Some parking spaces are changed by a bicycle parking
		By moving responsibility from government to inhabitants, companies		
		Encouraging developers (or when the government builds) to build streets in pedestrian friendly profiles.		
[Facilities]	More daily facilities such as outfit shopping, that are concentrated in big malls now	Creating good conditions for small shops to come there		

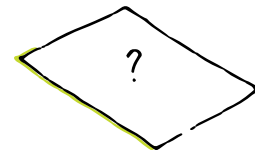
# TOOLS

C1. Old houses can be renovated with easier demands from the heritage department.

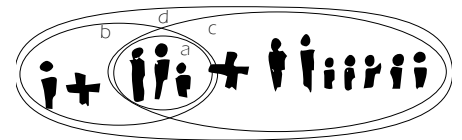


(see C2)

C2. Land owners are obliged to use their unused land and abandon buildings: they can either sell in the market, or to government for a market price. Land taxes are getting higher each year varying in different neighbourhoods, in the city center +10%.

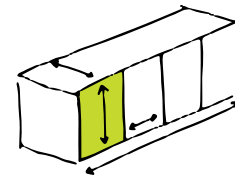


C3. New multi-family houses can get tax reduction, if there are different types of apartments. More variety gives higher tax reduction. According to a neighbourhood, a type of preferable apartments are set.

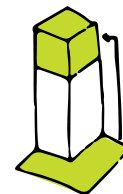


C4. New buildings get easier permissions to build and tax reductions, if new development fulfils governments vision. For each neighbourhood it varies. For the city centre requirements are:

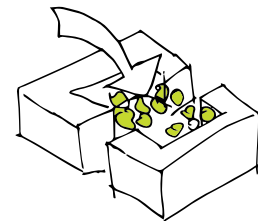
- \_row housing;
- \_4-5 floor height.



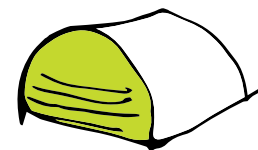
C5. PLAZA BONUS. In exchange for providing certain public amenities, buildings may in some cases surpass the maximal values that normally apply (max. building height, utilization, et).



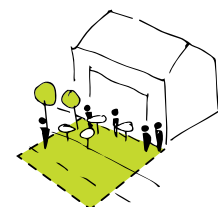
C6. The government commits to renovate courtyards when people agree about terms. It only applies for houses, that have a house fund for at least a year which is taking care of maintenance of the building. Renovation would be paid from this fund and moreover each person, who wants to park their car in a courtyard, has to buy it from the government for a small price (it would partly cover renovation of a courtyard). Rest of expenses would be covered by the government.



C8. For group of neighbours who take an initiative, the government makes an inclosed bicycle hut on a street. Initiators have to pay a small monthly rent.



C9 ADOPT A STREET. Bars and other facilities can 'adopt a street'. They can have their tables outside on a sidewalk for no charge, but have to take care of trees and general looks of the space and its maintainance.



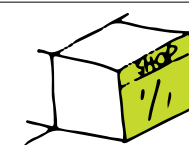
C10. New streets should be pedestrian-friendly, with bicycle lanes, big space for walking and preferably with trees. They are different according to a neighbourhood and a type of a street.



Active street - one way 4 m (<50 km/h allowed), or 6 m two ways.  
 Parking - parallel, only one side.  
 Trees - in a every 4th car a gap for a tree.  
 Bike lane - separated from road, at least 2 m width.  
 Sidewalk - at least 4 m width.

Inner street - one way 3.5 m (<30 km/h allowed), or 5.5 m two ways.  
 Parking - parallel, only one side.  
 Trees - in a every 4th car a gap for a tree.  
 Bike lane - together with road, at least 1.25 m width.  
 Sidewalk - at least 4 m width.

C11. New shops and small businesses established in an 'active streets' can have their businesses for no rent for first year, then with reduction for 2 more years. If business is established in a property of the founder, he can get subsidies equivalent to a rent.



	CHANGES	OBJECTIVES	HOW
Intermediate area	[Price]		
	Renovation of old houses, extension and densification	To re-new neighbourhoods - existing buildings, streets in sustainable way and bring livability to the streets, by making them pedestrian, cyclers and children friendly, perfectly suitable for different families, create communities to actively live in there. To finish urban pattern and densify where possible	Encouraging renovation of old houses
			Filling the gaps between buildings
	Building in empty spots		Encourage usage of abandon/ empty plots
	_More big apartments for families		Encouraging developers to build more various apartments in new developments
	_Row housing-low height dense neighbourhoods		All the housing is priorital to be row-houses facing the street, with some exceptions for high-rise residential buildings
	[Living conditions]		
	Improvement of courtyards/semiprivate spaces		Encouraging local facilities
	_More program in the neighbourhoods		
	_create stronger communities		Encouraging existing communities (movements, organisations) to have more program reachable for all the neighbourhood
Improving profiles of the streets		Encouraging developers (or when government is building) to build streets in pedestrian friendly profiles	
[Facilities]	More pedestrian oriented facilities		Encouraging small business to establish inside the neighbourhood

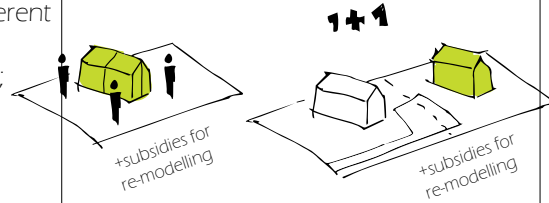


# TOOLS

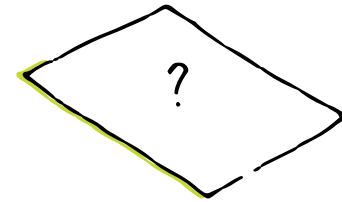
11. Old houses can be renovated with help of government that would subsidize it in a substantial amount of money and make extensions of houses, which would then belong to HC. Front yard would become public and therefore accessible for new tenants and public street space will extend.



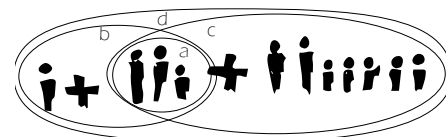
12. Existing houses can get subsidies for re-making their house suitable for different uses. Possible changes:  
 \_subdivide house into multiple apartments (suitable for older people, singles);  
 \_share land into few building plots and sell land for another developer.



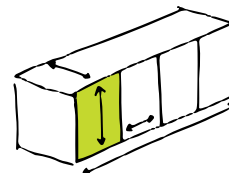
13. Land owners and owners of abandon buildings are obliged to use their unused land - they can either sell it in market or for the government in a market price. Land taxes are getting higher each year varying in different neighbourhoods.



14. New multi-family houses can get tax reduction, if there are few different types of apartments. More variety gives higher tax reduction. According to a neighbourhood, type of preferable apartments are set.



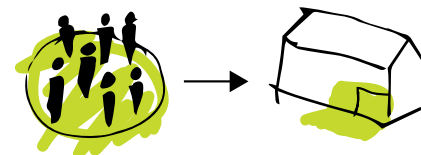
15. New buildings can get easier permissions to build and some tax reductions, if a new development fulfils governments vision. For each neighbourhood it varies. For intermediate area they are:  
 \_row housing;  
 \_3-4 floor height.



16. A GIFT TO THE STREET. Local people are encouraged to do nice things in their neighbourhood by subsidizing it, giving a room for it, an office space or other privileges from the government. For example, if a crafter makes a small shop or exhibition of his works in his front yard, he can get tax reduction for his business. People can come up with their own ideas and apply for this fund.



17. FUND FOR COMMUNITIES. Formed communities can apply for government funds for establishing community centre in particular area. These community driven initiatives would be mainly supported by giving a room from government.



18. Neighbourhood can get their roads renovated by the government, when a street of 25 m completes these points:  
 \_no empty land areas;  
 \_there is a community of inhabitants;  
 \_no high nontransparent fences.  
 Roads are being done according to 19.



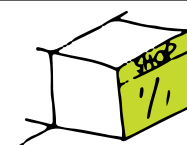
19. New streets should be pedestrian-friendly, with bicycle lanes, big space for walking and preferably with trees. They are different according to a neighbourhood and its street type.



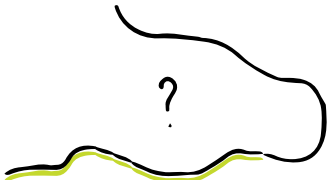
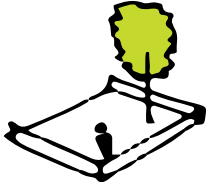

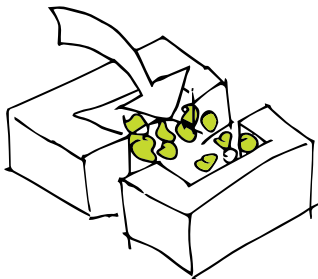
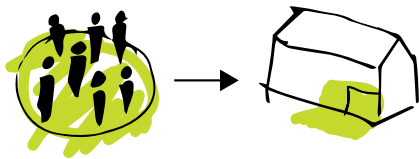
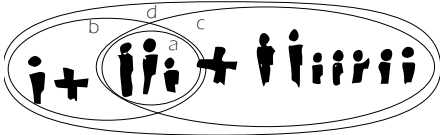
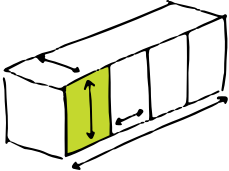

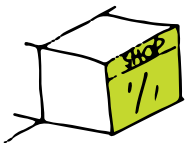
Active street - one way 4 m (<50 km/h allowed), or 7 m two ways.  
 Parking - parallel, only in some places.  
 Trees - on a sidewalk, every 25m.  
 Bike lane - separated from road, at least 2 m width.  
 Sidewalk - at least 3 m width.

Inner street - one way 4 m together with bike lane and sidewalk (<20 km/h allowed).  
 Parking - parallel, only in few places.  
 Trees - where possible, forming groups of them with benches next to it (at least once every 300 m).  
 Bike lane - together with road, at least 1.5 m width.  
 Sidewalk - together with a street.  
 \*All street should be at the same height and should be done from sidewalk material.

110. New shops and small businesses established in an 'active streets' can have their businesses for no rent for first year, then with reduction for 2 more years. If business is established in a property of the founder, he can get subsidies equivalent to a rent.



	CHANGES	OBJECTIVES	HOW
Post-socialist [Living conditions]	Improvement of courtyards/semiprivate spaces	To make neighbourhoods more attractive and lively in order to keep families, students and other inhabitants living there, to stop emigration from the neighbourhood.	Use should be given for left-over space
			Semi private spaces should be defined and renovated
			Encouraging developers (or when the government is building) to build streets in a pedestrian friendly profiles
			Renovation of courtyards
	_More program in the neighbourhoods		Communities should be created in order to have more clear neighbourhoods
	_More big apartments for families		Encouraging different types of apartments in new developments
	_Row housing-low height dense neighbourhoods		All the housing is priorital to be row-houses, with some exceptions for high-rise residential buildings
	Improve public space		Create proper streets inside neighbourhoods, that would be actively used as a public space
[Facilities]	Arrange parking	Parking should be organised. It can be done by defining it better and separating from recreational spaces	
	More pedestrian oriented facilities	Encouraging small business to establish inside neighbourhoods	

TOOLS		
<p>P1. HC uses left-over space for a new housing. This way, the government earns money to maintain the public space around it by selling new apartments.            _People from nearby houses can buy new apartments with discounts. Their old apartments could be used to increase the quality of building (for example, the top floor corner apartments can be demolished and terraces for neighbouring apartments can be created).</p>		
<p>P2. First floor inhabitants can buy-out land in front of their apartment and make their gardens.            _In this case with agreement upstairs inhabitants balconies can be extended with some extra cost for the government.            _For every privatised piece of land around a house, government extends a property of house by the same plot size.            (See Appendix for details)</p>		
<p>P3. New streets should be pedestrian-friendly, with bicycle lanes, big space for walking and preferably with trees. They are different according to a neighbourhood and a type of a street.</p>		
<p>Street - 6 m width (&lt;50 km/h allowed, no trucks).            Parking - parallel.            Trees - in a every 4th car a gap for a tree.            Bike lane - separated from road, at least 2 m width.            Sidewalk - at least 4 m width.</p>	<p>Street - one car street 4 m (or 5 m when together with bikes) with a possibility to for two cars to pass one another (&lt;30 km/h allowed, no trucks allowed).            Parking - perpendicular, only one side.            Trees - every 4th car a gap for a tree.            Bike lane - together with road, at least 1.5 m width.            Sidewalk - at least 4 m width.</p>	
<p>P4. The government commits to renovate courtyards when people agree about terms. It only applies for houses, that have a house fund for at least a year which is taking care of maintenance of the building. Renovation would be paid from this fund and moreover each person, who wants to park their car in a courtyard, has to buy it from the government for a small price (it would partly cover renovation of a courtyard). Rest of expenses would be covered by the government.</p>		
<p>P5. FUND FOR COMMUNITIES. Formed communities can apply for government funds for establishing community centre in particular area. These community driven initiatives could be mainly supported by space from government.</p>		
<p>P6. New multi-family houses can get tax reduction, if there are different types of apartments. More variety gives higher tax reduction. According to a neighbourhood, a type of preferable apartments are set.</p>		
<p>P7. New buildings can get easier permissions to build and a tax reduction, if the new development fulfils the governments vision. For each neighbourhood it varies. For the post socialist neighbourhood they are:            _row housing;            _3-4 floor height.</p>		
<p>P8. Neighbourhood can get their roads renovated by the government, if the street of 25 m completes these points:            _all houses have their house funds;            _certain amount of money is collected from extensions of houses for gardens or commercial use, which would partly cover renovation;            Roads are built according to P3.</p>		
<p>(see P3)</p>		
<p>P9. In an 'active' streets, first floors can be extended for a commercial use. Investors would pay a certain fee for the government, which would cover a cost of a street renovation. Street renovation would be done, when certain number of developments take place. In this way active streets are created.            (See Appendix)</p>		

		CHANGES	OBJECTIVES	HOW
Suburbia	[Living conditions]	Improvement of semiprivate/public spaces	To complete unfinished urban fabric and stop extension of it. To create a more diverse environment and social mixture of people. To create a pedestrian-friendly environment with activities in the streets and more diverse functions. To finish and densify urban pattern.	Encouraging local facilities
		_more program in neighbourhoods		Creating local small scale communities
		_improving profiles of streets		Encouraging developers (or when the government builds) to make streets in pedestrian friendly profiles
		_encouraging various types of households		Encouraging different types of apartments in new developments
	[Facilities]	_using left-over space	Encouraging existing households to adjust their properties for different living types	
		Creation of pedestrian oriented facilities	Make use of a left over space in front of the houses by transforming it into: _housing _public space _extension of streets/promenades	
		Building in empty spots	Encouraging local facilities	
	[Public transport]		Encouraging people to build houses in close proximity one to another	
		_row housing-low height dense neighbourhoods	On the main streets of suburban neighbourhoods it is priorital to make row-houses	

<p><b>TOOLS</b></p> <p>(see others)</p>		
<p>S1. <b>FUND FOR COMMUNITIES.</b> Formed communities can apply for the government funds to establish community centre in a particular area. These community driven initiatives can be mainly supported by the room from the government.</p>		
<p>S2. New streets should be pedestrian-friendly, with bicycle lanes, spaces for walking and preferably with trees. They are different according to a neighbourhood and its street type:</p>		
<p>Street - 6 m (&lt;50 km/h allowed, no trucks allowed).          Parking - parallel, only in some places.          Trees - every 4th car a gap for a tree.          Bike lane - together with road, at least 1 m width.          Sidewalk - at least 3 m width.          *To keep slow speed there should be a small turns of a street every 200m.          *Where possible to make some quality public space.</p>	<p>Street - 6 m (&lt;50 km/h allowed, no trucks allowed).          Parking - parallel, only in some places.          Trees - every 4th car a gap for a tree.          Bike lane - together with road, at least 1 m width.          Sidewalk - at least 3 m width.          *To keep slow speed there should be a small turns of a street every 200m.          *Where possible to make some quality public space.</p>	
<p>S3. New multi-family houses can get tax reduction, if there are few different types of apartments. More variety gives higher tax reduction. According to a neighbourhood, type of preferable apartments are set.</p>		
<p>S4. Existing houses can get subsidies for re-making their house to fit for different uses. Possible changes:          _subdividing house into multiple apartments (suitable for older people, singles);          _splitting land into a few building plots and selling land for other developers.</p>		
<p>S5. In the streets, where distance between a house and a street is big, this space should be used as a public space or extension of the street. This should be done together with a renovation of the street, look to S2.</p>		
<p>S6. In a particular streets shops and home-offices are encouraged by a reduction of taxes. It applies for 'active streets'.</p>		
<p>S7. <b>A GIFT TO THE STREET.</b> Local people are encouraged to do nice things in their neighbourhood by subsidizing it, giving a room for it, an office space or other privileges from the government.          For example, if a craftier makes a small shop or exhibition of his works in his front yard, he can get tax reduction for his business.          People can come up with their own ideas and apply for this fund.</p>		
<p>S8. Neighbourhood can get their roads renovated by the government, when a street of 25 m completes these points:          _no empty land areas;          _there is a community of inhabitants;          _no high nontransparent fences.          Roads are being done according to S2.</p>		
<p>S9. People are only allowed to build houses next to each other, in a proximity of 20m. Building in further places is charged with high taxes.</p>		
<p>S10. Land owners are obliged to use their unused land - they can either sell it in market or for the government in a market price. Land taxes are getting higher each year varying in different neighbourhoods.</p>		
<p>S.11. New buildings can get easier permissions to build and some tax reductions, if a new development fulfils the vision of the government. It varies according to neighbourhood. For suburbia they are:          _row housing;          _2-3 floor height.</p>		



## APPENDIX - GARDENS AND SHOPS

P2. First floor inhabitants can buy-out land in front of their apartments, privatise it and make their gardens there.

\_In this case with agreement with upstairs inhabitants, their balconies can be extended with some extra cost for the government and they can build terraces.

\_For every privatised piece of land around a house, government extends house property by the same plot size.

2. Every garden can be 5 m length or until existing path. Width is until apartment lasts, except reserved land for entrance.

3. According to position of apartment there are different sized gardens (45 m<sup>2</sup>, 90 m<sup>2</sup>, and 44+35 m<sup>2</sup>). One apartment is allowed to have two gardens (front and back). According to size, their prices also vary.

3. There must be land reserved for entrance of the house.

4. Fences of private gardens can not be higher than 1.2 m.

P9. In 'active' streets, first floors can be extended for commercial use. Investors would pay a certain fee to government, which would cover a cost of a street renovation. Street renovation would be done, when certain number of developments would happen. In this way, active streets would be created.

2. Every shop have to be 5 m length or until existing path (but no longer then 5 m). Width is until apartment lasts, except reserved land for entrance.

3. According to position of existing apartment there are different sized shops (45 m<sup>2</sup>, 90 m<sup>2</sup>, 44 m<sup>2</sup> and 35 m<sup>2</sup>), but they are allowed to build only in the direction towards 'active street'. According to size, their prices also vary.

4. One apartment is allowed to buy out two pieces of land (front and back), but building extension must be only towards active street. Commercial use is allowed in another direction too (for example, cafeteria, that is being entered through active street).

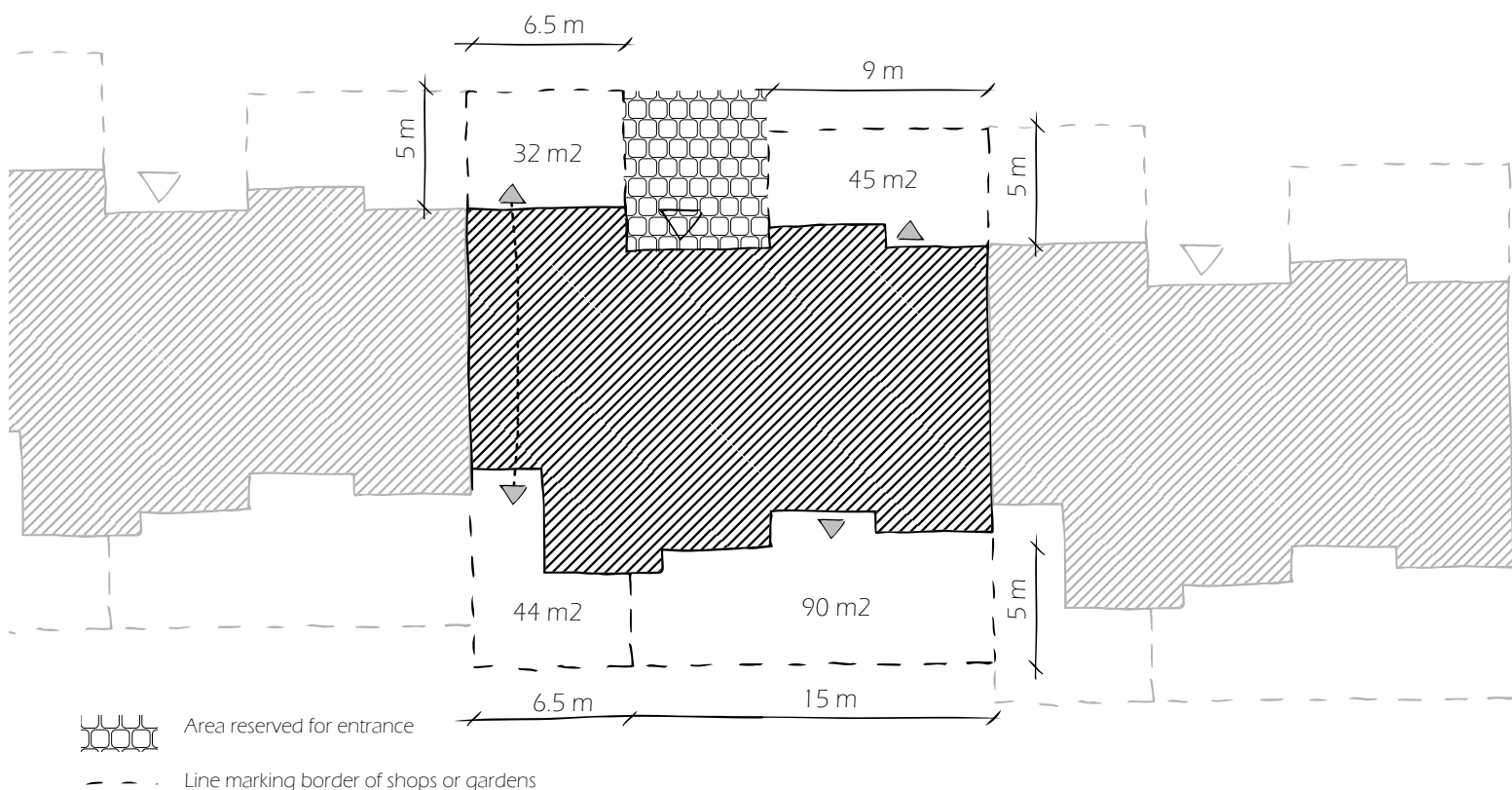
5. There must be land reserved for entrance of the house.

