

A painting depicting a man and a woman in a lush garden. The man, in the foreground, is wearing a light green short-sleeved shirt, light-colored shorts, and dark work gloves. He is looking down at something in his hands. The woman, on the left, is wearing a red top and a green skirt, looking towards him. In the background, there is a modern, multi-story apartment building with many windows and balconies. Other people are visible in the garden: a woman in a white dress and a man in a brown vest and white shirt. There are blue chairs and a table in the garden. The overall style is a realistic painting with a focus on human interaction in a modern urban setting.

Transition towards Sustainable City

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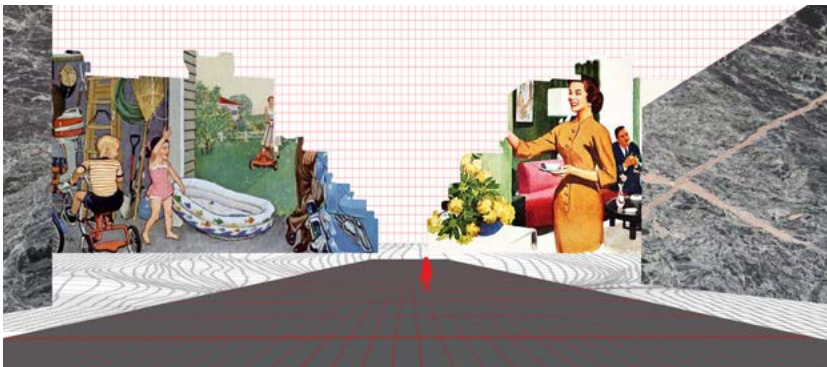
Post-war housing, sustainable development, Kaunas, post-socialist cities, spatial planning, governance

PREFACE

Location for graduation project – Kaunas, Lithuania. Lithuania is one of the countries that have been for 50 years a part of the communist bloc. 50 years of central planning and plan economy highly influenced the form of cities, the traditions of spatial planning and the habits of people to use space. After becoming independent, cities went through a complex period of transition from a communist ideology to a free market economy and neo-liberal ways of living. The problems in Lithuanian cities seem to be similar to those in the Western Europe (sprawl, commercialization, car oriented planning) but the context for these problems are very different.

The clash of different ideologies can be clearly seen in the communist housing estates in Lithuania. Places do not get enough attention from local authorities and are victims of market led planning. Ironically, places that have been designed under socialist ideology provided affordable housing, social infrastructure and public spaces while new interventions in an independent country are increasing spatial and social fragmentation, allow big scale commercial developments to occupy parks and valuable public spaces, there are only few improvements of existing housing stock, residential areas are surrounded by wide roads with no street life. It is as if 'the old enemy' cared about local communities more than current system representing the free society.

With research, strategic guidelines and design proposals I have tried to understand where Lithuanian Spatial Planning policies and governance model went wrong and what are the aspects of it that can be used to get back on track and provide a sustainable future for citizens of Kaunas.



Collage: Reclaiming the Utopia (author's image)

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Introduction



Riverside of Kaunas (author's image)

General Context

Lithuania is the southern most of the three Baltic States – and the largest and most populous of them all. The country is predominantly flat, with a few low hills in the western uplands and eastern highlands. Forests cover just over 30% of the country.

The most important sectors of Lithuania's economy in terms of GDP in 2012 were wholesale and retail trade, transport, accommodation and food services (32.9%), industry (25.1%) and public administration, defense, education, human health and social work activities (13.7%). Lithuania's main export partners are Russia, Latvia and Germany while its main import partners are Russia, Germany and Poland.

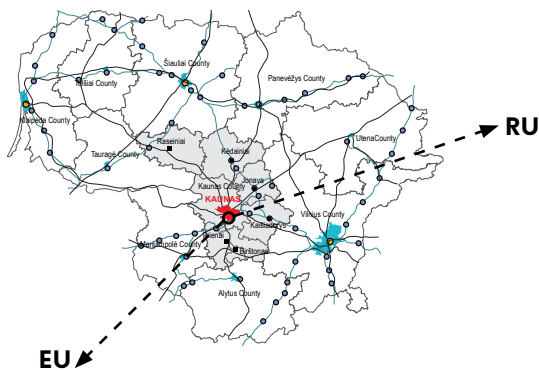


Figure 1: Location of Kaunas (author's image)

Kaunas is located on a strategic rail and transport roots with a first fast rail connecting Lithuania to Western Europe (first country to be connected from the Baltic States) and is an important transit point towards Russia. (Fig.1)

Kaunas is the second largest city in Lithuania and is established

in the intersection of two rivers: Nemunas and Neris. The city has a population of just over 300.000. The city is proud of its businesses and industry. It has two of the largest universities in the country (over 35.000 students), one of which is a technological university. The city has an ambition to become the science and innovation hub of Lithuania.

City in Transition

Contemporary post-socialist cities for 25 years have been going through a complex transitional period from Socialist Ideology to a more market oriented economy. Orientations to private funds and a more global neo-liberal approach to planning is common to the whole of Europe, but the process is gradual, (Newman & Thorneley 1996) while Eastern cities are going through a 'Shock therapy" (Smith 2007) period. The collapse of Communist state meant that all policies and attitudes had to be changed or revised in a matter of years.

It has been 25 years since Lithuania's independence from the Socialist Regime. Meanwhile, sprawl, big scale commercial developments, reduced quality of public space and auto-mobilization have become dominating patterns of a modern Lithuanian city. City planning is led by neo-liberal demands that are often misinterpreted as public needs or interests which should in actuality be the driver for urban planning.

A transitional period can be clearly seen in the urban structure of the city. To begin with, big supermarkets (which are a dominant typology of anything built in past years) come with mono-functional but huge GFAs to underdeveloped areas. While allowing such developments, municipalities try to compensate for a the demand for diverse program that was lacking after 60 years of socialist mono-functional, industry oriented urban planning.

Due to the change in ideology, in a matter of years, cities had to adapt to the increase in use of private transport, by providing pervious networks with huge amounts of parking spaces. More roads meant more cars, therefore less people on public transport as opposed to the socialist post-war city planning.

Open market meant that restrictions in choosing a house was eliminated, people could build one family house on open land in the city and move out of socialist post-war housing estates. People demanded, city allowed and thus grew as an uncoordinated city. Lots of dispersed urbanized conglomerations with no social amenities or commercial centers to cater for basic needs emerged all around the cities. This added up to increasing car usage.

With current development patterns, local government is completely neglecting residential areas built during socialist times, that houses today the biggest population of the city. Municipality neither solves urgent issues of housing estates, nor allows residents to take care of their own environment. Elderships administration, that are in direct contact with local community, have no power to act, and are rather representatives of municipality to the public, than representatives of residents to local government.

Mikrorayons are still treated as 'sleeping areas' rather than lively urban neighborhoods, which they have big potential to become. Despite being gray and monotonous, they do have lots of social amenities reachable by foot. Each mikrorayon has schools, kindergartens, a clinic, a post office and is surrounded by open green space.

Regulations of Spatial Planning

The new edition of the Law of territorial planning was adopted in January of 2014. New regulations try to make the planning process more transparent and give more tools for local authorities to manage territories and create healthier, livable, investment friendly cities. The new scale of planning was introduced: The detail plan for a neighborhood (lt. Kvartalo detalusis planas) was an extremely important step for Lithuanian cities. Before, the lowest scale of comprehensive plan was the city. Detail planning was done for the scale of plot to get building permission and was not categorized as part of comprehensive plan. Plans were prepared using cadastre data of neighboring plots and zoning rules dictated by the comprehensive plan.

The new scale gives an opportunity to move away from project based planning and ensure a higher level of public involvement. Though a big flaw in the system that remains is dependence on standards and norms and not actually trying to understand what kind of people live in the area and what are their actual needs are.

Aim of the project

Despite having a new level of planning, unsustainable development patterns of the city raises big concerns. Therefore the aim of this thesis project is to take a step back

and look again at the whole planning system in Lithuania: Understanding how it works in practice and to determine what are the standing threats are to the implementation of a new scale of planning.

The aim of the project is to use design (Design of strategy, decision making model, and design guidelines) as a tool to determine what aspects of spatial planning and governance have to change in order for the city to develop in a sustainable way.

Operationalization of the concept of Sustainable development will be the base of values guiding strategic and design guideline proposals for the mentioned scales.

Thorough research of the planning system and governance of the city of Kaunas led to the selection of a specific site (which requires the most urgent attention), continuing with understanding the place and developing on the designs. The goal of this project is not to solve all the problems but rather, through design, identify aspects in the planning system and governance that have to be changed or improved.

Research Question

What needs to be changed in Local Governance & Spatial Planning in Lithuania in order to achieve sustainable development of cities?

Sub-Questions:

- 1) What is the relation between local governance, spatial planning systems and unsustainable patterns in which the city develops?
- 2) How should the concept of sustainable development operationalize in order to better apply it in spatial planning?
- 3) How can values of sustainable development be applied to deliver sustainability through spatial planning on the scale of the neighborhood (test of detail plan of a neighborhood)?

Thesis Structure

The structure of this thesis is as follows: Problem field (in Regional and city context), thorough review of Lithuanian Planning system and local governance in the city of Kaunas, research on sustainable development theory and position on how to operationalize concept and use it in spatial planning, strategy of applying the concept, selection of site for strategic guideline project and pilot design project. Guidelines will be set for each scale, later reflecting if it would be possible to implement it within the current planning system and what would have to change.

Methods

RESEARCH METHODS

Policy Analysis

Policy documents vs. Implementation

A review of the Lithuanian Law of Territorial Planning (LTP) will be done comparing two editions of the documents LTP:2004 and LTP:2014. The Current planning documents are prepared in accordance to the edition of LTP from 2004. The new document of territorial planning was adopted in January 2014 which is still very fresh and has not been applied widely. First, the policy review and understanding by planning experts is made, then interviews are carried out with department of planning representatives of the Municipality of Kaunas and the director of municipal planning office of Kaunas: "Kauno Planas". Main issues of legislation and practical implementation are defined. Understanding the policy will make it easier in the end of the project to make a comparisons and recommendations.

Understanding historical context

The historical context is very important to understand both the form of the city, development, lifestyle patterns and culture. In the case of Lithuania, 50 years of communist occupation left not only wast areas of post war housing estates in suburban (at that time) areas of cities, but also left deep scars of insecurity, feeling of alienation therefor effected how people choose mobility types, how they use public space. For this research, understanding the shift from socialist to capitalist society is of crucial importance

Types of methods used: historical review, mapping, interviews.

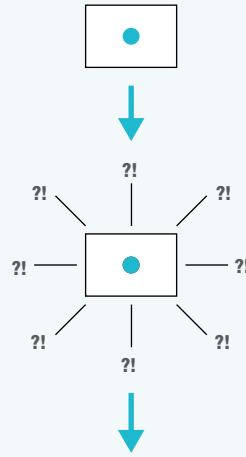
Understanding of the general concept of Sustainable Development and selecting values

The theoretical framework is based on the concept of Sustainable development. In order to form a position and understand concept better, a literature review will be carried out. The Concept is reviewed from different points of view in terms of what is understood as the "good" ways of achieving sustainable cities. On one side there are proponents of market oriented urban planning, decentralization, of low density, and on the other proponents of a compact city, density and mix use. The practical implementation is another topic to be touched in the research on sustainable development. This is done to understand how it is implemented, what the possible trade-offs are and how it can be evaluated. Evaluation of Lithuanian level of sustainable development is done and later used as problems to tackle in the strategy and the design.

RESEARCH

TAKE CONTEXT

UNDERSTAND PROBLEM FIELD



What needs to change in Local Governance & Spatial Planning in Lithuania in order to achieve sustainable development of cities?

THEORETICAL FRAMEWORK

How Local Governance & Spatial Planning works in Lithuania?

What is Sustainable Urban Development?

DESIGN

THEME SELECTION AND ANALYSIS

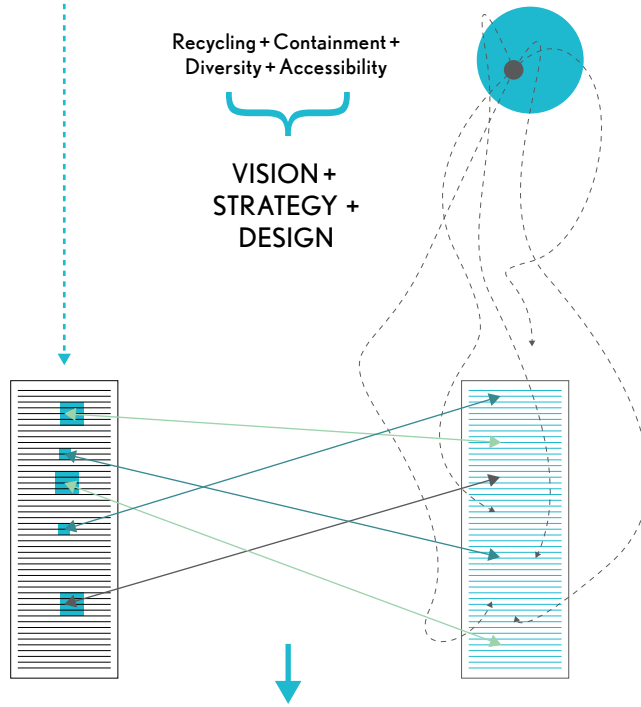
STRATEGY + PILOT PROJECT

CREATE GUIDELINES + GOVERNANCE MODEL TO ACHIEVE THE PLAN

ANSWER THE RESEARCH QUESTION

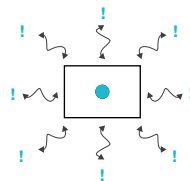
Recycling + Containment + Diversity + Accessibility

VISION + STRATEGY + DESIGN



REFLECTIONS

CONCLUSIONS & RECOMMENDATIONS



DESIGN METHODS

Theme of the design framework: **"Policy by design"**

One hand, this thesis is about proposing changes in the policy of planning and governance, on the other, design of a specific place within a chosen theme and scale become an instrument to understand the relationships between all three aspects of planning and identify, where the necessary changes have to be done first.

Strategy

The strategy is used as a tool to create a base for the design project. Selected values of sustainable development are applied on the different spatial layers of the city and help select the specific issues and area in the city to work on further.

Acting across scales

Strategy on the level of the city is translated into more detailed strategic guidelines for a post-war housing area in the city of Kaunas. Later these guidelines are used to do a pilot design project, in order to test how these guidelines could work.

Governance and the decision making models in planning are the binding element across all the scales. Recommendations conclude this thesis on what has to change in current spatial planning policy and governance to achieve the changes that would lead to a more sustainable future.

Proposing Guidelines

This thesis comes with the position that the role of the urbanist is no longer to produce blueprints but rather to coordinate knowledge and propose development guidelines that carry certain values (in this case, values of sustainable development: containment, accessibility, recycling and diversity).

1: Identify the main spatial and social problems in the city of Kaunas.

2: Analyze the Spatial Planning Regulations in Lithuania and the Local Governance model. The conclusions from the analysis lead to selection of the most urgent and relevant theme for the city to prepare design proposal for: Post-war socialist housing estates.

3: A guiding theme for the design proposal: Sustainable development. Four values of the concept are applied to create a design framework.

4: A design framework is translated into a strategic development plan for the part of eldership based on which strategic guidelines are prepared and compared to current spatial planning regulations. Location - Silainiai Mikrodistrict.

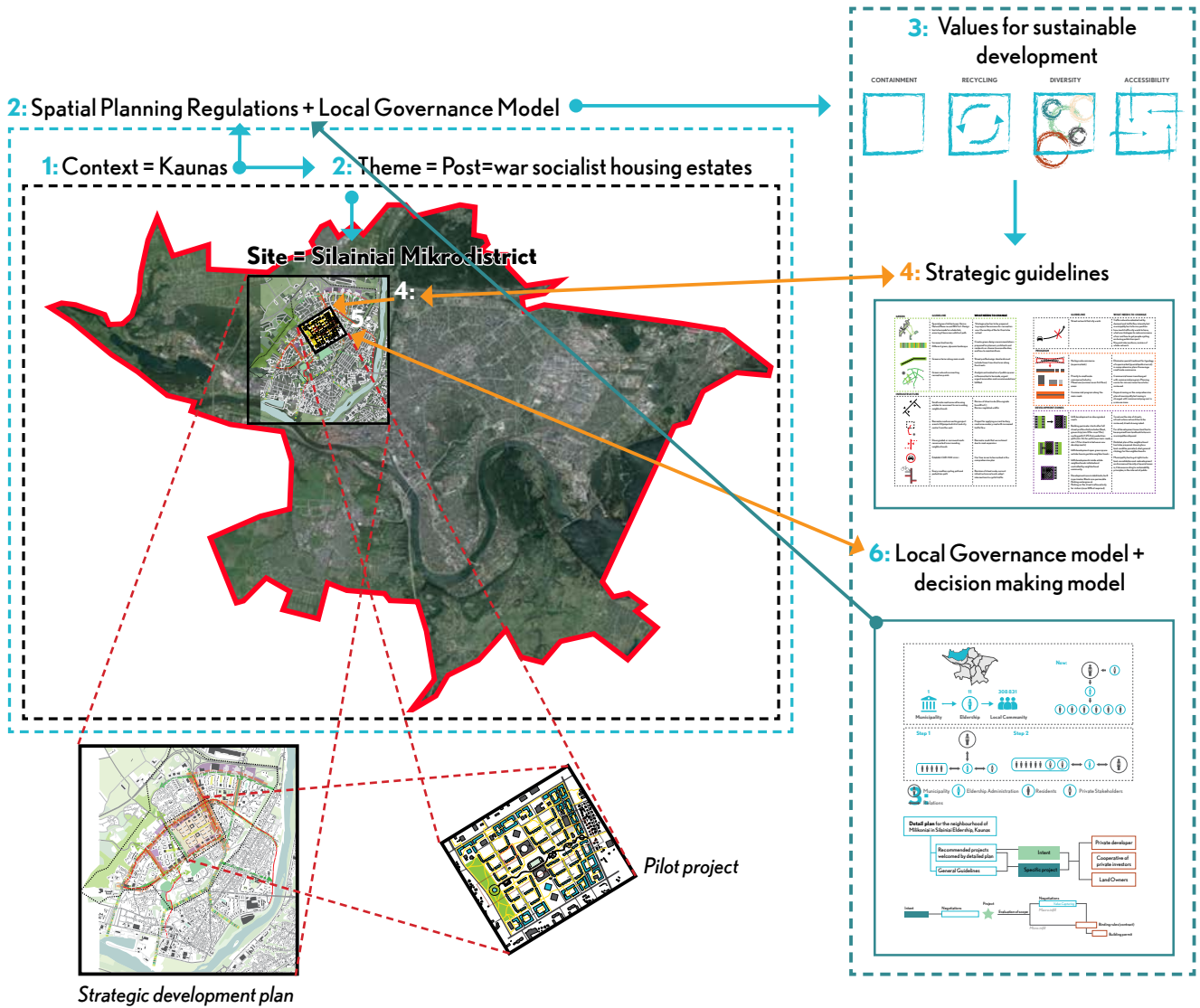
5. The strategic guidelines inform a pilot design project on the scale of the neighborhood. Pilot design consist of three parts: courtyards, public spaces and new developments. Design guidelines for this scale are proposed, stakeholders identified.

6. Both, the strategic guidelines for eldership scale and the pilot projects informs decisions on restructuring of the Local governance and decision making model for urban development.

Final outcome of the design proposal

is a reflection on the current spatial planning policy, the governance model and feedback on local issues concerning post-war housing estates.

DESIGN FRAMEWORK: POLICY BY DESIGN



Problem Field

Kaunas, Lithuania

THE URBAN STRUCTURE OF THE CITY

HISTORICAL DEVELOPMENT OF KAUNAS

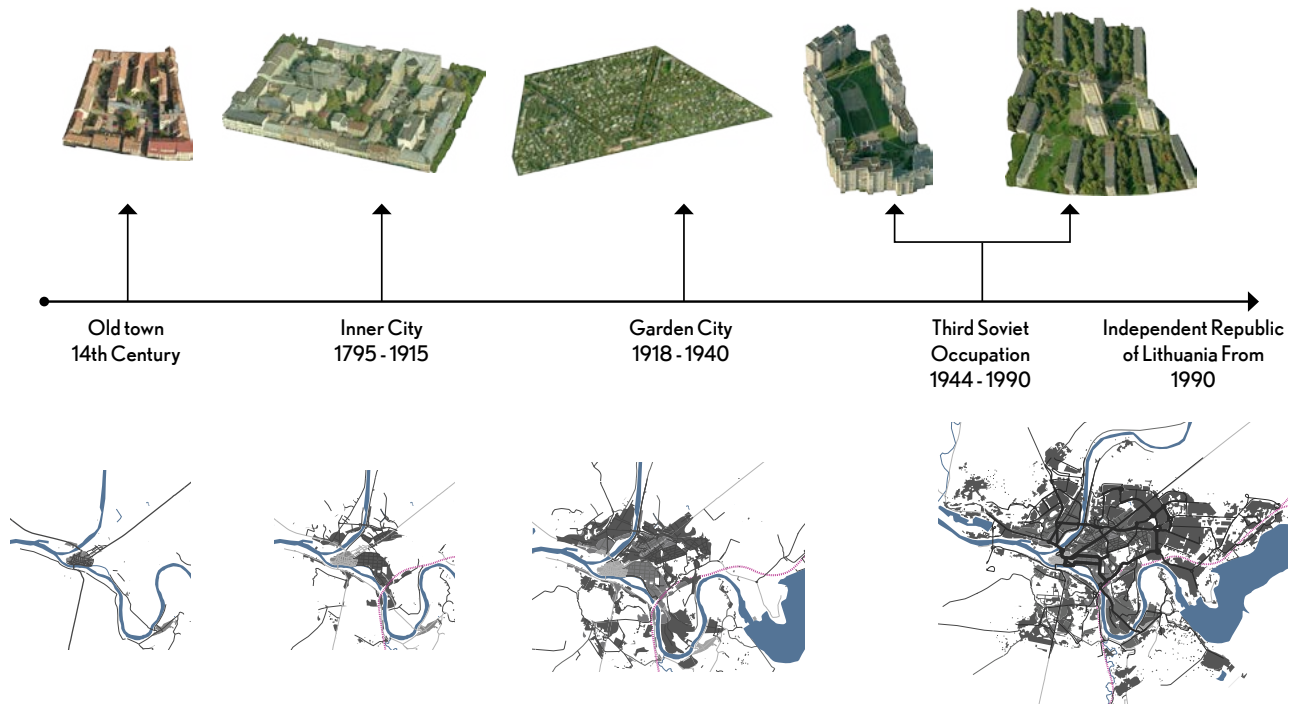


Figure 4: Historical Development of Kaunas (author's image)

During the Socialist period in Lithuania, Central Government used the central place theory based scheme to manage urbanization (Fig.2). The purpose of this scheme was to distribute services based on the fact that cities serve as centers serving surrounding settlements. Such centers provided services for a large number of people who were willing to travel. "It also attempts to provide a framework by which those areas can be studied both for historic reasons and for the locational patterns of areas today." (Sai Sumar, CGU4U-Models-in-Human-Geography2010)

Due to this concept, the process of urbanization of Lithuanian cities was proportionate to the number of cities that increased along with the urban population. This helped to avoid a dense concentration of population in a few big cities. The post-war policy of developing industry not only in large cities but also in medium-sized and small towns resulted in a better demographic situation in Lithuania than in the two other Baltic States. These towns were not so attractive to Russian migrants.

Lithuania's method of dispersed industrialization had a positive impact in forming the local urban network. At the dawn of regained independence there were 111 towns and 20,773 settlements in Lithuania. Forty-one percent of the population was concentrated in the 5 largest cities: Vilnius (580,099 inhabitants), Kaunas (418,707), Klaipeda (203,269), Siauliai (146,960), and Panevezys (133,347). A characteristic feature of the Lithuanian urban system and one of its privileges is the consecutively diminishing size of the main cities. The

population of the second largest city of Lithuania, Kaunas, is 72.5 percent of that of the capital (Vanagas J., 2002). After the Second World War, during the soviet occupation, cities were expanded with neighborhoods composed of



Figure 2. Principal scheme of Lithuania's urbanization (1964-1967).
1 - capital, 2 - regional centers, developed on the basis of big and middle-sized towns,
3 - regional centers, developed on the basis of small cities, 4 - centers of districts, 5 - local centers,
6 - direction of links, 7 - borders of regions.
Created by J. Vanagas

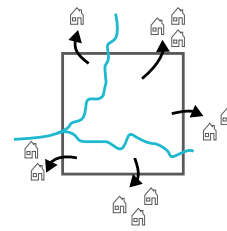
Figure 2: Principal scheme of Lithuania's urbanization (1964-1967). Christaller's central place theory model adapted to Lithuania. Source: Vanagas, J. 2003

high-rise, prefabricated residential slabs. S.Grava notices that "while private vehicles were rather scarce under the Soviet regime, the major streets in these new zones were designed with very generous dimensions and so built, if resources allowed." "The "towers in a park" design concept engendered by modern architects and city planners in the 1920s and 1930s, found its purest expression in the mikrorayons of the Soviet Union." Gray monotonous non-functional towers in blank environments could accommodate large numbers of

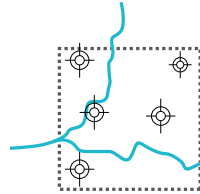
KAUNAS TODAY



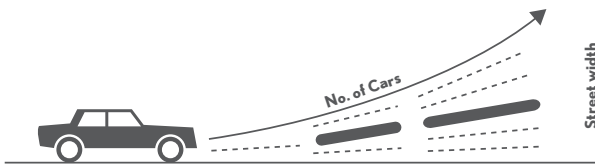
Figure 5: Urban developments from 1990 (Author: Jonauskis 2010)



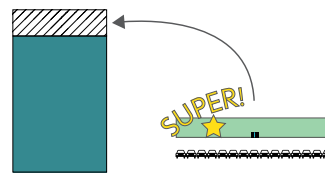
Sprawl, Dominant new housing typology: suburban Vila.



Project based planning, non coordinated, not place specific



Growing use of car and amount of automobiles was directly related to growth in road network. Not only size of network but also size of road itself.



Lack of program is compensated by allowing to build big scale drive in commercial centers that hurt local economy and encourage use of car.

people that were promised housing by government, but at that time could not anticipate to the future pressure that road networks will have. Despite that, Soviet planners had given generous width to streets that even now can handle traffic flows pretty well. The prevailing idea of providing housing to people close to where they work did not have much impact on how mikrorayons were spread throughout the city. "Sites for mikrorayons were selected incrementally, wherever it was easier to build at any given time."

Connectivity of the mikrorayons was not an issue despite their relatively remote locations as public transit services were accessible to most of the newly developed areas. A wide network of buses and trolleybuses covered the whole city.

UNDERSTANDING POST-SOCIALIST CITY IN TRANSITION

While the Western Europe gradually developed approaches of urban planning, Eastern Post-Socialist Cities were going through a complex transitional period from Socialist Ideology to a market oriented economy. Orientations to private funds and a more global neo-liberal approach to planning is common to the whole Europe, but the process is gradual, (Newman & Thorneley 1996) while Eastern cities were going through a 'Shock therapy' (Smith 2007) period. The collapse of The Communist state meant that all policies and attitudes had to be changed or revised in a matter of years.

It has been 25 years of Lithuanian independence from the Socialist Regime. This period can be clearly seen in the urban structure of the city. Now, Lithuania along with the other Baltic states are the fastest growing economies in Europe, with the highly educated population. But with major changes came major challenges.

The area of concentration for this thesis is Kaunas, a Post-socialist city in transition. Both Socialist and post-socialist planning characteristics of planning in the city of Kaunas will be reviewed through literature by urban historians, while interviews with municipal planners and local architects in Kaunas will give a better understanding of possibilities and obstacles that practitioners face in planning the city today.

Mapping the urban form and understanding general development trends help identify the main issues of the city, which build up a base for this thesis proposal.

POST-SOCIALIST TRANSITIONAL CITIES



Figure 3: Transition from communism to capitalism (author's image)

CHALLENGES OF NEO-LIBERAL CITY

The changing ways in how spatial development is evolving is linked to the socio-economic reforms. The shift from a socialist regime to free market oriented planning is discussed broadly throughout literature on Post-Socialist cities. Three major challenges of the transitional period are identified. The first one is the challenge of suburbanization that was fueled by the restitution and privatization of nationalized land. The second one is land-use development which is caused mainly by the shift from the planned industry oriented economics to, a service economy which resulted in commercialization of inner city areas. The third is the challenge of rapidly changing mobility patterns: infrastructure expansion and how municipal planning bodies deal with increasing demands of the private car users. This, as Dr. Kaliopa Dimitrovska Andrews argues, plays a huge role in shifting centralities from inner cities and accessibility (Andrews 2002).

SUBURBANIZATION

The main political aim of the socialist system was to create a socially just society (Sykora 2009), therefore the housing policy had been aimed at guaranteeing all citizens equal opportunity of access to housing (Andrews 2002). Because of the growing economic problems just before the collapse of the Soviet Union in 1990, public sector housing construction, which in 1980 accounted for between 40 and 60 percent of the new housing production in most of the Central East European countries, and even up to 85 percent in the Baltic countries, began to decline, dropping significantly in the early 1990s. (Tsenkova 2000). Private ownership was considered a capitalist mechanism that was supposed to be eliminated and was highly mocked by Communists (Fig. 7), however the state could not meet the demand of housing for the growing population in the cities. People lived in housing shortage and were dependent on the good will of the state.

Upon the introduction of housing reforms within the Independent Republics, post-socialist countries abandoned their previous "provision" role and adopted, instead, the "enabling" principle, which, in theory, requires that households are encouraged to solve their housing problem by themselves (UNCHS, 1992). (Fig.6.)

Restitution and privatization of land allowed the freedom to build dwellings without constraints. The huge demand for housing and freedom to finally do it on your own exploded with suburbanization. Private one family houses surrounded cities in the lands reclaimed from the state. Residential suburbanization takes several forms such as speculatively built housing for sale or sale of plots for housing construction, transformation of existing villages by random developments scattered across the suburban area (Fig.6) (Andrews 2002).

In the course of time, the process of suburbanization has become the most dynamic process changing the landscapes of metropolitan regions of post-socialist cities (Sykora 2009).

Urban sprawl is a dominant trend in the current urban model. While the population is decreasing and more people choose to live in the suburbs, inner cities get empty. More people come to the city by car due to a poor public transport network to suburban areas around the cities thus causes congestion and high dissatisfaction. Municipalities choose to follow demand and try to provide bigger roads, more parking places, and more shopping malls that are easy to be reached by car.