6. Building extensions must be flat roof with possibility to make terrace on roof. Height is 4.5 m.

7. Windows must be only on front, taking at least 50% of front wall.

8. It is allowed to join shops and extend them into inside of existing building (apartment).

9. First floor terraces must have black metal railing.





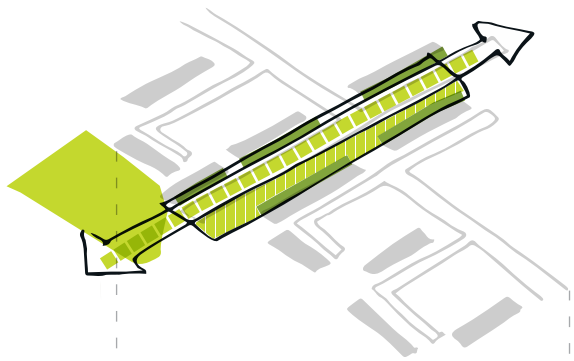


## Implementation

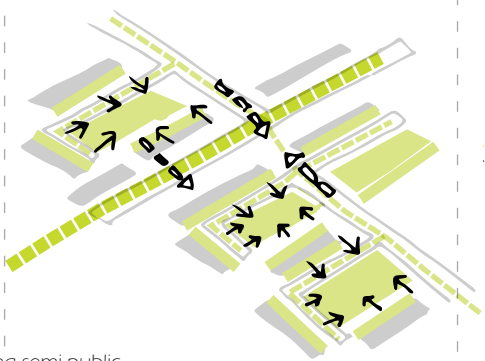
In order to understand better how does toolbox work and what outcome can it have in a real life design is created. It shows who are involved in processes, in what places which tools apply, how neighbourhoods change.

Post-socialist neighbourhood is shown step-by-step as this place has the biggest potential for changes and is located in a close position to the city centre.

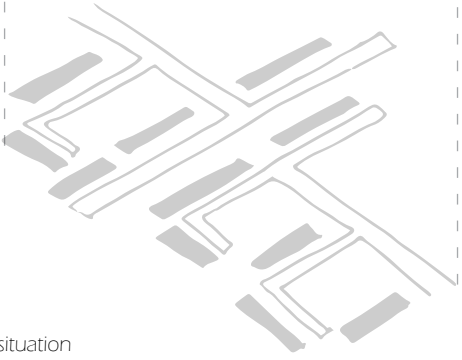
Other neighbourhoods are shown generally emphasising main changes.



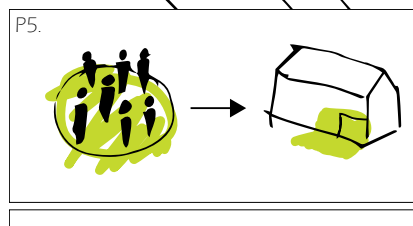
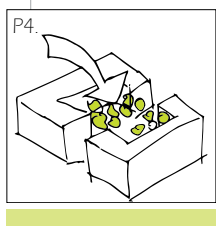
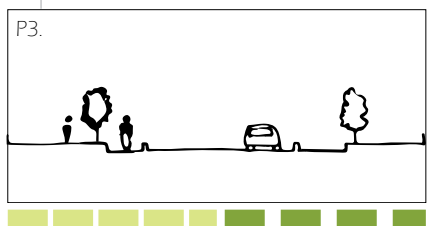
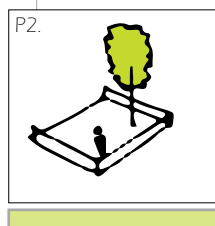
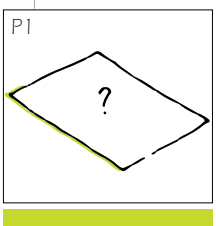
connecting to city street pattern  
activating street



improving semi-public  
house communities relate  
with their courtyard



existing situation

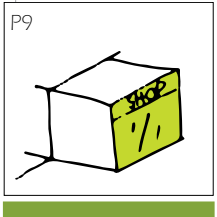
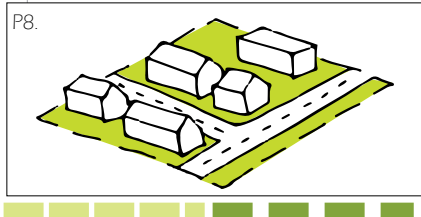
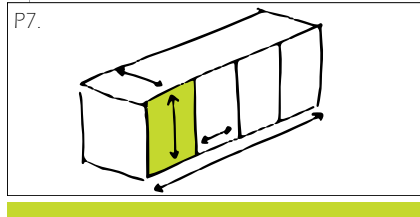
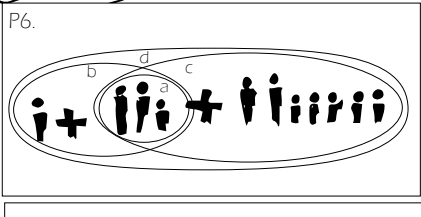


Inner

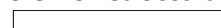
Active

# POST-SOCIALIST NEIGHBOURHOOD

## MAP OF TOOL IMPLEMENTATION



Different areas for implementation of tools are marked according to colour underneath it



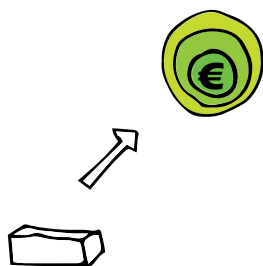
Applicable everywhere  
Implementation 113



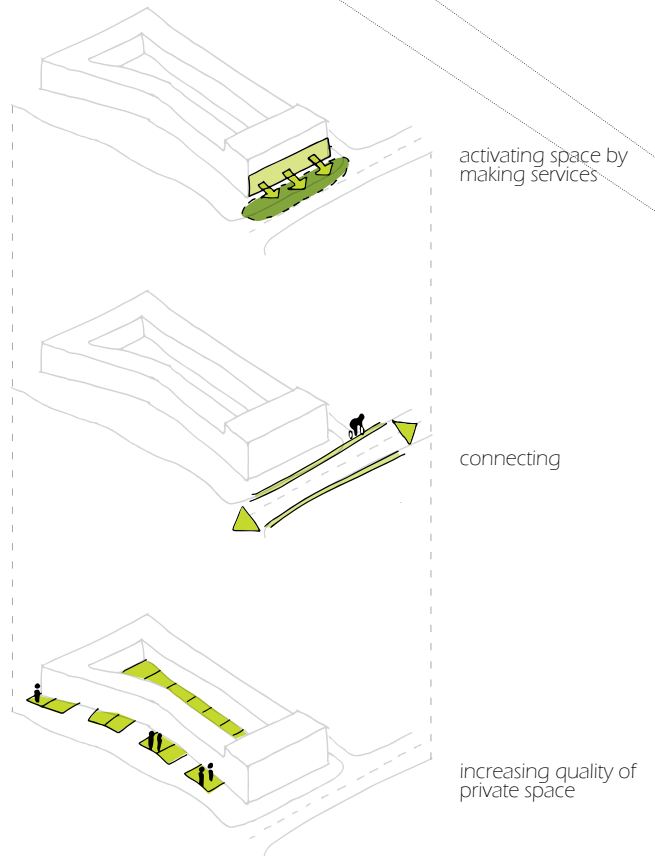
Involved actors: Government, Housing Corporation

First step to be taken towards implementation of rules would be done by government, as they are able to see long term benefits the best. Housing corporation would use left over space in the neighbourhood for new housing.

Money, earned from selling apartments would be invested in the same neighbourhood, so all people would be satisfied with the new development. They would mainly be used to take care and renovate public spaces, make new streets.



Flows of money in neighbourhood



# POST-SOCIALIST NEIGHBOURHOOD

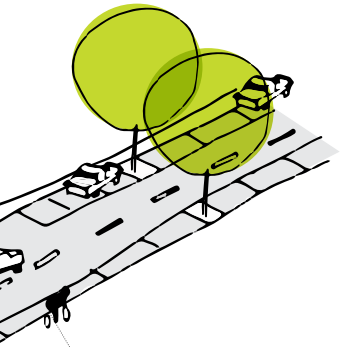
## STEP 1

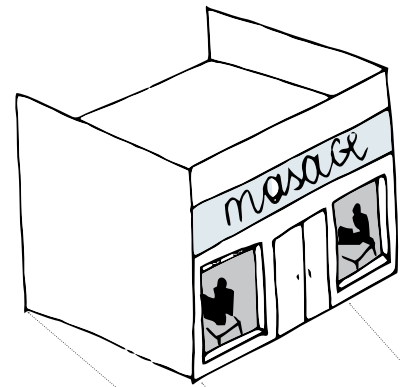
### TOOL

P1. HC uses left-over space for new housing. In this way, government earns money to maintain the public space around.

People from nearby houses can buy new apartments with discounts. Their old apartments could be used to increase the quality of building (for example, the top floor corner apartments can be demolished and terraces for neighbouring apartments can be created and bought).

Other used guidelines: P3, P6, P7





Involved actors: Small and medium size business developers

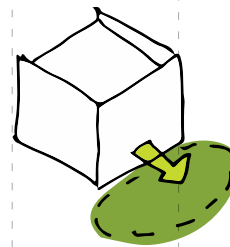
The second person, that noticed possibilities not only to earn more money, but also to have business in a very close proximity to his home was small business man John. He opened small shop and got subsidies from government to extend his own apartment and got some benefits opening shop.

John was followed by numerous amount of small businesses man, who were also interested in such a good opportunity to start their own business. After a while, there were new facilities opening - various small scale shops, restaurant, cafeteria, studio, office spaces and even barber. It not only created very good opportunity to establish new businesses, but also created atmosphere full of action.

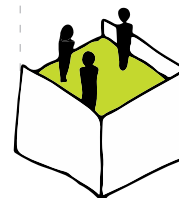
Moreover, all neighbourhood was happy for these extensions, because money that investors paid for extensions were later on invested in the same neighbourhood - to take care and renovate public spaces, make new streets.



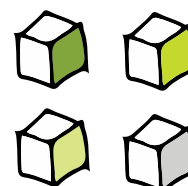
using left over space



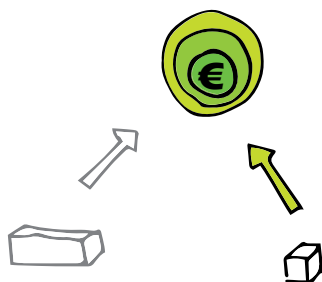
activating space in front of shop



increasing quality of private space



increasing variety of functions encouraging local entrepreneurship



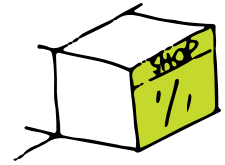
Flows of money in neighbourhood

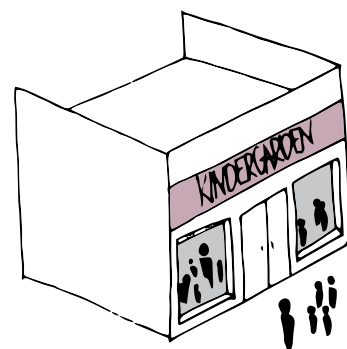
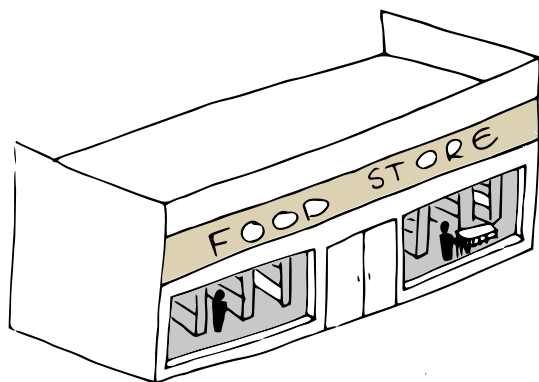
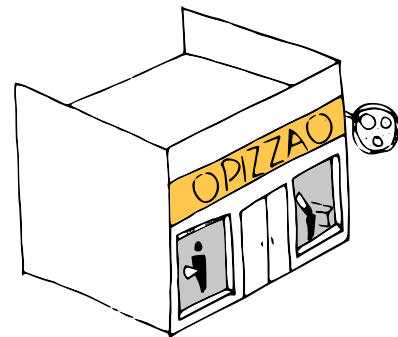
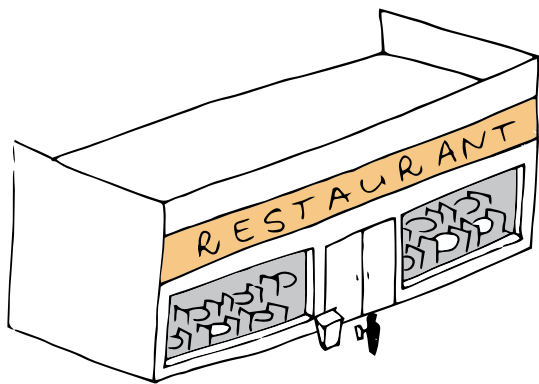
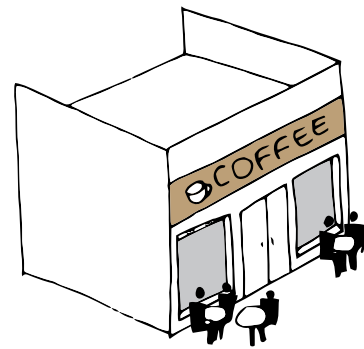
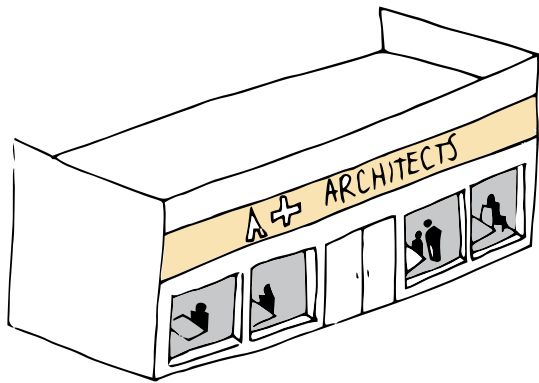
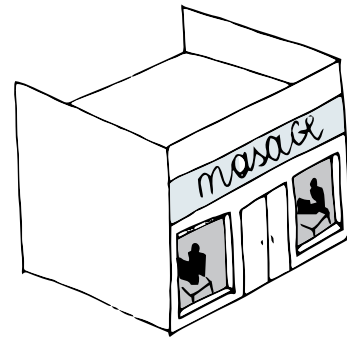
# POST-SOCIALIST NEIGHBOURHOOD

## STEP 2

### TOOL

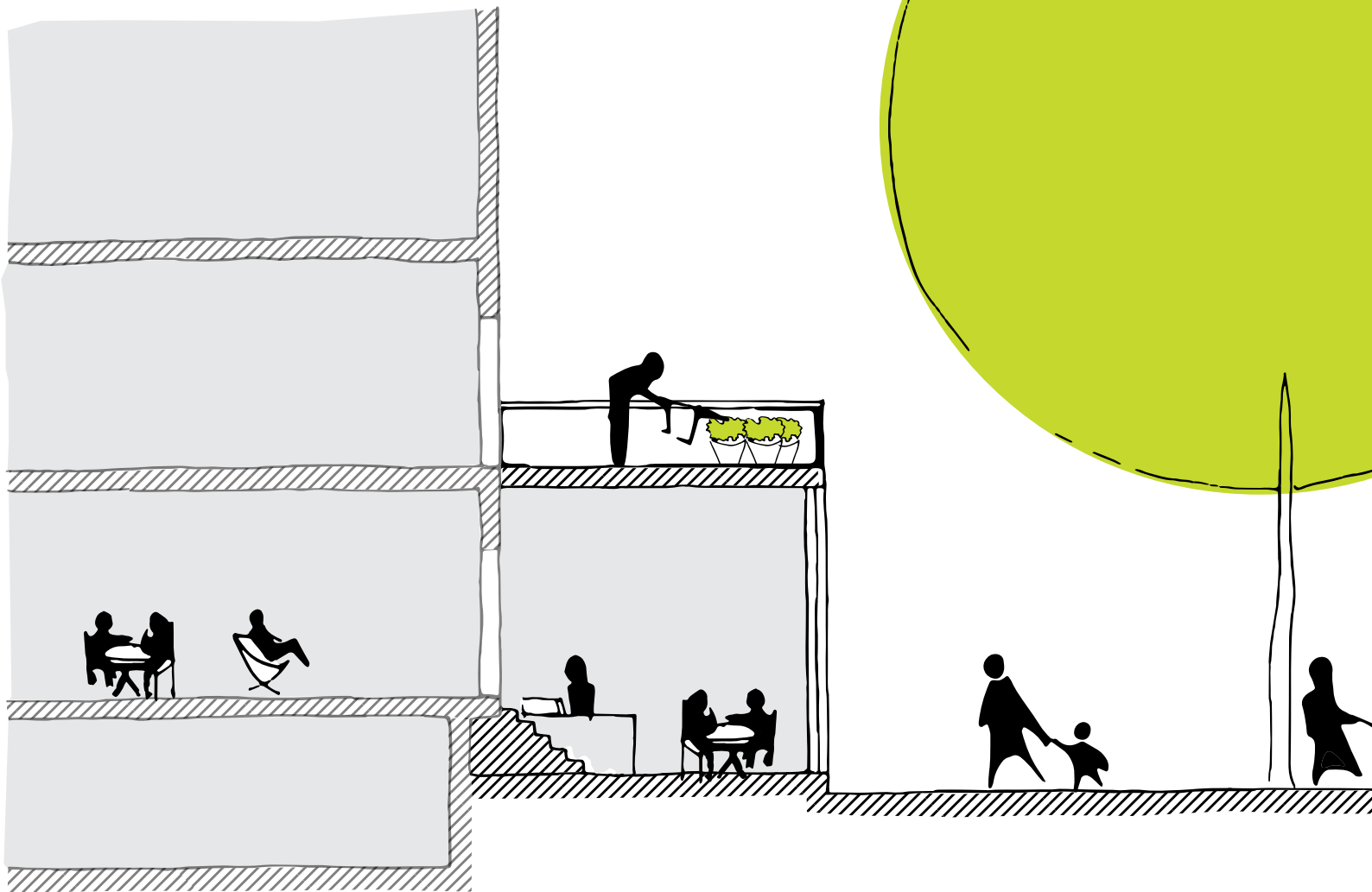
P9. In active streets, first floors can be extended for commercial use. Investors would pay a certain fee to government, which would cover a cost of a street renovation. Street renovation would be done, when certain number of developments would happen. In this way, active streets would be created.





Variety of shops - not only gives more possibilities for inhabitants, but also creates more working places next to their home



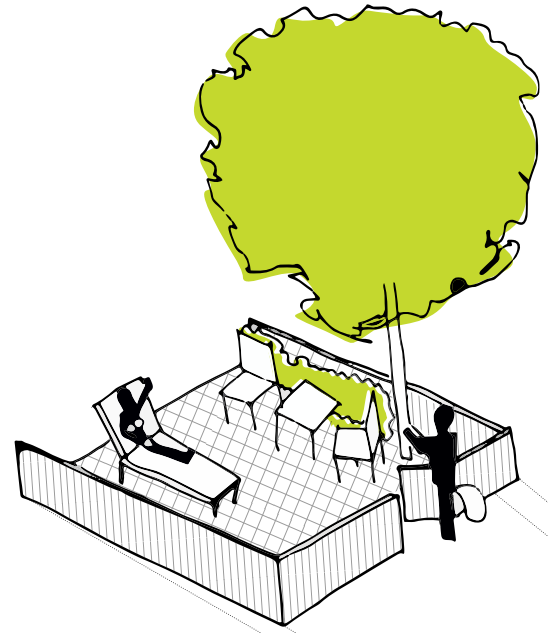
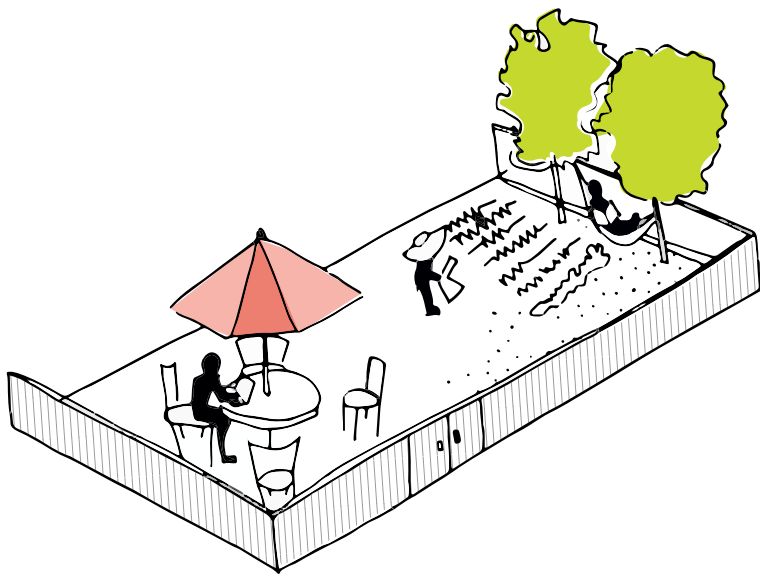


Existing   
Proposed 

M 1:100

Detail, showing how shops are attached to existing building .

Implementation 119

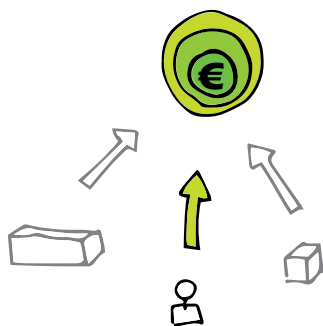


Involved actors: inhabitants of old post-soviet buildings, living in the first or second floor.

Jackie was a nature lover, so the first moment she heard about a chance to make a terrace in her house she couldn't wait a second and rushed to make it. Now, she has a nice garden with few trees and a lot of flowers, where she spends sunny evenings.

She was followed by neighbours, who were also keen on this idea.

Moreover, all people would be satisfied with the new developments as the money would be invested to take care of semi-public spaces, such as courtyards.



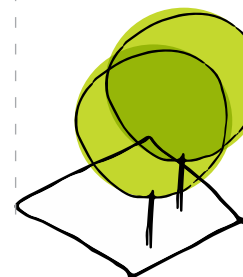
Flows of money in neighbourhood



using left over space



increasing quality of private space



increasing quality of public space bordering it

# POST-SOCIALIST NEIGHBOURHOOD

## STEP 3

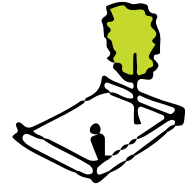
### TOOL

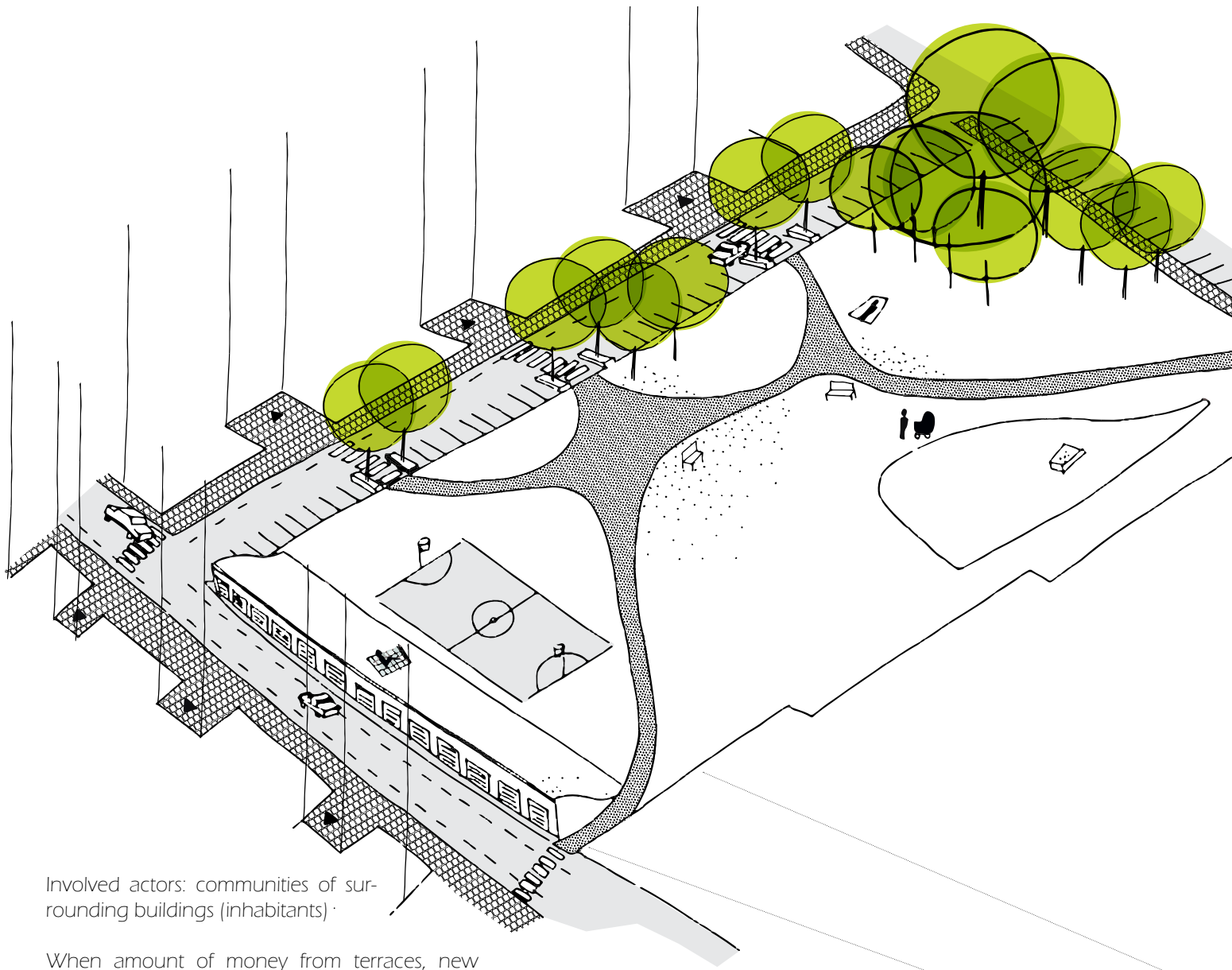
P2. First floor inhabitants can buy-out land in front of their apartments, privatise it and make their gardens there.

\_In this case with agreement with upstairs inhabitants, their balconies can be extended with some extra cost to government and they can build terraces.

\_For every privatised piece of land around a house, government extends their property by the same plot size.

Other used guidelines: P5

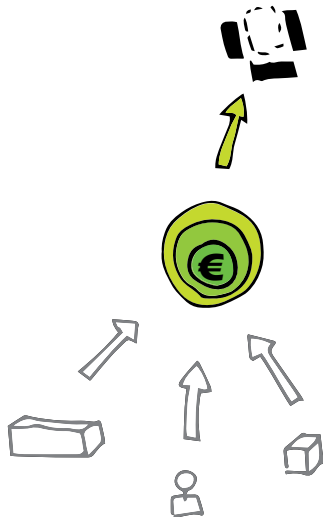




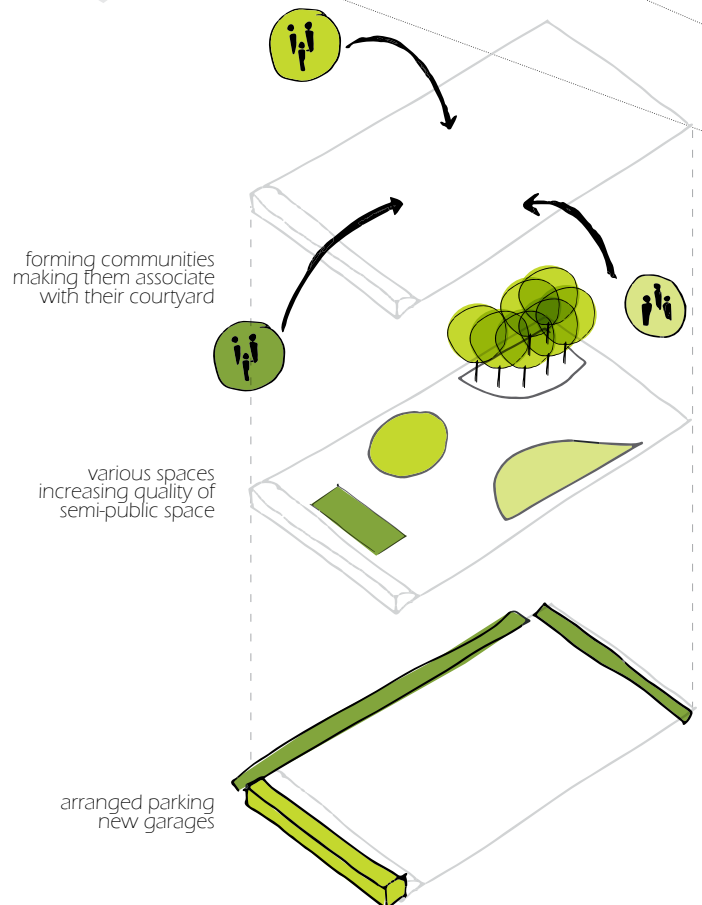
Involved actors: communities of surrounding buildings (inhabitants):

When amount of money from terraces, new housing and facilities were getting big, people wanted to get even more benefits and spend those money. Group of people from one house gathered themselves and decided to push their house to make a community and to start gathering monthly fees for maintenance of house. And as they new, it was the last step to achieve all criteria, so that renovation of a courtyard would start.

After a bit more of negotiation of inhabitants and people interested in buying new garages, renovation was done.



Flows of money in neighbourhood

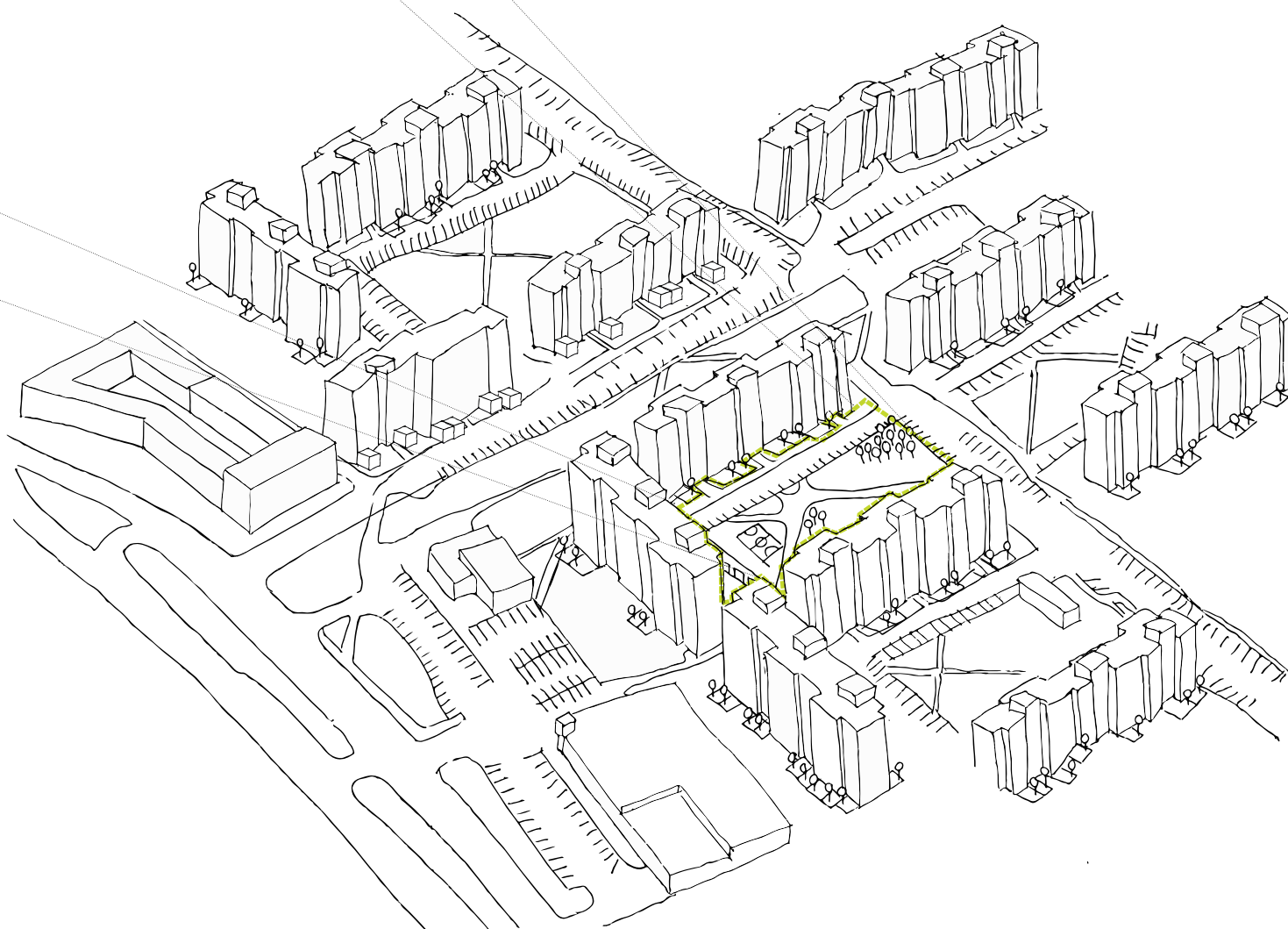
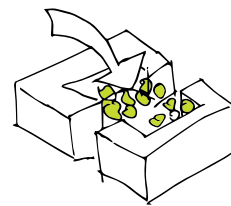


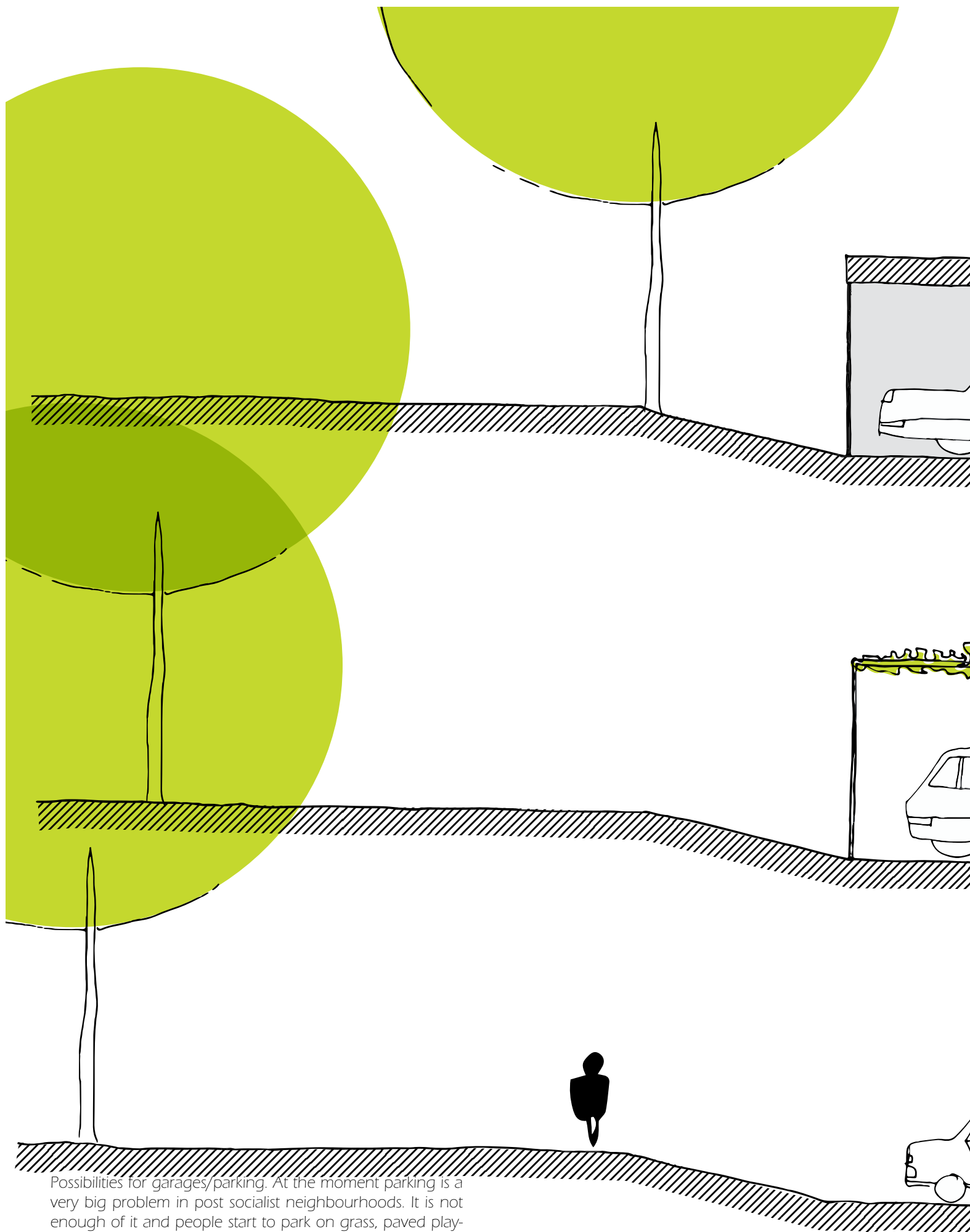
# POST-SOCIALIST NEIGHBOURHOOD

## STEP 4

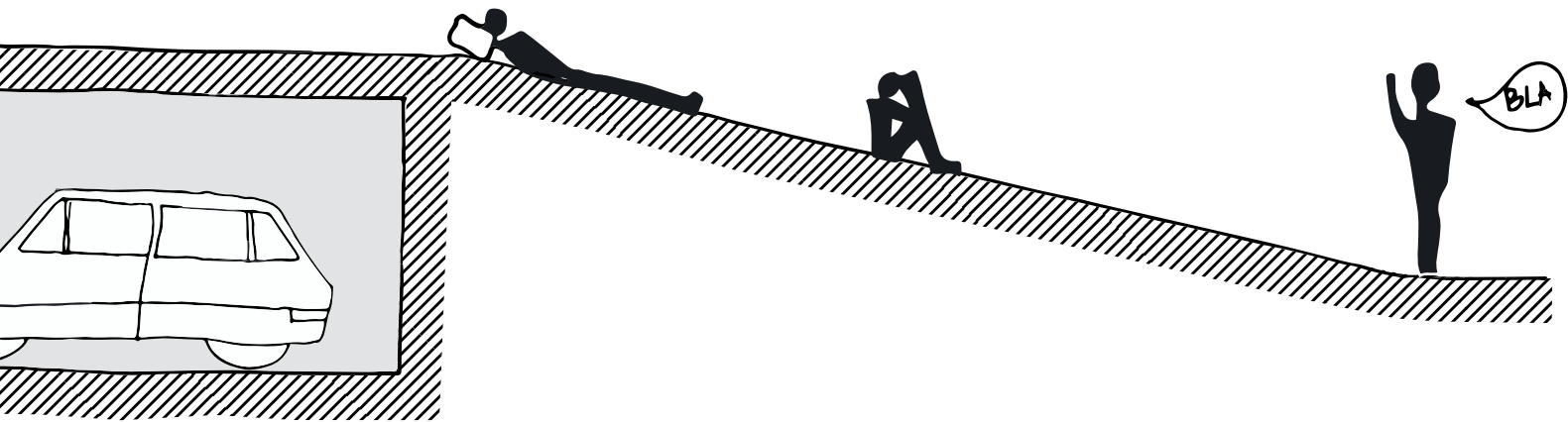
### TOOL

P4. Government commits to renovate courtyards when people agree about terms. It only applies for houses, that have a house fund for at least a year, where they are gathering money not only for someone to cut the grass, but also for more important house maintenance, when it is necessary. Renovation would be paid from this fund and moreover each person, who wants to park their car in courtyard, has to buy it from government for a small price (it would partly cover renovation of courtyard). Rest of expenses would be covered by government.

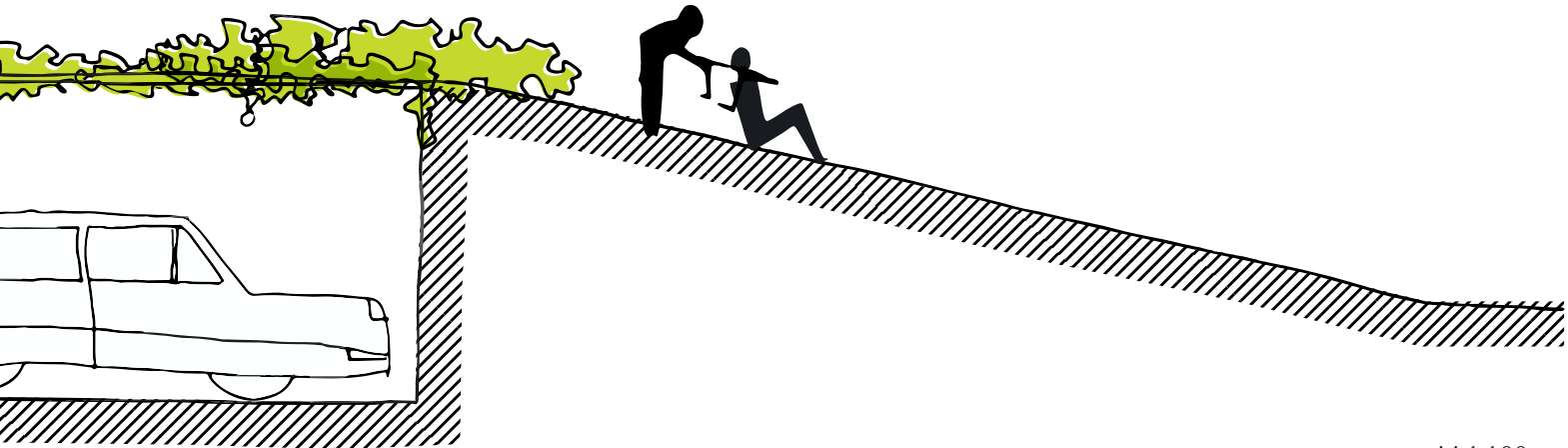




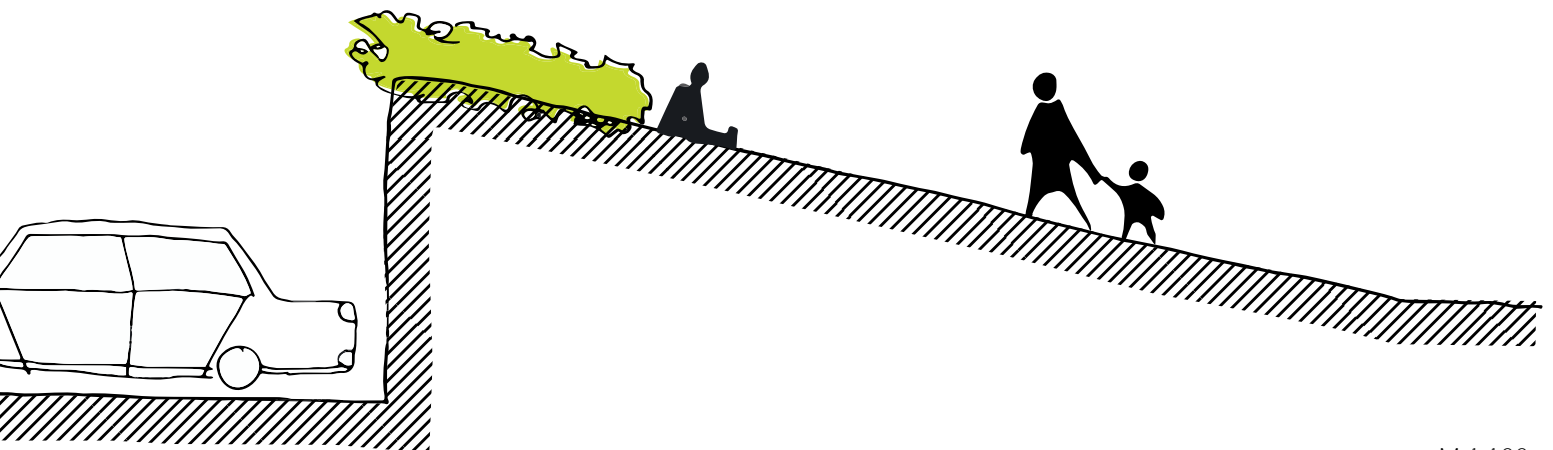
Possibilities for garages/parking. At the moment parking is a very big problem in post socialist neighbourhoods. It is not enough of it and people start to park on grass, paved playgrounds. As clear distinction between parking and public space is being highlighted with these exemplary sections. It is also proposed to some make garages and selling them could cover a part of renovation of courtyard.