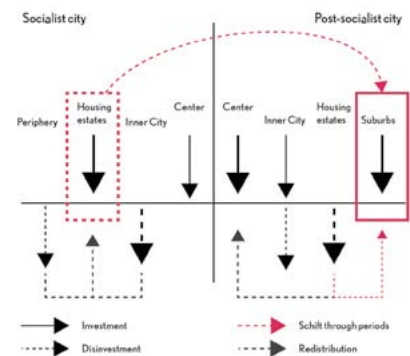


Figure 6: The pattern of investment and disinvestment to housing in socialist and post-socialist city, figure adapted from Sykora (2009, p.389)



Figure 7: J. Tumavicius "The housing question has been solved in America" (Cartoon) in Šluota: 1962, No 7, p 7

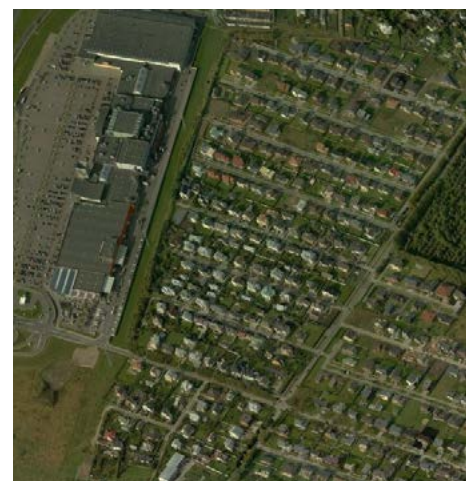
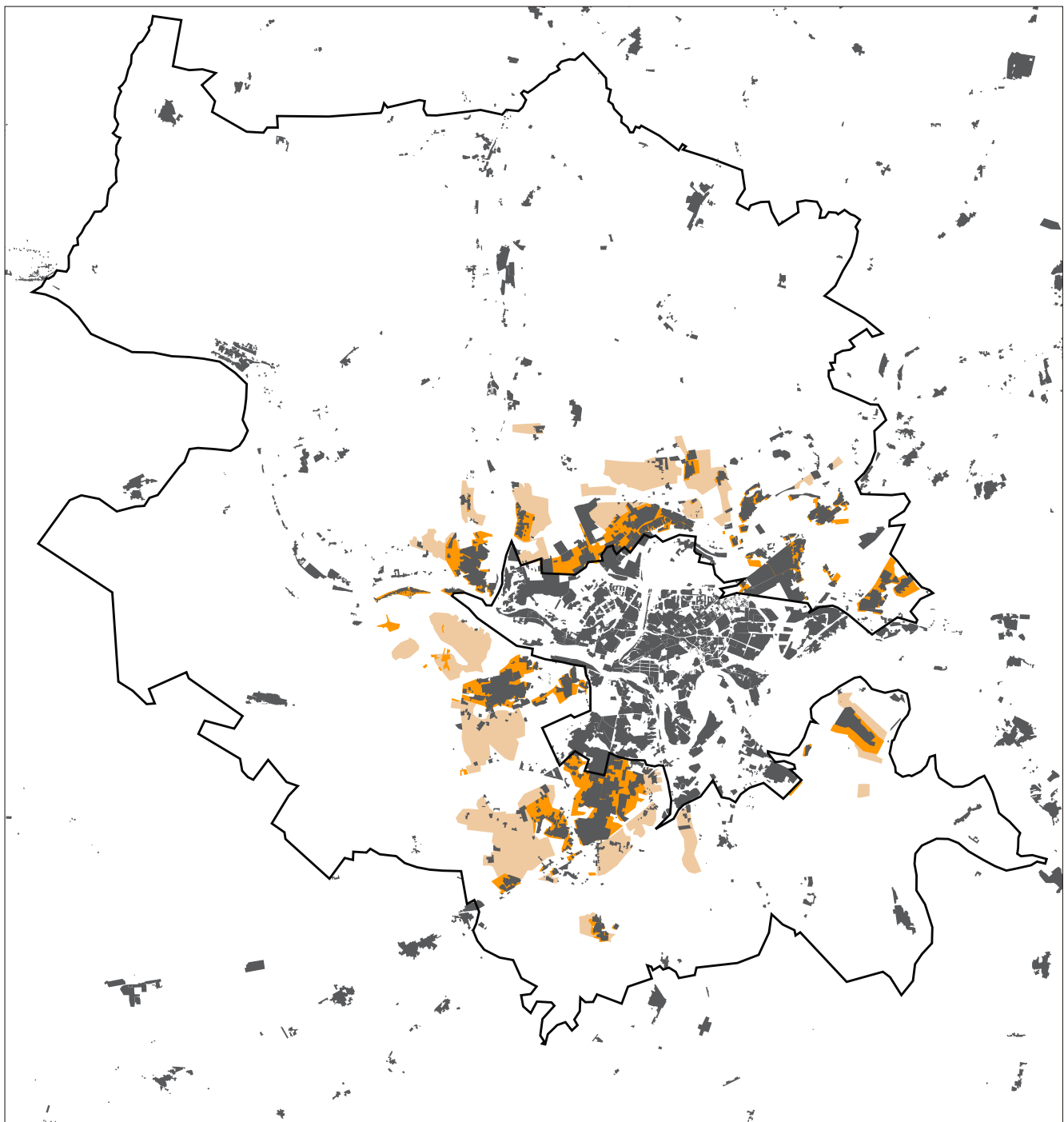


Figure 8: Suburban Kaunas

MAP: Zoning of the perspective residential areas around the administrative boarder of the city of Kaunas in the Comprehensive plan of the district of Kaunas (By author based on comprehensive map of the municipality of the district of Kaunas)



LEGEND

- Urbanized area
- Priority areas for residential development
- Low priority areas for residential development
- Boarder of Municipality of District of Kaunas

Map is a combination of the urban Area of Kaunas marked in Gray and priority future development areas as zoned in the comprehensive plan of Municipality of District of Kaunas. While population in the city is decreasing, district is growing, the urban footprint is constantly expanding and is expected to continue such pattern in the upcoming years.

COMMERCIALIZATION

Market demanded for commerce

Commercial development in the post-socialist cities has been recognized as a tool of the local economic regeneration and growth and often been supported by the central government policies as well as by the local entrepreneurial oriented politicians (Andrews 2002, Sykora 2009). Common characteristics of the process of commercialization is the Ad-hoc approach of developments that jeopardize continuity of important city wide systems, decrease programmatic diversity of the fabric and conflict with cultural heritage preservation.

This affected the inner city of Kaunas and the outskirts of housing estates (Fig. 9 & 10). The concentration of offices and commercial centers in the inner city resulted in a decline in residential functions. The typology of housing estates did not allow for easy conversion to any other program, which meant that any commercial activity to happen in these areas were the mono-functional centers of consumption.



Figure 9: Shopping mall in the inner city of Kaunas



Figure 10: Shopping mall in outskirts of Kaunas socialist Housing Estates

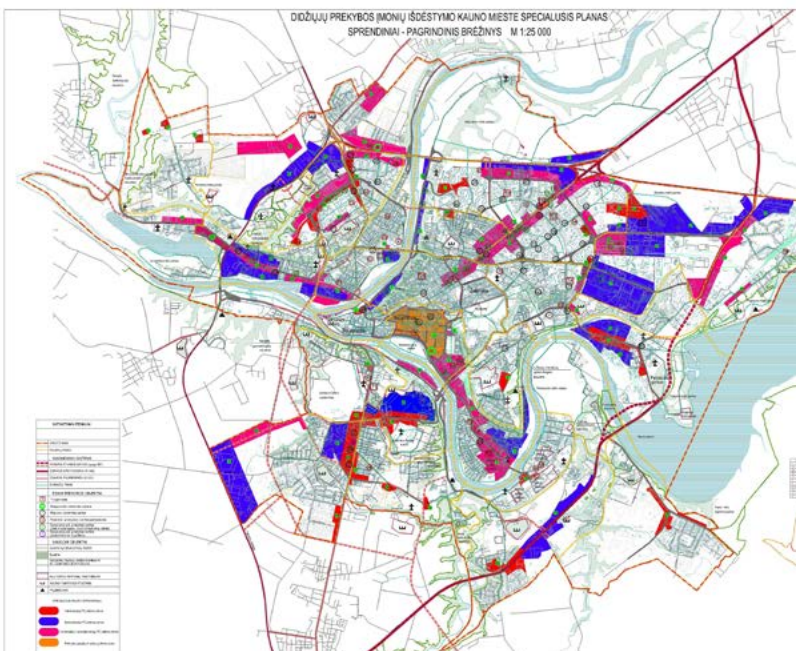
SPECIAL ZONES

22

The municipality of Kaunas took one step further in supporting big scale commercial developments in the city. A special plan was prepared in 2004 that established special zones where supermarkets could be built all around the city (Fig 11). It was not meant to ensure that there would not be too many supermarkets, on the contrary, it made it easier to acquire the land and get building the permission.

Not only are such activities are harmful to the emerging small businesses but they are also harmful for the fabric of the city. Supermarkets encourage the use of car, face toward streets and often are not connected to pedestrian routes. Importance of the Mall became so great that it became the new public space while green zones, parks and natural reserves were left empty and without proper attention from planners.

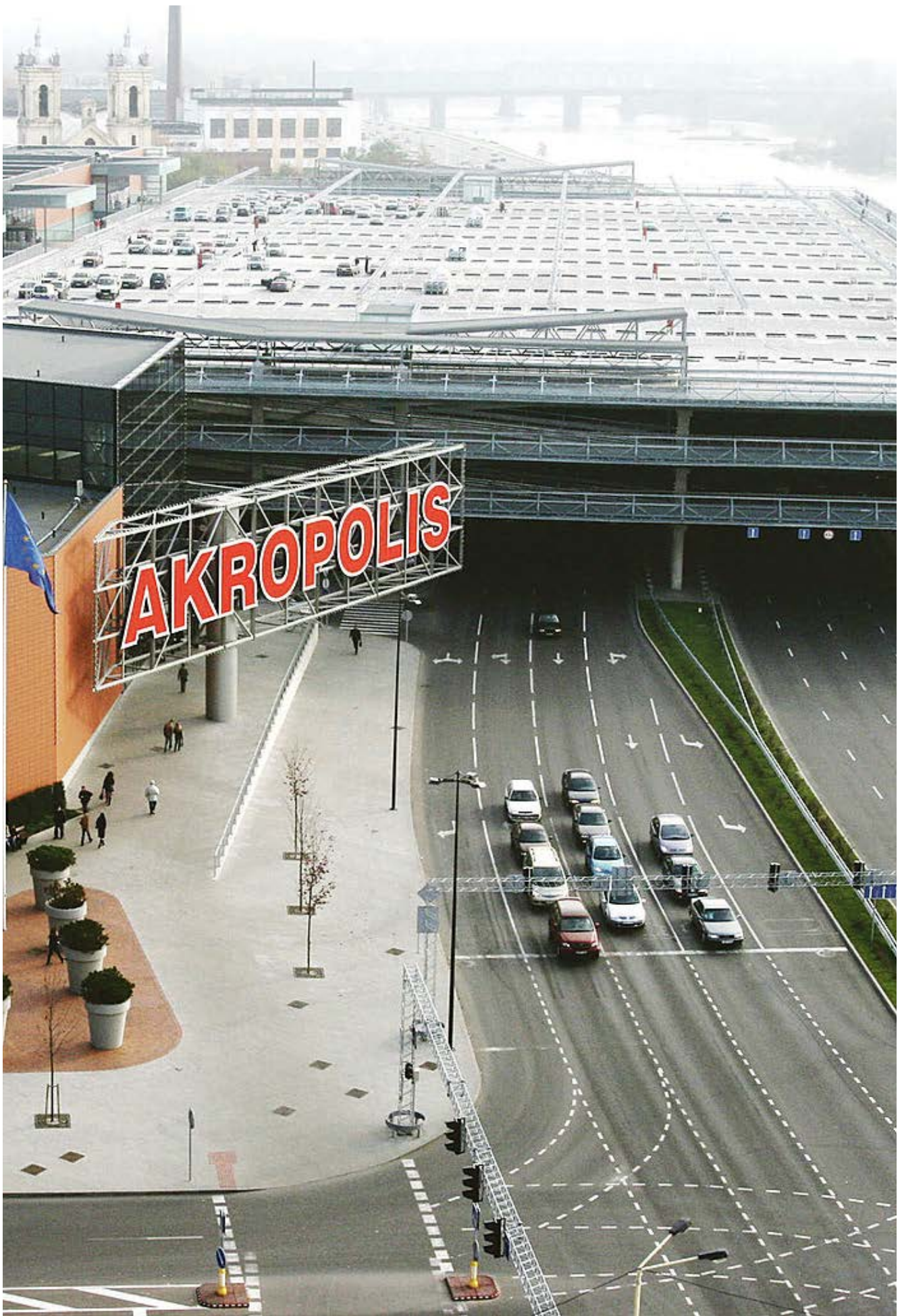
FIGURE 11 : Special plan: Locations of big scale commercial developments. Main Drawing (2005)



LEGEND:

Development zones :

- Universal shopping centers
- Specialized shopping centers
- Universal and specializes shopping centers
- Shopping passages and salons



Akropolis Shopping Mall in the inner city of Kaunas. Author: AM.Patasius Irytas.lt (2011)



Figure 15: Child between the cars (author's image)

MOBILITY

Urban expansion outwards the city, blooming market of the suburban housing and the concentration of commercial programs in the inner city increased demand of infrastructure, especially for transport.

Three major changes can be identified determining the role and structure of transport: the shift from railway to road transportation, the shift from public to private and individual transportation and the shift from domestic to international transportation (Andrews 2002). Decreased demand for rail transport was closely related to a shift from the public to private and individual transport. A decline of public transport deprived people in remote suburban areas around the city of the alternative means of mobility. Therefore they became completely dependent on private transportation (Fig 13).

Sigurd Grava, in his article "Urban transport in the Baltic Republics" discusses challenges of rapid transportation changes in the Baltic States. The introduction of the private transport in post-socialist condition had a harsh impact on the Baltic cities regarding connectivity and accessibility. The author notices that ideological and lifestyle trends had an impact on choice of mobility modes and ways of using the transport network. "Travelers value their own comfort and convenience very highly (if their economic status gives them some flexibility in this matter) and will make transport decisions increasingly with these considerations in mind. This is not the "classical" concept in urban transportation analysis, which defines cost and speed as principal, if not sole, determinants of mode choice." City planning and building regulations in Post-Socialist cities accommodate this luxury (Grava 2007) (Fig 12).

Cities invested a lot into transportation, by building ring road systems and motorways (Fig 14.). Gradually, as K.D. Andrews argues, traffic congestion became a common problem in all Central East Europe capital cities. With increased supply of roads, demand did not stop growing which meant that cities had to react rapidly to problems associated with it, such as lack of parking facilities and petrol stations (Fig 15).



Figure 12. Purchase a car - a day to remember in 1986 (Author: unknown)

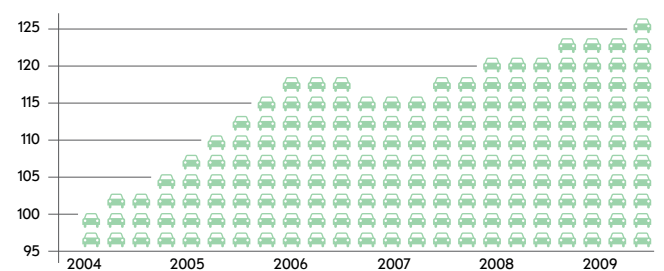


Figure 13: Car ownership 2004 - 2009



Figure 14. One of the widest inner city streets in Europe: Kaunas, Karaliaus Mindaugo pr. (author's image)

MOBILITY IN KAUNAS

The road network in the city of Kaunas is well spread out. Almost every plot has connection to the street. Inside the city, Rail transport is mostly used for cargo, while the inner city rail connections in the context of the city are of low significance according to a Kaunas municipality report on mobility systems. City has two funiculars which are rarely used. Water transport is used only for tourism and recreation. A cycling network under development and is used by citizens (150bikes per 1000 citizens) but mostly for recreation and sport purposes and makes up 1% of the whole modal split. 12% of all travels in the city are done by foot (Fig 18).

Car use in the period between 2007 and 2009 grown: from 419 to 524 cars per 1000 people, which result in 25% growth while the general population of the city decreased in 4.5% (Fig 13). According to this data, it was identified that use patterns of public transport did not change, while car use increased by 5%.

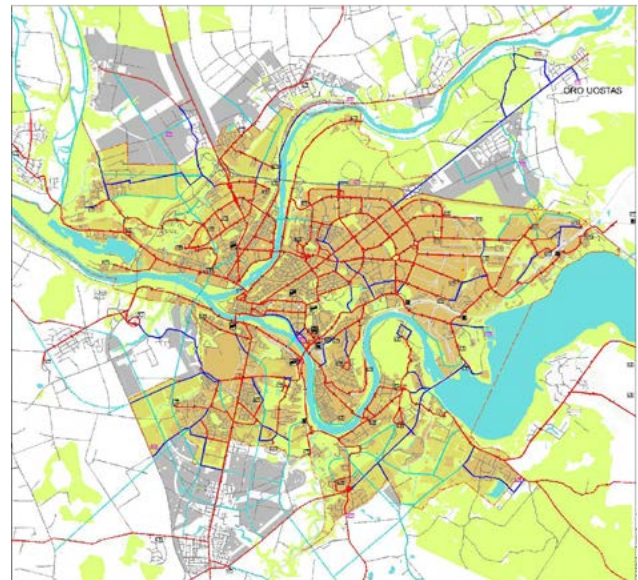


Figure 17: Public Transport network (Source: Kaunas Busses Authority)



Bus



Trolley Bus



Mikro-Bus

PASSENGERS: 2013: 78,232,000 2014: 81,300,000

POPULATION: 301,296

81,300,000 trips / 12 months / 30 days = **225833 RIDES A DAY**

Figure 16: Types of Public Transport and their use in 2013-2014

PUBLIC TRANSPORT

There are three types of public transport modes in the city of Kaunas. A bus, a trolley bus and a mikro-bus. The public transport network spreads out all around the city and is popular among citizens. More than 50% people travel by the public transport which makes up to over 200.000 trips a day (Fig 16). Although public transport is popular, it takes up only 11% of the whole traffic structure, while trips by private automobiles make up 83% (Fig 18). This brings to a conclusion that the minority of travelers take up most space in the street and thus by creating traffic overflow it makes it difficult for the majority of people that use public transport to use it conveniently.

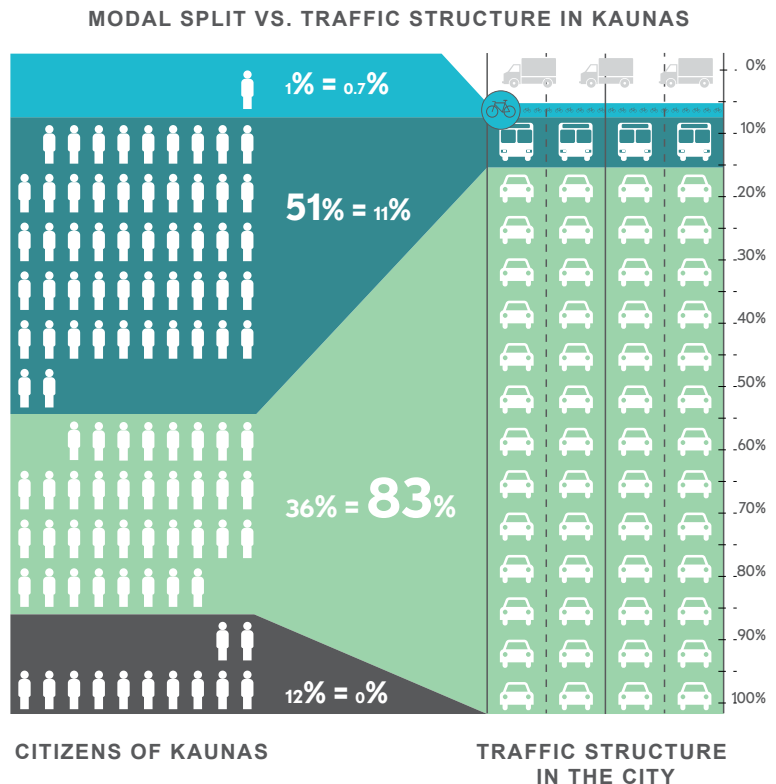


Figure 18: Modal split and traffic structure in the city of Kaunas (author's image)



Inside a bus in Kaunas in November 2013 (author's image)

TRANSPORT INFRASTRUCTURE

The municipality of Kaunas kept supplying the demands of private car users to the point when road network became difficult to maintain. The car-oriented society is highly dissatisfied with badly maintained roads, which has now become a main topic in debates of municipal elections in 2015. While debate concentrates on road maintenance and lack of parking places, there are less talks about the improvement of public transport, public spaces, maintenance of schools, establishing more childcare centers, youth employment and social segregation in the city etc. An important fact, that Kaunas will be connected to the European railway network and what implications it might have on the city is altogether forgotten.

CHARACTERISTICS OF INFRASTRUCTURE

The solution for congestion in the city for the municipality is provision of more/wider roads. The main characteristics of infrastructure network are:

- Wide roads;
- High speed in the city;
- Traffic accidents;
- Separated pedestrian and vehicle traffic;
- Underdeveloped cycling network;
- Congestion during rush hour;

There are six categories of streets in Kaunas (based on the Lithuanian Street Code (ref. Miestu ir miestelių susisiekimo sistemos) (Fig 19):

A: Street for fast traffic: Transit traffic. Long and stable transport connections by main roads).

B: Main Street: Connection between functional zones of the city, region centers, major transport stations. Connections with the country roads.

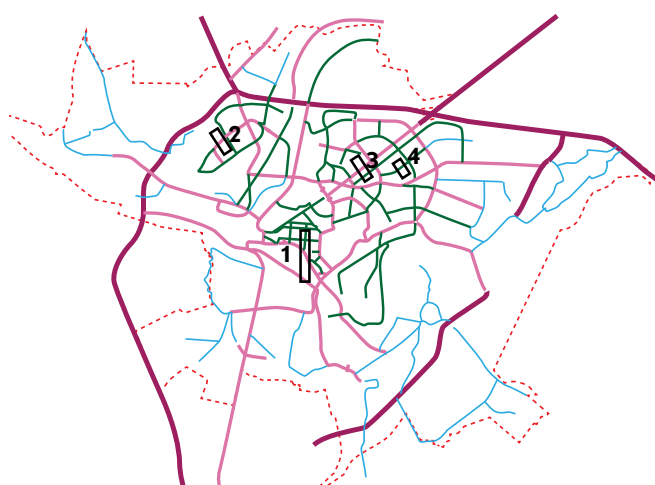
C: Secondary Street: Functional and compositional axes in the city. The main passenger public transport lines. Urban inland transport links.

D: Tertiary Street: Local functional and compositional axis. Flow distribution in small areas, access roads to individual buildings and other facilities.

E: Main streets for pedestrians and cyclists: The main pedestrian and cycling, walking, biking and other bio-transport listed traffic streets, paths, sidewalks species between individual parts of the city, the center of the city, work and leisure traffic locations. In the near connections with the suburban zone.

F: Secondary streets for pedestrians and cyclists: Local transportation between home groups, local centers.

A review of the street categories on the map of Kaunas raises concerns whether the existing categories are appropriate for the flows of traffic in the city. Each street category comes with certain spacial qualities (width, designated place for the pedestrian and cyclist traffic, green lines) (Fig. 20). For example Category B (Main roads) is the most common in the city, while in reality it should join only main functional zones. According to the street code, in order to have cycling path along such road you need a 4,5 meters protective strip and then a pedestrian path, which is possible in post war housing areas but not anywhere in the inner city. This restricts the development of a cycling network.



LEGEND:

	E		B
	D		A
	C		

Figure 19: Existing road categories in Kaunas

(Drawing: author based on Comprehensive Plan of Kaunas, 2013 Plan: Infrastructure and Mobility)



1: Kaunas, Karaliaus Mindaugo pr. One of the widest inner city streets in Europe: (author's image)



2: Baltu pr. Street on the edge of residential housing estate in Kaunas. (author's image)

The same applies to category C, where cycling path as to be protected with 3,5 meter strip or shall be included in the street with designated area for a path, which means widening the already wide road profile.

Street code also defines that each lane of the road is created for 1750 cars/hour. Keeping in mind that public transport is widely used in Kaunas (51% trips are done with public transport/bike or by walking) it is important to investigate whether the current width of streets are appropriate for flow of traffic.



3: Savanoriu pr. Busiest commerce street in Kaunas. (author's image)



4: V. Kreves pr. (author's image)

	Street category	Description	Technical Parameters	Pedestrian traffic	Cyclist traffic	Public transport traffic	Truck traffic	Parking	Minimum distance between intersection	Width	Allowed speed	Lanes: Min.	Lanes: Max.	Width of lanes	Central protective axis (m)
Motorized transport	A	Street for fast traffic	Defined in the comprehensive plan (Permeability: 1750 cars per hour)	Not included	Not Included	Only express lines	Any kind of heavy transport mode allowed	Parking in isolated spaced	1000-1500m	70-100	80-100	4	6	3.75	6
	B	Main Street		Sidewalk protected from traffic by protective strip	Path separated from the road by a protective strip no less than 4.5 meters wide.	Public transport allowed with designated stops and designated lanes	Any kind of heavy transport mode allowed	Parking in isolated spaced and parallel to road if there is designated parking designed	600-800m	40-70	60-70	4	6	3.5	3.5
	C	Secondary streets		Sidewalk protected from traffic by protective strip	Path separated from the road by a protective strip no less than 3.5 meters wide also on designated paths on the road	Public transport allowed with designated stops and designated lanes	Trucks not heavier than 5tones allowed	Parking allowed, not regulated	400-600m	20-40	60	2	6	3.25-3.5	Not required
	D	Tertiary Streets		** Value and technical parameters are defined in the detailed plans.	Sidewalk. Does not need a protective strip.	On designated paths on the road and combined with all traffic	Not included	Trucks not heavier than 5tones allowed	Parking allowed, not regulated	50m	12m - 20m	20-40	1	2	2.75-3.5
Non-motorized transport	E	Main streets for pedestrians and cyclists	**	**	**	**	**	**	**	10m - 15m	30	2	2	0.75-1.05	Not required
	F	Secondary streets for pedestrians and cyclists	**	**	**	**	**	**	**	5m - 10m	30	2	2	0.75-1.00	Not required

Figure 20: Street categories and their requirements (author's image)

COMPARISON DRAWINGS: EXISTING STREET WIDTH VS. RECOMMENDED WIDTH BASED ON TRAFFIC FLOW PER HOUR

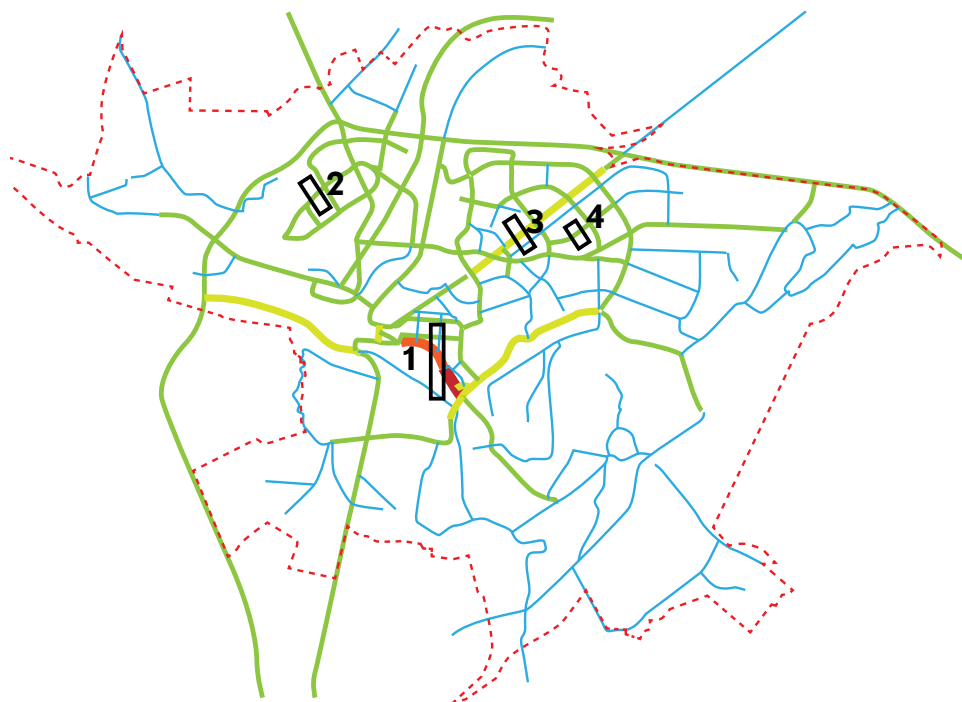


Figure 21: Existing traffic lane count (Drawing: author)

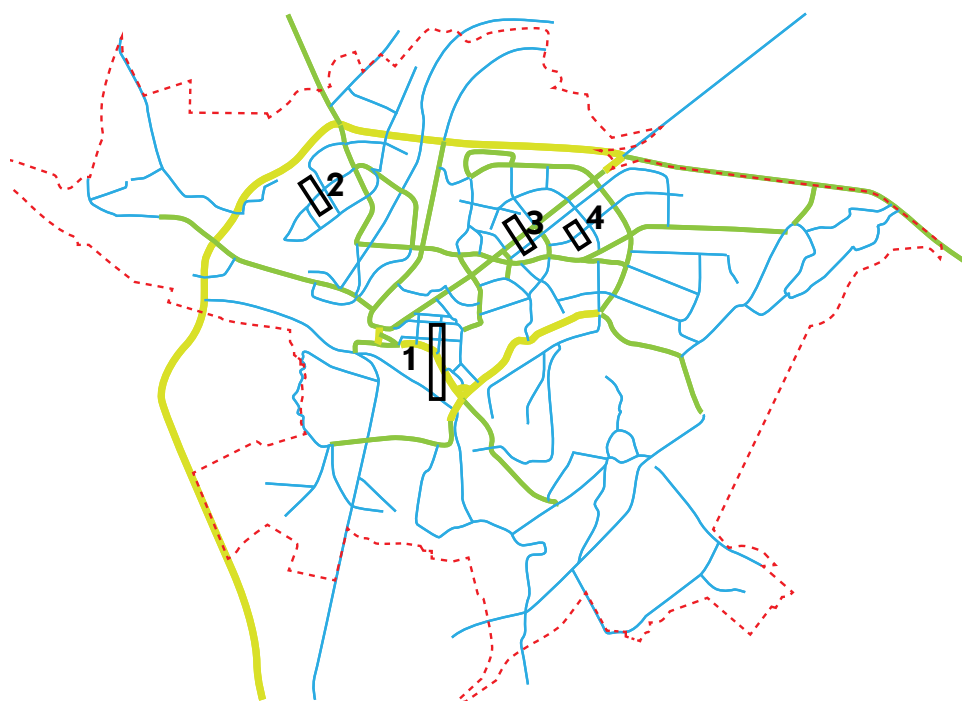
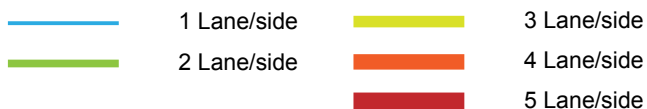


Figure 22: Recommended lanes per intensity (1 lane per side per 1750 cars/hour)

(Drawing: author based on STR 2.06.01:1999 Miestu or miesteliu susisiekimo sistemos (en. street codes of Lithuania)):



From a comparison it becomes apparent that there are streets all around the city that are too wide for the traffic flow it carries.

Traffic jams happen in the city only during rush hours. Analysis was made in Kaunas in 2013 to determine how people use public transport, what their motivation is to use a car and where they go.

From an analysis of the data it could be concluded that most people choose to use a car during rush hours to go to/from work (75%) while on the weekends, people usually use cars for domestic purposes (Fig 23).

This points to another issue with spatial planning in Kaunas, which is the separation of functions in the city.

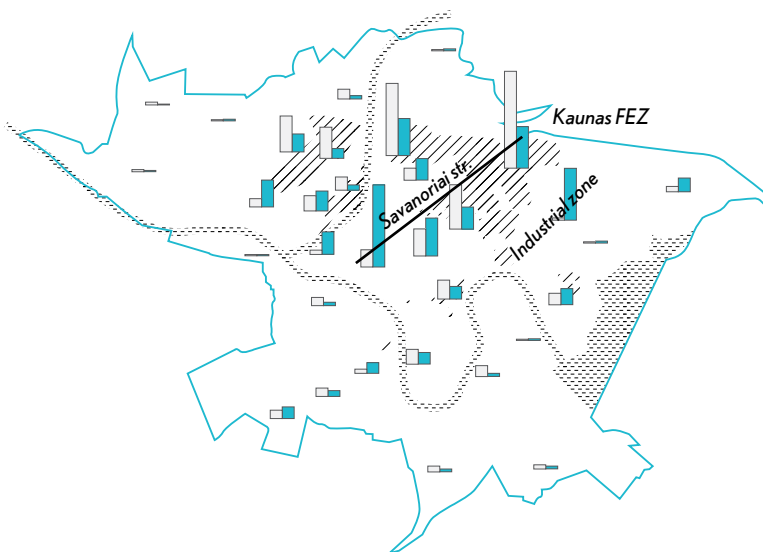


Figure 23: Travel Purpose: Car vs. Public transport (author's image)



The most commercial land-use is concentrated along the main axis of the city and near industrial areas. The majority of the commercial function is designated for supermarkets and specialized commercial centers. Small commerce is concentrated in the inner city or along Savanoriai street, that is connecting the inner city with the highway (Fig 24).

Figure 24: Concentration of Commercial land-use in Kaunas (author's image)



A large amount of work places is also located in the inner city, along Savanoriai street and near Industrial District of Kaunas, while the most housing is located in the post-war housing areas (Fig 25).

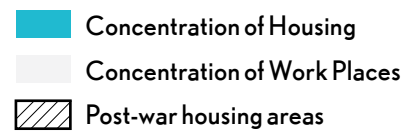


Figure 25: Concentration of Work places in Kaunas (author's image)

PROBLEM STATEMENT

In the case of the Municipality of Kaunas, in terms of urban growth, the city is suffering from sprawl and the comprehensive plan of the city of Kaunas is not able to control outward expansion of the suburban areas. This is firstly because spatial planning objectives are catering to public demand. People who live in dense areas of the city, especially socialist housing estates residents, due to lack of care of housing blocks and surrounding areas, want to move out to the suburbs, have a private house with a private garden. By allowing this pattern, the city faces issues of poor connectivity, has to spend lots of money to provide basic infrastructure, new towns lack basic social amenities thus for everyday activities residents have to travel and depend on private transport. The road network expanded and the municipality can no longer maintain it properly, which resulted in poor quality of roads. Such an unsustainable pattern led to low accessibility, spatial and social fragmentation and isolation.

All efforts to control growth in the administrative boundary of the municipality of City of Kaunas are worthless as just behind the border, municipality of district of Kaunas has its own comprehensive plan of residential areas planned, and easily grant development rights. Taxes are collected in the area where people live, therefore the municipality of district of Kaunas has no intentions to join the fight against sprawl as growth of residential districts is an important way for them to fill in their budgets.

In terms of connectivity, as mentioned before, the city has a very wide road network. The city is proud to have achieved connectivity to the road network by the majority of land plots, but the network itself is not efficient. Roads are wide which results in high speed in areas with low traffic flows. This results in traffic accidents where pedestrians and cyclist get hurt and loss of street life. Residential neighborhoods become disconnected from one another. The network has several bottle necks that cause traffic jams during rush hours as businesses where people work are concentrated in a few areas around the city center.

A lack of program in residential areas is compensated by allowing the expansion of supermarkets that take up large amounts of empty spaces (often unmaintained public spaces or parks). Malls are encouraging car use by catering for the private car users and not providing connections to the pedestrian routes.

Weak civil society is not resisting unhealthy urban patterns. The current situation is widely accepted. People are not included in spatial planning and as there was never time when they would be, the society does not feel it has a say.

Unsustainable growth patterns are not only harmful for the city in an economic and environmental sense. General public health is drastically decreasing. Cases of heart and respiratory diseases are growing due to air pollution and low physical activity. Suicide rates are one of highest in Europe (especially

young and mid-age men) as people feel isolated, living in constant uncertainty, have unfulfillable financial obligations.

There is a great need to explore possibilities in which spatial planning and governance of cities can lead to a sustainable and healthy life for its citizens.

Law of Territorial Planning in Lithuania covers all scales of the country, from establishing growth guidelines for the whole territory of Lithuania (General Plan of Lithuania) to giving tools for local authorities to plan neighborhoods on a small scale. Despite having a range of tools given by law, cities has a lot of spatial and social problems. Local governments have higher power nor competence to conduct coordinated spatial planning and relies on standards and norms rather than fulfilling actual needs of citizens of local communities.

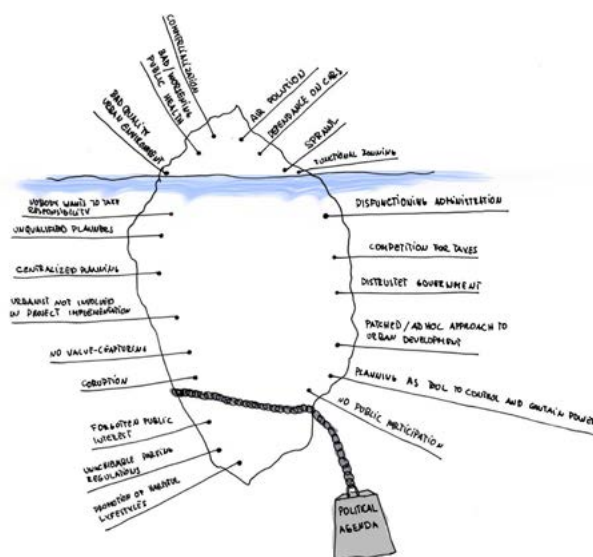


Figure 26: Problem analysis - iceberg principle: Obvious problems and underlying causes (author's image)



Potholes of Kaunas (author' Arturas Artiusenka)



Research

Lithuanian Spatial Planning System

LITHUANIAN TERRITORIAL PLANNING SYSTEM

1. Administrative Organization

Lithuania is a democratic parliamentary republic. There is a two level administration system: State and Municipalities. Municipal council members are elected through parties or as independent candidates. Since 2015 the Mayors of Municipalities have been elected directly. (Before, election of Mayors happened between appointed candidates of winning parties of Municipal elections by majority of votes of all elected municipal council members).

2. Land ownership

There are two forms of land ownership in Lithuania: State and Private. Municipalities have the right of acquiring land through "Lithuanian Land Bank": for the purposes of construction and exploitation of buildings needed for performing their direct activity. The Constitutional Law defines order, conditions and restrictions for acquiring such plots of land. (Compendium of Spatial Planning Systems in the Baltic Sea region, 2000). Private owners do not own development rights, they have to acquire them from Municipality Planning Department.

3. Structure of the Law on Territorial Planning:

According to new Law of Territorial planning there are two types of planning documents:

1) Comprehensive Planning

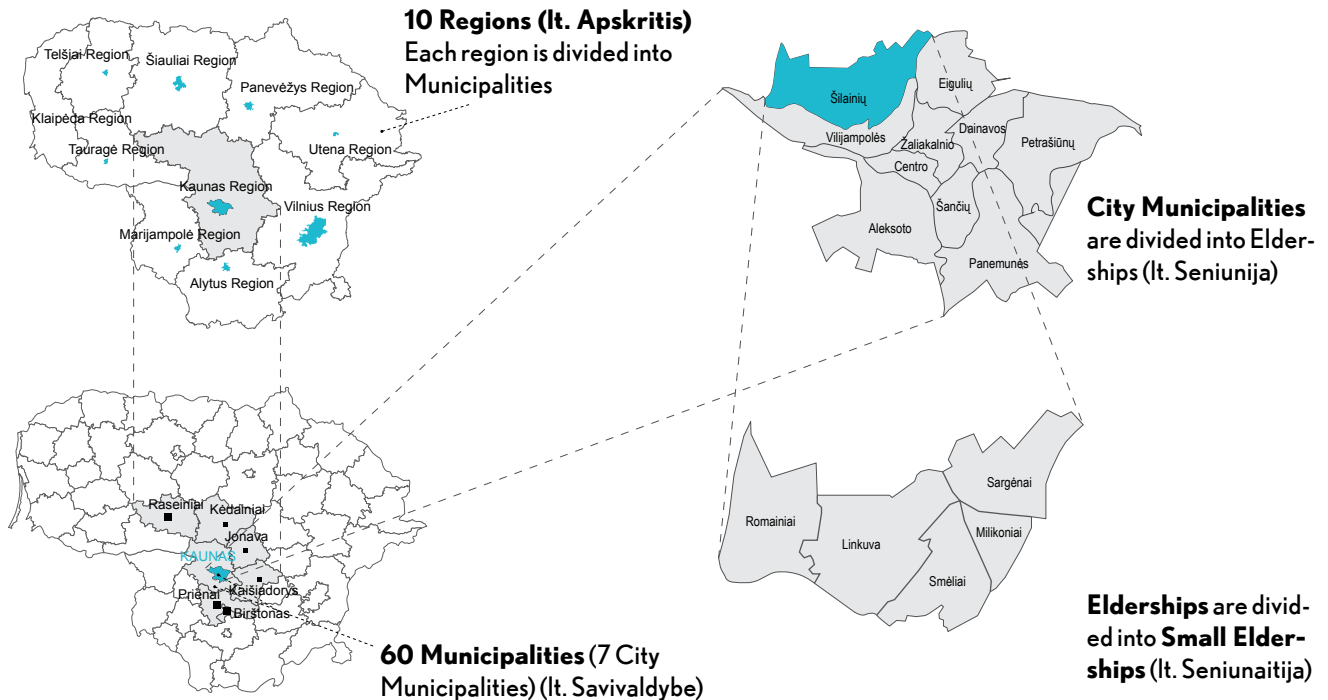
- General / comprehensive plan of the territory of the Republic of Lithuania (National Comprehensive Plan), Comprehensive plan for a Part of Territory of Lithuania
- Comprehensive plan of Municipality, Comprehensive plan of Part of Municipality
- Detailed Planning

2) Special (Sectoral Planning)

NEW LAW OF TERRITORIAL PLANNING OF LITHUANIA

After regaining independence in 1990, the Government of Lithuania had to prepare new legal base within a few years. In terms of Territorial planning, revised policy was not approved till 1995 and since, was reviewed and changed twice, first time 9 years later in 2004 and in 2014 (Currently LTP).

It has been identified that the second edition of the LTP (Law of Territorial Planning) had major flaws that had to be fixed. To begin with, there was no coherence within the planning systems. It was highly complicated and its implementation was more a list bureaucratic procedures than a consistent process ensuring quality of planning and development of the country.



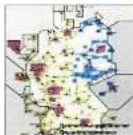









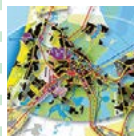



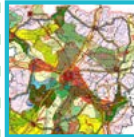
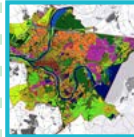





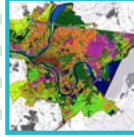



(Figure 27: Administrative division of the country) (author's image)

Moreover there was no clear hierarchy or coordination of the documents. The process did not ensure participation of public, the relation between public and private interests were unclear. This as G.Tiskus argues, resulted in an uncontrolled growth, illegal construction, an increase in private transport use, unjustifiably high use of energy and financial resources, undeveloped social and mobility infrastructure, lack of territories for public use, low competitiveness of the country and an increasing social and financial gap. (Tiskus 2012)

of investments, public awareness and communication, become more flexible and ensure sustainable development. Secondly to decrease time and resources used for preparing planning documents (National Plan: 2 years, municipality comprehensive plan: 1-1.5 years and detail plan: 0.5years)

The goal with new policy was to first, make new LTP modern, stable, transparent and understandable that should encourage

DOCUMENTS OF SPATIAL PLANNING FOR DIFFERENT ADMINISTRATIVE LEVELS

	NATIONAL	REGIONAL	MUNICIPAL	DISTRICT/NEIGHBORHOOD	PLOT	BUILDING		
GERMANY	 Federal Spatial Plan <i>Raumordnung des Bundes</i>	 State Spatial Plan <i>Landesplanung Berlin-Brandenburg (geneinsame)</i>	 Regional Spatial Plan <i>Regionalplanung engerer Verflechtungsraum (Zusammenarbeit)</i>	 Municipal Comprehensive Plan <i>Flächennutzungsplanung</i>	 Urban Planning Framework <i>Teilräumliche Entwicklungsplanung</i>	 Urban Master-plan <i>Städtebauliche Rahmenplanung</i>	 Development / Zoning Plan <i>Bebauungsplanung</i>	 Construction Documents <i>Bauplanung</i>
NETHERLANDS	 Structural vision (Country) <i>Structuurvisie</i>	 Structural vision (Region) <i>Structuurvisie</i>	 Structural vision (Municipality) <i>Structuurvisie</i>		 Municipal Comprehensive Plan <i>Bestemmingsplannen</i>	 Construction Documents <i>Technische Ontwerp</i>		
LITHUANIA (2004: LAW OF TERRITORIAL PLANNING)	 Comprehensive plan for the Country of Lithuania <i>Lietuvos valstybes bendrasis planas</i>	 Regional Comprehensive plan <i>Apskrieties bendrasis planas</i>	 Comprehensive plan of municipality <i>Savivaldybes bendrasis planas</i>	 Comprehensive plan of the cities and small cities <i>Miestu ir miesteliu bendrasis planas</i>	 Detailed Plan <i>Detalasis planas</i>	 Construction Documents <i>Techninic projektas</i>		
LITHUANIA (2014: LAW OF TERRITORIAL PLANNING)	 Comprehensive plan for the Country of Lithuania <i>Lietuvos valstybes bendrasis planas</i>	 Comprehensive plan for a Part of Country of Lithuania <i>Lietuvos valstybes dalies bendrasis planas</i>	 Comprehensive plan of municipality <i>Savivaldybes bendrasis planas</i>	 Comprehensive plan of part of municipality <i>Savivaldybes dalies bendrasis planas</i>	 Detailed Plan <i>Detalasis planas</i>	 Construction Documents <i>Techninic projektas</i>		

— Mandatory to prepare

Figure 28: Documents of Spatial Planning in for different administrative levels (Germany, Netherlands, Lithuania) (author's image)

COMPARISON OF LAWS OF TERRITORIAL PLANNING IN LITHUANIA LTP:2004 AND LTP:2014

1. COMPREHENSIVE PLAN FOR THE COUNTRY OF LITHUANIA (lt. Lietuvos teritorijos bendrasis planas)

LTP: 2004

Size of planned territory: whole territory of Lithuania
Scale: 1:400,000
Commissioned by: National Government
Drafted by: Department of Environment.
Approved by: Parliament of Lithuania
Valid until: 2020.

Levels of significance:

- Solutions of National Significance (financed, prepared and executed by National Government)
- Solution of Municipal Significance (financed, prepared and executed by Municipality)
- Solutions for a natural or legal persons (Financed by private funds, executed by interested natural or legal persons)

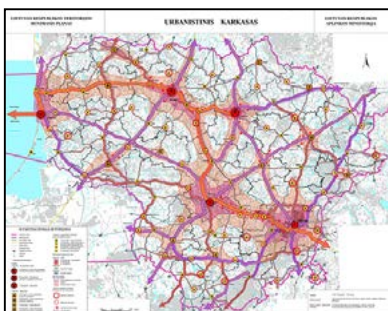
This plan distinguishes urban and nature structures, cultural heritage, recreational areas and main infrastructure. These elements are sufficient to reach the goals of the plan (Tiškus 2010). This is the most important document for administrative bodies to make decisions related to use, management and protection of territory.

2002 - Comprehensive plan country of Lithuania

Document was prepared in 2002 by following the tendencies of growth in Lithuania. While describing processes of urbanization, plan suggests: to strengthen the urban backbone of the country by having three levels of urban centralities: National/international urban centers, regional centers and local centers. It is emphasized that it is important to maintain development of small centralities but not in quantitative but rather qualitative way. National plan talks about intended values, priority areas for development and general goals.

LTP: 2014

There has been no significant changes to prepare Comprehensive plan for the Territory of Lithuania.



(Figure 29: General Plan of Lithuania, Plan of Urban structure, 2002)

2. REGIONAL COMPREHENSIVE PLAN (lt. Apskritis bendrasis planas)

LTP: 2004

Size of planned territory: Region (lt. Apskritis)
Scale: 1:100,000
Initiated by: State Government
Significance: National
Number of plans: 10 (for each Region)

The level of detail in this plan does not differ much from the Comprehensive plan for the country of Lithuania. Chair of the Region, delegated by State Government was responsible for preparing and implementing the plan. Because it was of the interest and control of State government plan was of national significance, which meant that the purpose of regional plan as it is set up the same as the national one.

G.Tiskus argues that this plan is unnecessary: the level of detail is the same, it is organized by same governmental, and solutions are of same significance.

LTP: 2014

Since 2014, Regional Comprehensive plan is eliminated and called **COMPREHENSIVE PLAN OF PART OF COUNTRY OF LITHUANIA** (lt. Lietuvos teritorijos dalies bendrasis planas)

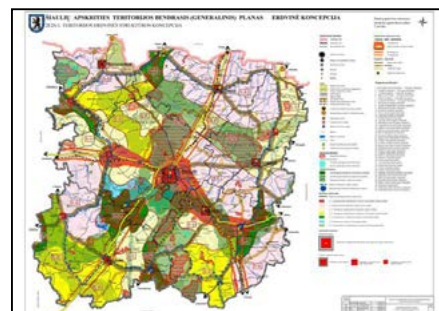
Size of planned territory: territories that are of same administrative division (regions, counties) or have functional relation (boarder areas, etc.)

Term: Unterminated

Initiated by: State Government

Financed: From National Budget

It is no longer mandatory to prepare separate plans for each region. Preparation of this plan should be done in the same way as the National Comprehensive plan. Plan is prepared only if there is a need for more detailed solutions that are not clear from National Comprehensive plan. Company to prepare the plan is to be selected through Public Procurement.



(Figure 30: Comprehensive plan of County of Siauliai, Urban Structure Concept, 2009)

3. COMPREHENSIVE PLAN OF MUNICIPALITY

(lt. Savivaldybes bendrasis planas)

LTP: 2004

Size of planned territory: Municipality (Municipalities of Cities & Municipalities of City Districts)

Scale: 1:50,000

Initiated by: Director for Administration of Municipality

Approved by: Municipal Council

Financed: From Municipality Budget

Term: 10 years

The scale of the comprehensive plan allows greater detail of solutions. The plan reflects the specific objectives and set general guidelines for development of the municipality. It is important to note that this plan allows coordinated and integrated land use management and protection which are the main functions of the municipalities.

Solutions presented in this plan can be both significant for the municipality and natural/legal person, and some solutions can be of a national significance.

Plan has been coordinated with higher level plans (Comprehensive plan of the country of Lithuania and Comprehensive plan for a Part of Country of Lithuania (Before 2014: with Regional Comprehensive Plan. Company to prepare the plan is to be selected through Public Procurement.

G.Tiskus concludes that there is no doubt that this level of plan is necessary.

LTP: 2014

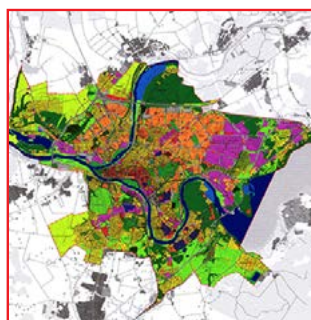
From 2014 Comprehensive Plans of Municipalities became untermiated and they have to show areas where detail planning of neighborhoods have to be done. Other than that, there has been no significant changes in objects of process of preparation.

Comprehensive plan of municipality

Savivaldybes bendrasis planas



Comprehensive plan of municipality of District of Kaunas (Approved by the Municipality Council of District of Kaunas 2009-01-29) *Kauno rajono bendrasis planas*



Comprehensive plan of municipality of Kaunas (Approved by the Municipality Council of Kaunas in 2003) *Kauno miesto bendrasis planas*

4. COMPREHENSIVE PLAN OF THE CITIES AND SMALL CITIES

(lt. Miestu ir miesteliu bendrieji planai)

LTP: 2004

Size of planned territory: City/Small City

Scale: 1:25,000; 1:20,000; 1:5,000; 1:2,000 (The Scale of the plan can be chosen based on the administrative status of the city, its size, specificities of planned territory and planning aims and goals.)

Term: 10 years

Organized by: Municipality

Financed from: the Budget of Municipality or EU Structural Funds.

Prepared by: Planning office selected through Public Procurement procedures

It is important to mention that law of Territorial Administrative Units and their Boundaries, divides populated areas into two categories: Cities and villages. Cities areas (>3.000 people) fall into categories of cities while small cities (500-3000 people) and villages (<500 People) fall into categories of villages. While purpose, goals and objectives to prepare comprehensive plans are same for cities and small cities, population between them can differ for 1000 times, G.Tiskus suggest that it is unnecessary for small cities to go through the same lengthy process and alternatively they could do concept master-plan and detail plans for more specific solution.

LTP: 2014

Since 2014, Comprehensive plan of the cities and small cities is eliminated and the new plan for this scale is called **COMPREHENSIVE PLAN FOR A PART OF MUNICIPALITY**.

Scale: "Part of Municipality" is defined as: priority territories marked in Comprehensive plan of Municipality, cities, part of cities, small cities and parts of small cities and villages.

Term: Valid until new plans for the same territory are prepared

Organized by: Municipality to which territory belongs

Financed from: Budget of Municipality or EU Structural Funds.

Prepared by: Planning office selected through Public Procurement procedures



(Figure 31: Comprehensive plan of the city of Lekeciai, 2014)

According to the department of statistics, in 2011 Lithuania had 103 cities, 249 small cities, 19004 villages and 1687 small villages, which adds up to 21043 comprehensive plans for a population of under 3million people with density of less than 46 people living per one square kilometer.

In this scale, private parties or natural persons can become initiators of the plan. New term was introduced with new regulations: Gap of the comprehensive plan of Municipality: a situation when there are no regulations of use for certain territories that occur due to changing planning regulations. Fixing of this gap is an inner matter of Municipality and G.Tiskus argues that it means that all comprehensive plans prepared in the period between 1995 and 2013 can be “fixed” without using general procedures necessary for any changes of comprehensive plans which eliminates any possibility for public consultation.

5. DETAILED PLANS

LTP: 2004

Size of planned territory: Plot
Scale: 1:500

The detailed planning have been treated as the separate planning type (neither comprehensive nor special planning).

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

The role of private developers’ and land owners was very important in the detailed planning: local authorities (in the manner prescribed by the Government) could transfer the rights of the organizer of detailed planning to the land owner or user.

Detailed plans were mandatory for construction, reconstruction or demolition and many other cases. Under such requirements of the Law on Territorial Planning, the procedure to prepare comprehensive plans was very slow, while detailed plans were developing extremely fast. One had to prepare lots of detailed plans; however, the Government

was unable to fund them all. Financing and organization of preparation of detailed plans was practically the matter of land owners.

Detail plans could be prepared by municipal or private planning firms. Plans were prepared based on cadaster information, on the current/past situation taking into account regulations and rules for neighboring plots. On top of that zoning, height and density restriction were taken from the Comprehensive Plan of Municipality.

LTP: 2014

Size of planned territory: Neighborhood
Scale: 1:10,000 - 1:2,000

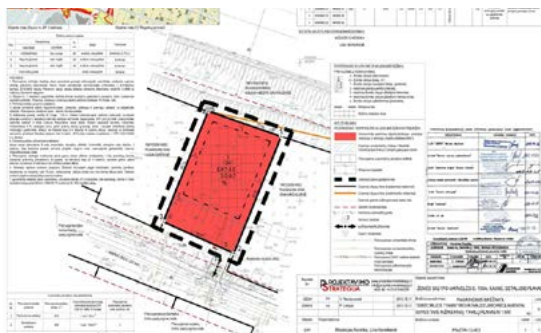
Detail Plans defines:

- 1) Type of use
- 2) Height of buildings
- 3) Build Density
- 4) Types of buildings
- 5) Corridors required for infrastructure
- 6) Plot sizes and borders
- 7) Percentages of green areas

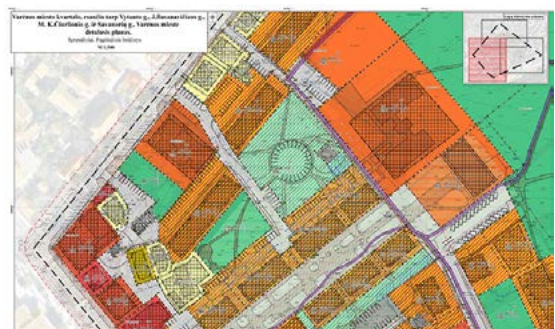
The Detail Plan changed most in the new Law of Territorial Planning. To begin with, if detail Plan was treated as the separate planning type (neither comprehensive nor special planning), now it falls in the category of Comprehensive plan. That, according to G.Tiskus brings confusion. Prior, the system was highly complex and difficult to grasp even for professionals, still, role of detail plan was understood well. Now as rules for preparing Comprehensive plan of municipality, comprehensive plan of Part of territory of municipality and Detailed plan (which can also be called a part of municipality as definition of scope of this plan is ambiguous) are similar, goals overlap, rules for coordination are in legislation but with no suggested tools, will be difficult to ensure.

From 2014 the plan is no longer drawn up for a scale of a plot, but rather for a block/neighborhood. The law is not clear what the neighborhood is and requires The Comprehensive Plan of Municipality to define it.

It no longer is mandatory to prepare a detailed plan for construction work, which makes preparation of planning



(Figure 32: Example of Detailed Plan in the city of Kaunas for a family house, 2013)



(Figure 33: Detailed plan for a neighborhood in the City of Varena, 2014)

documents faster but also brings a lot of challenges and issues with it. G.Tiskus argues that by eliminating the detail plan for the plot law opens doors for unfavorable interpretations of the Comprehensive Plans of municipalities and Comprehensive Plan of Part of municipalities.

The Comprehensive Plan of municipality defines land use, densities and height restrictions, it is done for big territories and serve as strategic guideline for the purpose of municipality scale. Detailing is done to calculate approximate housing, infrastructure, social amenity needs but not to define rules for individual plots. As the current Comprehensive Plans of Municipalities are prepared without desalination necessary to prepare building documents without detailed plans. The law defines conditions that do not exist in reality. Despite new LTP, municipalities are still requesting detailed plans for construction work to fill this gap in law.

Change of land-use

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

The decision for the change of land use with motivated explanation has to be given within 10 labor days. Mechanisms for making the decision is not defined.

SPECIAL (SECTORIAL) PLANNING

LTP: 2004

Special territorial planning – planning of means related to spatial organization, management, use and protection of a territory necessary for separate types of activities. (COMMIN)

Special plans are prepared in all levels of planning according to the fields of regulation and responsibilities assigned to various institutions and levels of administration.

All levels of administration are active not only in their home planning activities, but also in co-operation on international territorial planning. (Compendium)

The Law on Territorial Planning states that special plans are prepared in three cases: 1) one has to prepare them as requested by laws and other legal acts; 2) when the documents of general territorial planning are not prepared; 3) when the valid solutions of general and detailed planning are not prepared for the planning activity or it is necessary to detail the solutions of the documents of general territorial. (COMMIN)

The drawing up of plans of separate sectors is regulated by several regulations applied especially for them.

Objects for special planning are:

- 1) Agriculture, forestry, mineral resources and cavities for use or other activities for the area;
- 2) Engineering infrastructure systems, or parts of these systems
- 3) The system of protected areas or parts of immovable cultural heritage sites and their protection zones, complex real objects of cultural heritage and the protection zone. Goals of Lithuanian Territorial Planning.

Special plans are a land management tool rather than territorial planning, it was not included into the new regulations for territorial planning as it is an object of land management laws and regulations.

LTP: 2014

There has been no significant changes to prepare Special Plans.

FIGURE 34: LEVELS AND TYPES OF LITHUANIAN TERRITORIAL PLANNING DOCUMENTS (LTP: 2014)

Level \ Type	Comprehensive planning documents	Special territorial planning documents
	Plans of Projects of National Importance	
Country Level (Scale: 1: 100,000 - 1: 400,000)	General plan of Lithuania	1) Special territorial planning land management documents, land management schemes, plans of rural expansion; 2) Forest land planning schemes; 3) Special territorial planning documents for protected areas: Protected area systems and schemes and plans; 4) Special territorial planning documents for cultural heritage; 5) Infrastructure development plans and etc.
	Comprehensive plan of parts of territory of Lithuania	
Special territorial planning and use of the underground planning documents		
Municipal Level (Scale: 1:20,000 - 1:50,000)	Comprehensive plans of municipalities	
	Comprehensive Plans of parts of municipalities	
Local Level (Scale: 1:2,000 - 1:10,000)	Detailed planning	

ENSURING PUBLIC INTEREST IN SPATIAL PLANNING

In terms of defining and achieving/working in the public interest, an old edition of the Lithuanian Territorial Planning (LTP:2004) brought a lot of confusion among the planners and civil servants. In the law, *public, individual and group of individuals* were treated the same (Bardauskiene, Rudokas, Staniunas 2004). Therefore public interest was treated as public interests by interested public. The planning process to ensure public interest were: questionnaires, presentations of decisions made, collection of complains, decisions for zoning of the territory. Moreover, the public interest could be defended on a public land. The public interests ends where the private rights begin.

In the new law of territorial planning LTP:2014 experts in law and territorial planning tried to redefine the term. The project (green paper) for the new LTP was prepared suggesting a new definition of public interest:

Public interest: value that can not be created by an individual which can be identified through public discussions, forums, expert surveys and referendum.

Expression of public interest in territorial planning - norms that are based on public resources to ensure living quality: planning, hygiene, insulation, fire safety, social and mobility infrastructure allocation. Territorial planning document do not ensure public interest if parameters set by norms are not met. (Pakalnis, 2012)

The final document of LTP:2014 that was approved by the Parliament of Lithuanian did not have this definition of the public interest, or any other definition. Territorial planning norms were prepared and covered: definitions of types of territories, suggested densities and heights to be used in comprehensive plans, suggested concepts of growth etc. The human element hinted in the green paper for LTP was eliminated.

CONCLUSIONS

- Lithuania has a two level administration system: State and Municipalities. Regional administration was eliminated due to overlapping functions with the National Governmental institution in 2010. Region remained as a territorial unit. There are two types of municipalities: City Municipalities and City District Municipalities. Both have same functions, administrations and obligations for territorial planning.
- There are two forms of land ownership: State owned and private owned. Municipalities do not own land but can request permission to use it/sell it from Lithuanian Land Bank.
- Lithuania has two types of planning documents: Comprehensive (done for whole country, municipality, part of municipality and neighborhood) and Special (Sectoral Planning)
- The new edition of the Law of Territorial planning went into force in January 2014. Main changes to the previous edition were:
 - o Elimination of the mandatory regional comprehensive plan (now called Comprehensive plan of part of country of Lithuania only prepared when greater detail is needed for the Comprehensive plan for the country of Lithuania).
 - o Elimination of the comprehensive plan of cities and small cities. Instead a new plan is included: Comprehensive plan for a Part of Municipality. The scale remains the same as in the previous plan, but this allows municipalities to decide on the priority territories that need more detailing. It also gives opportunity for City Municipalities to target specific areas in the city before preparing detail plan.
 - o Detail plans before 2014 were a separate type of planning document: prepared for a plot to get building permissions and requesting to change land use. Since 2014 detail plan become a comprehensive planning document and is to be prepared for a block/neighborhood (lt. Kvartalas). It is a zoning document equivalent to German Bebauungsplan.
 - o Elimination of detail plan for a plot was intended to increase the speed of approval process for building permit. Main information required for building (land-use; height, density) should be found in the comprehensive plan of the Municipality. Without the detail plan for the plot, one only needs to present a formal request to director of administration of municipality to change land use. Decision is to be taken within 10 labor days. No formal procedure of making this decision is defined. Experts fear that this speeded up process will increase sprawl of the cities as municipalities are not too strict about controlling growth.
 - o Detail plan for a neighborhood were supposed to fill the missing scale in planning documents, but from how experts are presenting it today, plan will provide the same rules and same information as previously, just for a bigger territory. This

middle scale is a great opportunity and an unexplored tool for municipalities to do spatial planning.

- Public interest is to be protected in territorial planning by general planning norms and standards. In reality, public interest is considered only on public projects (green spaces, infrastructure, water bodies) and is not considered on the private land.
- Spatial planning is based on norms, standards and zoning.

Research

Local Governance



LOCAL GOVERNANCE - KAUNAS

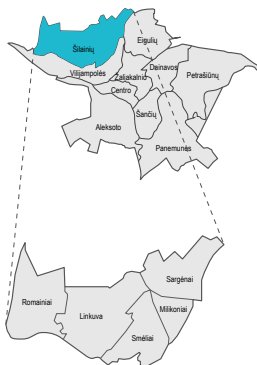
ADMINISTRATIVE DIVISIONS OF LITHUANIA

Since 2009 there have been 60 municipalities in Lithuania. Each has elected council. The urban area of Kaunas is managed by two municipalities: Municipality of the City of Kaunas and Municipality of district of Kaunas. Each have same functions, same election procedure of city council and administration.