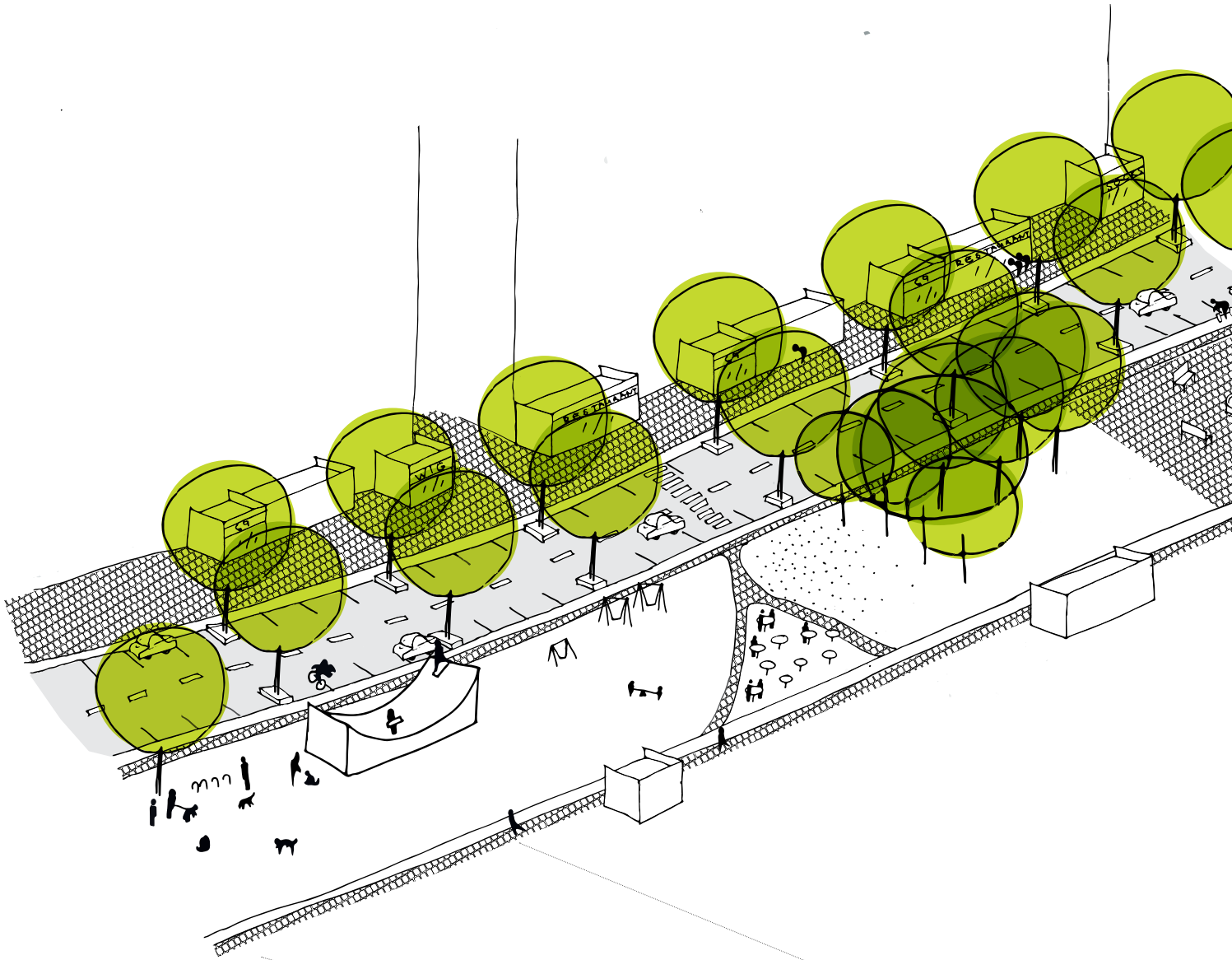
M 1:100



M 1:100

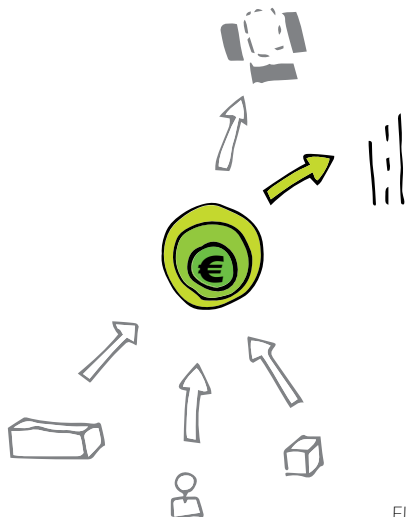


M 1:100

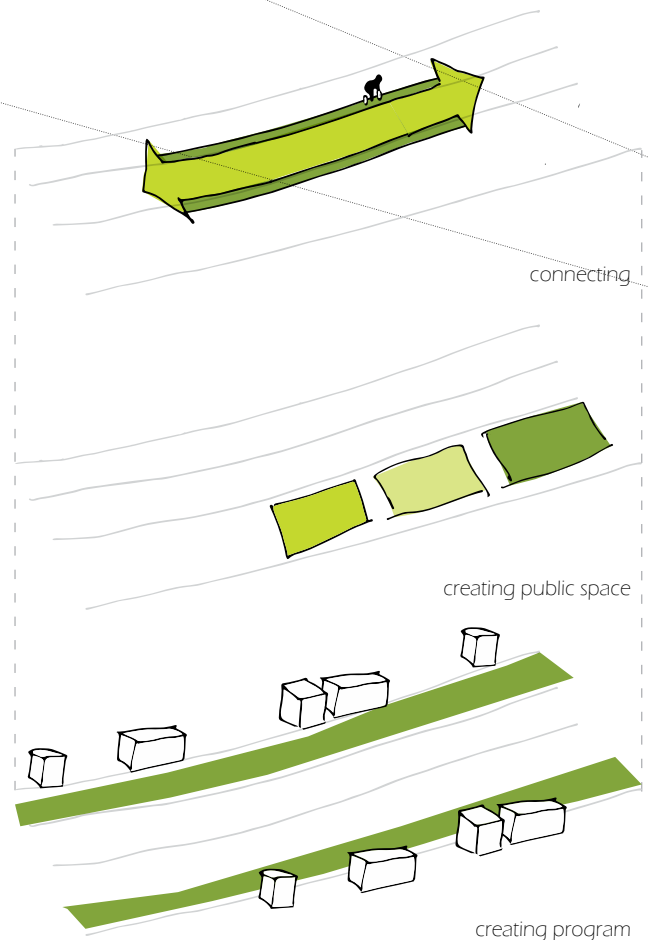


Involved actors: government

When amount of money from terraces, new housing and facilities were getting big, government initiated renovation of the a street, that was fulfilling all requirements. New public space was created with a lively and sustainable environment.



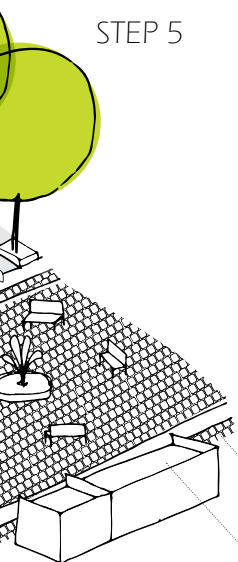
Flows of money in neighbourhood





# POST-SOCIALIST NEIGHBOURHOOD

## STEP 5



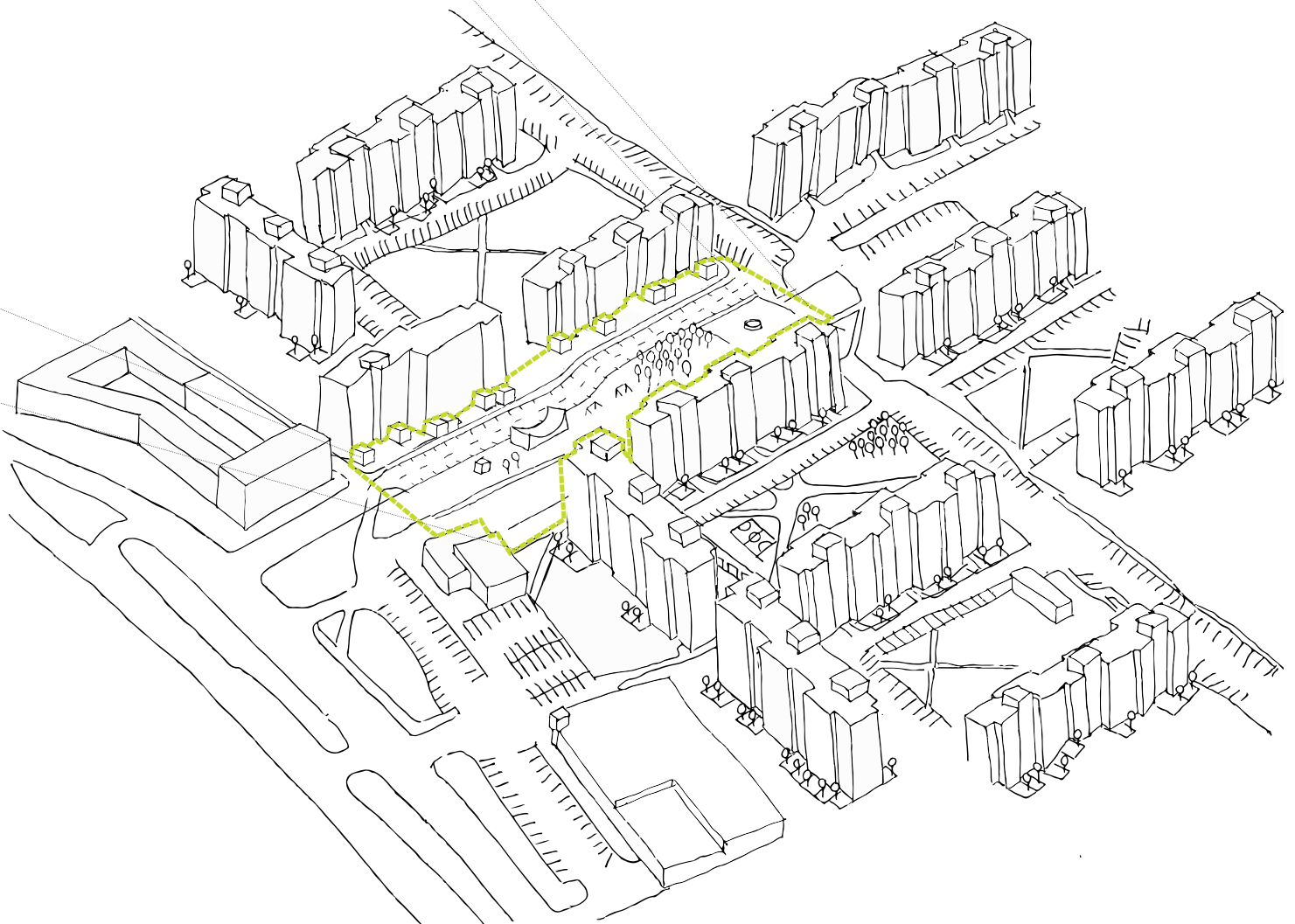
### TOOL

P8. Neighbourhood can only get their roads done by government, only if the street of 25 m completes these points:

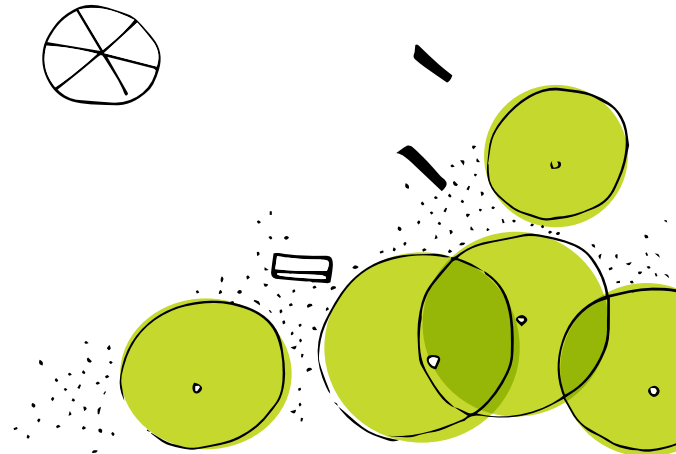
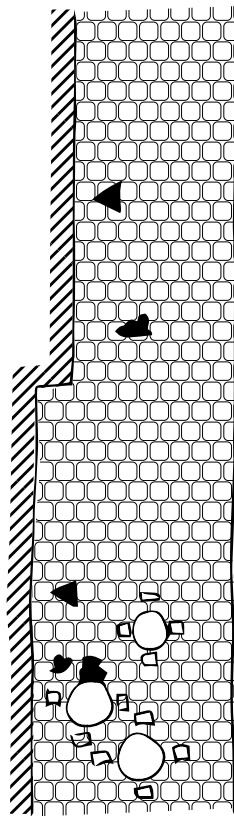
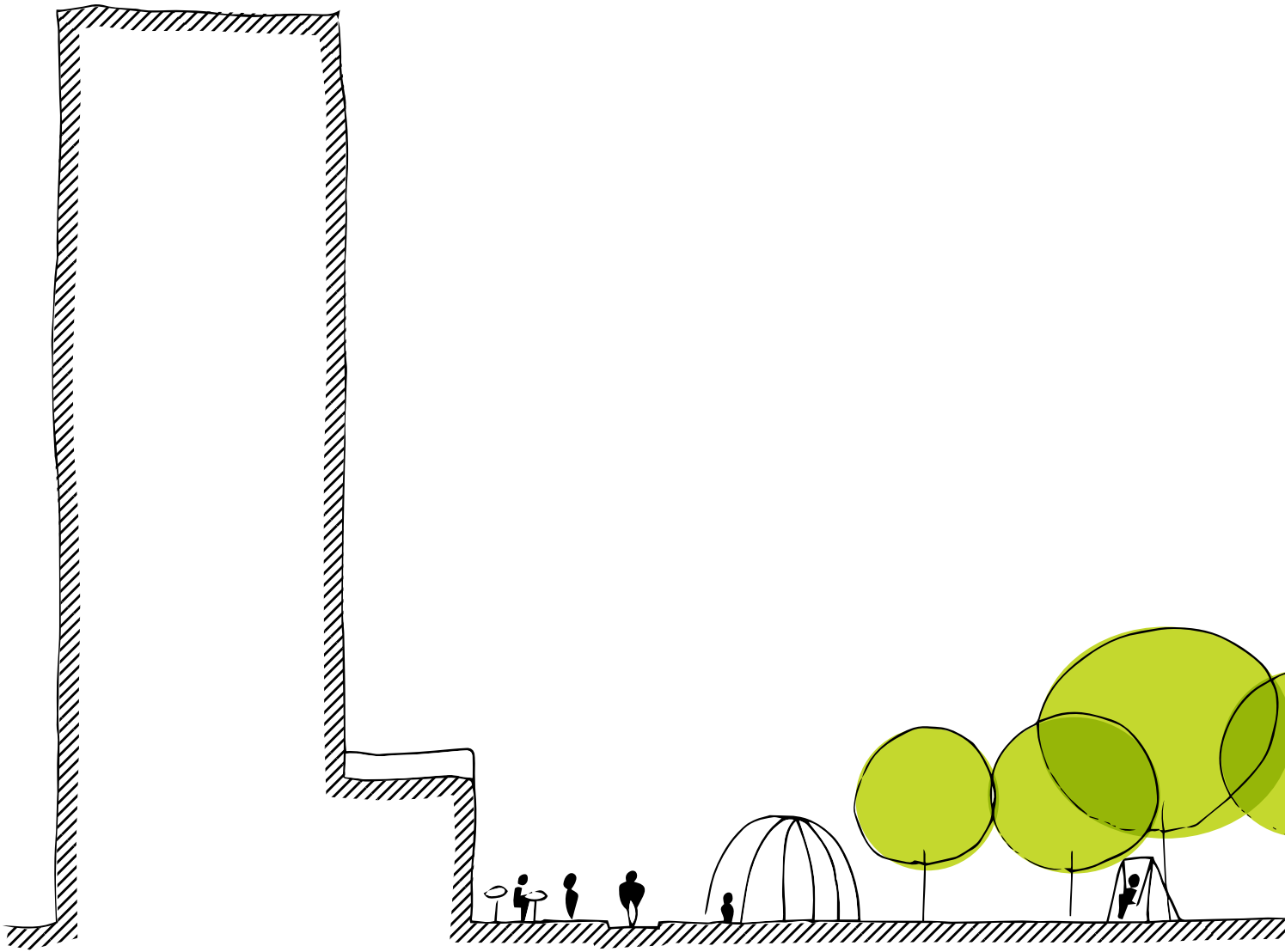
- \_all houses have their house funds;
- \_certain amount of money is gathered from making extensions of houses for terraces or commercial use, which would partly cover renovation.



Other used guidelines: P3



Proposed

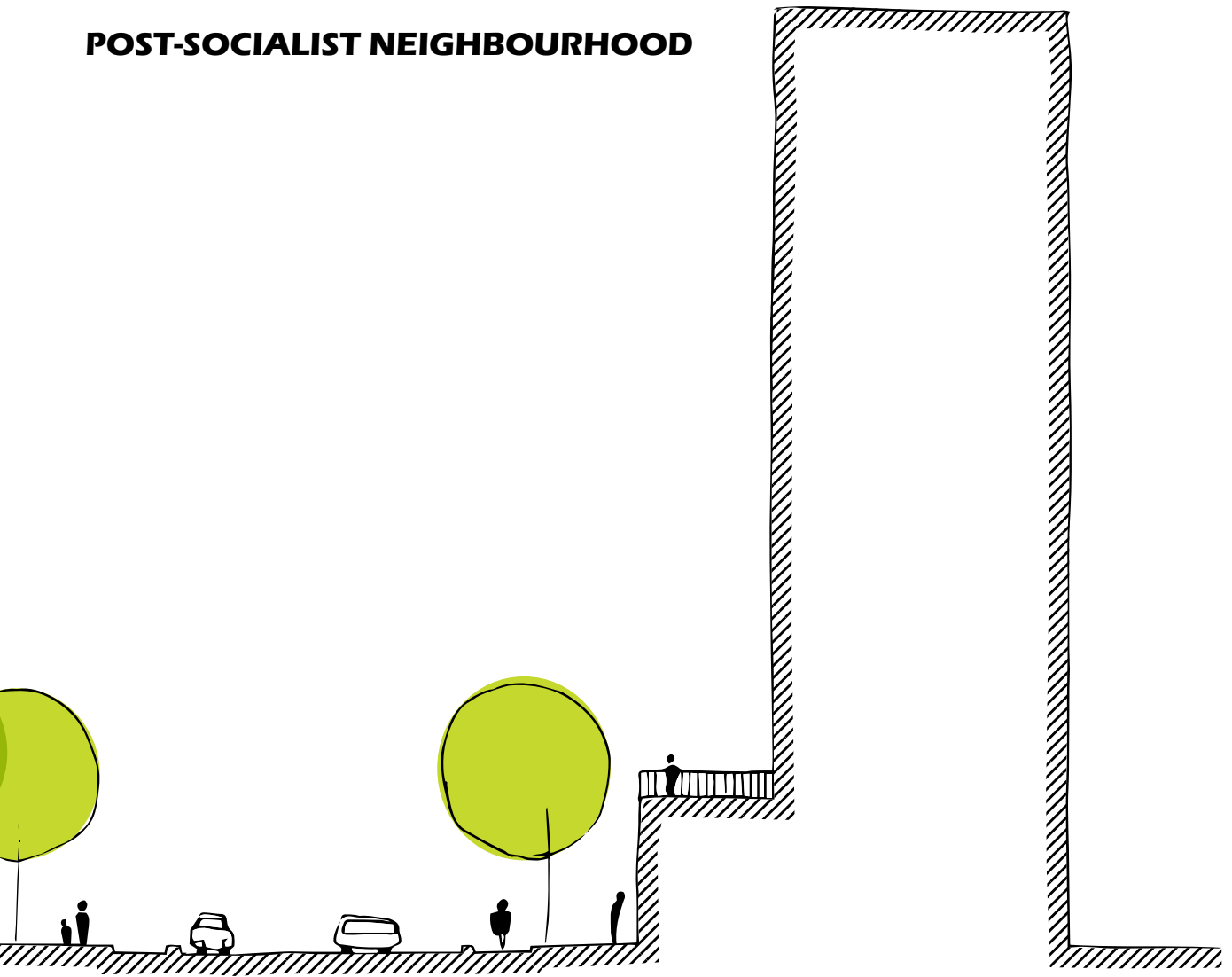


Wide sidewalks  
4-5<  
Shop fronts

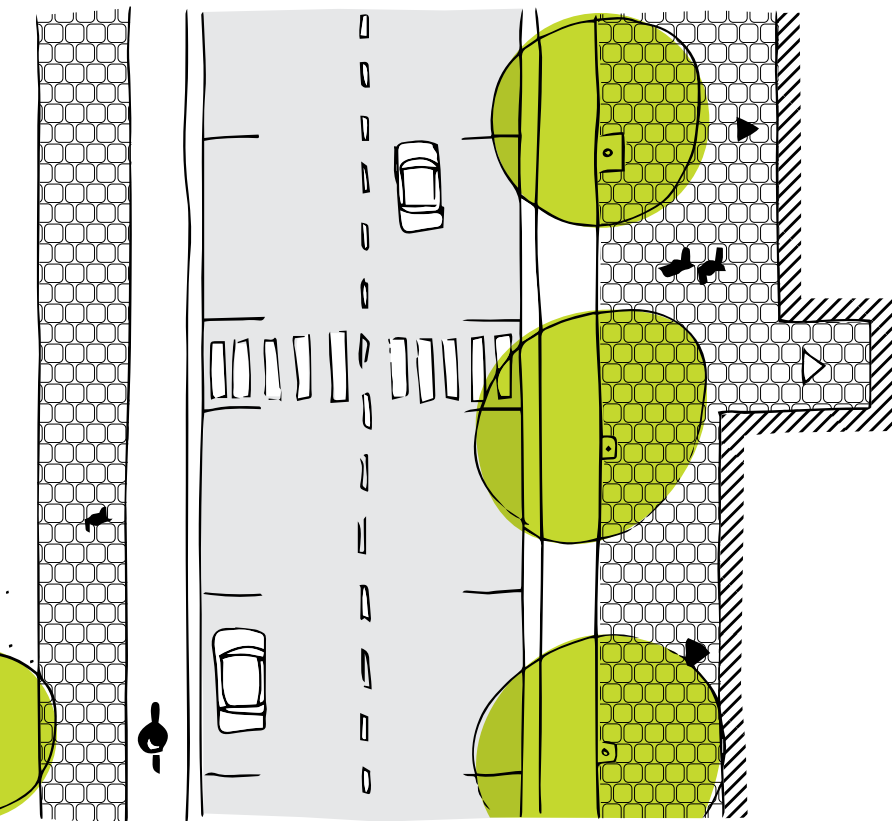
Public space 25m  
park  
coffeteria  
playground  
skate park  
square