The Municipality of Kaunas has three departments under direct control of the director for administration that deal with urban planning and architecture. The planning department has civil workers directly working for elderships (one for planning and one for building construction). On the lower tier of administration there are four more departments that deal with urban management. (Fig. 25)

NO DIRECT CONTACT WITH LOCAL COMMUNITIES

The Municipality of Kaunas is divided into 11 elderships. Each Eldership has Eldermen and Eldership administration that is located in the territory of eldership and is in direct contact with local community.



Responsibilities of elderships are:

- Strengthening community bonds;
- Encourage residents to participate in processes of municipality;
- Ensure social and economic wellbeing of community;

Functions:

- Participate in organizing civil security in the territory of eldership;
- Participate in organizing public works;
- Participate in maintenance of public spaces, streets and green areas;
- Give recommendations to municipalities about maintenance of local streets, pedestrian paths and public spaces, public transportation and lighting of territory;
- Takes care of registration of citizens;
- Organize public meetings with public representatives;
- Gives suggestions to municipality about cultural and sports events, installation of playground areas and their maintenance;
- Ensures implementation of decisions of City Council, Mayor, Municipality administration in terms of environmental quality.
- Other social functions: registration of families that need social care, gives out documents to get social subsidies.

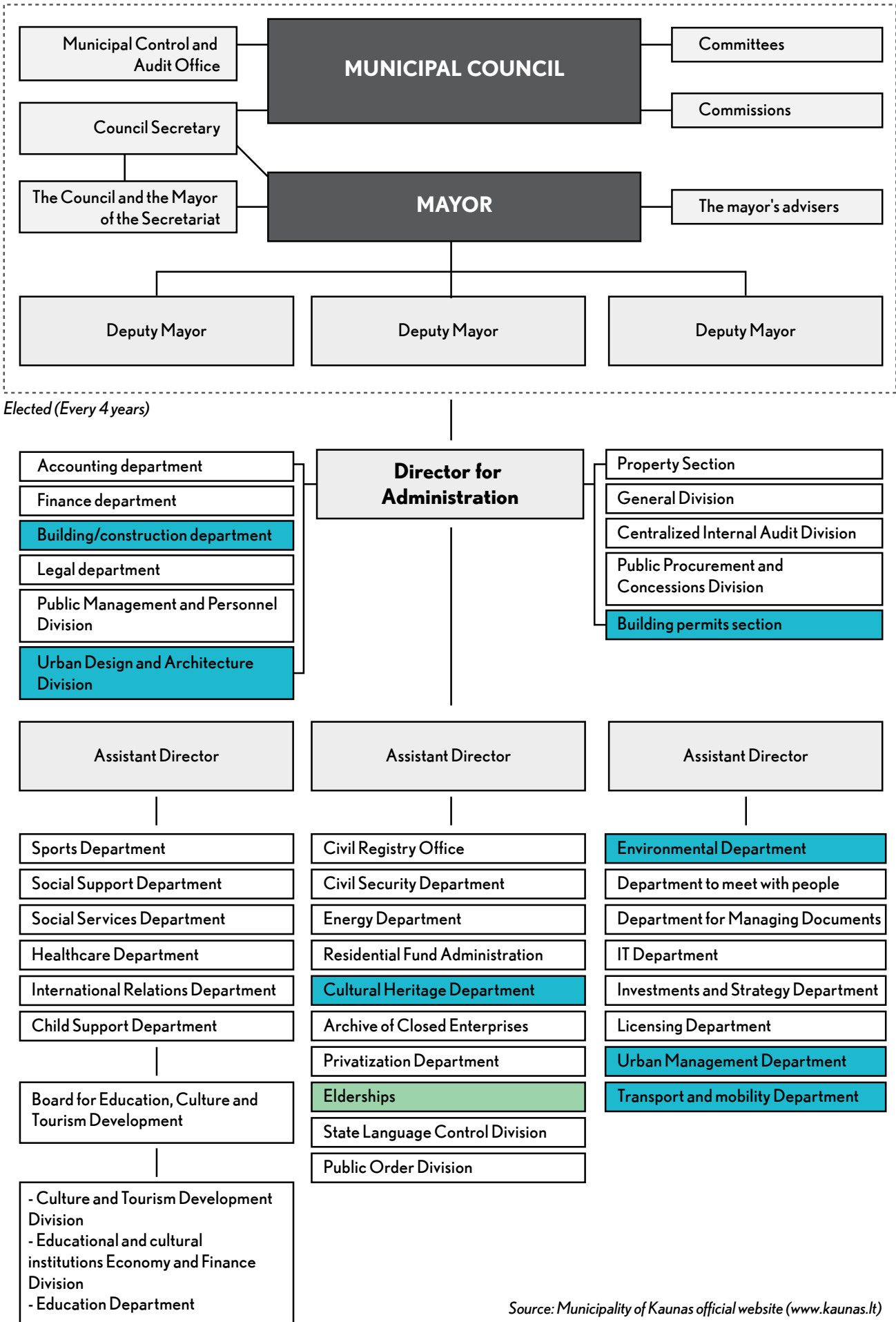
Elderships do not:

- Participate in planning activities;
- Can not initiate preparation of planning documents;
- Dan not use public land without permission from municipality or Land Bank of Lithuania

Eldership has designated budget for:

- Public events
- Inventory for eldership administration
- Salaries

FIGURE 25: ADMINISTRATIVE STRUCTURE OF MUNICIPALITY OF KAUNAS



Source: Municipality of Kaunas official website (www.kaunas.lt)

MONOPOLY IN SPATIAL PLANNING PRACTICE

'Kauno Planas', a planning office partly owned by the Municipality of Kaunas, is the main provider of planning services for both the Municipality of Kaunas (by contract 80%) and the Municipality of District of Kaunas. Kauno Planas has a negative budget of more than 500.000 Euros of long standing invoices.

The director of Kauno Planas is Gintaras Sinkunas, an urban planner that has been working for the Municipality of Kaunas since the beginning of his career. Gintaras is a supporter of communist modernist planning concepts. The projects of Kauno Planas are criticized by the planners community in Lithuania and other municipalities. Being a municipal office, Kauno Planas faces lots of political pressure from elected councilpersons. The office has a position that planning activity is the work of the professionals only, public participation is a procedure to inform inhabitants about decisions made by planners.

CONCLUSIONS

1. Disciplines responsible for urban planning are scattered and make planning process fragmented and uncoordinated. There are different departments having different functions, that are under direct supervision by different deputy directors and therefore have little contact or awareness about work they do.

2. There is a dispute over having designated architecture and planning experts for each eldership, Eldership and its administration has no contact with it.

3. Most planning work is done by one planning office that belongs to the municipality. Projects and annual plans of this office are approved by city council, therefore, despite being under direct control of director of administration, the office also has pressure by elected representatives of the council to fit their political agendas. In this way, planning activities, despite seeming independent, are politicized.

4. Eldership administration is the lowest tier of municipal administration that had most direct contact to local communities;

5. In the hierarchy of administrative structure, elderships do not have power to adequately represent local communities. The function of an eldership administration is rather to represent municipality and municipal administration to local community than the other way around. (Fig. 26)

6. Eldership administration does not participate in planning activities. Such responsibility is given to the urbanism and planning department of municipality that has designated staff for each eldership.

7. Public consultations happen when projects are already done and decided for to check if nobodies rights have been breached with planning decisions.

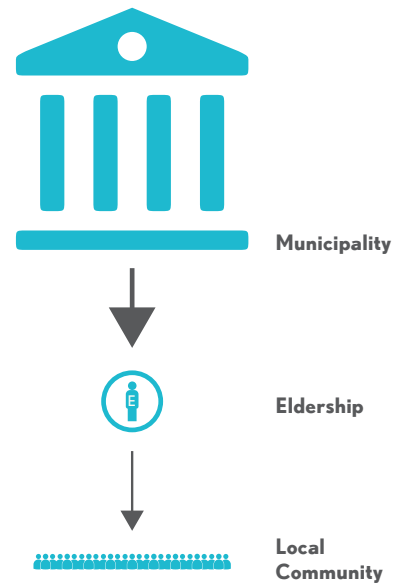


Figure 26: Hierarchy of representation. (author's image)

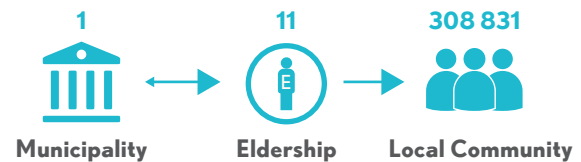
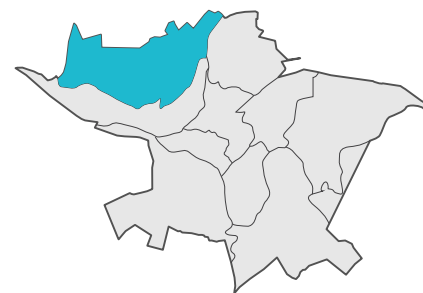


Figure 27: Connection between Municipality and local community (author's image)

LOW INTEGRITY OF MUNICIPALITIES AND WEAK CIVIL SOCIETY

During the soviet occupation, briberies, theft and cheating were common practices of everyday life. People were dissatisfied with the political system of that day and on top of that had a lack of basic products and services that should have been provided by the state forced to take such measures. Neither public or state goods nor being employed by the state was valued. Even after 25 years of independence such activities occur and is a big issue for public bodies.

In 2008 the European Research Centre for Anti-Corruption and State-Building carried out research on Corruption Levels in Lithuania. The study analyzed the perception of levels of integrity by interviewing residents, company managers of businesses and civil servants. The study concluded that Lithuanians are generally pessimistic about the level of integrity and even though perception does not necessarily reflect reality, general understanding on dominating trends can be established. The report also identifies that civil society in Lithuania is weak and has very little influence in policy making.

The study showed that the majority of respondents from the General public see governmental institutions such as Parliaments (49%), public servants (32%) and Court system (49%) as institutions with lowest integrity, while company managers see municipalities (60%) as least ingentrant.

When asked about administrative procedures where most bribes occur respondents named:

“Issuing and agreeing on construction/reconstruction permits” (residents – 43%, civil servants – 23%, company managers – 48%), “Changing the purpose of land use” (36%, 23% and 48%, respectively), “; “Employment in the public sector” (residents – 32%, company managers – 40%), and “Public procurement” (residents – 20%, company managers – 44%). (Fig. 29)

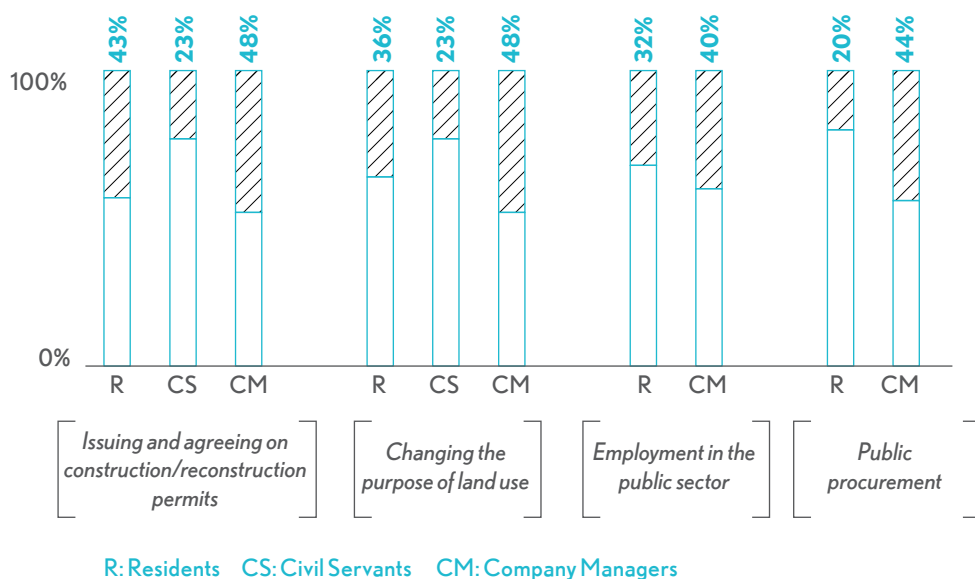


Figure 29: Perception of Residents, Civil Servants and Company Managers: administrative procedures where most bribes occur

Moreover study concluded that only 19% of Lithuanian residents trust the Government, 10% trust the Parliament, and 8% trust the political parties. Having established that, the dramatic decline in citizen electoral participation becomes less surprising (79% of voters participated in the 1993 presidential elections, 71% in 1997, 54% in 2002, 52% in 2009). People have been dissatisfied with the government, but are not prepared to take any political action to change the situation.

In 2009, the citizens of Lithuania evaluated their own personal potential influence towards the decision-making in the scale 0 (no influence) to 10 (very big influence) as 2.5. (Fig. 28). The influence of other people was evaluated at the score of 2.8, while the influence of NGOs and communities – 4.9.

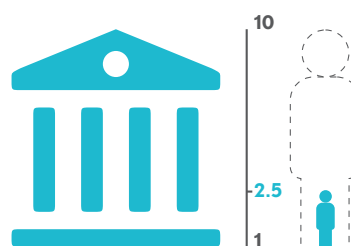


Figure 28: Evaluation of personal influence of citizens towards decision making in the city (Own drawing)

CONCLUSIONS:

Local authorities has bad reputation among citizens. It is difficult to prove whether integrity level in reality is as bad as perceived but study clearly shows that public is dissatisfied with the work of public servants, and especially construction and planning procedures.

Moreover, current uncoordinated planning patterns that are dominated by big private investments will not help get trust back and can make matters worse. On the bright side, communities and non governmental organizations are seen more positively in terms of ability to influence decision making.

Theoretical Framework

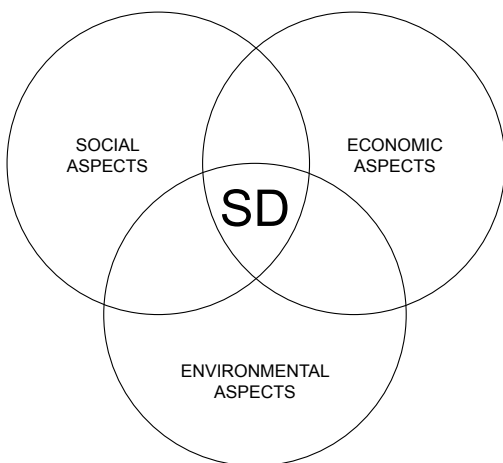
Sustainable Development

SUSTAINABLE DEVELOPMENT

“Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.” (WCED, 1987, p41)

The message that was put forward in the Brundland Report (WCED, 1987) was clear and precise. It recognized that current development patterns were threatening the possibility of future generations to have the same quality of life as people were having then. The central problem to this issue was economic activity patterns that could not ensure that development could provide for the world’s poor and was wasting planet’s resources and environmental capacities. (Rydin 2010, p2.) Yvonne Rydin argues that “the radical nature of the Brundlands Report’s core message has, however, been softened and changed by the way that the term was used in the decade after the report’s publication”. The term was redefined so many times that it become ambiguous to the point that it started meaning everything and nothing at the same time.

The Brundland’s report suggests seeing the world as a system with interconnecting elements creating a model of intersecting goals. To provide a more clear understanding of the concept, several attempts have been made to summarize it. First of which was presented in Rio de Janeiro Earth summit in 1992. Sustainable development is presented as three facets: social sustainable development, ecological sustainable development and economic sustainable development (People + Planet + Profit). Later in 2002 during the Earth Summit in Johannesburg word ‘Profit’ was replaced by ‘Prosperity’



(Figure 30. Venn Diagram of Sustainable Development)

The Economic dimension is about using market-based dynamics to meet people’s needs, wants and thereby provide the material basis for quality of life. (Rydin 2010). Moreover it is the capacity and ability to put local/regional resources to productive use for the long-term benefit of the community without depleting natural resources (Allen, 2001).

The Social dimension is about quality of life and equity,

including sense of community, local wellbeing and security and the elimination of poverty (Rydin 2010).

The environmental dimension is a combination of environmental goods, assets and services on which society depends and which are threatened by human activity. (Rydin 2010)

Sustainable development can be achieved by incorporating social and environmental aspects into making decisions on economic patterns and it only works when all sides are considered.

Adriana Allen criticizes this concept by suggesting that this model of sustainable development that was introduced in Brundlands report “has performed more of a balancing act than promoting any real change of direction to development.” as it does not provide the understanding of the trade-offs that occur in pursuing these goals in reality. (Allen 2010). In discussing sustainable development Adriana Allen puts a strong emphasis on the political dimension that is missing in The Venn Diagram. Political dimension in sustainable development is the whole that binds and interconnects. Brundland’s report, contrary to Allens criticism, does recognize the crucial role of governance on the way to achieving the sustainable future. The first conclusion of the report says that the pursuit of sustainable development requires: a political system that ensures citizen participation and decision making. The emphasis is also put on the fact that government needs to work in a way to deliver set goals which means adapting to forms of governance that ensure sustainable development.

TRADE-OFFS ISSUE IN SUSTAINABLE DEVELOPMENT

A trade-offs issue occurs when governments choose to substitute one aspect of sustainable development with another. Such trade-offs are attractive to governments as it allows to justify and continue existing development patterns of economic activity to compensate with environmental damage. This is done by using the extra profit made by unsustainable economic activity to deal with the consequences of environmental or social damage. To conclude, weak sustainability is the idea that man-made capital is more important than natural capital; therefore it is possible to substitute natural for man-made capital (Rydin 2010, p5).

Strong sustainability on the other hand, is ensured when environmental aspects of sustainable development play a significant role in supporting economic and social activity that it is inadvisable to substitute environmental capital with other form of capital.

Jarope Pelenc in his review article “Weak versus strong sustainability” explains that authors writing on strong

sustainability demonstrate that environmental capital cannot be viewed as a mere stock of resources, but rather is a set of complex systems that determine capacity for human activity. (Pelenc, 2015)

MAIN DIFFERENCES BETWEEN WEAK AND STRONG SUSTAINABILITY

	STRONG SUSTAINABILITY	WEAK SUSTAINABILITY
KEY IDEA	The substitutability of natural capital by other types of capital is severely limited	Natural capital and other types of capitals (manufactured etc.) are perfectly substitutable
CONSEQUENCES	Certain human actions can entail irreversible consequences	Technological innovation and monetary compensation for environmental degradation
SUSTAINABILITY ISSUE	Conserving the irreplaceable «stocks» of critical natural capital for the sake of future generation	The total value of the aggregate stock of capital should be at least maintained or ideally increased for future generation
KEY CONCEPT	Critical natural capital	Optimal allocation of scarce resources
DEFINITION OF THRESHOLDS AND ENVIRONMENTAL NORMS	Scientific knowledge as input for public deliberation (procedural rationality)	Technic/scientific approach for determining thresholds and norms (instrumental rationality)

Source: Jérôme Pelenc, Brief for GSDR 2015, Weak Sustainability versus Strong Sustainability.

Identification and understanding of trade-offs can work as tools for evaluation of the practical measures that governments use.

GENERAL GOAL VS. PRACTICAL MEASURES

SUSTAINABLE DEVELOPMENT

General Goal



Practical Measures



Operational Tools

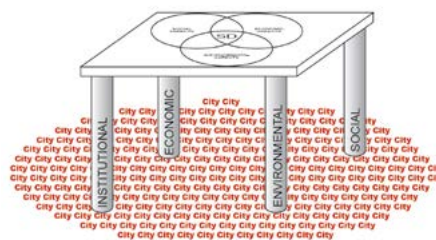
The biggest confusion about the concept of sustainable development is misinterpretation of different scales that each definition can have.

Brundland's Report 1987, page 66: "These requirements are more in the nature of goals that should underlie national and international action on development. What matters is the sincerity with which these goals are pursued and the effectiveness with which departures from them are corrected".

Recognizing and establishing that Brundland's Report

explanation is, a general goal which requires practical measures to be defined and only then operational tools can be put into place to actually achieve those goals.

Only by having established this sequence can discussion go further to understand what sustainable development means in an urban context. (Fig. 31)



Perfect world

Figure 31: Landing concept of Sustainable Development on the city. Own Image

URBAN SUSTAINABILITY

European Sustainable Cities report written by European commission in 1996 recognizes that cities are capable to provide many potential solutions to the patterns of unsustainable economic activities. This view becomes especially relevant in the context of global shift of population from rural to urban areas. Even in Lithuania, despite the fact that population is decreasing, the majority of people choose to move from villages and small cities to big cities in search of work and better living conditions. As cities play a major role in economic growth and innovation, they can also become places guiding development in a sustainable way.

Yvonne Rydin discusses three aspects of how to start steering cities towards sustainability. First it is important to understand to what degree, which activities within urban areas contribute to unsustainable outcomes. Secondly, it is about possibilities of using urban areas to render economic development in a more sustainable way and third is about using the urban level of governance to pursue action of sustainability and to demonstrate commitment to sustainable development agenda (Rydin 2010).

The political or governance aspect in sustainability is critical. Governments have to commit to delivering values of sustainability on the ground and not only leave the concept of fair and bright future hanging in the goals of strategic plans. Moreover Rydin emphasizes on the thoughts of Mike Whitehead that sustainability is a highly context-dependent concept, therefore when analyzing urban sustainability of any place one cannot narrow the analysis down to technical aspects. The city was not an ontological given, but was something that was constructed through political discourses, incorporates its own moral geography and forms of ecological practices (Rydin 2010).

Sustainable Urban Development

Urban development includes changes in all sectors of the property market, key infrastructure that link the market and the space in between the buildings and the roads. Urban

development can include different actors and can be of different scales. Both urban design and urban planning deals with urban development by shaping cities, towns and creating urban places.

Michael Breheny (1996) classifies two lines of arguments in the debate for the sustainable urban form. First one is the decentrists, who favour urban decentralization, mainly as a reaction to the problems of the industrial cities, and centrists,

who believe in the virtues of high density cities and decry urban sprawl.

The view of decentrists is the less popular one, but still prevails in countries that are influenced highly by the free economic market. Proponents of this view concentrate on two arguments: "The 'free-marketers' claim that it is interference by planners in land markets that causes problems and that market solutions will optimize urban forms. The 'good-lifers' argue for a lifestyle that is decentralized, both geographically and institutionally, and a return to 'rural values'" (Breheny 1996, p16). Moreover, proponents of decentralization argue that disperse communities have low energy consumption and congestion (Jones & MacDonald 2004 p5)

Centrists views on the other hand are driven by sustainability imperative. They arguing that urban containment will reduce the need for travel, by facilitating shorter journeys and providing accessible use of public transport. In this way, use of non-renewable fuels and harmful emissions will be reduced. Moreover urban containment ensures reductions in loss of open land and higher density cities provide improved quality of urban life.

Centrists are dominating the debate but also receive lots of criticism. The biggest argument of which is that by implementing compact urban form, use of fuel for traveling, time needed does not reduce but stays the same, or even increases. Also the argument about quality of life in dense areas gets lots of criticism as people "are voting with their feet for low density, suburban or ex-urban lifestyles" (Breheny 1996). In general criticism focuses on the fact that compact city ideas concentrate so much on environmental aspects, and technical measures to achieve them while economic and social aspects are sacrificed.

Despite some concerns that critics of compact urban development have, if we take environment as the strongest asset in the debate of sustainable development, compactness brings most value. In order to maintaining the urban footprint, protecting natural spaces and resources, reduce consumption and generation of waste, territory has to be made manageable to start working as a system.

CONCLUSION:

1. Sustainability or sustainable development is not an operational concept. It is a general goal / set of values. In order to make it usable a deeper understanding is needed on what practical measures (universal principles of sustainable development) are required to achieve these goals and only then we can discuss about operational tools and putting the concept on the ground.

2. Sustainable development is not possible without commitment from the politicians and the local governments. Sustainable governance must be implied in order to start carrying out general goals. The path towards the sustainable city is based on cooperation, integration and strong will, without which, no urban design or environment protection tools will work.

COMPACT CITY

PROS	CONS
Reduce energy use and greenhouse emissions following a lesser demand for polluting modes of travel;	Loss of open space results in poorer environmental quality;
Reduces pressure on greenfield sites and greater use of more efficient technologies;	Potential for diseconomies to occur when the central structure becomes too big (e.g. congestion externalities);
Greater availability of housing that meets peoples' needs in a sustainable way;	Compact residential urban form might not be desirable for some individuals, while others may experience in income and demand more space which could be difficult in high density areas;
Increased access to services and facilities leading to better quality urban environment;	A high density, compact city is less likely to be able to cope with significant population growth, as there is less potential for expansion if development is already at a high density;
Compact city with high density mixed-use areas could contribute towards profitability and economic growth, lower energy consumption, and greater allocative and distributive efficiency;	Habitat for Humanity were concerned that measures to make cities more compact would drive up the cost of land and make it difficult to provide affordable housing;
A compact urban form can lead to new business formation and innovation, which also attracts new residents;	
A compact urban form increases the viability of services and transport provision supported by high residential density;	
Mixed land use attracts critical mass and level of activity (created) which is greater than the sum of individual users, thereby making a critical contribution to location and character"	
More effective labour market (the more close people are to the place they work, the more effective labour market is;	
Wider skills base, better job-skills matching, and improved commuting speeds/distances associated with compact urban forms.	

3. Sustainable development is not split into Environmental Sustainability, Economic Sustainability and Social sustainability. It is a goal for which, selected measures must satisfy all three aspects at once. They cannot work without another and achieving more of one aspect cannot mean sacrificing on another (Weak and strong sustainability).

4. Operational tools to achieve sustainable development are not universal. They are highly context dependent. There are general concepts but one needs to be critical when applying them in a specific place.

5. It is in the best interest of the public to achieve sustainability. Viewing sustainability as the public interest in all levels of governance would help form strong mind-sets and motivation.

SUSTAINABLE DEVELOPMENT IN LITHUANIA

The idea of sustainable development is visible in Lithuanian policies but decisions of planning do not seem to carry the values that the concept comes with. Question arises, if sustainable development is a goal for Lithuanian future, why is it not delivered or at all visible in cities? What are the drivers of development in Lithuania and in terms of evaluating quality of sustainable development implementation, where do Lithuanian cities stand?

National Strategy for Sustainable Development in Lithuania was approved by National Government in 2003. The strategy concentrates on setting guidelines for improving the economic, social and environmental factors in the regions. The goal: reduction of the disparities of living standards between different regions, while maintaining their distinctive character.

Cities seem to be forgotten throughout the document, with only some mention on the necessity to stop sprawl and reduce pollution in industry driven urban centers.

All planning documents for Lithuanian Territorial Planning are to be prepared with sustainability in mind. All have goals for coordinated sustainable development, environmentally friendly strategies, socially responsible growth etc. (National Territorial Plan of Lithuania, 2002) but as we go deeper into smaller scale plans, the concept of sustainability stays as the general goal, without any practical measures that would help guide developments in any way towards sustainability. (Fig. 32)

Driving forces for development are public interests and EU structural funds.

The motivation of municipalities is to protect what they call: Public interest and the rights of the third parties. Public interest here is mixed up with public needs: the public wants cars, they give wider streets, public needs parking, they provide parking, public wants to build a house in the middle of nowhere in an urban fringe of the city, municipality protects and caters this interest too.

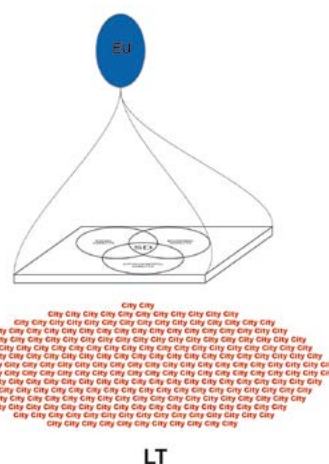


Figure 32: Floating concept of Sustainable Development on the Lithuanian city. Own Image

If definition of public interest would protect the interest of future society as well as the immediate one (be more sustainable), development might turn out to be very different.

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

A very good example for which is use of EU structural funds for regional growth. Lithuania used millions of Euro from Structural funds for road expansion and maintenance. In a country with post-socialist car oriented mentality, this meant developing road network in urban areas by going large: widening roads and creating highways through city centers. Reasons for such decisions are always rational, explained and supported by some kind of research. Everything is done according to the national laws and regulations. Practical and very recent controversial example for which is reconstruction of Freedom alley (lt. Laisves aleja) pedestrian street in Kaunas. Well know, one of the longest pedestrian streets in Europe would after renovation become parking zone and regular road. This project is to be mainly financed by EU funds.

This is not to argue that such funds are unnecessary. Contrary, they are essential and contribute highly to wellbeing of society, but when it comes to planning, a checklist in an application form is not protecting cities from bad decisions of incompetent administrators with lots of EU cash.

If we try to evaluate sustainability in Lithuanian cities in terms of weak and strong sustainability, cities fall in the category of weak sustainability.



New neighborhood in Kamsa natural reserve in District of Kaunas (Source: Developers website)

CONCLUSIONS

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Development in Lithuanian cities is: Neo-liberal, market oriented, and uncoordinated. Local governments do not have education necessary and are not committed to deliver sustainable growth but rather cater current lifestyles of society today and their political agendas.

Use of natural capital (e.g. protected green areas) is not well regulated. Residential areas are sprawling to natural reserves or parks, commercial activity pollutes air and water for which they pay taxes of fines and carries on.

Government is encouraging **use of renewable energy sources** for new buildings, while largest households that consume most energy are socialist post-war housing estate, for which, renovation is done very slowly and not is not well received by inhabitants. Moreover such initiatives are very small scale, project based. One important step towards reduction of energy use is policy to built only passive buildings from January 2016.

The biggest contributor to **air pollution** in cities is automobile transport. Municipalities invest into improving public transport, but biggest concern is still broadening a road network.

In general, the understanding of sustainable development is limited to achieving environmental sustainability with technological solutions.

DECISION MAKING MOMENT IN PLANNING

Within the concept of sustainable development, questions for urban planning are raised:

How to do urban planning that meets the needs of the present, without compromising the ability of future generations to meet their own needs. How to make decisions that could ensure certainty, provide necessary programs, generate growth but would not constrain future program and future need?

Gielen, Demetrio Muñoz and Tusan-Kok, Tuna (2010) in their article "Flexibility in Planning and the Consequences for Public-value capturing in UK, Spain and the Netherlands" categorizes such models as Plan-led Planning system. (Fig 33) "In plan-led systems, the zoning plan is more important. The local authority fixes the land-use regulations in a land-use plan, which becomes legally binding." (Gielen & Tusan-Kok, 2010). In such a system, land-use regulations become legally binding before interested developers express interest to do a project. A plan in such system states all development conditions therefore creates a level of certainty of future development possibilities. If a proposal does not fit within fixed regulation, it would be rejected.

Development-led planning on the other hand is a system where a zoning plan gives an idea of the thinking of the local authority and leaves space for mediation from those ideas in the moment when the developer comes with the project to local authority.

Although a Development-led plan might provide high flexibility, it makes it difficult to manage uncertainty, while plan-led planning manages certainty, but is very limited to adapt to specific needs for the future. In the case of Lithuania, strict plan-led system prevents local authorities from establishing a strong negotiation position when it comes to public-value capturing. Governments have to accept

conditions of developers as long as they fit the checklist of planning rules that were adopted with the comprehensive plan.

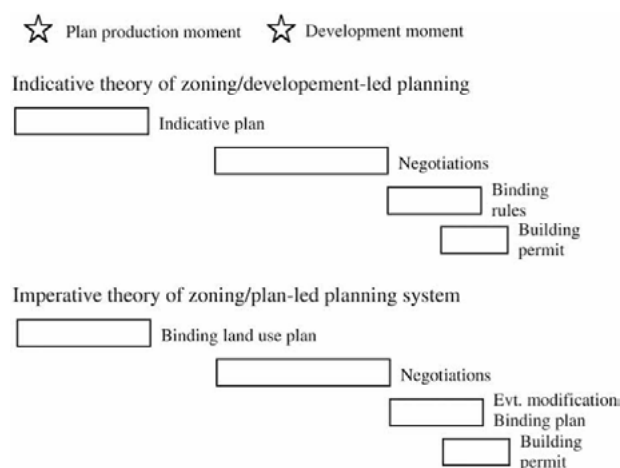
"Public-value capturing may be considered one of the most important driving forces of public planning, as public bodies hope to recover the costs of public infrastructure with the increase in value. In urban development practice, public-value capturing in any of its possible variants usually takes place in the context of an agreement between public bodies (municipalities, public planning bodies, public development agencies, etc.), landowners and developers. Various concepts fall under the notion of public-value capturing, such as "cost recovery", "value capturing" and "capturing betterment" (Gielen & Tusan-Kok, 2010).