Bik

# POST-SOCIALIST NEIGHBOURHOOD



M 1:250



M 1:250

ke lanes 2m

Parallel parking  
2x6m

Slow street 6m  
<50 km/h

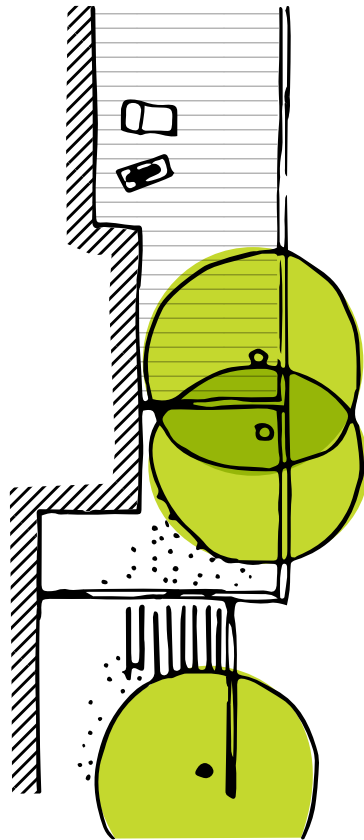
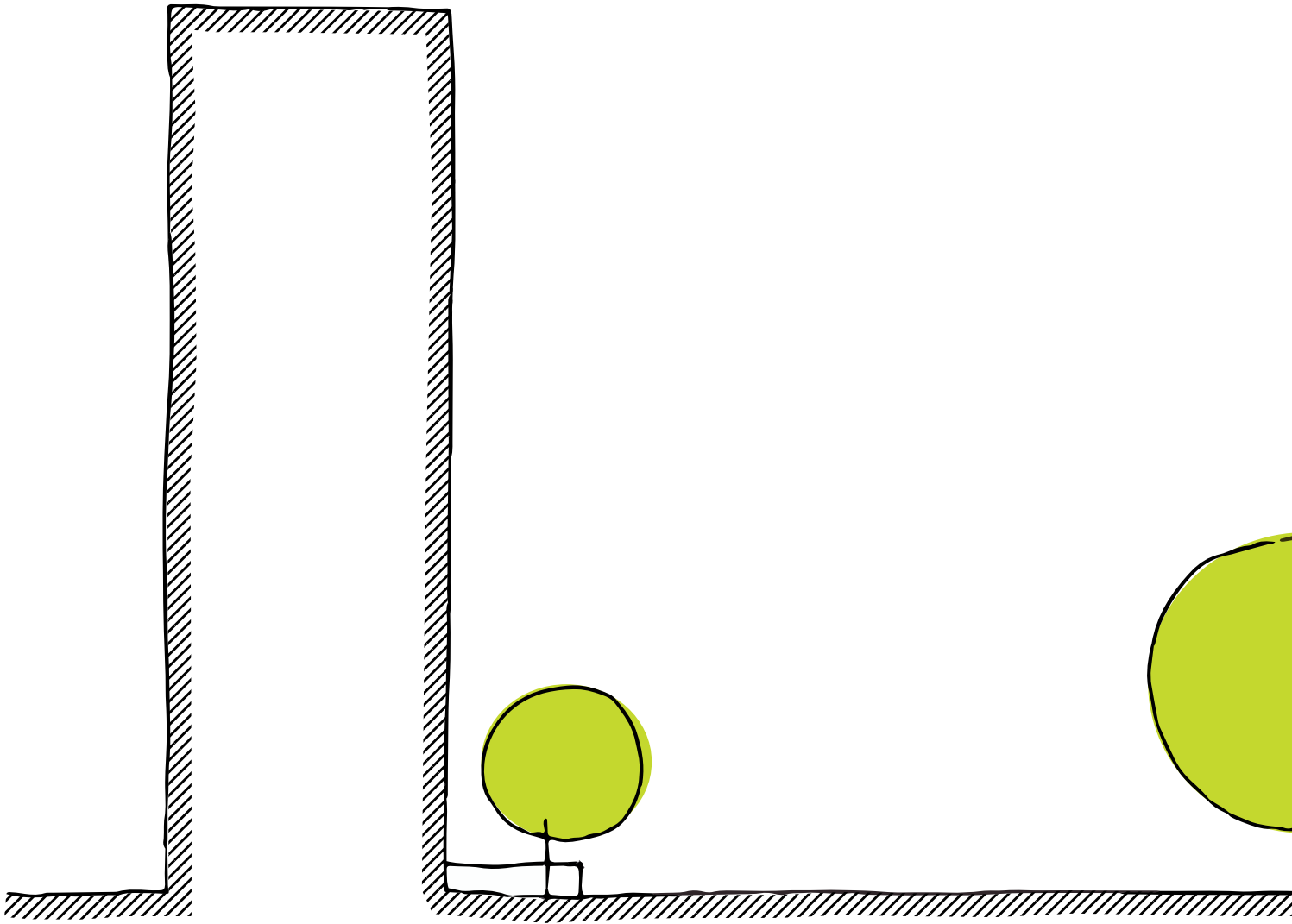
Wide sidewalks

4-5<

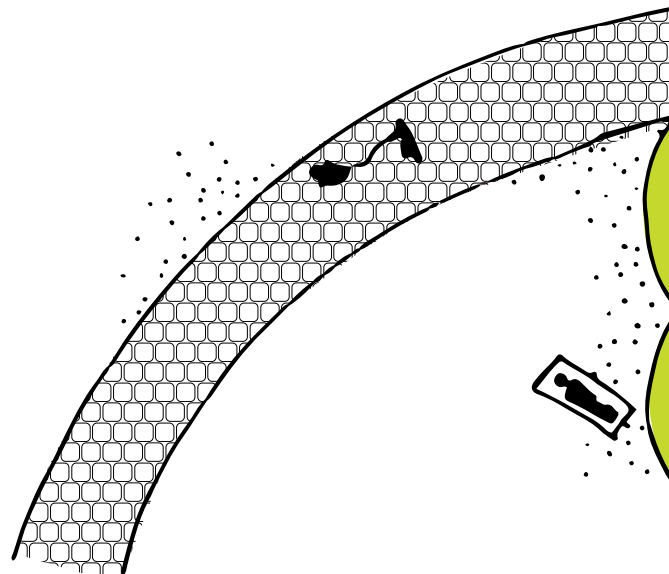
Shop fronts

ACTIVE STREET

Proposed

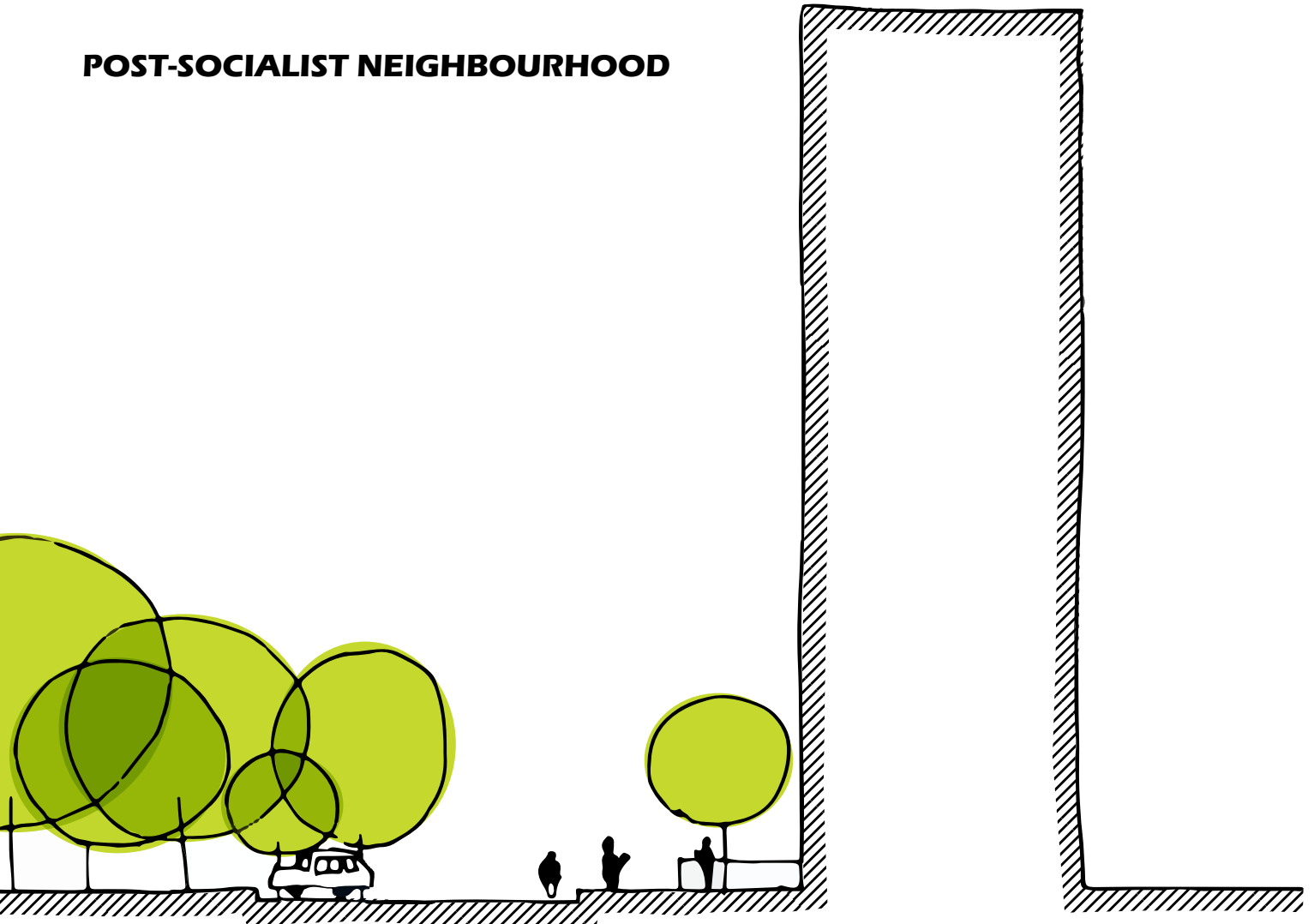


Private gardens  
5m

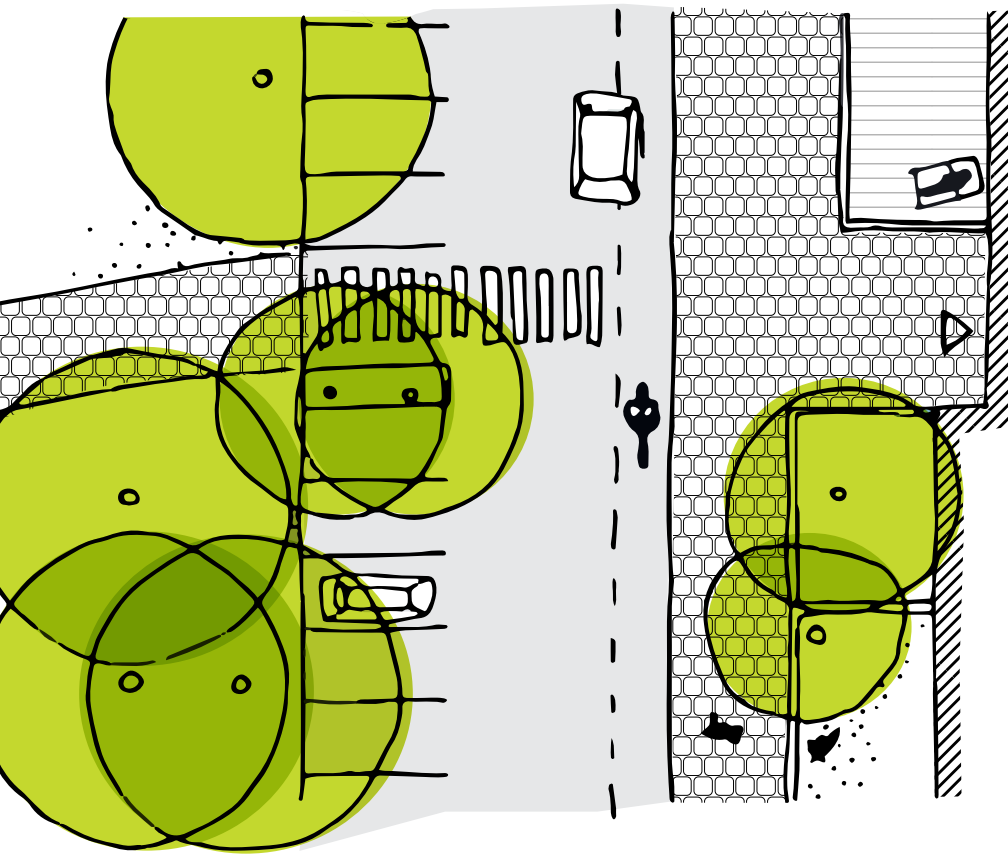


Semi-public space 35m  
park  
playground  
skate park

# POST-SOCIALIST NEIGHBOURHOOD



M 1:250



Perpendicular parking  
2x5m

Bike lanes 2m  
together with  
Slow street 5m  
<50 km/h

Private gardens  
5m  
Wide sidewalks  
4-5m

M 1:250

INNER STREET



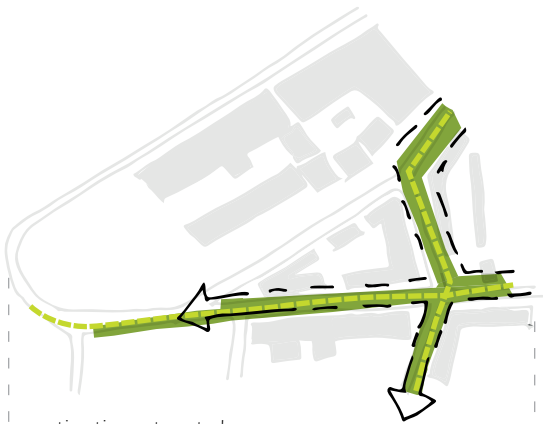
existing situation

# POST-SOCIALIST NEIGHBOURHOOD

IMPRESSION



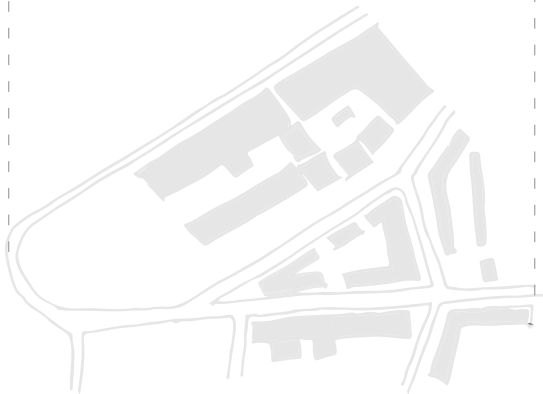
eye level impression of an active street



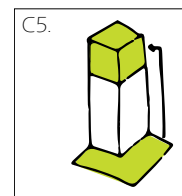
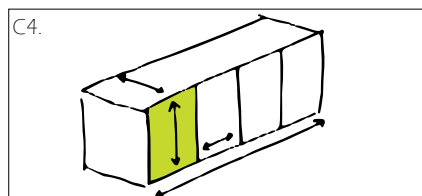
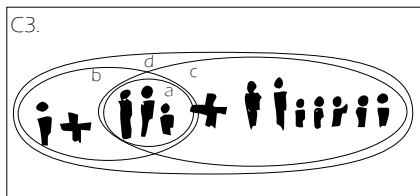
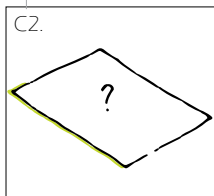
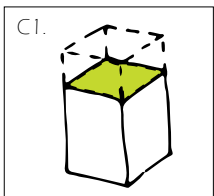
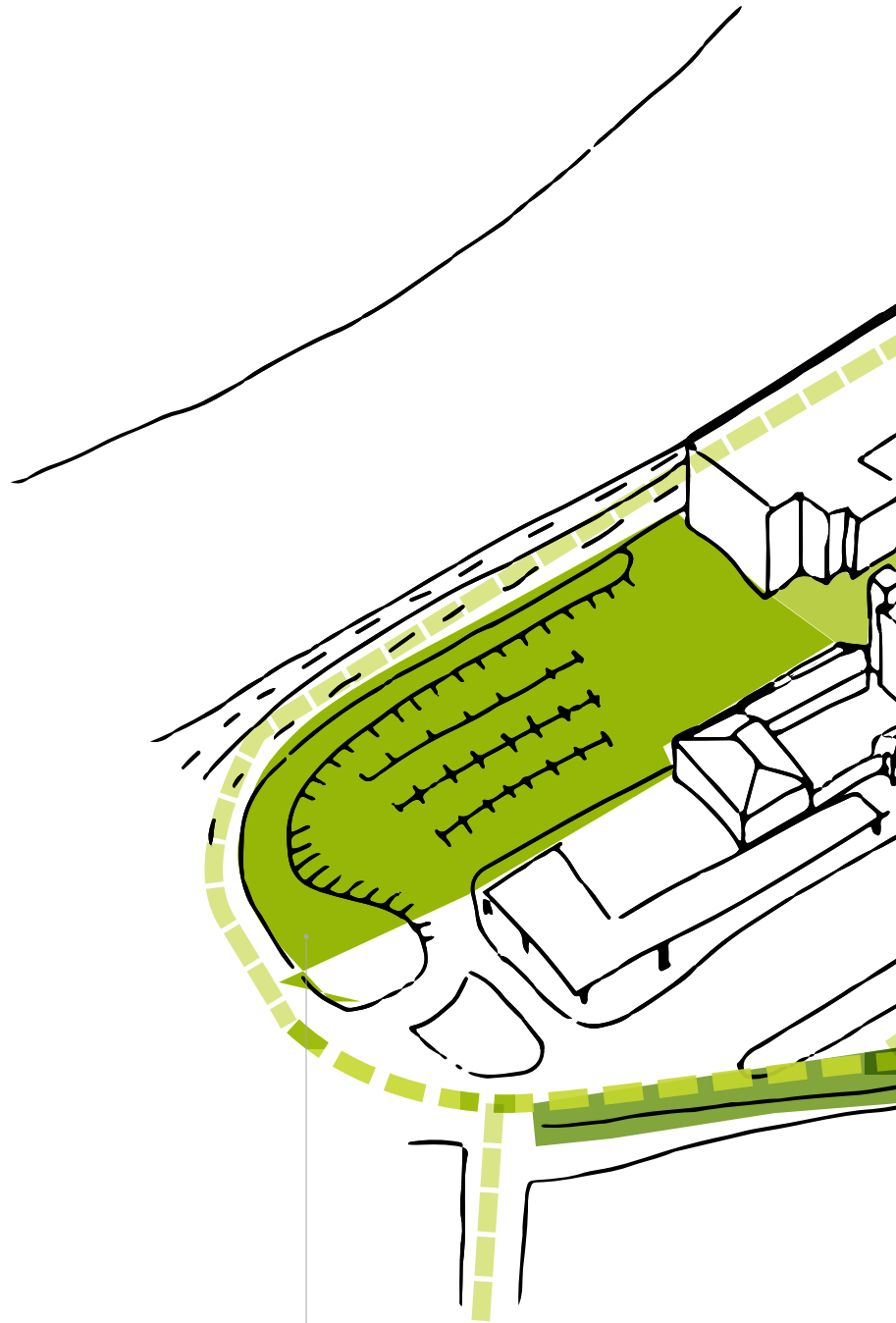
activating streets by new functions



easier renovation and using of left over land increasing quality of semi-private spaces



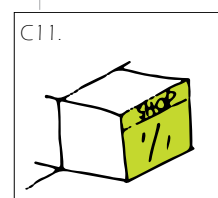
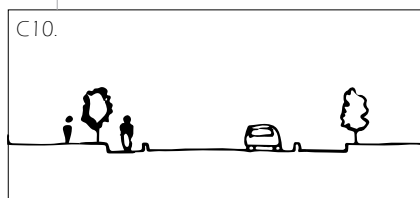
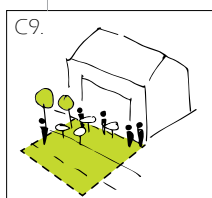
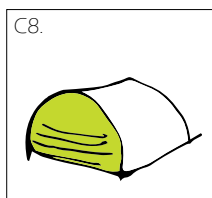
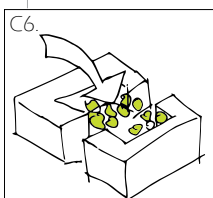
existing situation





# CITY CENTRE

## MAP OF TOOL IMPLEMENTATION



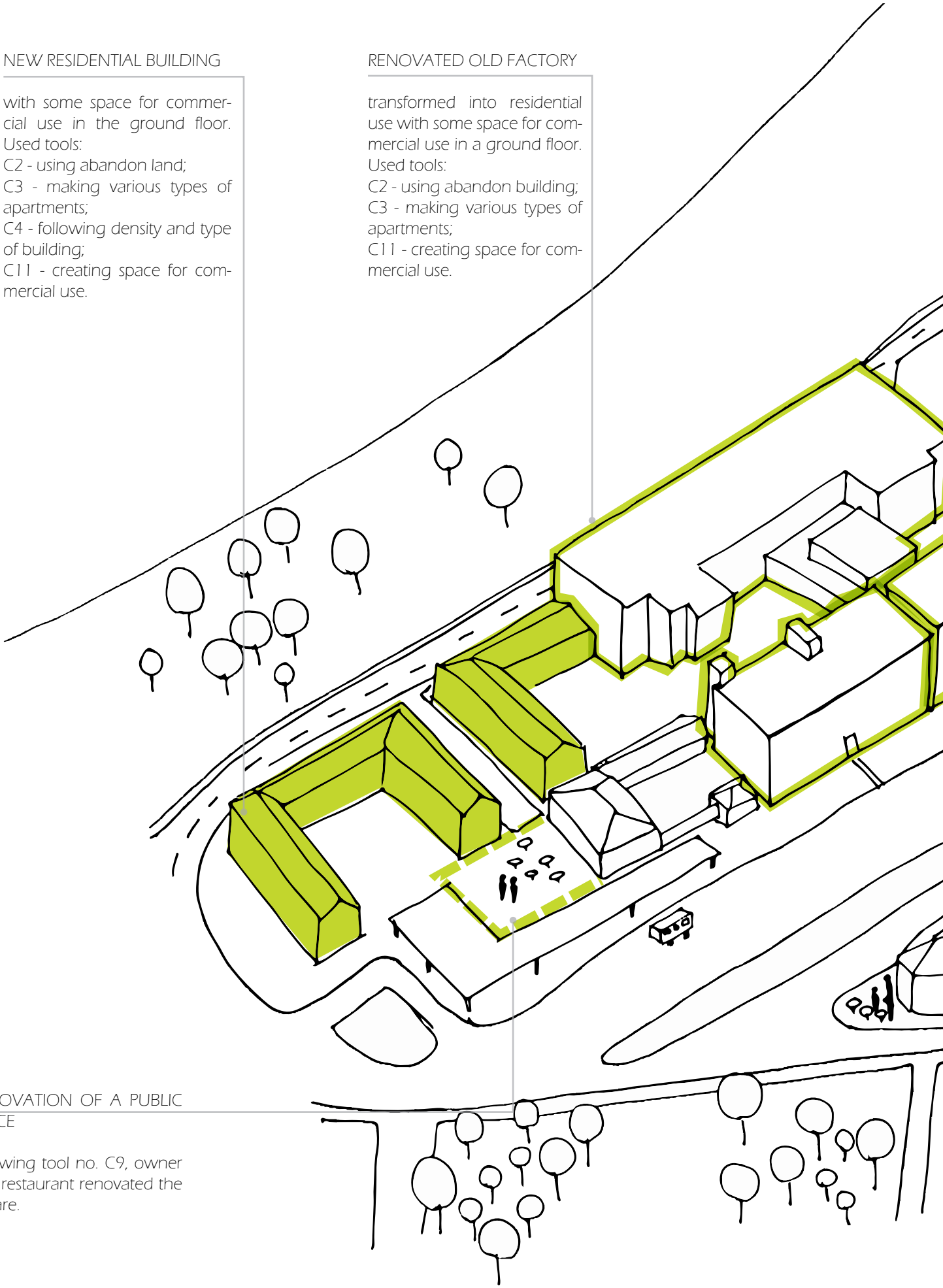
Different areas for implementation of tools are marked according to colour underneath it  
Applicable everywhere  
Implementation 135

### NEW RESIDENTIAL BUILDING

with some space for commercial use in the ground floor.  
Used tools:  
C2 - using abandon land;  
C3 - making various types of apartments;  
C4 - following density and type of building;  
C11 - creating space for commercial use.