CONCLUSIONS:

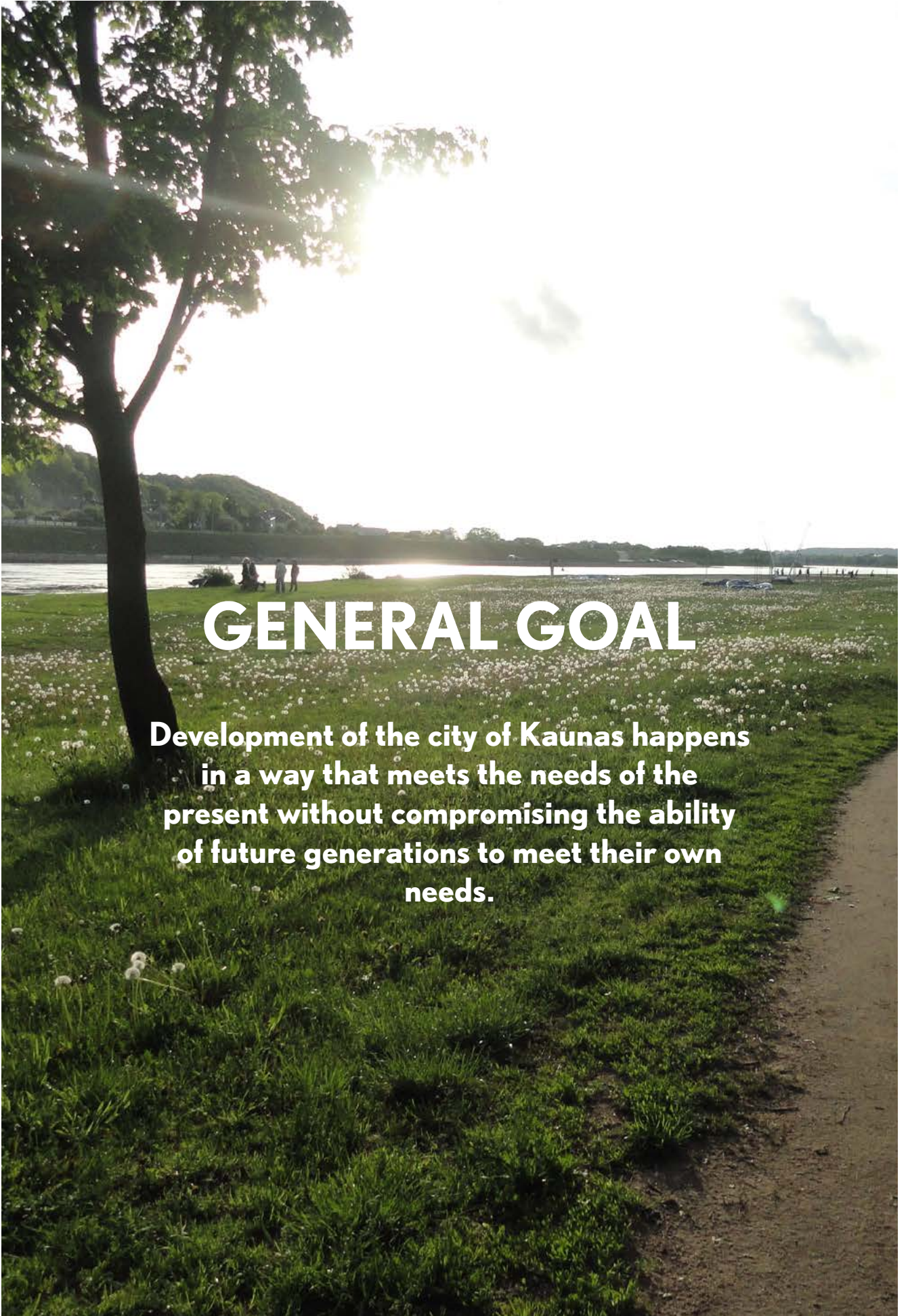
The decision making moment in planning contribute to what planners can expect from development, how public value is captured.

There are two types of models: Plan based and development based and both have their flaws and benefits. The mix of such model could both provide some certainty in future developments for builders and give more flexibility for both developers and civil servants to negotiate their needs and wishes. But for this model to work, decisions have to be done by local authorities that really is well connected and understand local community and their needs and municipalities have to gave a clear vision where they want to go.

A review of decision making model and power structure in spatial planning could be a good step towards the start of implementation of sustainability by planners.



(Figure 33: Categorization of "development-led" and "plan-led" planning systems (Gielen & Tusan-Kok 2010, p4.)



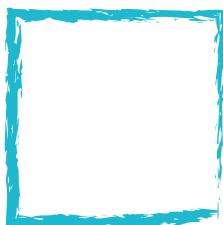
GENERAL GOAL

Development of the city of Kaunas happens in a way that meets the needs of the present without compromising the ability of future generations to meet their own needs.

PRACTICAL MEASURES

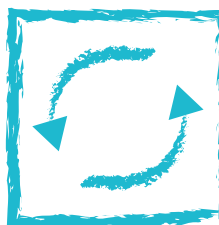
Spatial Planning values, achievement of which ensures sustainable development.

CONTAINMENT



- Restricting developments within urban footprint of the city while protecting Natural open spaces; wetlands, woodlands, stream valleys, habitat, etc.;
- Infill regeneration and redevelopment of brown-fields (post industrial land, unused infrastructure);
- Compact forms of residential Development;

RECYCLING



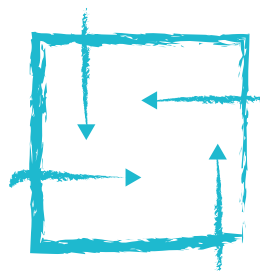
- Reuse of existing built environment and excess infrastructure;
- Wind and solar energy;
- Reduction of waste; recovery, re-use and recycling of waste materials;
- Collection and use of rainwater;

DIVERSITY



- Mixed land use; homes, jobs and shopping in close proximity;
- Increased biodiversity in urban areas, more wild landscapes, varieties of green, protection of fauna habitats.

ACCESSIBILITY



- Movement on foot and by bicycle and transit;
- Access to social amenities;
- Diverse public space adapted to different needs of society.

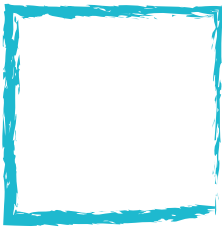
OPERATIONAL TOOLS:

1 Strategic guidelines to intensifying, diversifying and increasing accessibility of post-war socialist housing estate in Silainiai Mikrorayon, Silainiai Eldership, Kaunas.

2 Pilot project based on strategic guidelines.

3 Reflection on planning system and governance in Lithuanian cities.

STRATEGY FOR SUSTAINABLE URBAN DEVELOPMENT IN KAUNAS



Containment: Despite a declining population, city is growing in its footprint. Due to a lack of coordination between the Municipality of Kaunas and Municipality of District of Kaunas, defined administrative border is not keeping developments in the city. Strict regulations of containing within a current urban footprint are necessary to reduce energy use, trips done by cars, ensure greater

accessibility to social services, and in general more efficient and optimal use of land. This can be achieved in several steps:

- 1) City (urban area that includes territories of both municipality of Kaunas and municipality of district of Kaunas) has to stay within current urban footprint.
- 2) Define strategic areas for redevelopment inside the footprint of the city so that it can grow inwards.
- 3) Accessibility and distribution of program inside the city must be addressed on the big scale to avoid increase in road congestion.

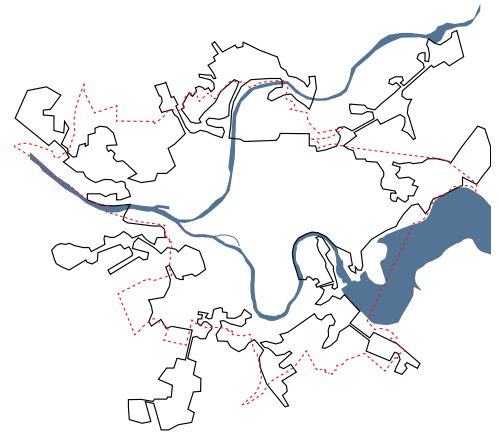


Figure 34: Administrative Boarder vs. Urban Footprint (author's image)

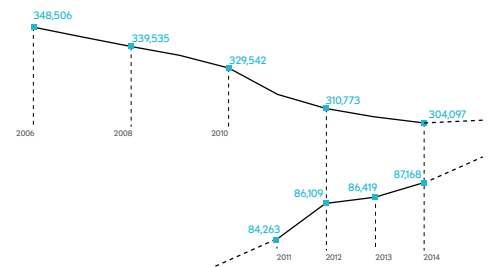
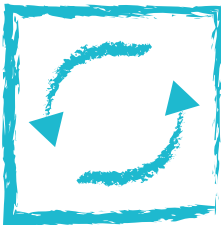


Figure 35: Administrative Boarder vs. Urban Footprint (author's image)



Recycling: In order to contain the city and grow inwards, strategic development areas have to be defined:

- 1) The City of Kaunas is famous for its industrial and military heritage that can be brought back to life through urban regeneration. Areas are well accessible and are close to the inner city.

Areas can be used to conversion to residential buildings, student housing or offices that are now lacking in the city.

- 2) Socialist neighborhoods that were designed to be sleeping residential neighborhoods have lots of empty, unused and unmaintained space that belongs to municipality and can be used for intensifying density and increasing livability by providing more human scale urban design.

- 3) After becoming independent, the city choose a very car oriented planning path which resulted in extensive network of wide roads. Social-modernism created neighborhoods where roads are separated from pedestrians and cyclist, thus becoming barriers to neighboring areas. By downgrading roads and changing street profile, municipality can gain valuable area that can be parceled and sold for development of mix used areas, integrate cycling paths and parking or become pedestrian paths therefore giving adjacent buildings flows of moving pedestrians.

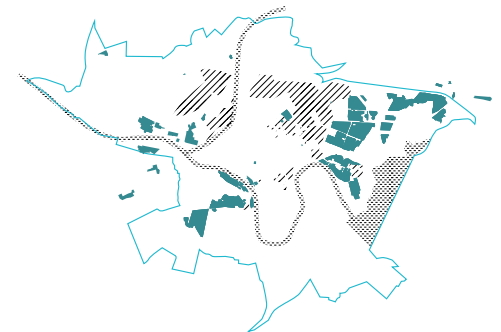


Figure 36: Possible areas for redevelopment



Figure 37: Empty industrial sites



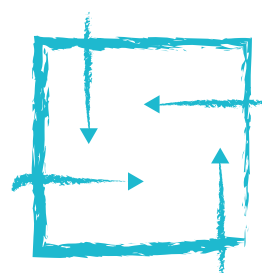
Figure 38: Unused space around housing estates and streets fit for downgrading



Diversity of functions and typologies ensures adaptivity to changing conditions and lifestyles. Mixed land use attracts critical mass and level of activity which contributes to location and its character. Moreover diversity of uses adds to profitability and economic growth. First steps to achieve diversity in Kaunas:

1) Studies shows that the major reason residents of Kaunas use car is to go to work. Rush hours are only ones where the highest level of congestion occurs. There are several clusters in the city where the majority of offices and other work places are located. To reduce trips per day it is necessary to improve public transport and allow people to work near their home. The changing work culture and increased number of self-employed people would make co-working spaces successful in areas with the highest concentrations of residents.

2) The areas with the highest concentration of residents happens to be the socialist housing estates that are very monotonous and have biggest need for diversification of program. Areas have no day-night activities. Encouraging small scale businesses to be established in the areas would reduce travels residents make for domestic purposes, diversity of housing would attract new residents, investments from which could be used to improve public spaces and parks.



Accessibility to public transport, public space, social services, education, healthcare and housing.

Currently suburban territories of kaunas are deprived from access to public transport network and social services. People are dependent on using car to get children to school or go to work. Access to public transport have to be ensured as well as providing possible

developments that are alternative to fixed workplaces in the center of the city.

People living in post-war housing districts don't have a chance to choose different type of housing in the same area, than the prefab blocks. With reducing households, there is demand for small residential units for students, people living individually, elderly and young families. To ensure people stay in the city and in their neighborhoods, priority areas are to be selected to provide missing housing and amenities.

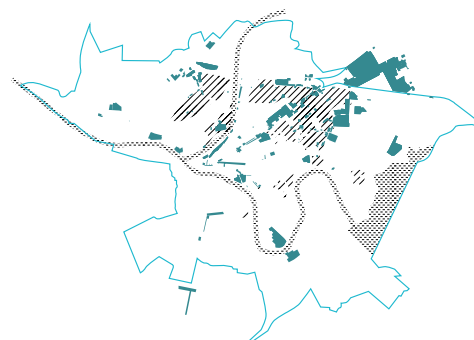


Figure 39: Concentration of Commerce in Kaunas

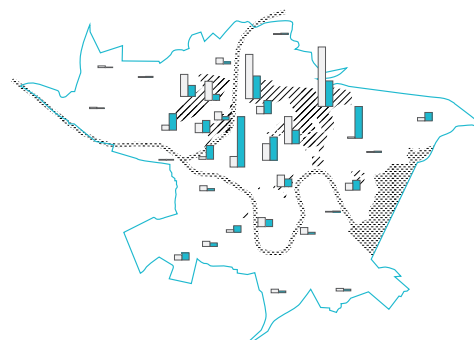


Figure 40: Concentration of Work places in Kaunas

Design project

Theme: Post-war socialist housing

SELECTED THEME

Post-war socialist housing



Image: Beginning of Construction in Silainiai (Source: Archive of Kaunas)

66

Priorities for development and improvement of Municipality administration is concentrated on expanding road infrastructure and connecting suburban areas to the city, while socialist housing estates are territories where the majority of the population is concentrated, they have very urgent issues that need to be addressed as soon as possible. Reacting to reducing quality of housing stock, people who can afford to move out, do so. While situation is still good, changes have to start happening in the housing estates. Changes that would ensure sustainable development, keep the social structure of communities and maintain big areas of open public space.

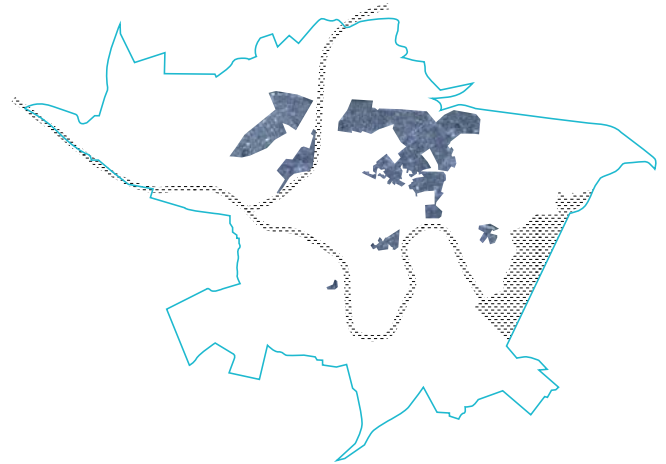
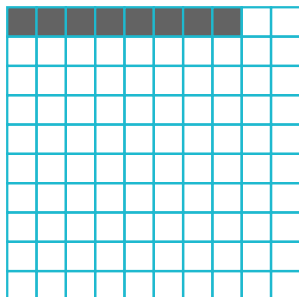
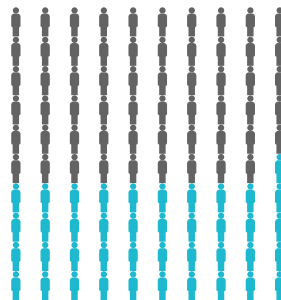


Figure 41: Post-war socialist housing estates in Kaunas (author's image)



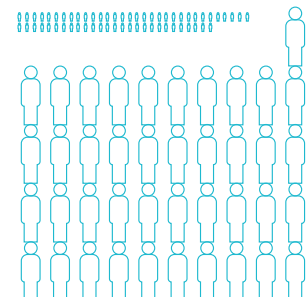
Housing Estates take up:

9.22%
of city territory



Housing Estates houses:

51%
Urban population of Kaunas



51% **=** **9.22%**
fit in

DESIGN TASK

Design task reflects the combination of conclusions from research. Sustainability can be achieved by implementing spatial planning tools, inclusive and multilayered governance and public involvement. The final objective of the strategic guideline design pilot project is to understand what steps have to be taken in order to improve living conditions, what the main issues in such housing estates are, what are the important values to keep and how local government can start a dialogue with citizens and other stakeholders to work together. Design itself is more of a straightforward application of concept of sustainability in Lithuanian context to explore different possibilities and establish clear guidelines rather than a blueprint for construction.

The project seeks to move away from norms and standards that current planning system is dependent on and rather try to really understand how people use space, create intrigue and

contrast that trigger activities and challenge current living patterns.

The four values of sustainable development are used in this scale too, to achieve consistency between different levels that this thesis explores.

Proposed design has different elements: reuse of empty green space and downgraded roads to densify the area, include more diverse program and reconnect detached neighborhoods. Furthermore, create clear hierarchy of public space in and around the housing estates in order to revive sense of belonging, greater level of surveillance and collective responsibility for the place people live in.

DESIGNER'S POSITION

Post war housing mikrodistrict in Silainiai is not in any way special and all spatial flaws found in the area are not only problems of that place, but they reflect what is in general wrong with spatial planning in Lithuania today and bring light on the twisted attitude towards environment of contemporary society.

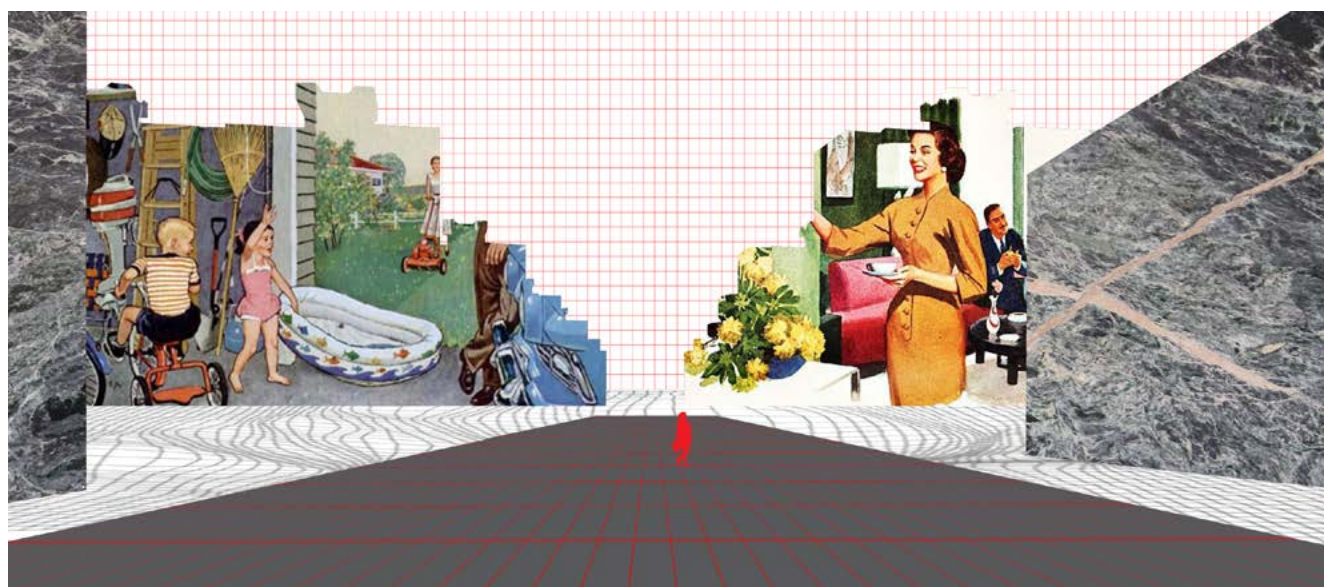
Socialist heritage is generally rejected as it had failed. There is still lots of resentment, anger and denial about the recent past which was the 50 years of occupation. These bad emotions impair our environment. Neo-liberal lifestyle prevails but people are unhappy and unhealthy. So is our city.

Values that will be kept and emphasized with a kind of exaggeration are public green space, car free environment, ability to move around without disturbance of traffic. Tower

in a park will be placed in an even more graphic environment emphasizing on their monumentality and massiveness. Green will be the green that is typical for Lithuanian landscape: wild, diverse, surprising. Mikrodistrict needs distinct character.

Position on sustainability:

Sustainability does not have a specific form. It is about creating environment that lasts and adapts to changing society needs and is never finished. It is always to be improved by future generations. Sustainability is about understanding and respecting your environment, being aware of processes affecting the city and being part of the decisions and solutions.



1940 SOVIET OCCUPATION [1940]

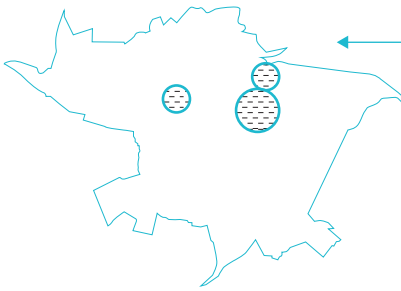
1941 GERMAN OCCUPATION [1941-1944]

1945 SOVIET OCCUPATION [1945-1990]



1960 MASS-HOUSING CONSTRUCTION STARTED

First with union wide templates, later national templates.



1963

FIRST BIG HOUSING COMPLEXES WERE BUILT:

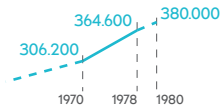
- Petراسiunai (K.Barsausko str.)
- Dainava (Kovo 11 str.) and
- Vilijampole (Demokratu str. and Riverside of Neris)

Highway was built in the East side of the city that joined dispersed urbanized areas. Radial city patterns started to occur.

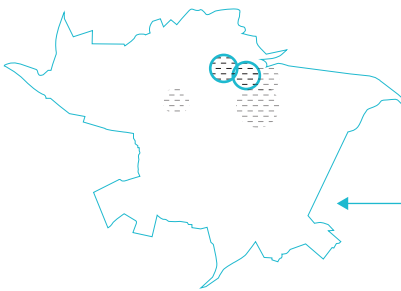
1967



1971 ONLY STANDARDIZED 5 FLOOR RESIDENTIAL BLOCKS WERE BUILT.



Population grew rapidly (1970 - 306.200; 1978 - 364.600; in 1980 population was expected to rise to 380.000)

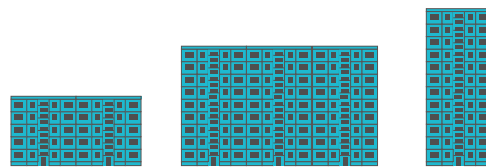


1975

ALL VACANT TERRITORIES WERE ZONED AS AREAS FOR MIKRORAYON EXPANSION.

CONSTRUCTION STARTED IN EIGULIAI AND KALNIECIAI WERE FINISHED

These were first areas where **9 and 12 floor blocks** were allowed.



1983

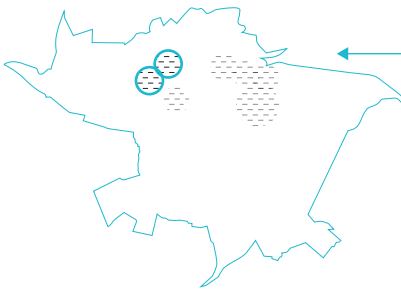
NEW GENERAL PLAN OF THE CITY APPROVED

(Authors: J. Petrauskas, J. Zagorskas, A. Sprindys)

CONSTRUCTION STARTED IN SILAINIAI.

1985

CONSTRUCTION FINISHED IN KALNIECIAI AND EIGULIAI.



1990

INDEPENDENCE OF LITHUANIA



END OF MASS HOUSING CONSTRUCTION



MIKRORAYONS

After the Second World War, during the soviet occupation Lithuanian cities were densified with neighborhoods composed of high-rise, prefabricated residential slab blocks. "The towers in a park" design concept engendered by modern architects and city planners in the 1920s and 1930s, found its purest expression in the mikrorayons of the Soviet Union." (M.Dremaite 2011)

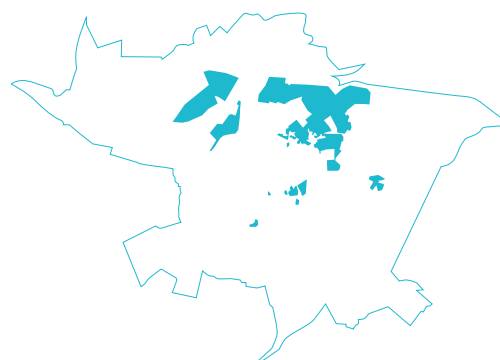
After the War, growth in population forced the central government to find very fast, cheap solutions to the housing shortage. The solution came in a shape of prefabricated reinforced concrete mass slab housing. Gray monotonous mono-functional towers in blank environment could accommodate large number of people.

The mikrorayon was the smallest soviet planning unit in the city. The size of one mikrorayon was usually 10-60ha with 5000-15000 residents. (fig. X) Apartment blocks are grouped around the center of mikrorayon with school, shop, hairdresser salon and some other daily amenities. Several mikrorayons make up a residential 'sleeping' district with 10.000 – 30.000 residents. Program was more diverse in the center of the district. Mikrorayons were built in empty areas on the fringe of the cities, where it was easy to copy and paste typologies. Connectivity of mikrorayons was not an issue despite their relatively remote locations as public transit services were accessible to most of the newly developed areas. A wide network of buses and trolleybuses was meant to cover whole city.

Apartment buildings were constructed from prefabricated parts that were prepared in the factory and assembled on site. Buildings had simple and cheap design solutions, compact apartment layouts and were repetitive. (Fig. X)

MAIN CHALLENGES OF MIKRORAYONS TODAY:

After declaring independence in 1990, the free market economy gave opportunity to citizens to choose different type of housing. This moment drastically changed the urban fabric of the city. Increased construction of private one family housing resulted in sprawl of cities, missing program of commerce were filled in with big supermarkets and malls, and increased use of the car was followed by an increased investment to big roads and highways.



PARKING:

The original design of the socialist housing estates anticipated that private automobiles may be owned only by some inhabitants, therefore parking spaces were not to interfere with the interior layout of the blocks." Spaces for parking were left at the edges of development where supervision against vandalism was not possible. This is an urgent problem of today. The number of cars grew 1.6times in the first 10 years of independence. This resulted in congestion and parking deficiency in residential areas.

POST-WAR SOCIALIST HOUSING IN KAUNAS

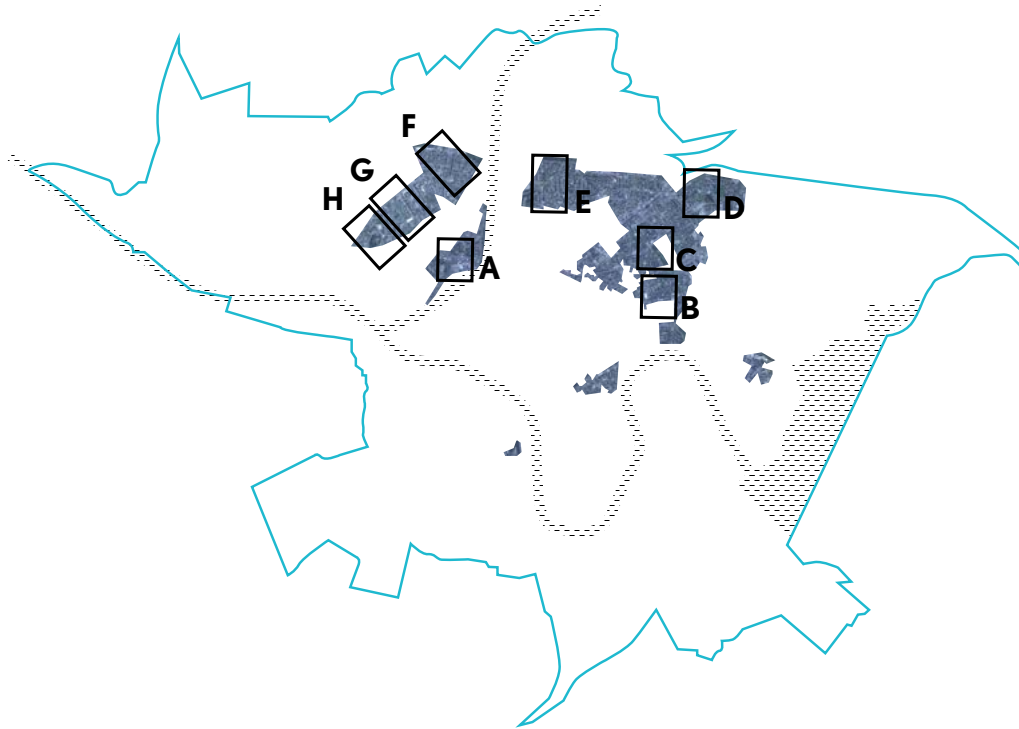
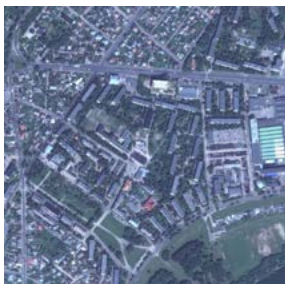
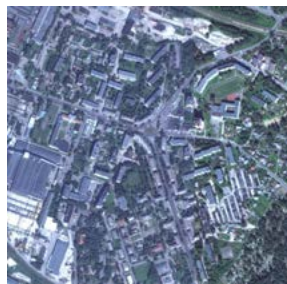


Figure 42: Post-war housing locatons in Kaunas (author's image)

TYPES OF RESIDENTIAL HOUSING ESTATES IN KAUNAS (Chronological order)



A



B



C



D



E



F



G



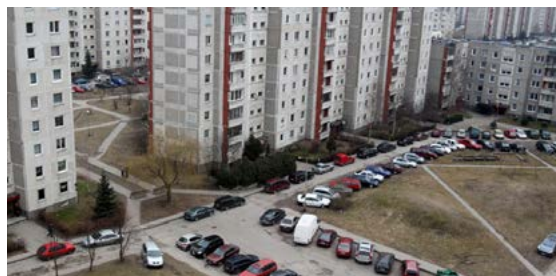
H

BAD CONDITION OF PUBLIC SPACE



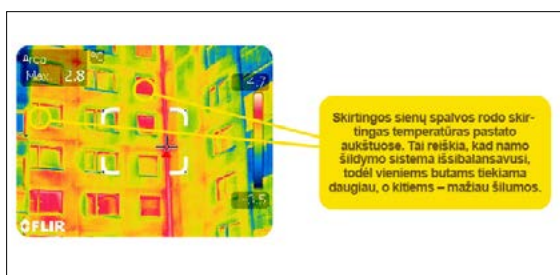
Playground in the courtyard of a housing block

PARKING



Parking on the lawn of a housing block

RENOVATION



Cold-bridges in the joints of the prefabricated elements

LACK OF PROGRAM (MONOFUNCTIONAL)



Typical Facade of socialist housing block (Author: unknown)

WASTE MANAGEMENT



Domestic and recycling waste containers in mikrorayons

FRAGMENTED BY WIDE ROADS



Typical street profile between housing blocks

Squatter parking (Picture) is a reality to which local government is turning its back. Today playgrounds and pedestrian pathways are occupied by cars, people initiate community parking installed from collective fund, fenced against strangers. Legally, apartment building and 5 meters land around it is a cooperatively owned by all residents. Other land that is in the courtyard of the block is owned by the municipality. It is formally the responsibility of the local government to solve parking issue and if community decides to take matters into their own hands and invest into new parking with gates, there is a very long and expensive bureaucratic process that they have to go through to get permission to build on a public land.

In 2013 Kauno Planas (municipal city planning office) prepared a special plan in which they addressed issues of Parking in the city. When it came to mikrorayons, it was decided to legalize illegal parking that is now created on green

spaces and children playgrounds. Run down playgrounds and green areas that were surrounded by cars were declared unused and unnecessary therefore they could be transformed to parking. There were no multistory or underground parking structures proposed. Parking in the street was solved by calculating how many cars fit to be parked in the street.

During the interview with director of Kauno Planas, Gintaras Sinkunas admitted having lots of political pressure to prepare this special plan, but did not really understand the big problems with it.

RENOVATION OF HOUSING

Prefabricated housing blocks are now more than 50 years old. They are not energy efficient, (Thermal-Images) in bad quality and uncomfortable which makes them less attractive. Young families who can afford to move out, do so. Unmaintained

public spaces are slowly transformed to unofficial public parking areas. Specialist call for urgent renovation and restructuring of these areas, while municipalities driven by private interest choose to invest all their energy and money into inner city areas and suburbs.

A recent study of mikrorayon area Zirmunai in Vilnius concluded several main obstacles that stop the renovation process:

- 1) Ownership: 97% of apartments in mikrorayons are owned by residents, while there are no regulations encouraging residents to collectively solve renovation and public space problems. This is most obvious when looking and how people choose to renew their windows and balconies.
- 2) Nobody wants to take care of public ground: Public spaces and playgrounds are becoming parking areas, people don't invest into maintenance of green areas.
- 3) Passive participation in renovation programs: Residents are skeptical about renovation projects as they do not see the long term value it might bring: renovated building means lower heating cost, better living quality and rise of estate value. Senior citizens are especially uncooperative as living cost is already very high and pensions are very low.

FINANCING OF RENOVATION:

Municipalities encourage renovations by offering subsidies for people with low income, but clearly this is not enough as lots of people fall into the category just above the income threshold to receive subsidies and it is still seem too expensive.

WASTE MANAGEMENT:

The review on Problems and Goals for Sustainable Development in Lithuania, by Ecologist Romualdas Juknys from Vytautas Magnus University, Lithuania concluded that Lithuania is doing poorly in the context of EU in terms of waste management.

On average only one third of waste goes to Landfills in European Union, while such countries as Germany, Holland, Sweden and Austria has numbers as low as 2-3%: around two thirds are recycled and reused while another third is burned to create energy. In Lithuania, only 10% of the domestic waste is recycled, while other 90% goes to landfills. Ecologist identifies waste management as one of most concerning environmental issues in Lithuania. There is a high risk of turning into a very dangerous land management solutions: burning trash.

Waste management challenges are especially relevant in socialist housing estates that host more than 66% of Lithuanian population, therefore produces equivalent amount of domestic municipal waste.

Residents pay waste tax according to the sized of the household, but taxes are not significant enough to motivate them to recycle. Moreover, taxes for waste are unified, therefore there is no motivation for individuals to reduce their consumption as everybody pays the same. Furthermore, waste containers are public and unsupervised. Hazardous trash such as old tires, electronics and old batteries land in or near domestic trash containers. Recycled waste is not taxed and majority of households have access to recycling to containers, but despite that, the amount of recycled waste is not increasing.

Waste management is taken for granted, people don't feel responsible for their trash. Responsibility is given to the municipality and municipal waste management organizations that provide containers and collect trash.

Waste in mikrorayons:

In the city of Kaunas, municipal company responsible for waste management (Kauno Svara) provides domestic waste containers for all residents and businesses. One housing block gets one big container for domestic waste. Due to poor road quality and very tight parking, waste collecting cars can no longer enter the courtyards of the blocks, therefore all containers (both for domestic waste and recyclable waste) are left on the street or on green areas on the fringe of the block.

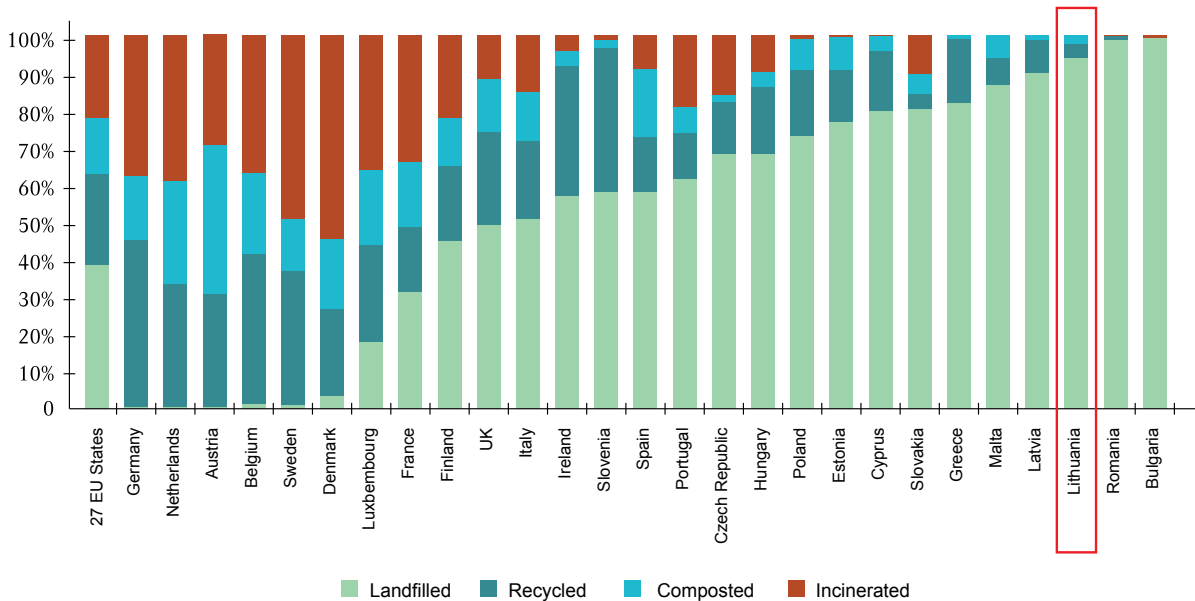




Figure 43: Small flower shop in a mikrorayon

CHALLENGES OF PUBLIC/GREEN SPACES:

The concept of building a tower in a park, left mikrorayons with vast areas of unmaintained, undesigned public green space. The purpose of such concept was to give residents a feeling of being in the nature but at the same time, allow living in a dense neighborhood with all social amenities at the walking distance. Pedestrian routes and car traffic is separated, there is a big setback between the road and the buildings. People prefer driving than walking as pedestrian routes are unmaintained, there is few street lighting, unless residents takes initiative, there is no urban furniture too. Being outside for young children is not considered safe and for youth and adults there are very little activities outside.

PUBLIC SPACE IN LITHUANIA

Understanding of the concept of public space in Lithuania have changed drastically in the past 25 years. Increase commercialization and capitalism driven lifestyles made clean, glossy passages in shopping malls almost sacred while importance of green spaces is decreasing.

A. Gelunas (Minister of Culture 2012-2014) argues that this has to do a lot with shifting to the extremes: in communist times private property was absolute evil, while today, it is protected more than public interests. In total 150 years of suppression by various regimes leaves scars. People like being safe, protected in their castles. They are always ready to defend their territory. There is a prevalent attitude that public space is unsafe, unpredictable, therefore has to be monumental, clean with controlled activities.

Living with such attitude does not bother middle class that can afford driving to supermarket every time that they want

to go away from home, but there is a part of society that could be using public space and can not really defend it or invest in maintaining it themselves. These are elderly people, mothers with small children, youth and the urban poor.

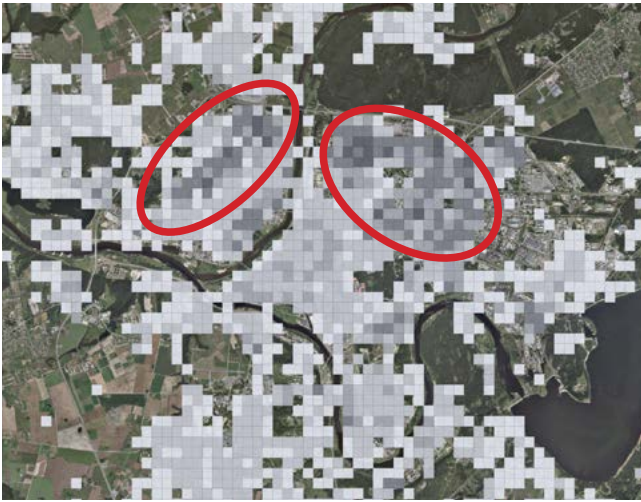
LACK OF PROGRAM DIVERSITY

Mikrorayons have been design as “sleeping neighborhoods”. They were built to house industrial workers of near by factories. Usually, project proposals for mikrorayons had lots of cultural functions like cinema or community center, but most of them have not been built. For work or domestic shopping (excluded groceries) residents often have to travel to city center. On the other hand, all social amenities like schools, kindergartens, local libraries and clinics are nearby. Such services like hairdresser salons, solarium, key makers, footwear repair, bookshops, alcohol shops and bakeries found their place in kiosks or in converted housing block apartments.

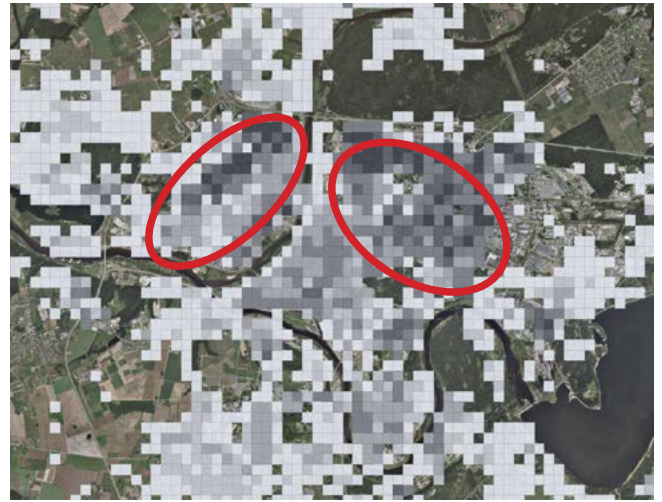
Still, provision of additional services or commerce is not coordinated by local authorities. Big scale commercial are compensating for the lack of program, but at the same time, small businesses are not able to compete with them. Supermarkets are considered as part of the street rather than part of the neighborhood, therefore it is only understandable why they are poorly connected to pedestrian routes and have enormous parking places adjacent to the street. Often, traffic lights are installed in front of the driveway.

It is not common to have office space in the sleeping neighborhoods and culture of co-working near home did not come to Lithuania yet. Therefore residents have to travel to work every morning and go back home at the same time, which is the biggest cause of traffic jams in the city.

SOCIAL STRUCTURE OF KAUNAS



Map: Inhabitants by age: Children and Youth [0-14years]



Map: Inhabitants by age: Working age [15 - 65]



Map: Inhabitants by age: Elderly [+65years]



Map: Amount of housing Units



Map: Inhabitants who have Higher Education



Map: Inhabitants by income

Man labai patinka gyventi silainiai
čia aš užaugau. Čia mano gimtinė:

Silainiai, Kaunas, Lietuva!!!

Jėga!!! ☺

"I REALLY LIKE LIVING IN SILAINIAI. I GREW UP HERE. THIS IS MY
HOME. SILAINIAI, KAUNAS, LITHUANIA!!!!"

GREAT!!!

KAMILE 2015-12-09

PICTURE FROM THE GUEST BOOK IN SILAINIAI LIBRARY

Kamile 2015-12-09.



BIJLMERMEER [1966] AMSTERDAM, Netherlands

RECONSTRUCTION STRATEGY:
demolition, redevelopment

The Bijlmer housing neighborhood was constructed from 1966 in a polder near Amsterdam. It was rigid, thoroughgoing and colossal, contrasting to pre-war developments: small scale, dense. The urban development plan from the Urban Planning Division of the Amsterdam Department of Public Works provided for 40,000 dwellings, of which 90% were to be realized in high-rise buildings produced in an industrial manner.

80

“The modernist Bijlmer – inspired by Sheffield’s Park Hill and Toulouse’s Le Mirail estates – seems to have followed the same path as so many post-war estates throughout the world. Soon after its completion, the estate’s social problems were directly and unequivocally linked to its urban design. The critique on the ‘failed’ design principles led to a continuous series of interventions in the built environment. However, the question has always been whether it was really the Bijlmer’s modernist design that failed. Maybe we should look at other reasons for its problems, and thus for other ways to redesign its future.” (Failed Architecture, 2013).

It has been argued that social problems in the Bijlmermeer area are not so much linked with the urban form, but rather with socio-economic conditions of that time and changing responsibilities in governments.

The Bijlmermeer neighborhood, which today houses almost 100,000 people of over 150 nationalities and is regaining its attraction of new residents. Since 1975 Bijlmermeer became home for the first flow of immigrants who came to the Netherlands. Higher income families started moving out, crime became everyday reality and area was unmaintained. Reacting to social problems in the area, municipality decided it was time to renovation. There has been several proposals for redevelopment of this area. The first one suggested to intensify area with new suburban row houses that would imitate the natural growth of the city. The second one was to renovate the buildings to make them look luxurious and the third was to embrace the monumentality of housing blocks but to add program and strengthen mobility links.



Demolition map until 2010



New project proposals. Images by: Projectbureau Vernieuwing Bijlmermeer

Municipality decided to go with demolishing part of the neighborhood and rebuilding new housing. Crime had reduced drastically and new middle and upper class families are moving into the area. Municipality built more social and cultural amenities, sports centers.



Image by Archined



The Millions Homes area of Tensta (Source: <http://www.kth.se/blogs/sustainable-built-environment/category/housing/>)

MILLION HOUSES PROGRAM [1965 - 1975] TENSTA, Stockholm, Sweden

After the Second World War, reacting to increasing housing need and rapid immigration and growth of middle-class, Sweden decided to start the Million houses program, to provide one million new rental apartments.

The goal was to rapidly produce a large number of affordable housing units for the Swedish middle class while preserving nearby open space, improving traffic safety and encouraging residents to walk, ride bicycles and use transit. Planners and architects felt that in order to achieve the desired suburban “new town” environment, development and densities were to be as concentrated as possible, and all units were to be within 500 meters of the transit station.

The area was designed giving generous width between buildings, providing lots of light to all housing units. Yards near housing estates were meant for playgrounds and pedestrians. Traffic was completely separated from non vehicular movement.

When the project was completed it did not attract the intended population, but rather become social housing areas for immigrants and low income families. The original design led to spatial segregation in the area: The new communities were

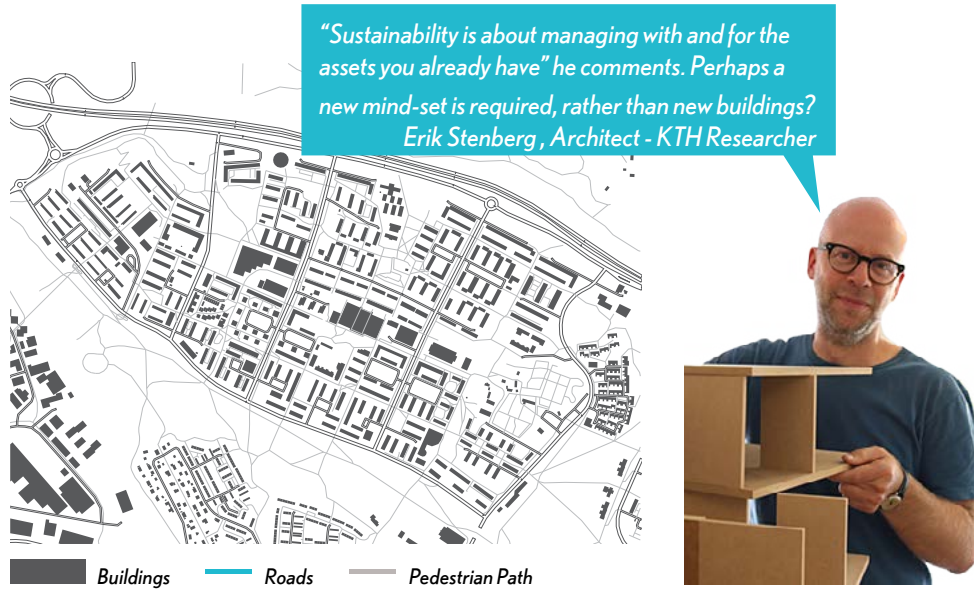
RECONSTRUCTION STRATEGY:
Layout revision, public involvement, public space upgrade



Image: Lund housing district



Image: Lund housing district



designed to make open space accessible to their residents (ordinarily a desirable goal), but this by design disconnected them from nearby older (and lower-density) subdivisions. Design was monotonous and non-human friendly scale.

Within years, the Million Housing district became undesirable by Swedish families and municipality together with housing corporations decided to start renovation. The renovation program provided housing estates with rather cosmetic upgrades while forgetting to address spatial problems in the whole area. Rent increase after the renovation was completed, angered the local communities, which resulted in riots of 2013.

Problems of the area today:

- 1) Poor quality piping, ventilation, roofing materials, usual building stock;
- 2) High energy use;
- 3) Social Issues: segregation, low income population;
- 4) Housing units are not applicable to current needs of population

Social structure of local residents did not change and remains mainly low income families and people with immigrant background.

After the failure of the first renovation program, the housing research institute together with Stockholm Municipality started a new slow upgrade program. This time, research and architects considered the actual needs of society. The Renovation strategy consist of:

- 1) Renovation: piping, ventilation, roofing materials
- 2) Sustainability: Reduce energy use (modernization of heating systems)
- 3) Crating a higher variety of housing units inside same buildings.
- 4) Save existing good qualities: walkability, lots of green space.

Although this strategy is still ongoing, program is well received by local community. Case of Tensta neighborhood, where first renovations is happening is under close watch by the local authorities and hosing corporations, who are willing to learn from past mistakes.



Image: Riots in Tensta neighborhood, Sweden in 2013



MARZAHN [1966] BERLIN, Germany

The district of Marzahn emerged in East Berlin around the old village of Marzahn that predominantly was an establishment of low rise brick buildings. In 1976 it was transformed into a city district of prefabricated (Plattenbau) housing estates with over 60.000 apartments. District was connected to the city with a train and tram lines. At that time it was the largest housing estate in Europe. The population in 1987 reached over 170.000 residents. Since the fall of the Berlin wall, quality of housing in the area started reducing and residents who could afford to moving out, started doing so. Due to the unfavorable social conditions and increasing crime rate Marzahn district got a reputation of being a “Hartz IV Ghetto”. The local government stepped up to increase the living quality, public spaces have been renovated, new developments increased diversity. If in the year 2000, the Housing corporations were offering rent-free months to new residents, now area has only 2% of vacancy rate and slowly Marzahn is becoming a new attraction for young people and young families to live in. Area has very diverse population. Big population (over 30.000) of residents speak Russian, biggest Russian supermarket can also be found in this district.

In 2011 the reconstruction of Marzhaner promenade started. Upgraded public space offered leisure facilities, spacious square with a terrace for parties and events. Reconstruction included reorganization of nearby S-Bahn station that improved connection and provided barrier free accessibility to the promenade. The majority of tenants of small shops at the promenade are artists that organize exhibitions and temporary projects.

Marzahn district did not get rid of bad reputation yet. Prefabricated housing estates are not the most attractive places to live in, crime rates decreased but still is not as safe as one hoped.

This example shows how small improvements of public spaces and renovation and modernization of housing stock can improve living quality. New small scale developments provided working spaces and studios for artists and small community businesses and is becoming popular with locals due to daily activities and events that tenants willingly organize.

RECONSTRUCTION STRATEGY:
Diversification of functions and typologies,
public space upgrade



Observation deck in Marzahn



Marzhaner Promenade



Exhibition in the Marzhaner Promenade



POST-WAR HOUSING BLOCK RECONSTRUCTION RIMAVSKA SOBOTA, Slovakia

RECONSTRUCTION STRATEGY:
Revision of layouts, community functions,
modernization

84

Project Completed: 2013
Architects: GutGut
Client: Private client
Type: Rehabilitation of socialist housing building

Slovakian Architecture office GutGut successfully completed a rehabilitation project for one multistory building in socialist housing estate district. Architects identified that demolishing vast areas of prefabricated blocks was economically unfeasible. With design proposal authors tried to push the boundaries with what can be achieved with such a structure.

Architects proposed not only to renovate housing facades but also to restructure layouts of apartments, introduce one more floor with penthouses and increase program in the building. Storage area on the ground floor was transformed into a communal place with sports facilities and a cafe. Lightweight concrete boxes were added to the entrance of the building and thus created a covered outdoor terrace.

Project was financed by private developer that later used the building for rent, this such high quality project would be difficult to do in different circumstances but it is a good example of an completed reconstruction where building was transformed internally and externally.



CONCLUSIONS

There are different ways how all four cities treat post-war modernist housing areas. Amsterdam municipality decided to partly demolish the estate and infill area with new housing and mix use topologies which seems to be working well so far but this action was very wasteful in terms of energy and materials. Also social problems that were in the area that caused increase in crime and other social problems was not caused by the buildings themselves but rather by socio-economic climate of that day.

In Stockholm's, the cosmetic renovation of estates that increased the rent for housing and was met by anger and riots by tenants. Distant relation between the tenants of the million houses areas and housing corporations owning the buildings translated in friction and dissatisfaction from both sides. The new strategy, to look at the areas and understand the needs of the people is well received. Planners emphasize that these areas have lots of qualities that inner city developments can not provide and these values should be cherished.

Another interesting aspect of the new renovation scheme transformation of existing unit layouts. Buildings in the area are pre-fabricated, which means that the elements of the buildings can be easily removed and changed. This enables architects to redesign layouts of the apartments and adapt them to the current needs of residents.

Reference from Berlin shows, how upgrading of public space and introduction of new program with livable public space can bring new people to the area and become an attraction to locals.

Reference from Slovakia shows how modern architectural solutions can drastically transform the building. In this case, whole building had an owner who was privately investing to the building and now rents and operates it

LESSONS TO LEARN FOR KAUNAS

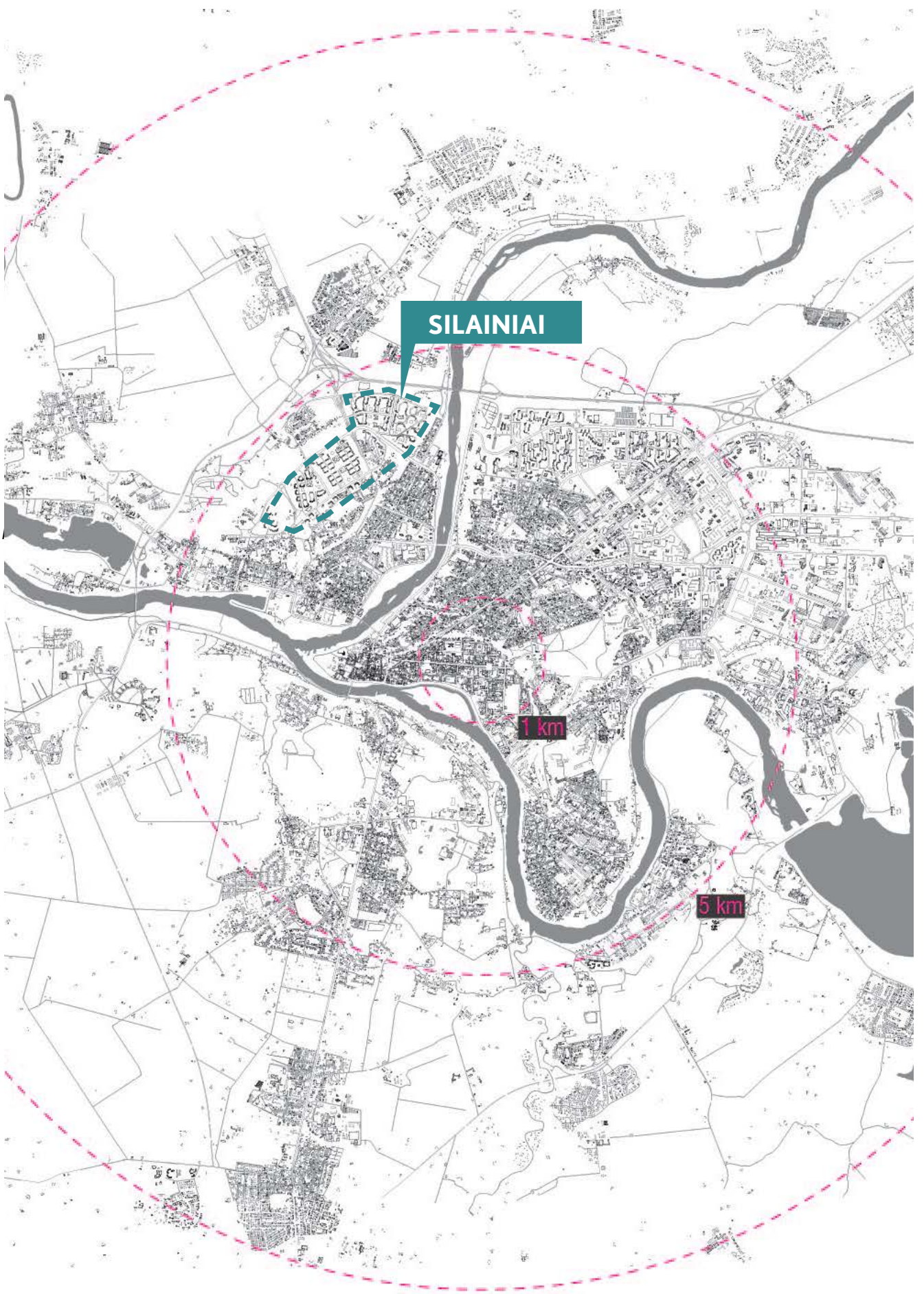
- Similar to Amsterdam, Berlin and Stockholm, housing estates in Kaunas are social risks. Areas are considered unsafe, muggings are quite common, but there is still good social mix of residents.
- While residents in Amsterdam and Stockholm rent apartments, 97% of apartments in Lithuania are owned by residents, therefore buildings belong to people collectively, therefore maintenance and renovation has to be done by them.
- Post war housing areas in Kaunas have certain qualities that should be preserved and emphasized, there are enough social amenities, but areas lack other programs. A mix of interventions should be implemented in the areas that both preserves good values and increase density and provide



Image: One of apartments which was increased in size by demolishing walls between two small flats. Apartment is now house for big family with 6 children (Source: KTH Royal institute of technology)

diverse program.

- Apartment blocks are pre-fabricated therefore modifications in building structure are possible as it is done in Stockholm.
- Reconstruction of housing block in Slovakia by GutGut architects is a great example of total transformation from gray monotonous building to a modern unit with community facilities and designed green spaces.





SILAINIAI

Silainiai district is located on the North West side of the city of Kaunas. It was the last one to be built during the period of mass-housing construction in Kaunas. In 1976, an architecture competition was held by the institute of architects, to find best design for the new residential area. Saulius Lukosius won, with most functional, aesthetic and comfortable urban proposal. The design proposed ways to reduce noise, separate pedestrian and automobile flows. Residential area should have had two floor underground parking as parts of the mega-blocks, several cinemas, a 480 room hotel and some other social amenities. Due to economic challenges, shortage of materials and pressure to build as fast as possible, most cultural and social program elements were scrapped.

Construction began on 29th March, 1984. First residents moved in a year after. The implementation of the project was not well integrated. When first people came to live in newly built blocks, neither streets nor pedestrian paths were finished. There were very few shops, no green areas or parks. People had to walk in mud.

From the intended 12 mikrorayons, only five and a half were finished. Prefabricated housing construction stopped in 1990

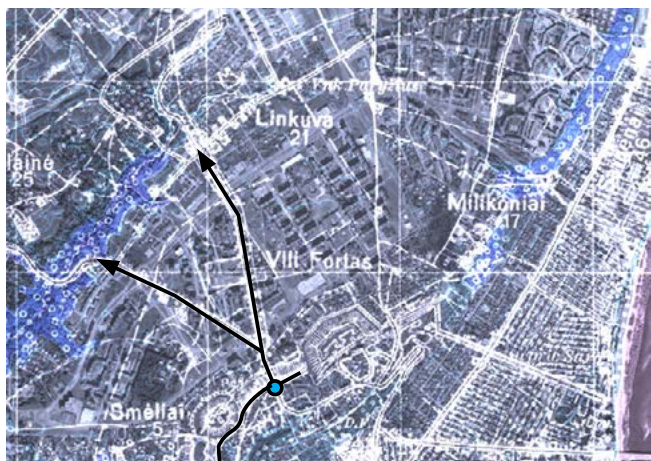
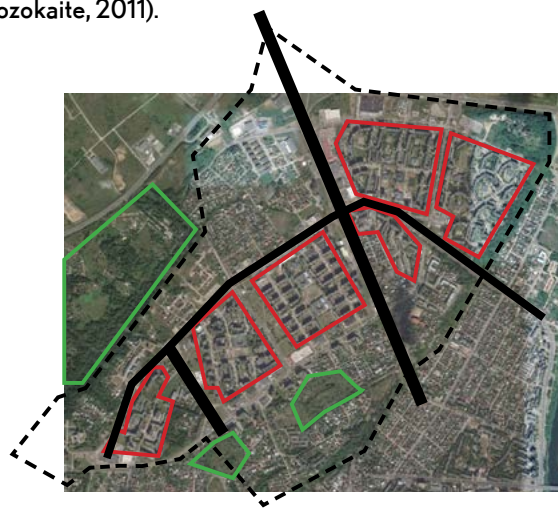


Image: Comparison of map from 1964 and orthofoto of Kaunas today.

with the change of political system (Lithuanian Independence 11th March 1990). Even though it was not fully finished it became home for more than 40 thousand people. During the period of 1985 and 1991 six new schools and several shops were built, in 1993, a new clinic opened. In terms of road and green infrastructure, this area remained unfinished. There is an apparent lack of organized green space. Trolleybuses still cannot reach the area. Silainiai ended the Soviet mass pre-fab construction and gave input to sprawl to the west side of the city.

Unlike most districts in Kaunas, Silainiai was built on a field of crops and corn and is one of the few mikrorayons. Having lots of pressure from central government to build as many units as possible, heights of buildings in this area were not restricted, and due to lack of materials and other reoccurring economic challenges, buildings were of a poor quality and the overall urban vision was never completed. (Butkus 2010)

Mikrorayons were designed to house workers from neighboring industrial areas, and Silainiai were the area for workers from factories from the area of Vilijampole. (Fig.X) (Juozokaite, 2011).



SOCIAL STRUCTURE

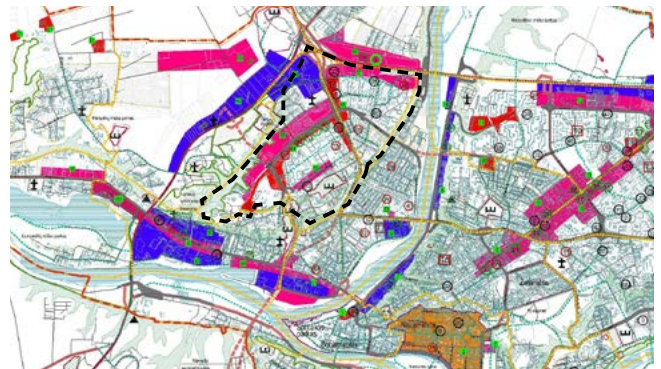
Social structure in all mikrorayons are generally similar. Inhabitants are of different income groups, diverse education backgrounds, similar number of children in the areas, similar densities of households. One difference is: the amount of elderly people living in the area. As Silainiai were built 30 years later than the oldest mikrodistrict in Kaunas, thus current inhabitants who moved in their 30's with little children, are just before the age of pension, with kids grown up and creating their own families. The second generation is growing. This shows that there will be an increased need for facilities for the elderly which in the case of Silainiai is lacking.