### RENOVATED OLD FACTORY

transformed into residential use with some space for commercial use in a ground floor.  
Used tools:  
C2 - using abandon building;  
C3 - making various types of apartments;  
C11 - creating space for commercial use.



### RENOVATION OF A PUBLIC SPACE

following tool no. C9, owner of a restaurant renovated the square.

# CITY CENTRE

## IMPLEMENTATION

### EXTENSION OF A BUILDING

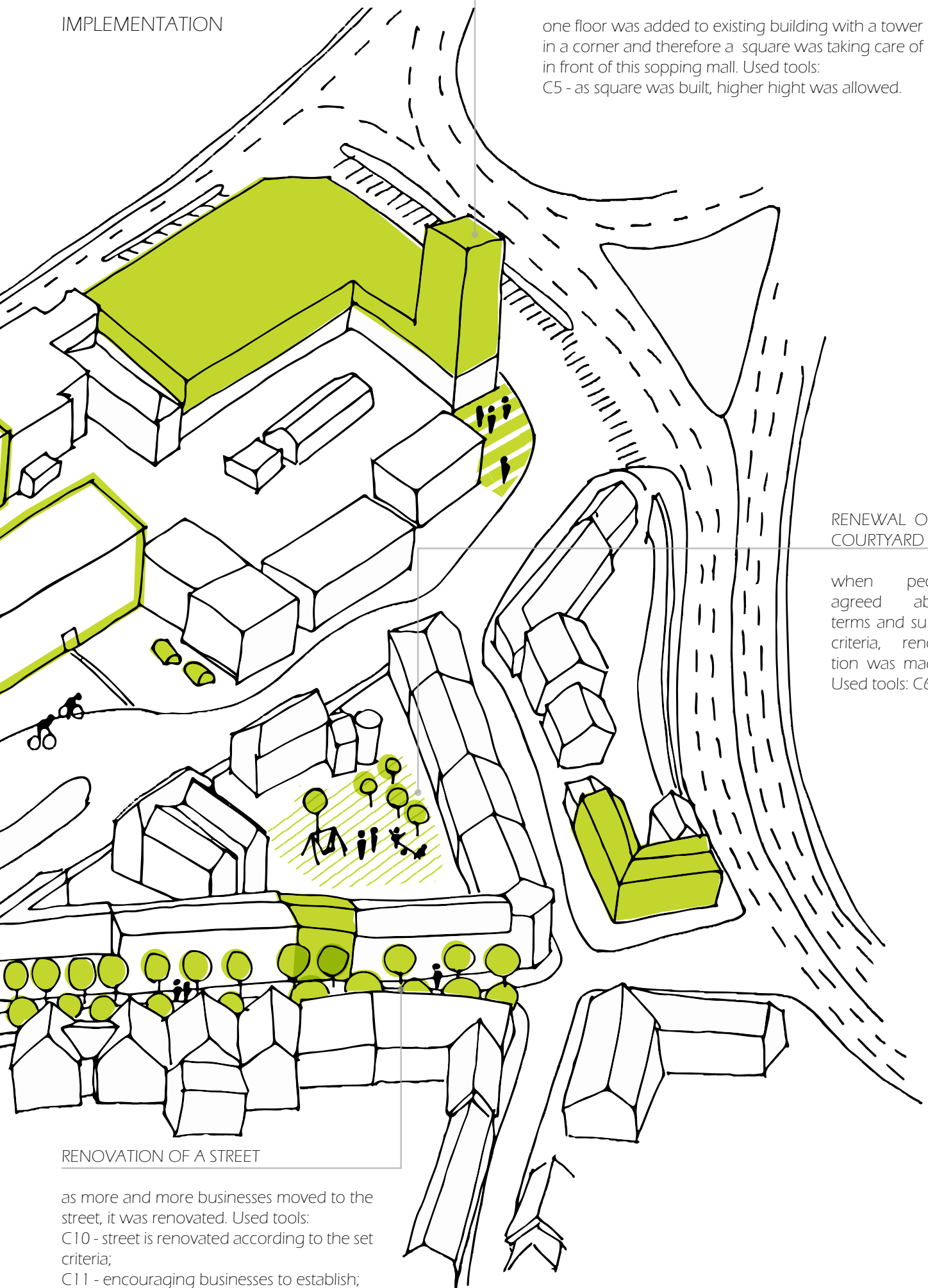
one floor was added to existing building with a tower in a corner and therefore a square was taking care of in front of this shopping mall. Used tools: C5 - as square was built, higher hight was allowed.

### RENEWAL OF A COURTYARD

when people agreed about terms and suit all criteria, renovation was made. Used tools: C6.

### RENOVATION OF A STREET

as more and more businesses moved to the street, it was renovated. Used tools: C10 - street is renovated according to the set criteria; C11 - encouraging businesses to establish;



Existing



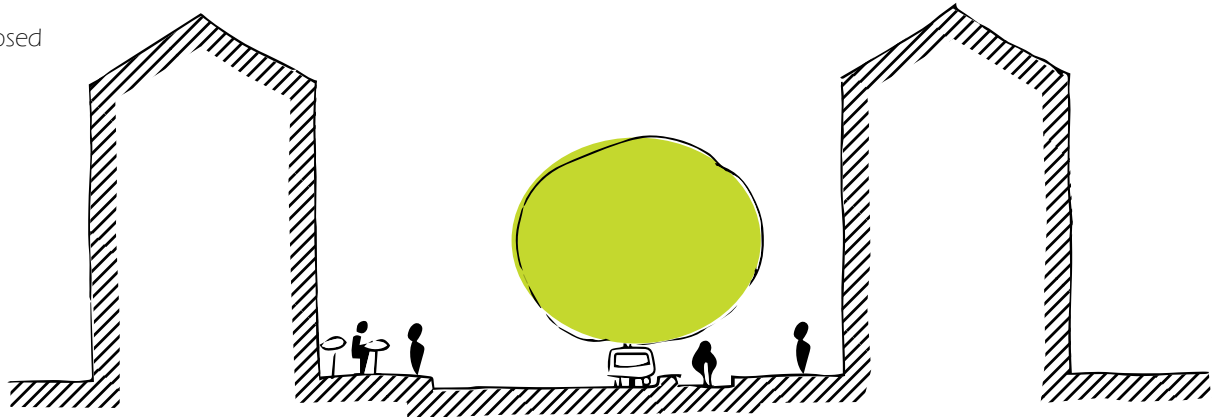
Sidewalks  
3m  
Shop fronts

Street 8m  
<50 km/h  
one way, two lanes

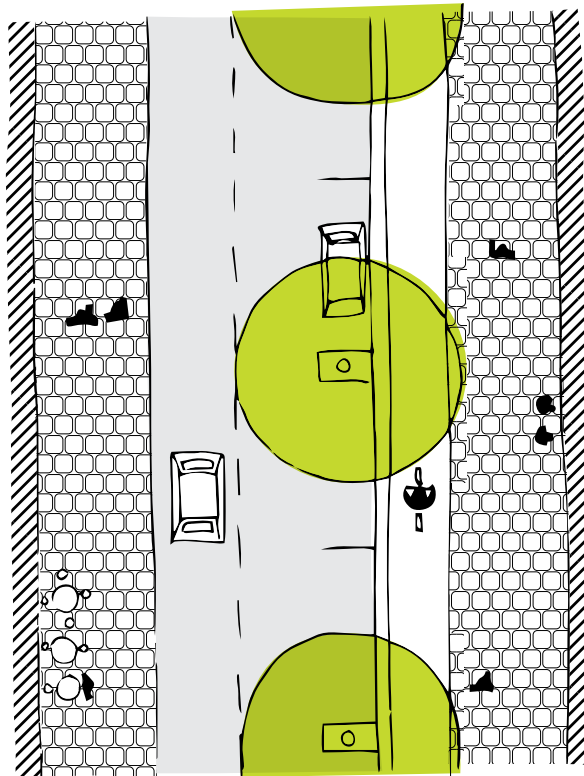
Sidewalk  
3m  
Shop fronts  
60° parking  
2x5,2m

M 1:250

Proposed



M 1:250



Wide sidewalks 4m< Bike lanes 2m 4m< Wide sidewalks  
Shop fronts together with Slow street 6m Parallel parking 2x6m  
<50 km/h

M 1:250

# CITY CENTRE

Existing



Wide sidewalks  
4m<  
Shop fronts

Street 7m  
<50 km/h

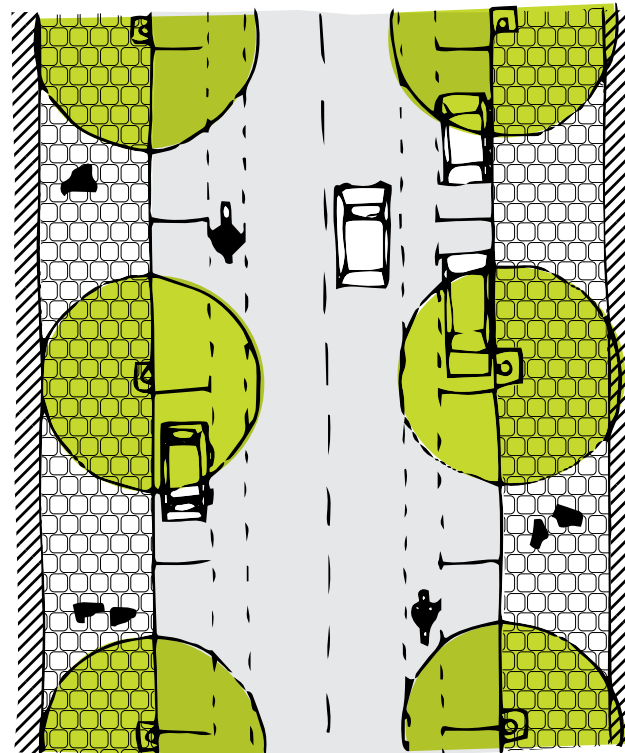
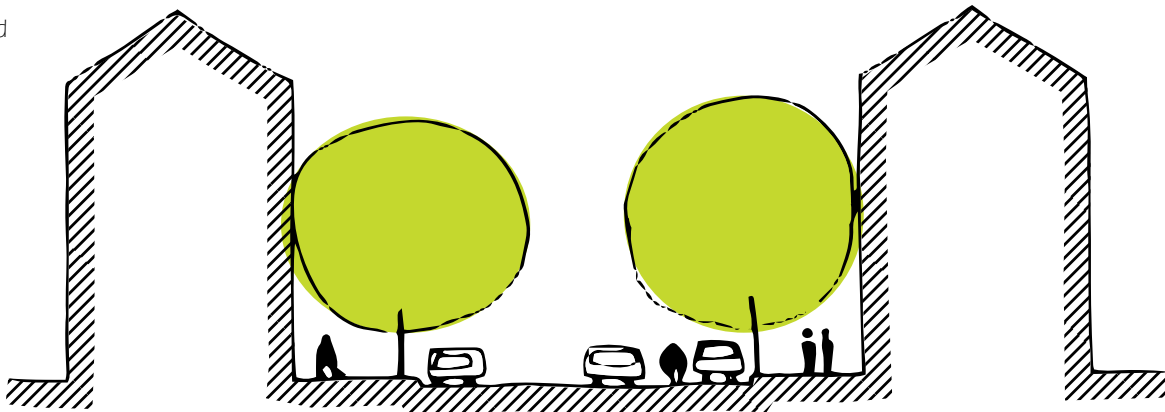
Small sidewalk  
1-2m

Parallel parking  
2x6m

Perpendicular parking  
5.5x2.5m

M 1:250

Proposed



M 1:250

Wide sidewalks  
4m<  
Parallel parking  
2x6m

Bike lanes 1,25m  
together with  
slow street 5,5m  
<50 km/h

Wide sidewalks  
4m<  
Parallel parking  
2x6m

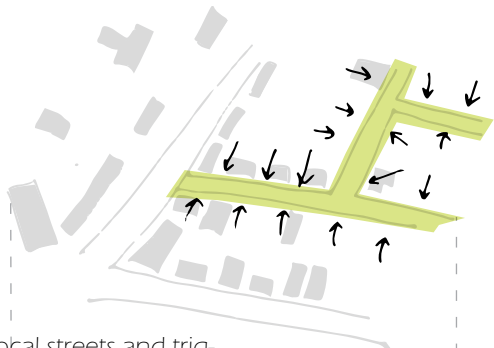
M 1:250



# CITY CENTRE

IMPRESSION





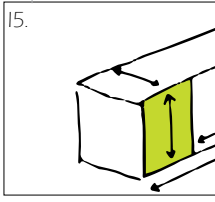
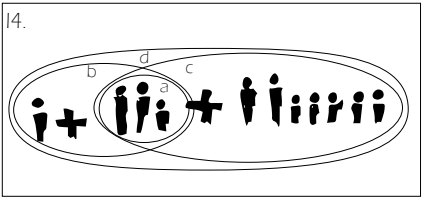
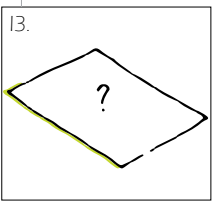
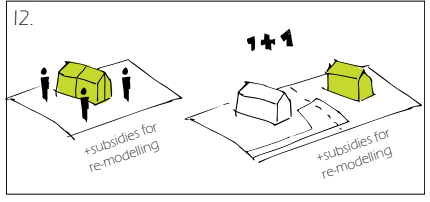
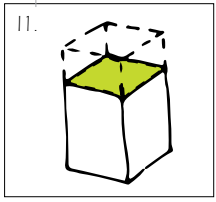
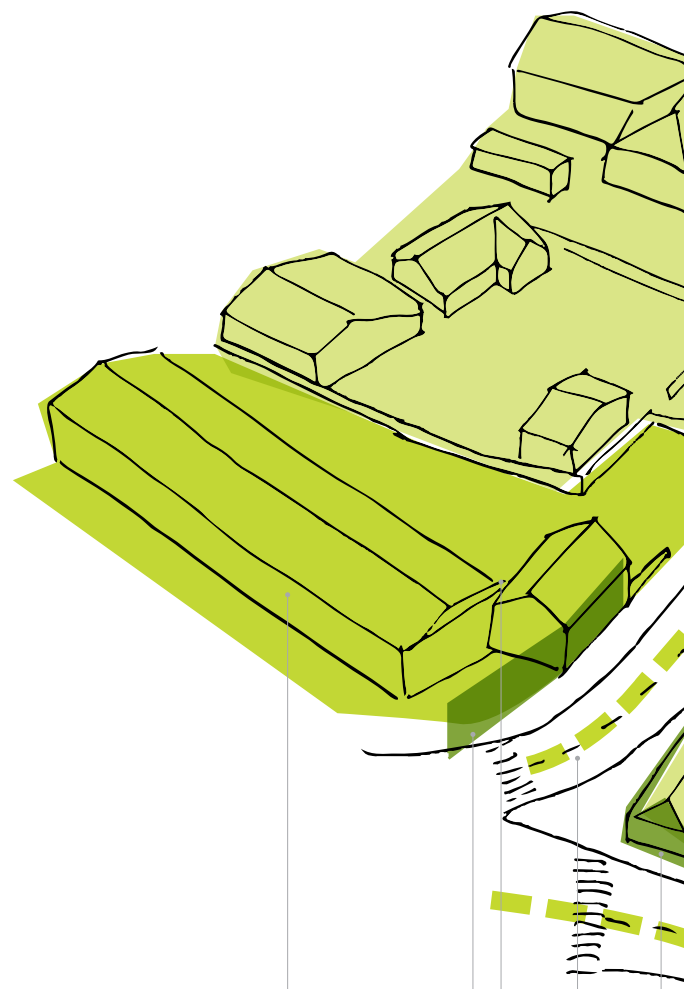
reviving local streets and triggering social life there



activating streets and enabling walkability there by encouraging small business



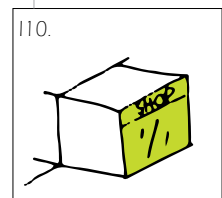
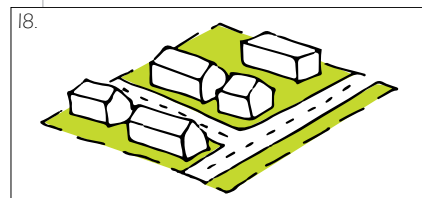
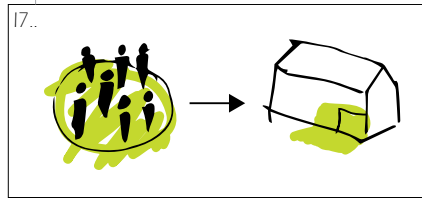
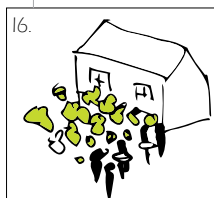
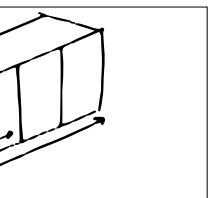
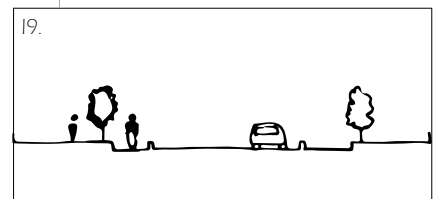
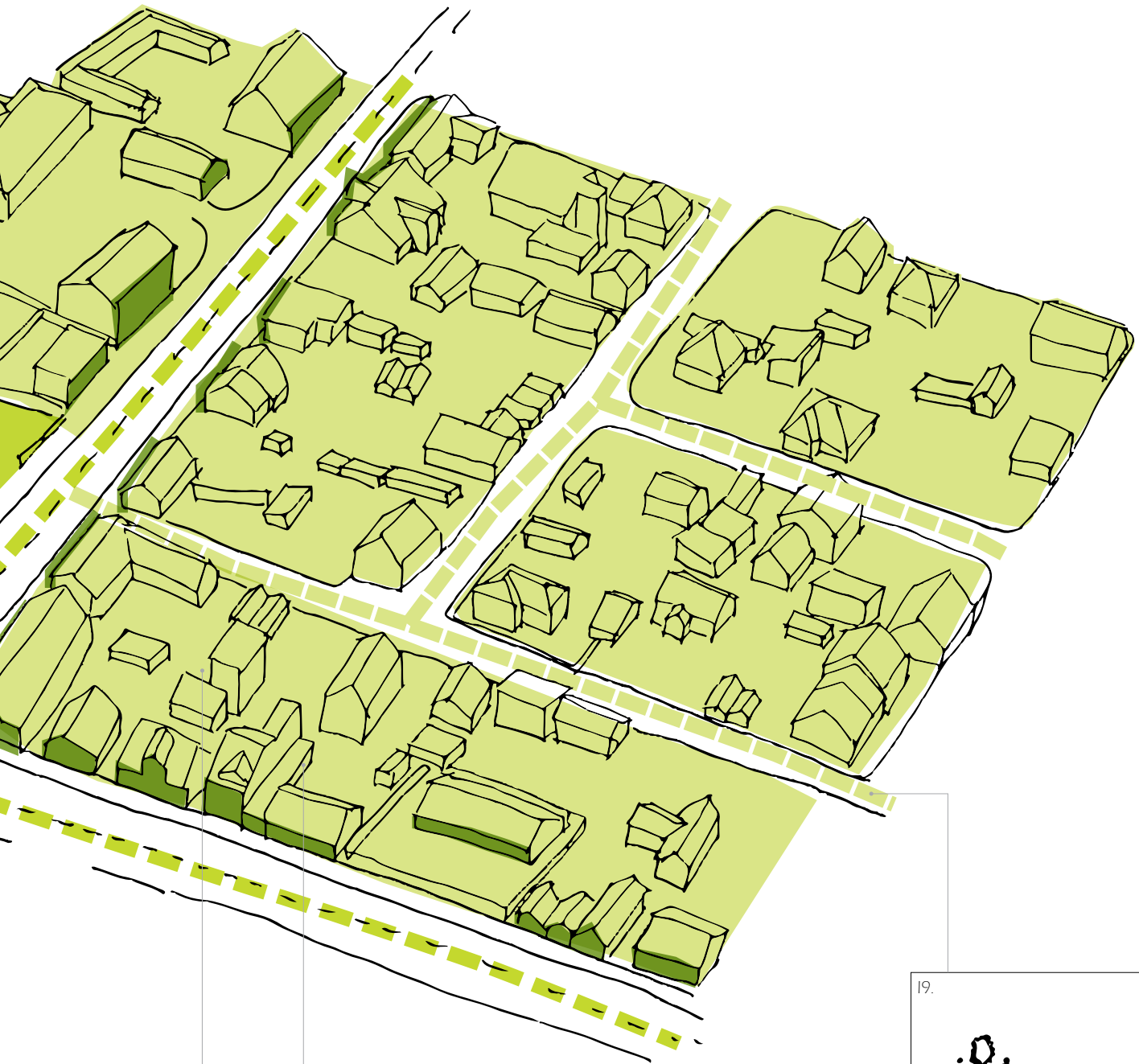
existing situation