Map: Inhabitants by age: Elderly [+65years]

SPECIAL PLAN FOR BIG SCALE COMMERCIAL CENTERS

Large territories of area selected for strategic guidelines are planned by municipality to be used for large scale universal or specialized shopping centers. This plan was valid since 2005 and is included as part of the comprehensive plan. It will stop being valid only when comprehensive plan is changed. The area has wide roads and is a great location for drive in centers.



LEGEND:
 Universal shopping centers
 Specialized shopping centers
 Universal and specialized shopping centers
 Shopping passages and salons

CURRENT ZONING PLAN



----- Post war housing area selected for strategic guidelines proposal

Main zoning map (zoom in) from the Comprehensive plan of Municipality of Kaunas (2013) for the eldership of Silainiai

Plan defines land-use, infrastructure, marks cultural heritage and natural reserve areas, levels of density (high, medium low). Marks solutions of special plans for: Large supermarkets location, high-rise locations.

Zoning legend

- Linear centrality, mix type buildings
- High Density residential areas
- Low Density residential areas
- Public use territories
- Infrastructure territories
- Planned infrastructure territories
- Cultural Heritage protected territories

Solutions from the special plan for location of large supermarkets

- Zones for universal Super Markets
- Zones for Specialized Super Markets

DESIGN OBJECTIVES

OBJECTIVE:

Create development strategy for the post-war housing area in the eldership of Silainiai. Strategy follows the values of sustainable development and is an alternative to comprehensive plan of part of a city (LTP:2014).

SCALE: Part of eldership of Silainiai, concentrating on a territory of post-war housing estates.

APPLICATION OF SUSTAINABLE DEVELOPMENT VALUES:

FRAGMENTATION:

Housing estates are designed in clusters, separated from one another by wide roads (some 8lanes wide). Large scale commercial centers are establishing around the clusters. Only small scale commerce are kiosks and some shops opened in the first floors of housing blocks. These conditions created barriers that need to be reduced.

RECREATION:

Although there is natural reserve and historical fortifications, they are not connected to pedestrian networks, they are polluted abandoned and slowly taken over by sprawling villa neighborhoods. Only park in the neighborhood has very little trees or leisure facilities. Green strategy targets these issues, identifies valuable recreational points and with green liniar structures reconnects fragmented neighbourhods.

PUBLIC SPACE:

All land around housing estates are public, there is no hierarchy or structure, spac is unmaintained and taken over by squatter parking that is lacking in the area. Development strategy informs about the network of valuable public space and how it should be connected to the whole urban fabric of the city. More detailed intervention to public space would be done in the lower level of the plan.

HOUSING:

Quality of housing is decreasing, buildings are not efficient in terms of energy use for heating during the cold season. There is a need for an integrated renovation strategy. Moreover, there are two types of housing in the project area: suburban vilas and mega prefab blocks. Objective is to identify space for possible infills of new urban fabric and define what kind of housing units are necessary in the area to ensure sustainable turnover of the population.

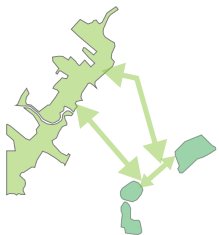
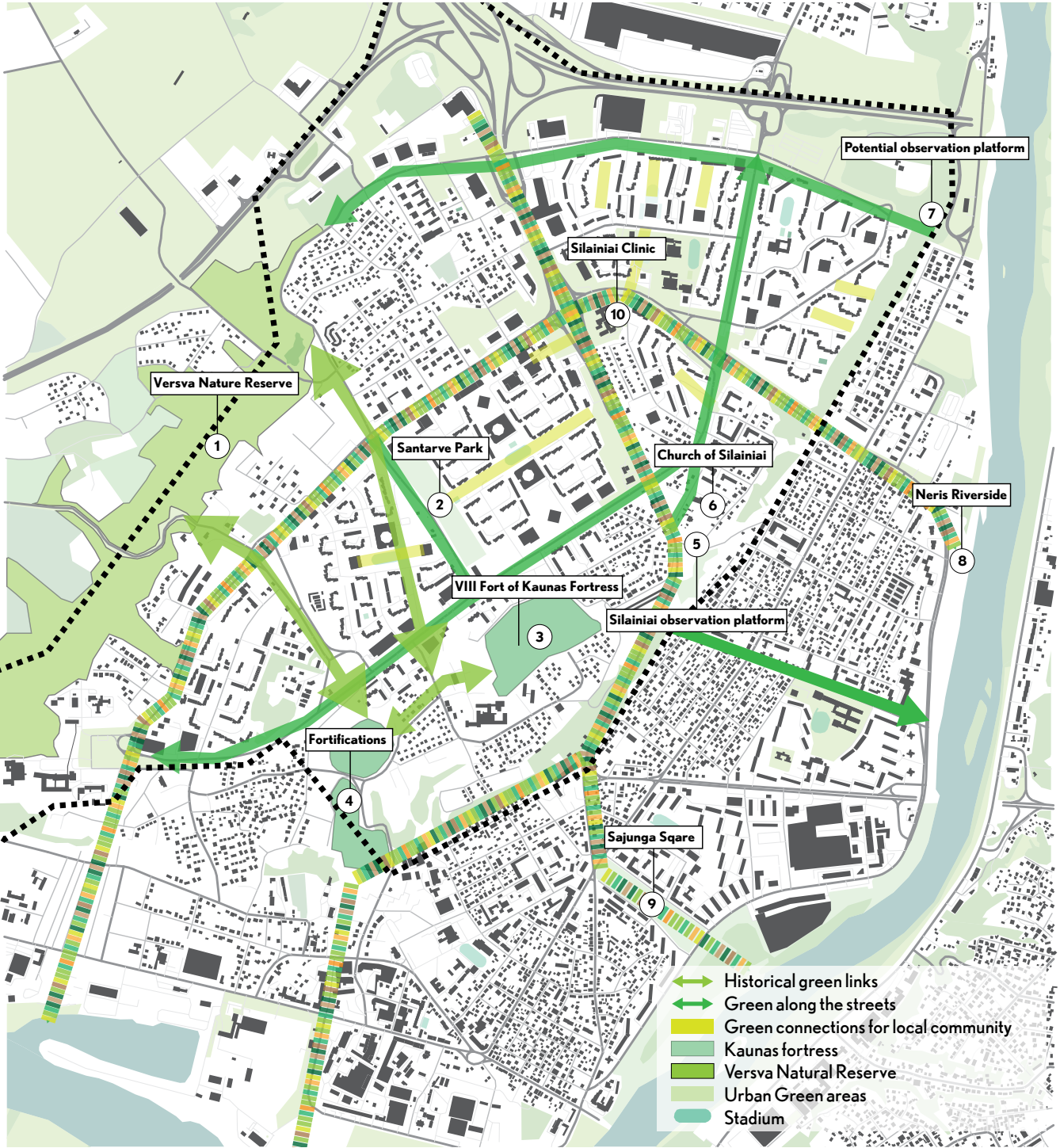
LAYERS METHOD:

Strategy is prepared in four layers: Green Network (Connecting important recreational points, creating green links along main roads that provide a new human-scale profile, marking inner housing areas to be redeveloped as public spaces for local community) Infrastructure (marking roads for downgrading and using space for redevelopment in order to link fragmented neighborhoods, marking main cycling routes) Commercial program corridors (creating guidelines for appropriate commercial program integration into urban fabric) and Development zones layer (providing guidance to possible areas for increasing density either with residential or with other mixed program)

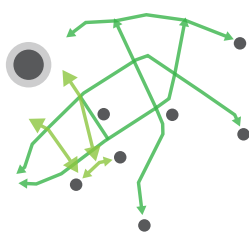
As theme for design is post-war socialist neighborhoods, main solutions will be concentrated around improving these areas, which can be applied to the rest of the city.

Each problem will be later reviewed within the strategy layer, followed by the list of guidelines compared to current planning regulations with recommendations what has to change in order to apply these guidelines.

STRATEGY: CREATING GREEN LINKS



Emphasize historical links and recreate connection to Versva Natural Reserve with Kaunas Fortress



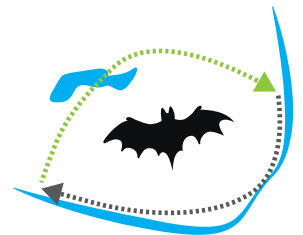
Green network connecting recreation points



Increase biodiversity
Different green, dynamic landscape



Green arteries along main roads



Linear connections of wetland or water bodies for hunting night birds

ANALYSIS OF EXISTING AND POTENTIAL RECREATION AREAS

① Versva Natural Reserve

CURRENT STATE:

Area was announced as natural reserve in 1995 but was not taken care of since. Reserve has Versva stream and Linkuva Manor. Stream is highly polluted. Main polluters are residents that release their sewerage straight to the stream and residents who come to dump tires or other big domestic objects.



Images of Versva Natural Reserve

POTENTIAL:

Reserve could be accessed easily from main roads and is on the edge of dense residential area, there is very diverse greenery and hilly landscape which is uncommon in Kaunas.



ACTION NEEDED:

- 1) Clean up the stream and greenery.
- 2) Disconnect illegal sewerage pipes.
- 3) Reconnect reserve to the big green network and neighboring residential areas.
- 4) Create hiking paths and recreational zones in the reserve.



② Santaka Park

CURRENT STATE:

Park of Santarve is the only public park for the whole mikrodistrict. Northern part of the park was given to private owners where two villas are standing now. South was given to build a supermarket. Park has pedestrian paths but is usually empty, has very little urban furniture and trees.



Images Santaka Park

POTENTIAL:

Park has a potential to become a well design area to be used by residents of the whole residential mikrodistrict.



ACTION NEEDED:

- 1) Stop reducing the size of the park by giving it to private parties.
- 2) Design a welcoming recreation spot with diverse greenery and urban furniture
- 3) Reconnect park to the big green network and neighboring residential areas.



3 4 VIII Fort of Kaunas Fortress with Fortifications

CURRENT STATE:

Area is completely abandoned and because of ownership problems, fortifications are slowly appropriated as vegetable gardens. After Mikrodistrict of Silainiai was built, road connecting city with fortifications lost its importance and area in general sunk into new suburban landscape.

POTENTIAL:

As these fortifications are a piece of whole network of Kaunas Fortress it has a potential to become an valuable historic public space. Although there are no buildings overground, area can become an interesting recreational landscape for local community.

ACTION NEEDED:

- 1) Reconnect the fortress to the big green network and neighboring residential areas.
- 2) Appropriate space for public use.



Images of the VIII Fort of Kaunas Fortress

5 Silainiai observation platform

CURRENT STATE:

Platform was renovated a few years ago, new restaurant built, but was also recently vandalized. Concrete rail was torn down. Place is a distant area from any residential building, therefore there is little public control of what is going on in the square. Moreover design of the place is very monumental and has very few benches. Pedestrian paths leading to the area are not maintained, dark.

POTENTIAL:

Beautiful view of the city opens up from the platform. People come here to observe the city, sit and relax. If place would be connected to a network of recreational areas, it would become one of the places to visit, with distinct character, not the only place you come, do nothing and leave.

ACTION NEEDED:

- 1) Create better connection between viewing platform and residential mikro-district.
- 2) Revived commercial function along Zemaiciu pl. would increase interest of the restaurant on the platform.



Images of the Observation Platform

6 Church of Silainiai

CURRENT STATE:

Around 6000 people visit church of Silainiai . Church was under construction and still some parts of it are not finished. Area area around the church is poorly maintained, there is no easy access to it. Square near the church is used as parking area.



Images of the Church of Silainiai

POTENTIAL:

Catholic church is important for the community of Silainiai therefore its role in the urban fabric or the area should be visible.



ACTION NEEDED:

- 1) Reconnect the church to the big green network and neighboring residential areas.
- 2) Create an visible access from Zemaiciu pl. to the Church.



7 Potential observation platform

CURRENT STATE:

Place has no official functions of a public space, but it is surrounded by forest and also has a great view to the city. 10years ago it was a an end stop for buses, with a super market and several kiosks. Now, buses turn and go back where they came from.



Images of the Potential Observation platform in Silainiai

POTENTIAL:

If connected to the green network, place could become another popular observation spot, also there is enough space to use it for community needs.



ACTION NEEDED:

- 1) Reconnect the place to the big green network and neighboring residential areas.
- 2) Appropriate space for public use.



8 Neris Riverside (Area is outside project area but important in the whole network of public spaces)

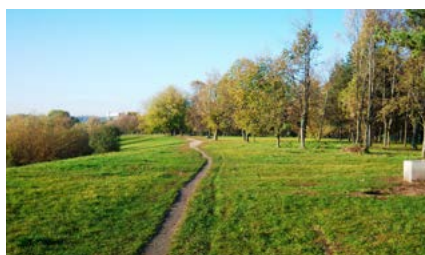
CURRENT STATE:

Municipality is investing into reviving the banks of the river by clearing the landscape, planting more trees, creating cycling paths along the river. Area is popular for jogging, walking with dogs, having a picnic. Also River bank connects mikrodistrict by cycling path to the city center.

Images of the Riverside of Neris

POTENTIAL:

Riverside is an important area to lead green network to. Residents from mikro-districts can reach it easily and spent their time in nature.



ACTION NEEDED:

- 1) Reconnect the riverside to the big green network and neighboring residential areas.



8 Sajungos Square (Square is outside project area but important in the whole network of public spaces)

CURRENT STATE:

Sajunga Square is an important park connecting district of Vilijampole to the river of Neris. Area is unmaintained, concrete pavilion is a dangerous place that locals avoid. Area is often vandalized, pavement stoned. There has been numerous architecture competitions to regenerate the place, nothing realized yet.

POTENTIAL:

Area is surrounded by low rise, human scale urban fabric. It is in the centre of an old and very diverse neighbourhood, but is empty and had bad reputation.

ACTION NEEDED:

- 1) Understand needs of the area and why this square is abandoned.
- 2) Reduce monumentality of the place and create public space that people would feel comfortable in.
- 3) Reconnect square to the big network of public spaces in Kaunas.



Images of Sajungos Square

10 Silainiai Clinic

CURRENT STATE:

Silainiai Clinic is National healthcare center with around 60 thousand patients. Clinic was built as part of mikrodistrict project. Access to the clinic by foot is limited by six lane rounds surrounding building from two sides. Sidewalk on Zemaiciu pl. where nearest bus stop is located, is narrow and unmaintained.

POTENTIAL:

Open space around the clinic can become activator of the area providing calm leisure space for visitors, open spaces for activities of sport clubs in the building.

ACTION NEEDED:

- 1) Clinic desperately needs appropriate parking area.
- 2) Bring public stop closer to the clinic
- 3) Create Green link connecting clinic to the whole mikrodistrict
- 4) Ensure good pedestrian and cyclist access



Images of the Riverside of Neris

INCREASE BIODIVERSITY



Dominating trees in the area are: maple trees or Lime trees. Most of them were planted by the local government. Other kind of trees are usually planted by local residents who took initiative to greener inner gardens, protect apartments from southern light or strangers eye.

According to green area analysis of the municipality, soil of project area consists of sand, gravel and clay. Generally surface is hard.

Lithuania is famous for green valleys and people have special connection with trees. Planting of trees is a kind of ceremony after a child is born, when new house is built or in general when family establishes their home. These traditions are more prevalent in rural areas where people own land.

In order to recreate connection with nature and increase biodiversity in the area, strategy proposes bringing more diverse plans that are typical to Lithuanian landscape. Types of trees showed below can grow together, in a soil of the project area and create a feeling of a local valley. A mix of species suggested below can be planted along the roads and around housing estates.



Silver Birch
(lt. Karpotasis Berzas)
Height: 15 - 25m
Width of trunk: 0,2 - 0,26m



English oak
(Paprastasis Azuolas)
Height: 20 - 35m
Width of trunk: 0,70 - 4,5m



White Willow
(lt. Baltasis gluosnis)
Height: 20 - 25m
Width of trunk: 1 - 1,2m



Rowan
(lt. Paprastasis Sermuksnis)
Height: 8 - 10m
Width of trunk: 0,3 - 0,6m



Common Ash
(lt. Paprastasis Uosis)
Height: 20 - 35m
Width of trunk: < 2m



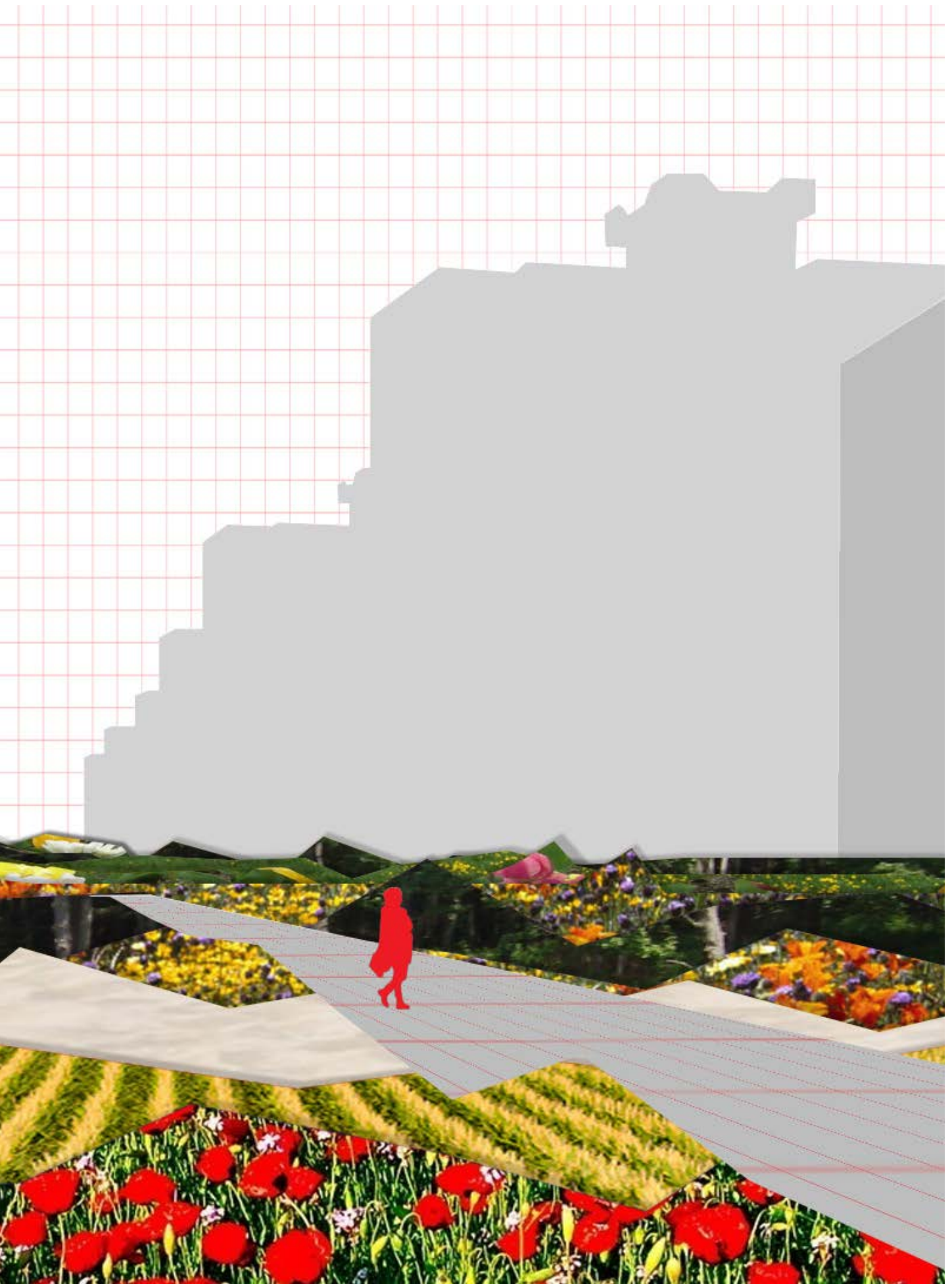
Small-leaved Lime
(lt. Mazalape Liepa)
Height: 20 - 38m
Width of trunk: 1 - 2m



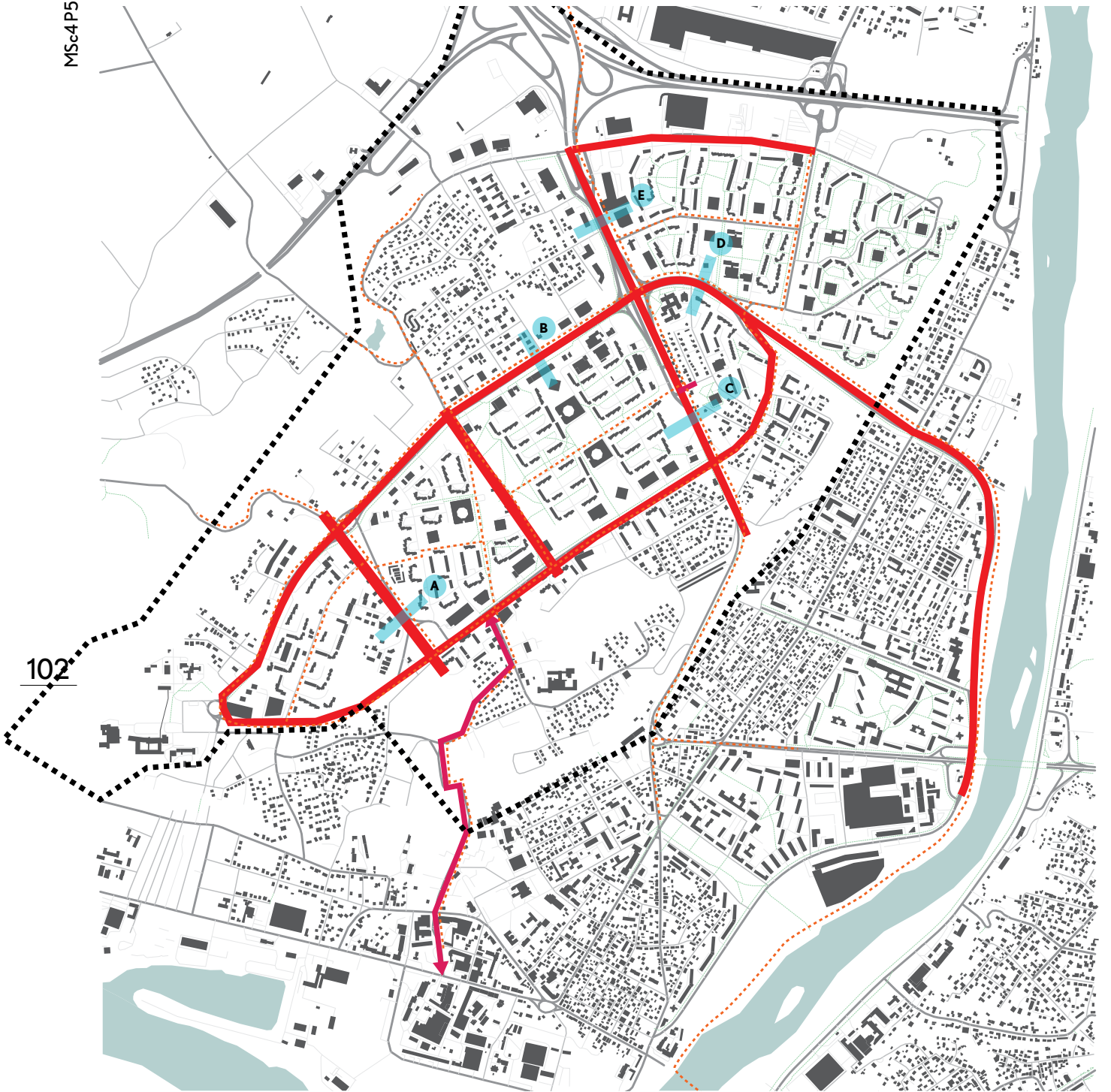
Norway Maple
(Paprastasis Klevas)
Height: 20 - 30m
Width of trunk: 1 - 1,5m






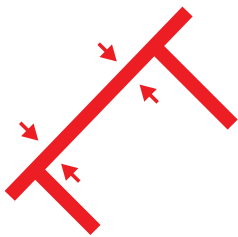
Collage: Bringing diverse landscape to the housing block (author's image)



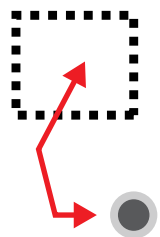
STRATEGY: DOWNGRADING ROADS AND RECREATING MISSING CONNECTIONS



 Roads to be downgraded  Roads strenthen/recreate  Cycling paths



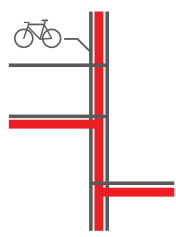
Downgrade wide roads, eliminate green splits and protective barriers.



Strengthen second road connecting project area with city center

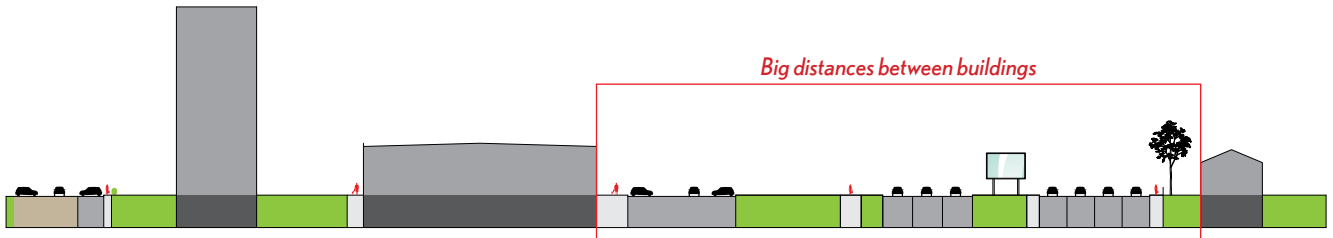


Make extra connections to main roads



All roads have cycling path integrated

CURRENT STREET PROFILE



(C) Current Street Section of Zemaiciu pl.

Unused empty green strips

Separated streets and empty surrounding makes drivers loose sense of speed



(A) Street view - Prusu g.



(B) Street view - Baltu pr.



(E) Street view - Zemaiciu pl.

Wide streets with protective barriers are extensions of the highway rather than a beginning of a city residential area



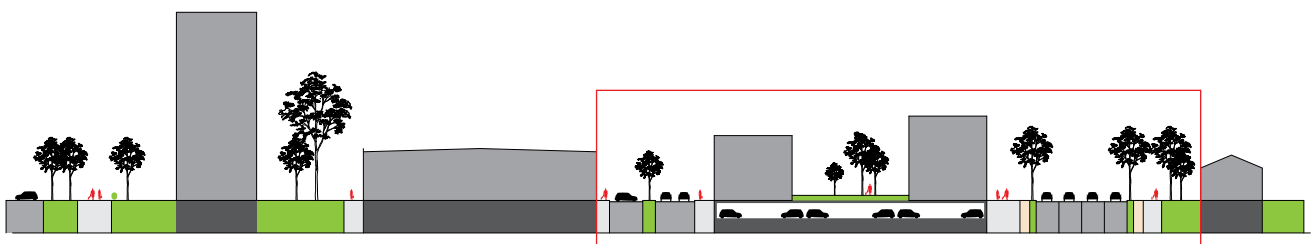
(D) Street view - Baltu pr.

Cars parked everywhere

FUTURE STREET PROFILE

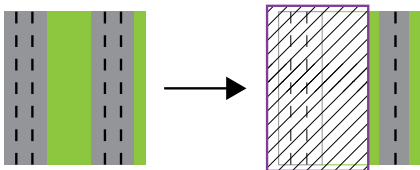
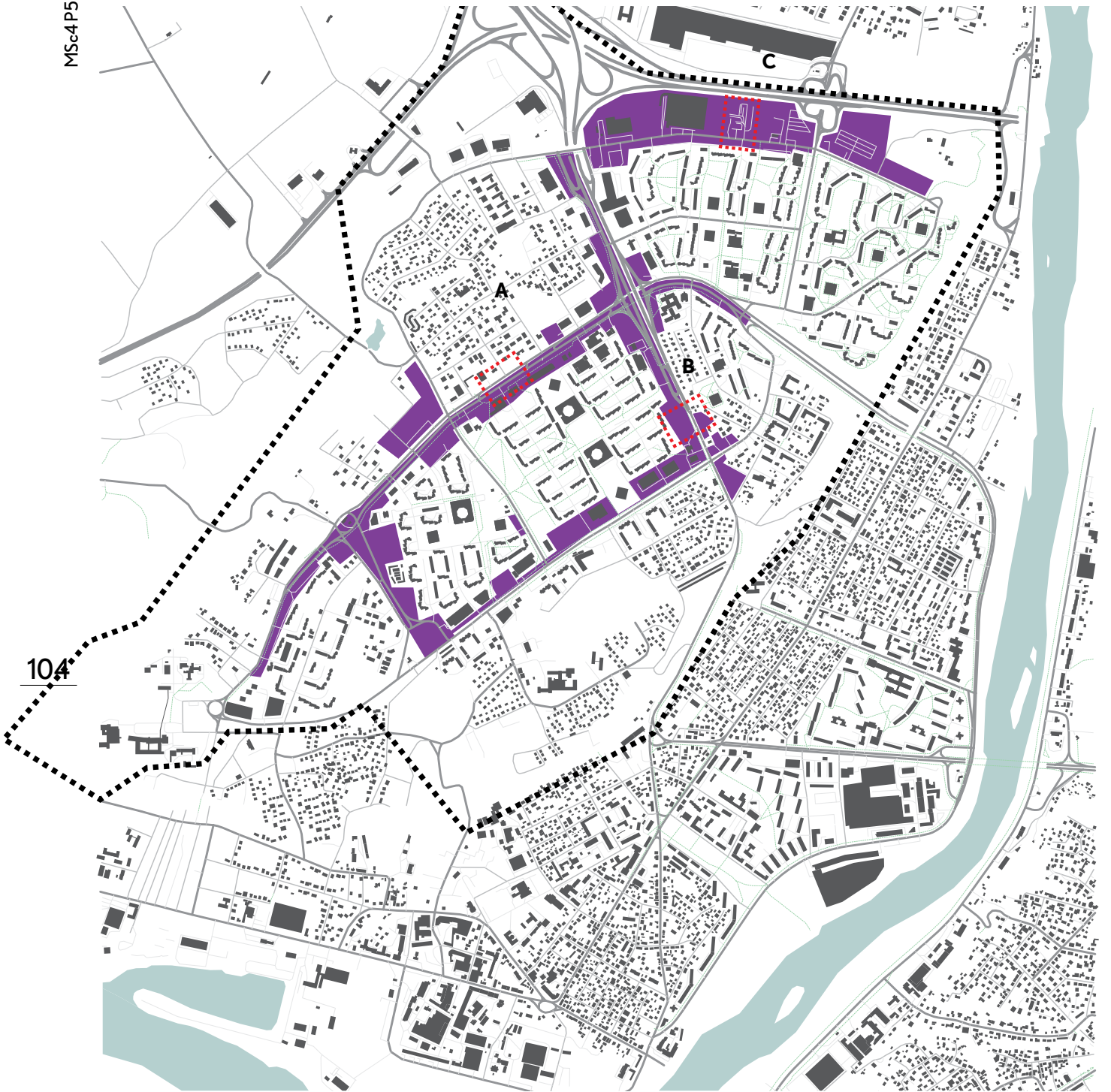
- No larger than 2lanes per side
- Surrounded by trees
- Interconnected with tertiary streets
- Automobile + Cyclist + Pedestrian on a street
- Wide pedestrian paths
- Active program along the street

- Empty areas filled with new buildings
- Parking near the street only in designated/separated areas
- Underground parking in new blocks
- Underground parking in regenerated inner courtyards

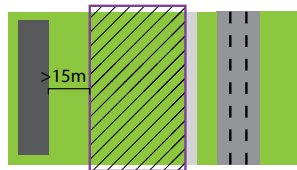


Proposed Street Section of Zemaiciu pl.

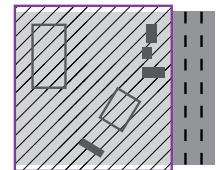
STRATEGY: PRIORITY DEVELOPMENT AREAS



A: New developments happen on an downgraded road or other infrastructure land that is not used.