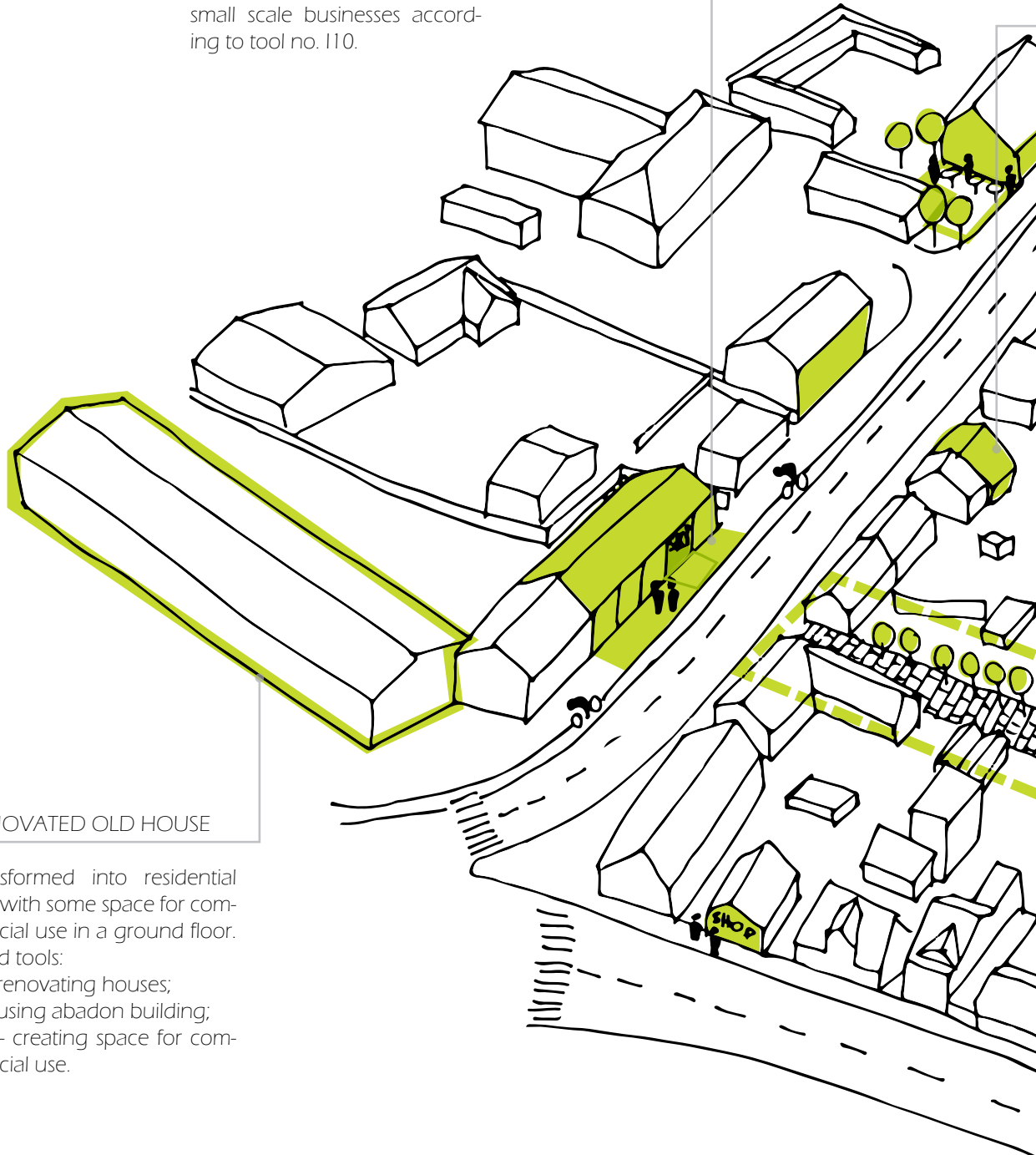
# INTERMEDIATE AREA

MAP OF TOOL IMPLEMENTATION AREAS



### NEW COMMERCIAL USE

more space was established for small scale businesses according to tool no. 110.

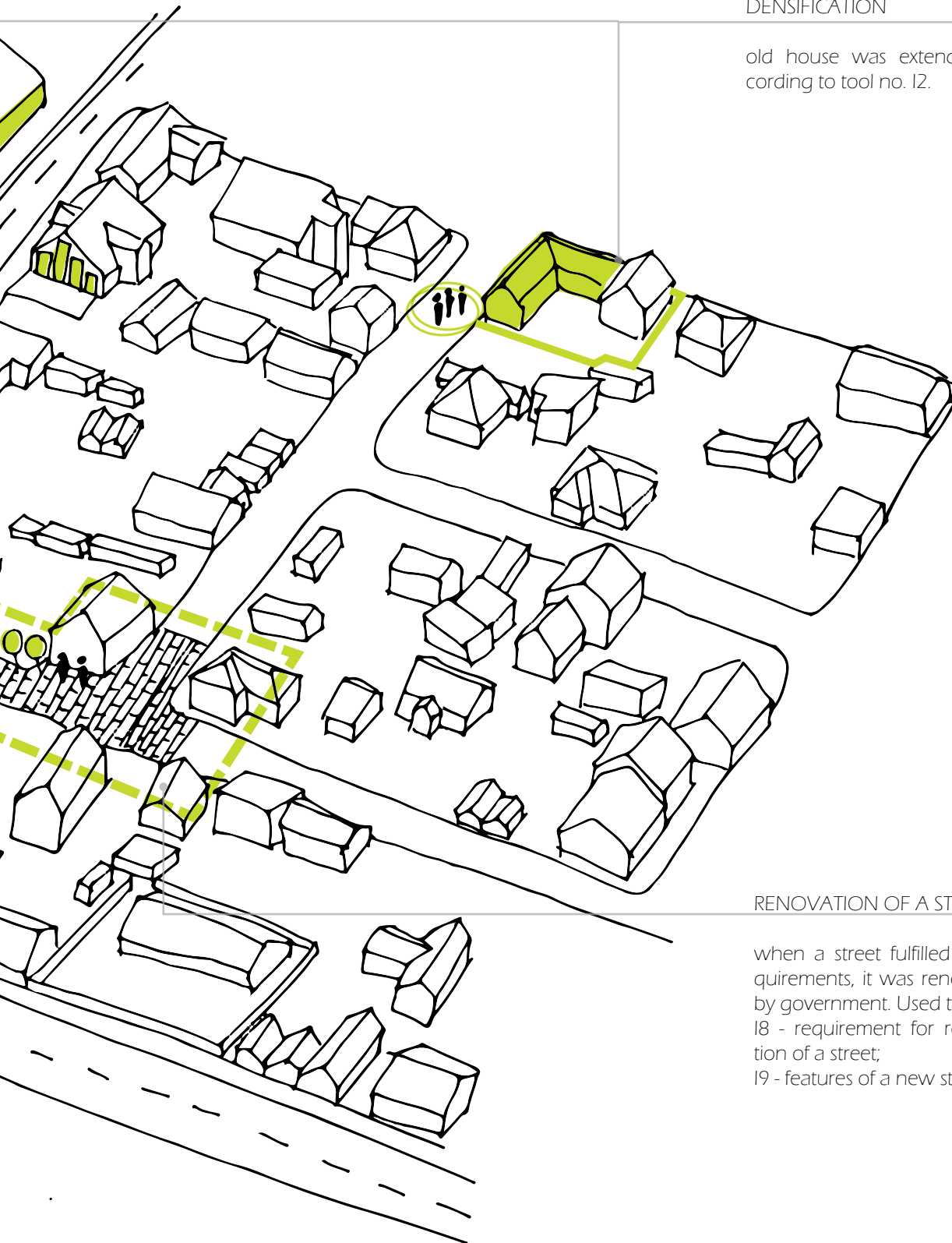


### RENOVATED OLD HOUSE

transformed into residential use with some space for commercial use in a ground floor.  
Used tools:  
I1 - renovating houses;  
I3 - using abandon building;  
I10 - creating space for commercial use.

# INTERMEDIATE AREA

## IMPLEMENTATION



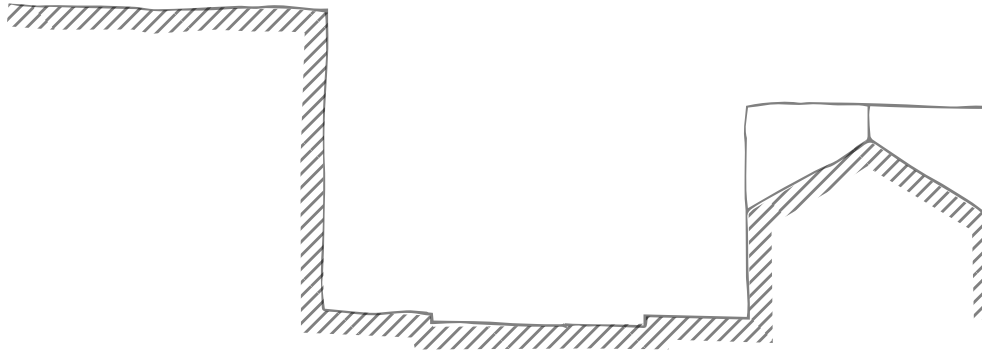
### DENSIFICATION

old house was extended according to tool no. 12.

### RENOVATION OF A STREET

when a street fulfilled all requirements, it was renovated by government. Used tools:  
18 - requirement for renovation of a street;  
19 - features of a new street.

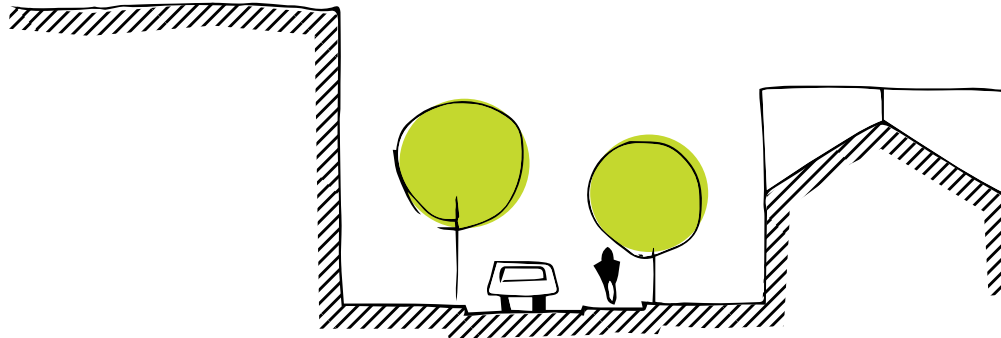
Existing



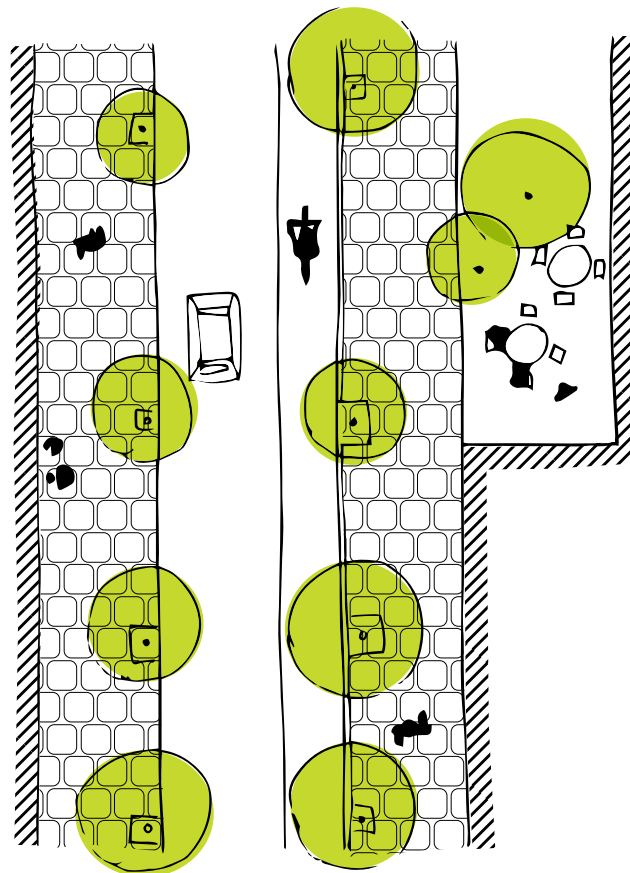
M 1:250

Sidewalks 3m Street 8m Sidewalks 3m  
 >50 km/h

Proposed



M 1:250

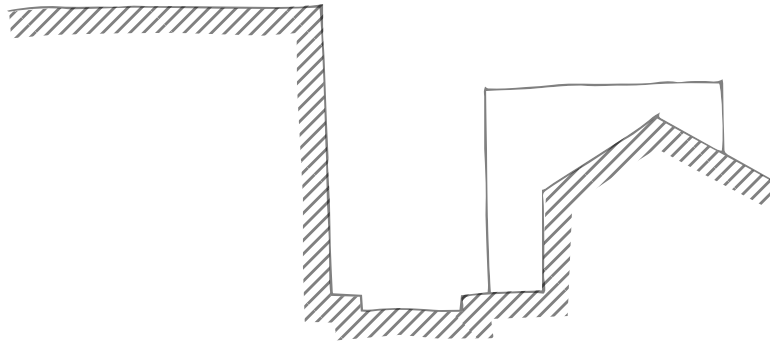


M 1:250

Wide sidewalks 4m< Bike lanes 2m  
 Slow street 4m <40 km/h Wide sidewalks 4m<  
 Shop fronts

# INTERMEDIATE AREA

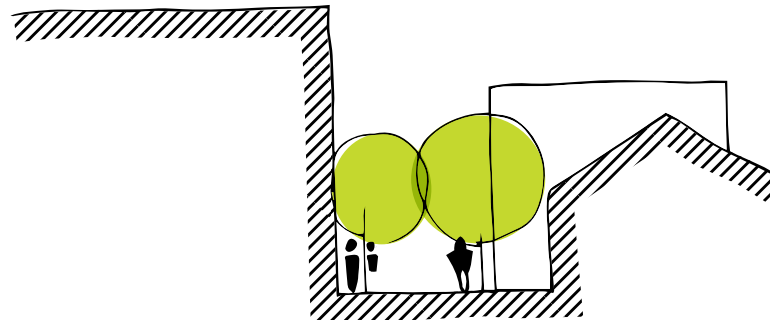
Existing



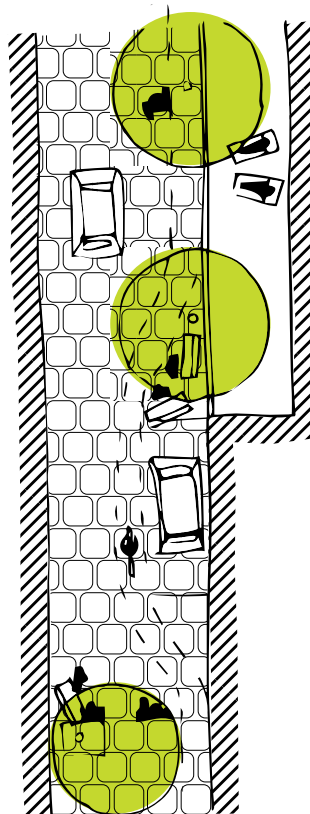
M 1:250

Sidewalk 1m Street 3,5m >40 km/h Sidewalk 1m

Proposed



M 1:250



M 1:250

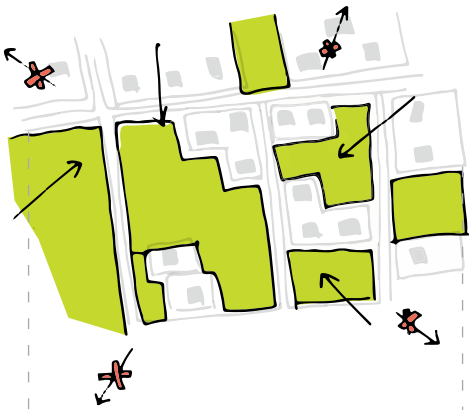
Street 5,5m  
Driving <30 km/h  
Walking  
Cycling  
Playing



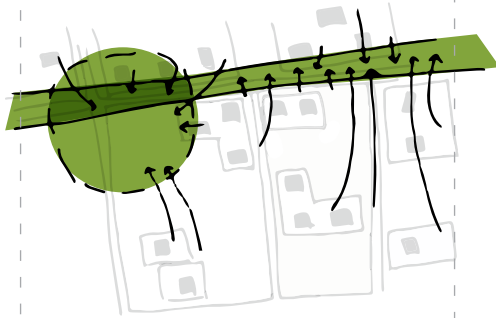
# INTERMEDIATE AREA

IMPRESSION





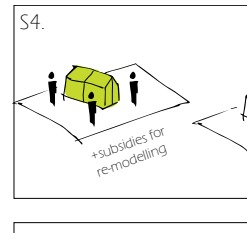
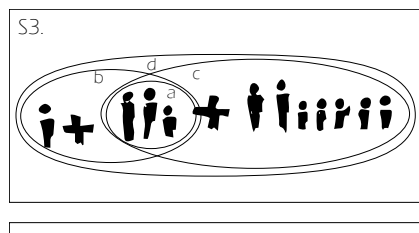
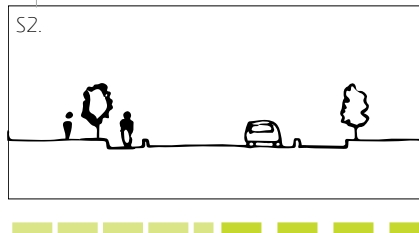
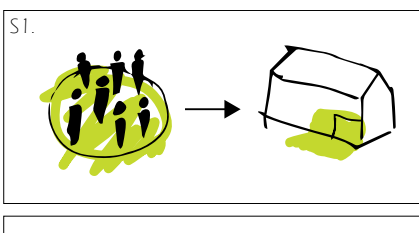
finishing urban pattern and stopping extensions



making quality public spaces enabling streets and encouraging walking by putting new businesses



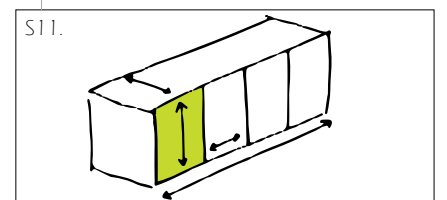
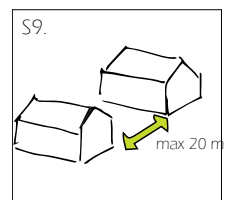
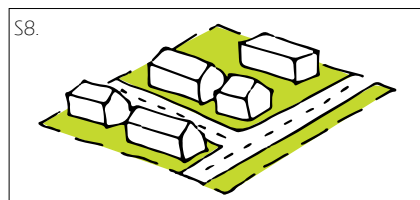
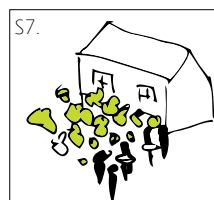
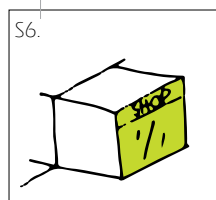
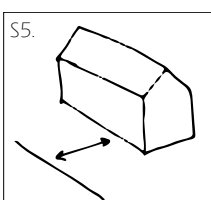
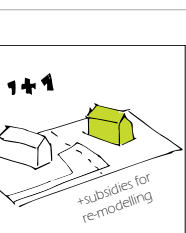
existing situation



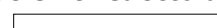


# SUBURBIA

## MAP OF TOOL IMPLEMENTATION AREAS



Different areas for implementation of tools are marked according to colour underneath it



Applicable everywhere

Implementation 151



NEW PUBLIC SPACE

new public space was built according to few tools. Most important was the usage of empty land. Used tools:

S10 - using empty land;

S1 - the Housing Corporation is developing a new housing;

S6 - creating space for a commercial use in a ground floor;

S9 - proximity to other buildings is very close;

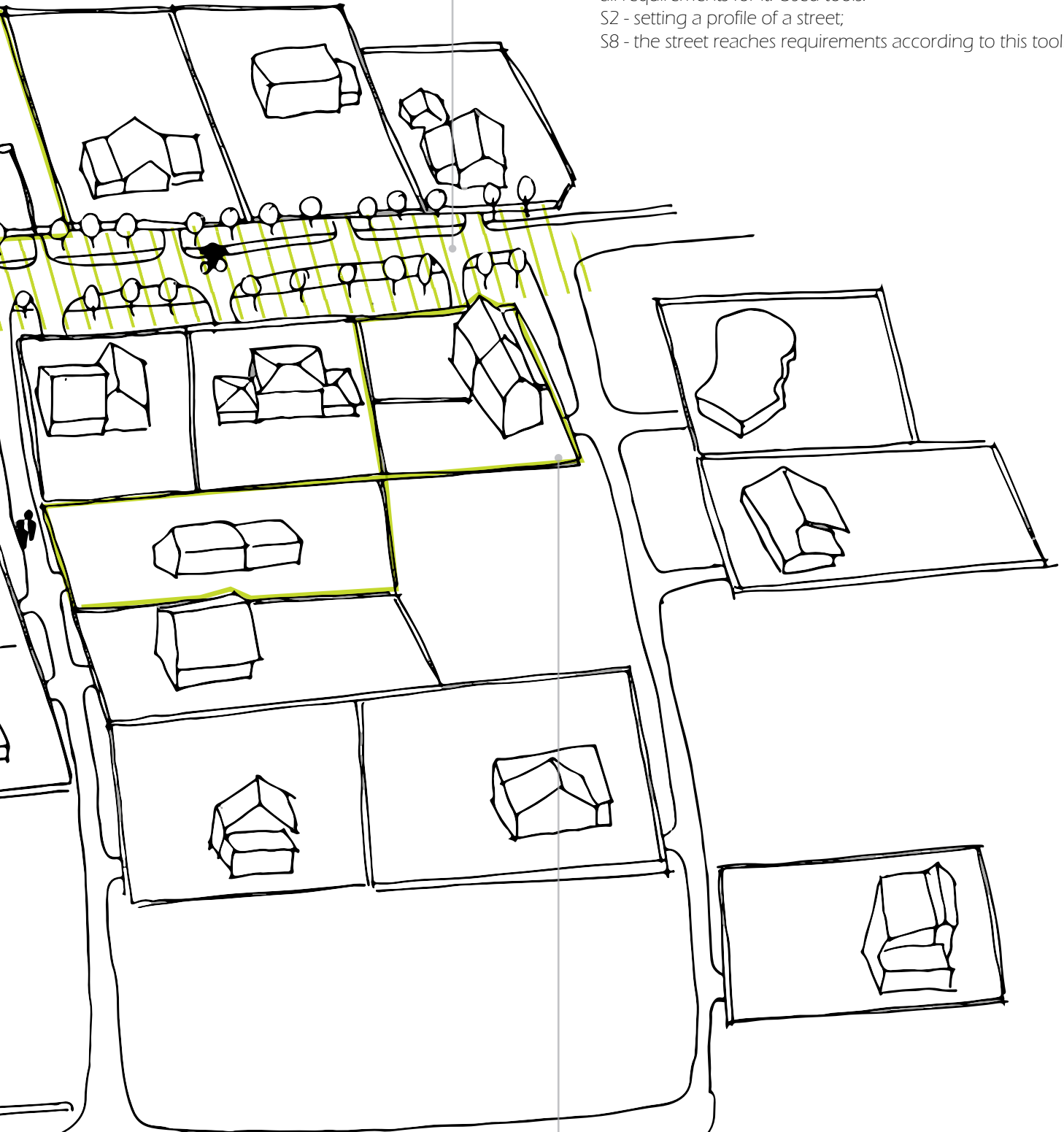
S11 - the new house follows all requirements for types according to the toolbox

# SUBURBIA

## IMPLEMENTATION

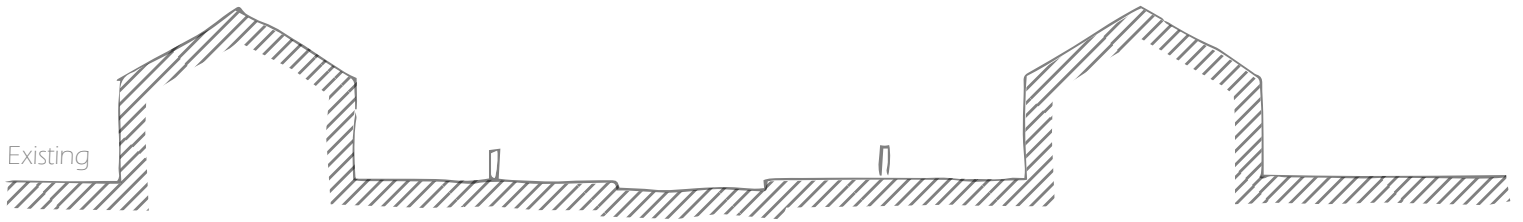
### RENOVATION OF AN ACTIVE STREET

the street was renovated by the government as it reached all requirements for it. Used tools:  
S2 - setting a profile of a street;  
S8 - the street reaches requirements according to this tool.



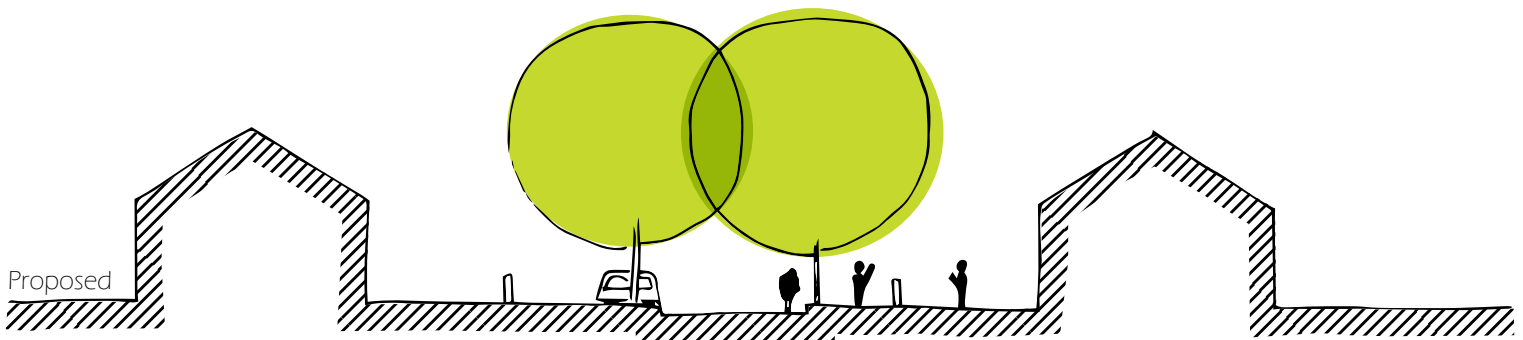
### DENSIFICATION OF EXISTING URBAN PATTERN

according to the tool no. S4, households started to change and densify existing urban pattern by dividing their land plots.

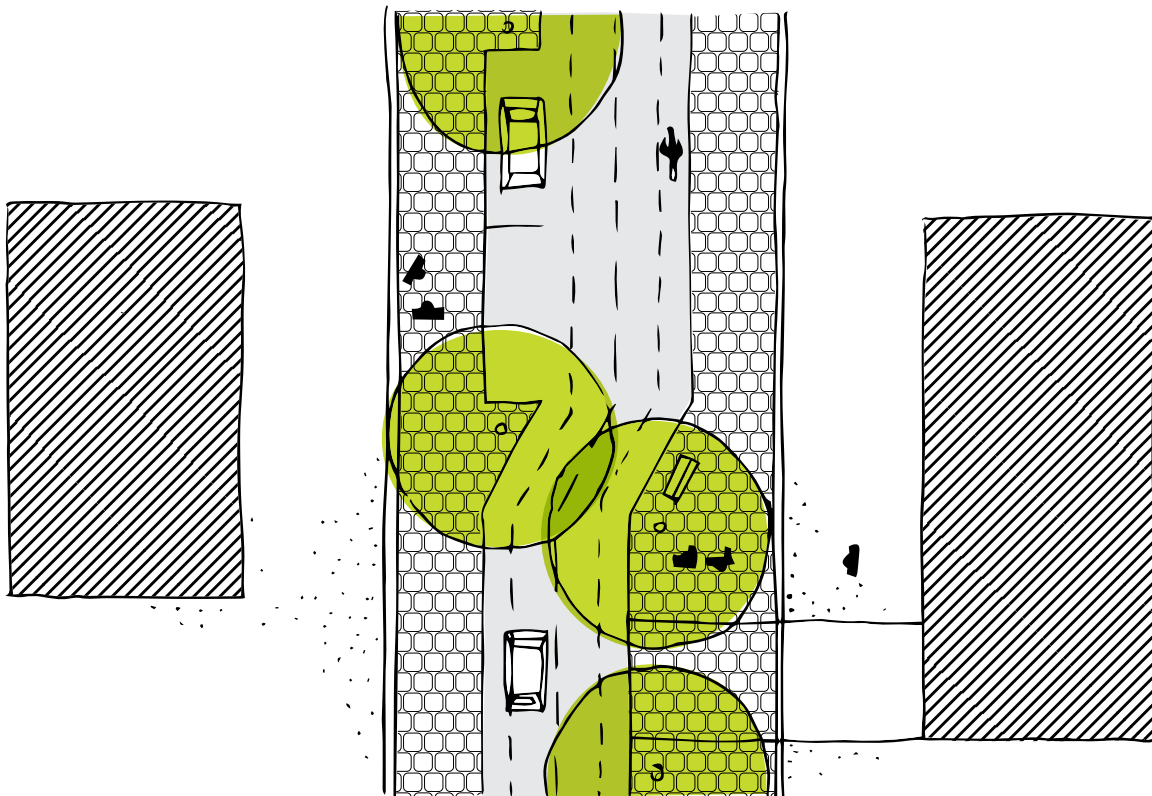


M 1:250

leftover space no sidewalks Street 8m <50 km/h leftover space no sidewalks



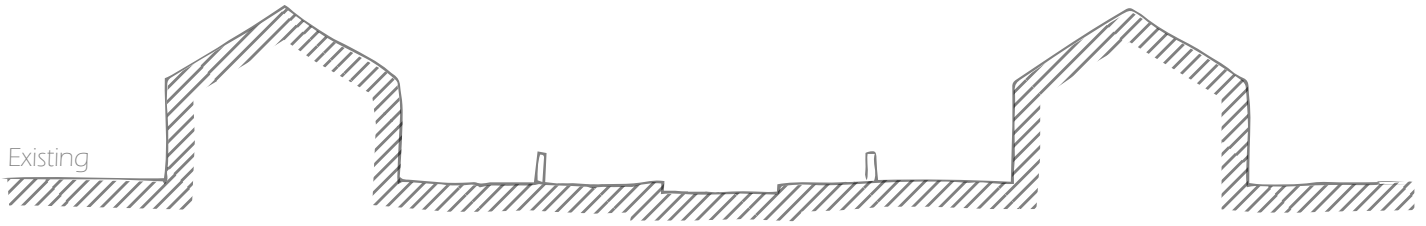
M 1:250



M 1:250

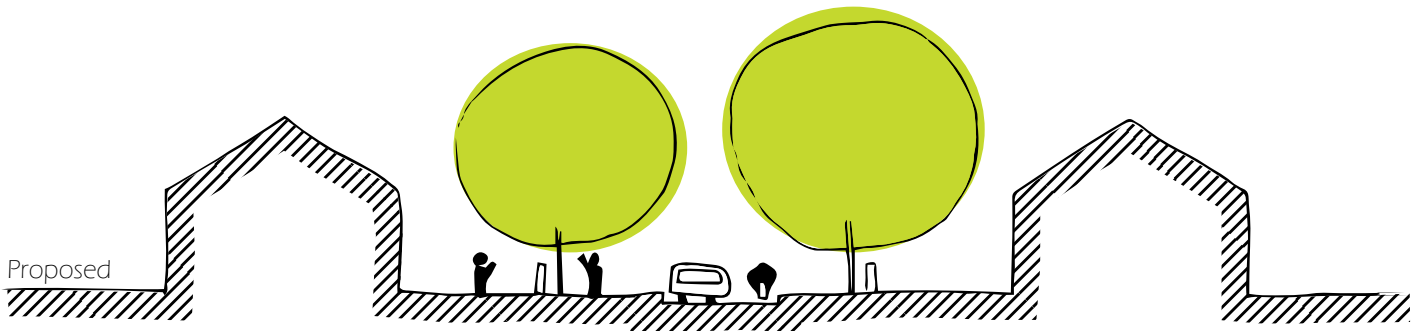
Wide sidewalks 3m Some parallel parking 2x6m  
 Bike lanes 2m together with Slow street 8m <50 km/h  
 Wide sidewalks 3m

# SUBURBIA

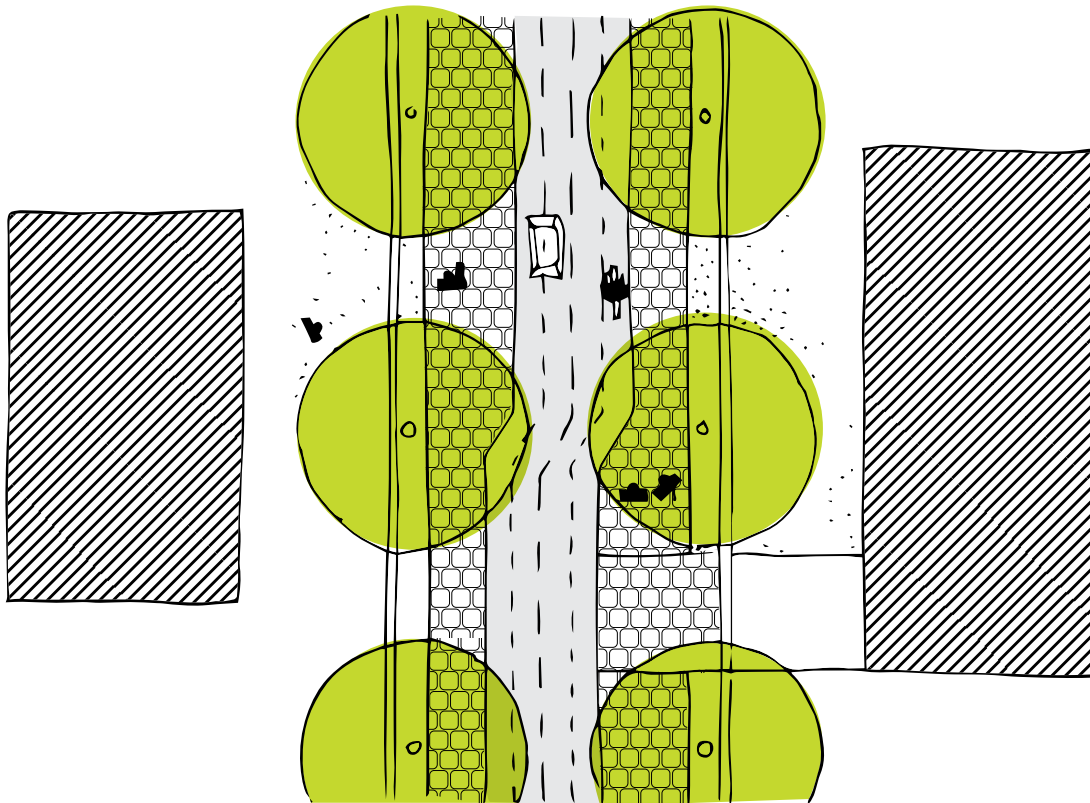


M 1:250

leftover space Street 7m leftover space  
no sidewalks <50 km/h no sidewalks



M 1:250



M 1:250

Wide sidewalks      Wide sidewalks  
3m      Bike lanes 2m      3m  
together with  
Slow street 8m  
<50 km/h



# SUBURBIA

IMPRESSION







## Reflection

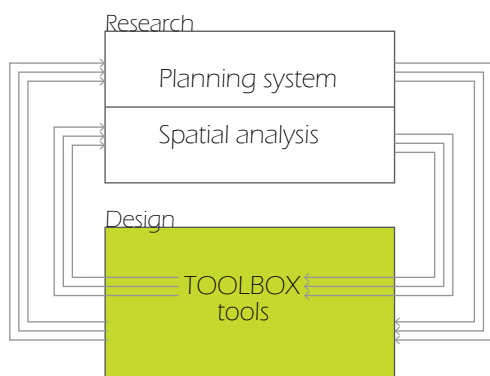
The aim of this chapter is to look back and see if chosen approach worked, to understand why it worked and what I can learn from it - to conclude entire graduation thesis.

## THE RELATIONSHIP BETWEEN RESEARCH AND DESIGN

My research questions are based on analysing the planning system and its performance in the Kaunas region. It showed that planning system is not efficient: lack of institutional coordination in planning, insufficient financing, poor implementation of laws and regulations are the main factors leading to dispersion of cities as all the power is given to market developments and they are taking over the creation of the cities in Kaunas region. Deriving from this, design was created (toolbox) which could indeed function in existing situation. This is not a planning law but a set of open guidelines for developers, administrators and property owners to improve urban and landscape qualities. Knowing how does the system work was a key element to derive to created toolbox. Instead of making massive regeneration plans it enables singular developers to build in a sustainable way and be responsible for the sustainable future of their city.

Spatial analysis helped to not only find existing issues in the region, but also to identify key elements, that need to change in order to reach set goals in the most easy and efficient way, aiming at crucial points. They are expressed in designed toolbox as tools (content of toolbox).

To conclude it can be noted that 'research driven design' - design that derived from the research is a crucial factor of the thesis, where the analysis of planning system brought me the underlying idea of the toolbox and spatial analysis gave a concrete content for it.



## THE RELATIONSHIP BETWEEN THE THEME OF THE GRADUATION LAB AND THE SUBJECT/CASE STUDY CHOSEN BY THE STUDENT WITHIN THIS FRAMEWORK

Spatial planning system in Lithuania is relatively young, as the first planning laws came out only in 1995. Moreover, emphasis on planning only started to grow in 2010, as previously the government was focusing on economical growth of the country. Therefore, planning system in Lithuania is very young and raw, there is no planning tradition, a lot of inconsistency and no vision of a sustainable future.

Regional governance in Kaunas - is a critical issue that needs to be revised and analysed. Therefore, 'Regional governance, planning and design' studio enabled me to get the most outcome from analytical research of the planning system and it is one of the most important aspects of the graduation thesis, because it is questioning effectiveness of regional planning nowadays and how it is losing its political influence, while in independent Lithuania it never had any power.

In the end governance played the main role while creating a design. Design is based on the governments approach (toolbox) that doesn't force sustainable future, but rather enables various actors to revive the region in a sustainable manner.

## THE RELATIONSHIP BETWEEN THE METHODOLOGICAL LINE OF APPROACH OF THE GRADUATION LAB AND THE METHOD CHOSEN BY THE STUDENT IN THIS FRAMEWORK

Regional design and governance research group is concerned with governance of metropolitan regions in the context of increasing complexity and fragmentation of spatial relationships. Thesis is analysing planning system and influence of governance on planning in Kaunas region, where physical and mental heritage from Soviet times is still visible and makes impact on processes nowadays. Graduation thesis emphasizes the relationship between the planning policies, strategic planning and implementation of plans.

Influence of studio in the thesis is mainly in research part of planning system. This part was done by analysing planning system and its culture in Lithuania, historical evolution, using a variety of literature. It is followed by evaluation of existing plans (country, region, county and municipality scales), where emphasis is on housing areas, their types and roles. Analysis consists of interviews with professionals - planner in Lithuania and an architect actively involved in implementation of plans (making new housing).

The next part of research is spatial analysis, where region is analysed in economical, spatial, urban structure and infrastructure aspects to find the main problems to tackle in region.

Through the toolbox governance approach has been 'designed' to stimulate actors and stakeholders to work in direction of a sustainable and attractive region, when resources are limited and the planning base is poor, is answered in design part.

# REFLECTION

## THE RELATIONSHIP BETWEEN THE PROJECT AND THE WIDER SOCIAL CONTEXT

Market driven developments in Lithuania took over the entire planning a while ago and inhabitants have to adjust to these settings. Urban structure of Kaunas region is degenerating, as emphasize is put on short term benefits. Eventually there is social segregation in the entire country, where villages are declining, vast dispersed residential areas are growing and commuting times are high as never.

The case of Kaunas region as a post socialist city facing urban sprawl is a typical problem in post-Soviet cities. In such a places there is a huge issue with governance as there is lack of coordination and poor implementation of plans. It is essential to find a way to re-gain more power in spatial planning and direct new developments towards sustainability. Graduation thesis tries to tackle these problems and answer the questions through design. Created design is easily adaptable in various environments as parameters to make those tools may change, but principles stay the same. So the design is not a master plan but a set of design oriented guidances linked to concrete situations.

Moreover, the topic of dispersion in a wider context is also covered in the thesis, as the analysis of historical suburbs, residential neighbourhoods is done and design tries to intensify existing urban fabrics and make them more lively. Design tools enable people to actively participate in creation of their own city and as an mentioned previously a lot of main principles can be adapted in various places.

What should be emphasized is that the topic of urban and regional planning is not widely discussed in Lithuania so there is hardly any literature written about regional planning, academic base is very poor. Analysis of existing situation in Kaunas region generally reflects overall situation in the entire country.

# CONCLUSION

## WHAT I LEARNT DURING THIS PROJECT

On top of a substantial knowledge gained during research part about planning system in Lithuania and other foreign countries I also learnt a lot about smaller scale planning and inhabitant needs. During process of research and personal contemplations the role of planning in Lithuania was revealed.

The planning system in Lithuania has a very low performance, as their goal is to set a room for new developments instead of trying to solve existing urban problems. Moreover, levels of planning are not distributed well, as there occurs some repetitive plans (regional level plans - municipal level plans). Also, a huge gap between municipal level and detailed level occurs, as there are not enough resources to make detailed plans.

Even though sustainability problems occur and they are discussed in plans, its a very superficial. For example, plans try to guide growth of suburbs in the Kaunas regional plan by setting distance to existing houses for new developments, but at the same time maps are indicating enormous areas for new housing. Moreover, understanding of term 'sustainability' in Lithuania is a bit different and used as a populist term.

Housing problems and spread of cities are not only the wish of inhabitants, it is influenced by the quality of existing urbanisation, where quality of life is decreasing.

In order to accommodate the growing city and create more vibrant, balanced and compact structure model of a soft planning is chosen as a way to lead people and growth of Kaunas city towards sustainability without restricting rights to their land. It is crucial to Lithuanians mentality not to force what they can do with their land, not to restrict their rights. It is paying most of an attention towards existing urbanised areas and the way to improve it in order to stop the need to move to suburbia. Depending on type of neighbourhood different objectives are set, mainly concentrating on quality of life of inhabitants, small scale interventions.

## THREATS

Despite easy to adjust project, there are still some threats. The most important is ignorance of people. As a lot of psychologists and politicians notice people are not easy to involve in public life in Lithuania. As this toolbox is requiring a lot of cooperation between various stakeholders and the government it might be too challenging for inhabitants as they don't want to get engaged. That is why I focussed on creating a toolbox which is easy to understand and it is supported by visuals which can be instantly linked to concrete situations.

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## DATA SOURCES

There are various data sources used in this graduation thesis, though it is hard to get information for some parts, so a lot of educated guesses were made as well as compilation of various informations.

Main data sources:

[www.stat.gov.lt](http://www.stat.gov.lt) (National Statistics Department of Lithuania, used for various statistical diagrams)

[www.transp.lt](http://www.transp.lt) (Department of roads, used for mapping car traffic intensity)

[www.openstreetmap.org/](http://www.openstreetmap.org/) (Open Source Maps, used for mapping basics in the region)

[www.lndb.lt](http://www.lndb.lt) (National Department of labour exchange, data used to find existing working places)