B: New developments happen on empty urban green areas in front of housing estates near the roads (Development inside housing block is restricted and only possible if allowed by plan of local community)



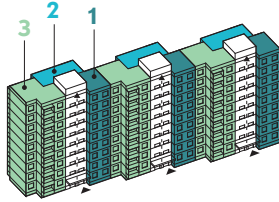
C: Redevelopment is encouraged in scattered commercial / small industry areas

STRATEGY: DIVERSIFY HOUSING

District of Silainiai was design as a mass prefabricated housing estate on an empty land. After regaining independence, small scale one family villas became the infill of the urban fabric, wherever it was allowed. In recent years, more low scale apartment buildings and cottages were built but it makes up the minority of the fabric. In order to ensure lasting and rotating life cycle of the urban area, and answering to the current demand of housing typologies, more mid scale residential types needs to be introduced.

To increase livability in the street, developments along the street should have a mix of office, commercial and residential program, while moving further from main roads, residential typology should dominate and slowly merge to mono-functional hosing estates. New residents would both benefit from being in the urban area with all social amenities in walking distance, good connection to public transport and open green public spaces.

SUPPLY:



PRICES:
 1 Bedroom - 550 - 750 E/m²
 2 Bedrooms - 470 - 600 E/m²
 3 Bedrooms - 350 - 500 E/m²

DEMAND:



TO RENT:
 Studio and 1 - bedroom apartments for students and young families for rent.

TO BUY:
 2 - bedroom apartments for families to buy

PROPOSED HOUSING TYPOLOGIES

MIX-USE WITH HOUSING



- MID RISE
- COMMERCE ON GROUND FLOOR
- INTEGRATED OFFICE SPACE
- IMPROVES PUBLIC CONTROL IN THE STREET

FREE STANDING MID RISE APARTMENT BUILDINGS



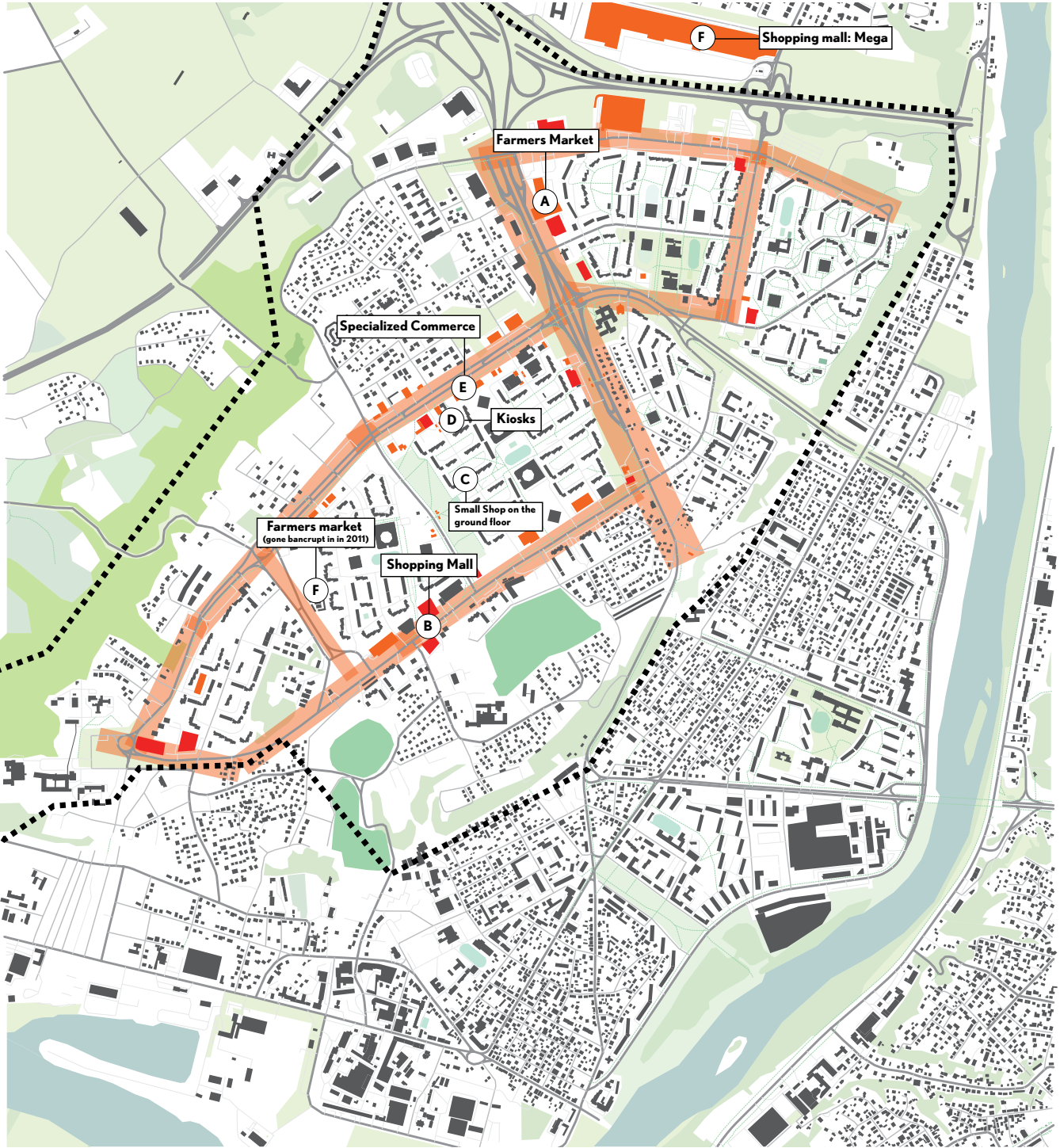
- MID-RISE
- WITH SEMI-PUBLIC INNER GARDENS
- PROVIDE VARIOUS TYPES OF HOUSING UNITS

URBAN ROW HOUSES



- LOW RISE
- A MORE PERSONALIZED TYPOLOGY, CAN BE DEVELOPED BY PRIVATE PERSONS
- GIVES PRIVACY BUT KEEPS CONNECTED TO CITY LIFE

STRATEGY: COMMERCIAL DISTRIBUTION



Restrict establishment of new big scale supermarkets and encourage small scale commercial developments






Commerce would be located on the first floors along the main road and included in the new block typology



Commerce along main roads

LEGEND

-  Liniar commercial zones along the main street
-  Existing commercial buildings
-  Existing Supermarkets

PROPOSED COMMERCIAL TYPOLOGIES REFERENCES

TEMPORARY VENDORS



SMALL COMMERCE ON PLINTH OF THE BUILDINGS



DIVERSIFICATION OF HOUSING ESTATES WITH COMMERCE ON FIRST FLOORS



INTEGRATED SPECIALIZED AND SMALL SCALE COMMERCE



CONNECTING ALL THE LAYERS

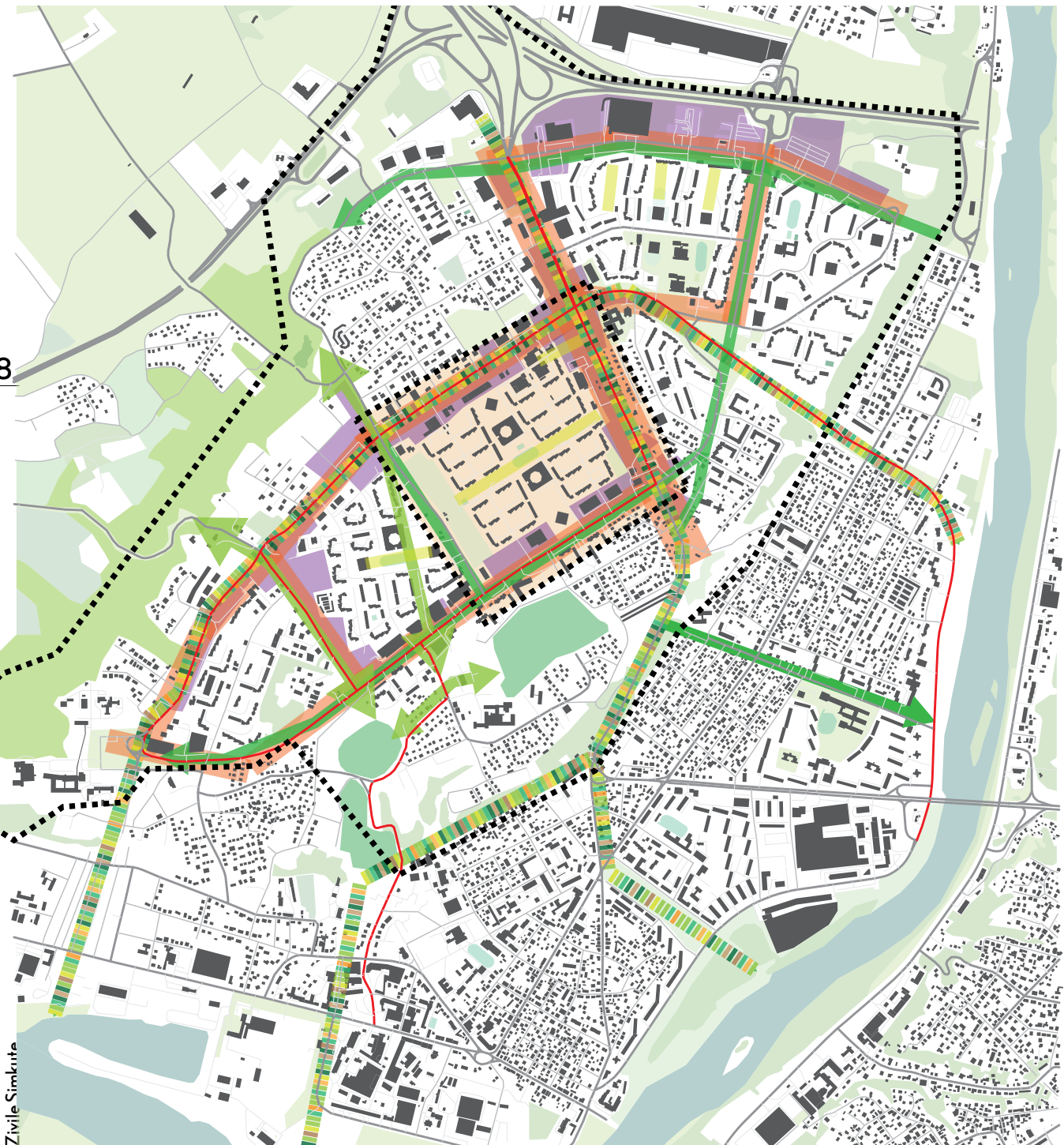
The strategy consist of four interconnecting layers: Green; Infrastructure; programmatic and development areas.

Street, commercial and green networks interconnect and thus create a coherent system in the whole area. Proposed system disrupt the fragmented structure that area has today but at the same time clearly separates different communities. Livable streets in between the community blocks, become the joining element.

Areas that are adjacent to the project area would have to be looked into deeper to extend green connections, strengthen the

position of natural reserve and historical fortress site. The clinic, Santarve park and schools are places where people from other neighborhoods come, therefore proposed guidelines have effect not only on the scale of the eldership, but further to the rest of the city.

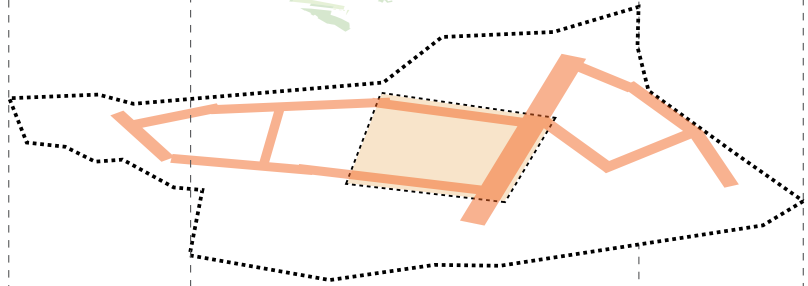
Strategy defines areas for new developments that will diversify the existing urban structure and fill in the missing urban scale between the suburban neighborhoods and the mega blocks of socialist housing estates.



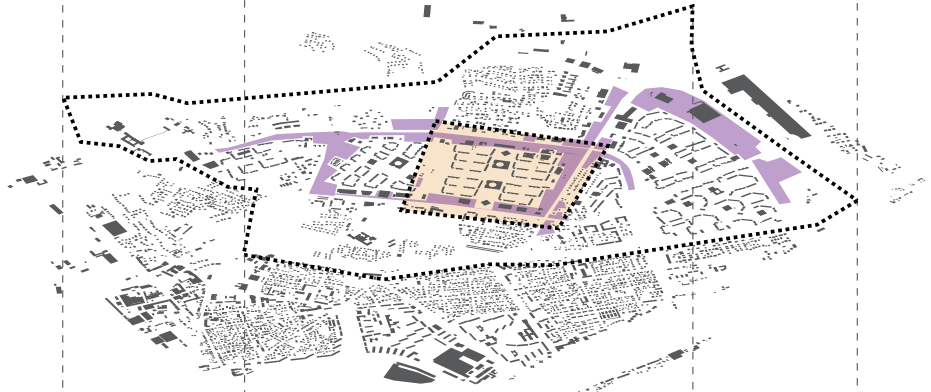
GREEN STRUCTURE



COMMERCIAL STRUCTURE



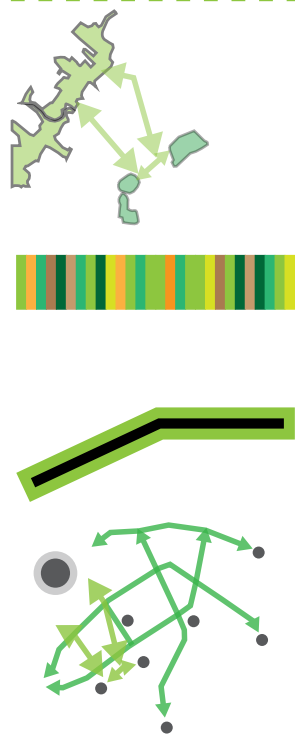
URBAN DEVELOPMENT STRUCTURE

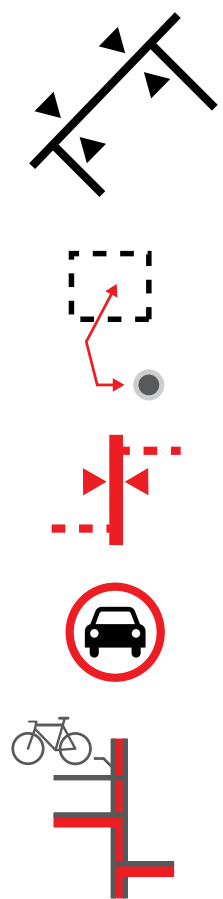


INFRASTRUCTURE



WHAT NEEDS TO CHANGE IN CURRENT SPATIAL PLANNING TO IMPLEMENT PROPOSED GUIDELINES

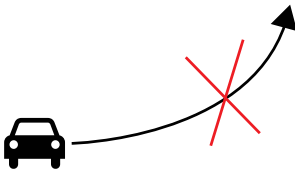
GREEN	GUIDELINE	WHAT NEEDS TO CHANGE
	<p>Special green link between Versva Natural Reserve and 8th Fort. Design has to be made for whole link, ensuring it becomes a distinct path.</p> <p>Increase biodiversity Different green, dynamic landscape</p> <p>Green arteries along main roads</p> <p>Green network connecting recreation points</p>	<p>Strategic plan has to be prepared to prepare these zones for recreation use. Ownership of the fort has to be solved</p> <p>Create green design recommendations prepared for planners, architects and residents on choose trees and bushes, and how to maintain them.</p> <p>Street profile design standards must include linear tree structures along the streets</p> <p>Analysis and evaluation of public spaces in the area has to be made, urgent urgent renovation and recommendations fulfilled.</p>

INFRASTRUCTURE		
	<p>Small scale roads around housing estates to reconnect to surrounding neighborhoods</p> <p>Recreate road connecting project area to Vilijampole district and city center from the west.</p> <p>Downgraded or narrowed roads reconnected to surrounding neighborhoods.</p> <p>Establish CAR-FREE areas</p> <p>Every road has cycling path and pedestrian path</p>	<p>Review of street code (Downgrade from B to C) Review regulated widths</p> <p>Project for applying current tertiary road as secondary road with increased traffic flow</p> <p>Recreate roads that were closed due to road expansion</p> <p>Car free zones to be marked in the comprehensive plan</p> <p>Revision of street code, current infrastructure network, adapt intersections to cyclist traffic</p>

GUIDELINE

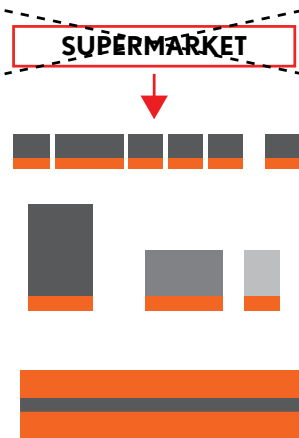
WHAT NEEDS TO CHANGE

Street network that city wants



Traffic network evaluated not by demand and traffic flow intensity but municipality has to form a position how much traffic city wants to have, what are strategies to reduce increase of car and how to get people cycling and using public transport.
No point interventions, revision of whole network

PROGRAM



No big scale commerce (supermarkets)

Priority to small scale commerce/industry
Mixed use (commerce on first floor) areas

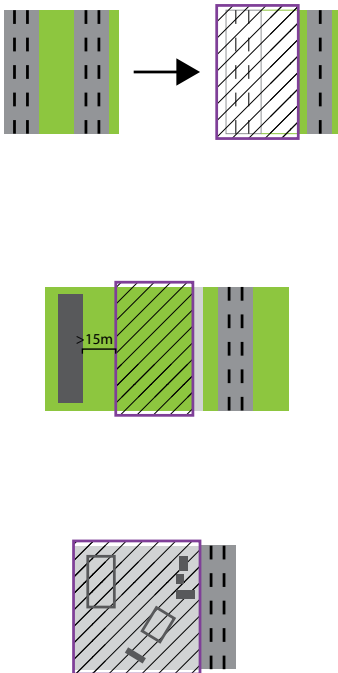
Commercial program along the main roads

Eliminate special treatment for typology of supermarket (specialized/universal) in comprehensive plans. Encourage small scale commerce.

Commercial zones is exchanged with commercial program. Planning norms for mix use zones have to be reviewed.

Expand zoning on the comprehensive plan of municipality but zoning is changed with 'commercial program' in a mix use zone

DEVELOPMENT ZONES



Infill development on downgraded roads.

Building perimeter starts after full street profile which includes: Road, green strip (min 0.5m max 1.5m) cycling path (1.25-3m), pedestrian path (min. 2m for paths near main roads, min. 1.5 for streets in between new developments)

Infill development open green space outside housing estate neighborhoods

Infill developments inside estate neighborhoods initiated and controlled by neighborhood community.

Developments are inside blocks, built in perimeter. Blocks are permeable. Parking underground. Parking on the street is allowed only for visitors (max 20% of required)

To reduce the size of streets, infrastructure network has to be reviewed, streets downgraded.

For all development zones land has to be acquired from land bank to have in municipalities disposal.

Detailed plan of the neighborhood has to be prepared showing how land could be parceled, what general strategy for the neighborhood is.

Municipality has to get rights to do land consolidation and redevelopment and increase of density of special zones is, if done according to sustainability principles, in the interest of public.



PROJECT LOCATION

Size: 42 ha (660m x 720m)
Population: 7,860
Residential Units: 2,960

Residents by age:
 0-14: 1,140
 15-16: 5,930
 65+: 780

Residents by sex:
 Females: 4,290
 Males: 3,570



SCALE COMPARISON with residential areas in Rotterdam and Brussels and inner city of Kaunas



Liskwartier, ROTTERDAM



Koekelberg, BRUSSELS



Inner city, KAUNAS

CURRENT ZONING PLAN



- - - - Project Area

Main zoning map (zoom in) from the Comprehensive plan of Municipality of Kaunas (2013) for the eldership of Silainiai

Plan defines land-use, infrastructure, marks cultural heritage and natural reserve areas, levels of density (high, medium low). Marks solutions of special plans for: Large supermarkets location, high-rise locations.

Zoning legend

- Linear centrality, mix type buildings
- High Density residential areas
- Low Density residential areas
- Public use territories
- Infrastructure territories
- Planned infrastructure territories
- Cultural Heritage protected territories

Solutions from the special plan for location of large supermarkets

- Zones for universal Super Markets
- Zones for Specialized Super Markets

PROPOSED STRATEGIC GUIDELINES PLAN



Following strategic guidelines plan, design intervention requires to:

- Downgrade and narrow Baltu and Zemaiciu roads;
- Include cycling and pedestrian path along the road;
- Diversify street profile with program an green links;
- Recreate green link between recreational points in the area;
- Increase density along main roads reusing empty green spaces or existing built structures;
- Give a proposal for inner green artery which will be used by local community.

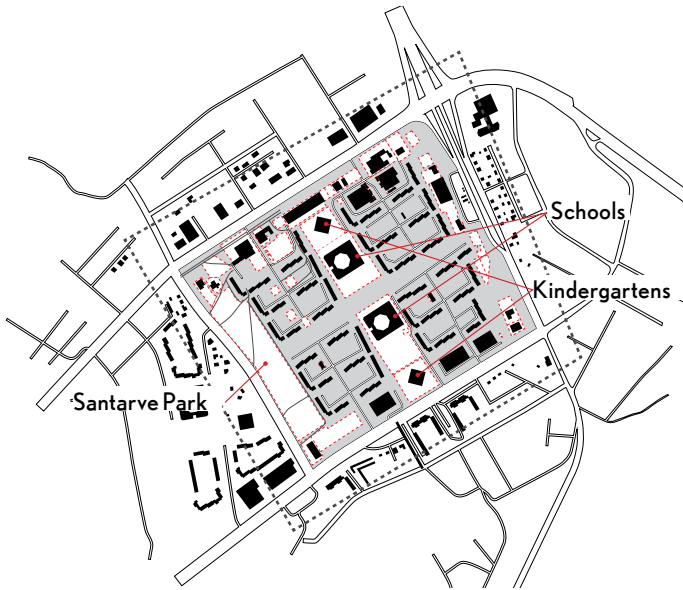


Image: Project area near Zemaiciai pl. (author's image)



SITE ANALYSIS

LAND OWNERSHIP / PARCELATION



(Source: Own map)

Most of the land in the area is owned by municipality or do not have clear ownership. Housing estate blocks do not designated land.

Most buildings that have clear plot borders are owned by private persons with exception of schools and kindergartens. Clear plot is also defined for Santarve park.

(Source: Electronic Geoinformation map of Lithuania: www.Regia.lt)

- — — — Project area
- - - - Parcels - clear ownership
- Non-Parcelated area
- Existing Buildings

WASTE MANAGEMENT



(Source: Own map)

According to the amount of residents, waste treatment companies designate certain amount of containers to residential areas. There are containers for domestic waste (taken out 2/3 times a week) and recycling containers (taken out 2/8 times a month). As containers are reached from the street and do not belong to specific block, everybody is taxed the same, and there is no public surveillance (Dangerous waste often end up near domestic containers).

Recycling containers are not popular as there is no benefit (other than doing the right thing). Removal of recycled waste is free but there is no mechanism to reduce waste tax for people who recycle and therefore produce much less domestic waste).

- Recycling Container (Separate for glass, paper, plastic)
- Domestic Waste containers



7746
PERSONS

2,951,226 kg
DOMESTIC WASTE



Children playing on snow in Santarve park (author unknown)

PUBLIC SPACES

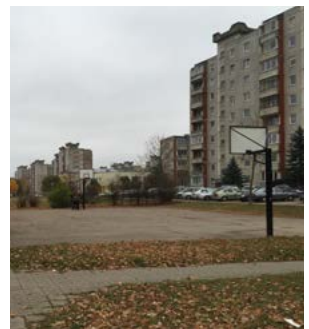


(Source: Own map)

The area is very green, but monotonous. Trees run along one main road and inside the blocks. There is a park on the west side of the project area. The park is important not only to the local neighborhood but to all of the eldership. Park has little hills, paths crossing it but no benches, very few trees, one playground that was just placed on the most use pedestrian route. There is an outdoor gym near the park, which is often used by residents.

Originally, each block had a playground consisting of: a slide with sand pit, a swing and a small carousel. Most sand pit structures are still found in the blocks, but most of the steel carousels, slides and swings have been disassembled either because it become dangerous for children to play, to be sold for steel or to clear out space for parking.

-  Basketball Court
-  Playground (in good condition)
-  Playground (in unusable condition)
-  Outdoor Gym
-  Linear trees
-  Santarve Park
-  Stadium

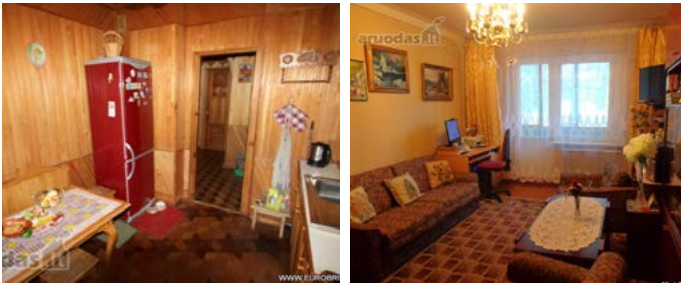
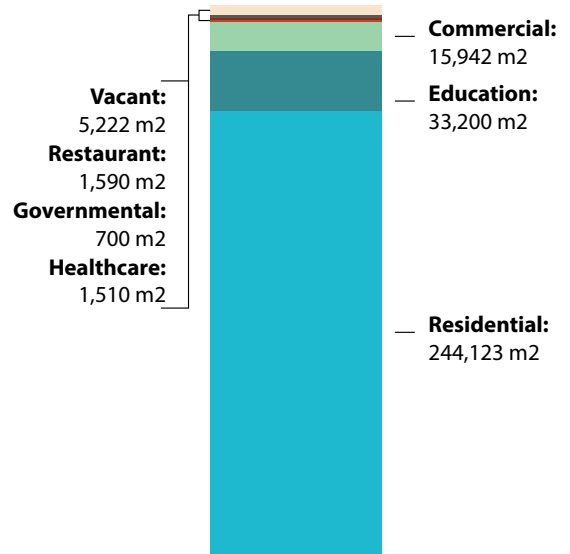


PROGRAM



(Source: Own map)

In terms of floor area, residential is clearly the dominating typology. It is not diverse, there are three kinds of prefabricated buildings that are repeated all around the block. Although there is a large amount of floor area of commercial space, in terms of program they are mono-functional: Three supermarkets (mainly food and domestic goods), one departments store, two furniture shops and private dental clinics. In terms of social infrastructure there are schools and kindergartens. Eldership administration with public library is also located on the site.



Typical apartment interiors. Source: Real Estate advertisement

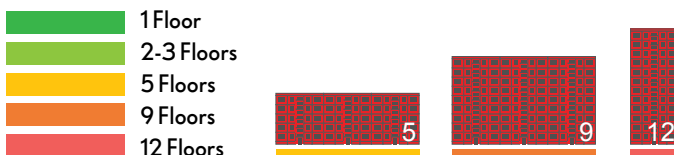
BUILDING HEIGHTS



Residential buildings are of 5 and 9 floors height. There is one building on the North east part of the area that is of 12 floors height.

These buildings dominate the built up area. Smaller buildings around the plot are mostly commercial. Schools and kindergartens are of 2 floors height.

Legend:





Typical apartment interiors. Source: Real Estate advertisement

INNER GARDENS



Diagrammatic analysis of inner garden of housing block. Source: Own map

- Trees or bushes
- Cars
- Hard surface
- Soft Surface (mostly grass)
- People in scale

People living in the housing block own the apartment each individually and apartment block itself is a collective ownership. Land outside building belongs to the municipality. In order to do anything in the courtyard, the community has to ask for a permission to “built on public land” which is a very long and confusing process that needs commitment of a strong community. Municipality itself does not take care of inner gardens, therefore there is a situation where even if people wanted and were willing to pay for parking or new green spaces they would be stuck in corridors of municipality and the municipality does not have finances of will to maintain it.

Inner green spaces and playgrounds are slowly becoming parking. Pedestrian paths are of very poor condition, green structures are random (whatever anybody feels like bringing from their summerhouse).



ONLY SEMI PRIVATE SPACE - COVERED ENTRANCE AND STAIRCASE



By original design, a covered entrance to the building was intended to be a small semi private space of residents. Usually entrances had benches. With time, benches were removed as residents of first floor were unhappy by noise and the place attracted the attention youth who played cards or drank alcohol. This made residents feel unsafe to enter the building.

Now most entrances have key or code locks, there are no benches. Some residents took initiative to invest into greening the areas of building some urban furniture themselves, but these are special cases.



MAIN USERS OF PUBLIC SPACE AND THEIR NEEDS

THE ELDERLY:

10% of residents in the area are pensioners over 65 years old. Elderly in the community are main participants of community events. Unless they have to do shopping or go to a clinic, there is nothing else to do in the neighborhood. Their activities are very limited due to lack of amenities that would fit their needs. Elderly need safe environment, places to sit, walk. Some appropriate unmaintained green spaces in front of houses and grow beautiful flower gardens.



MOTHERS COMMUNITY

Silainiai mikrodistrict has community of mothers called “the club of moms of the Santarve park”. The name of the club suggest that this is the community that had formed when meeting in the park where the only good quality playground for children is located. Mothers’ club started organizing small events for families, raising safety issues with eldership administration and police.



CHILDREN / YOUTH

Playgrounds for small children have been destroyed and not renewed. Main leisure activity for youth is playing basketball and jogging.



QUALITY OF URBAN SPACE

+ People appropriate inner green spaces



+ Lots of green space that can be given function



+ Emerging local community (Strongest group: community of local mothers)



+ A hand-full of sports facilities are well received by public



+ Accessible social facilities by foot (Schools, kindergardens, library)



+ Access to public transport



+ Stadium between two schools used as a place for community events



+ Openness and permeability



- Monotonous - Only residential typology: standard prefabricated blocks



- Wide streets detaching neighborhoods
- Passive street profile



- Parking everywhere
- Run down playgrounds (often used as parking area)



- Clean and non dynamic landscape
- No biking infrastructure



- Poor Waste management (not only of domestic waste. Dangerous waste such as automobile parts and tires end up near the same containers.)



- Unmaintained pedestrian paths



- Big Scale - Drive in commercial spaces
- Car - first choice of mobility



- People hiding in apartments (no public life)
- Unmaintained Public Spaces
- No sense of ownership of local communities



CONCLUDING SWOT ANALYSIS OF THE PILOT PROJECT SITE

STRENGTHS

- Sufficient amount and easy access to social amenities (schools, kindergartens, clinics, police station, post office)
- Connected to public transport network
- Social mix
- Lots of open green space
- Slowly emerging local communities
- No traffic in the block

WEAKNESSES

- Lack of semi-private and semipublic spaces
- Lack of employment facilities
- Insufficient Parking
- Lack of commercial facilities
- Unclear orientation
- Renovation only reduces energy use and provides cosmetic upgrading
- Patterns of waste management creates unpleasant environment
- Unsafe
- Mono-functional buildings with raised plinth (difficult to include commercial functions in first floor)
- No Character
- Bad reputation
- Disconnected from surrounding neighborhoods by wide roads
- Not connected to cities green network
- Public space used for parking
- Lack of Biodiversity

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OPPORTUNITIES

- Use strengthening local community to help create livable environment
- Use of empty green spaces
- Emerging local economy
- Renovation would reduce energy use and maintenance (governmental initiatives and subsidies)
- Good conditions for landscaping and growing trees.
- Majority of territory is not parceled and belongs to municipality.

THREATS

- City has no vision or position towards post war neighborhoods
- Continuing patters of municipal planners: E.g.: Municipality legalizes squatter parking on public spaces, arguing that playgrounds and green spaces are not used.
- Large commercial developments are encouraged and welcomed by city planners to compensate for missing program. New super-markets developed in empty areas.
- People who can afford to move out to suburbs, do so.
- Local economy is not encouraged, considered unwelcome and harmful to aesthetics of the place.

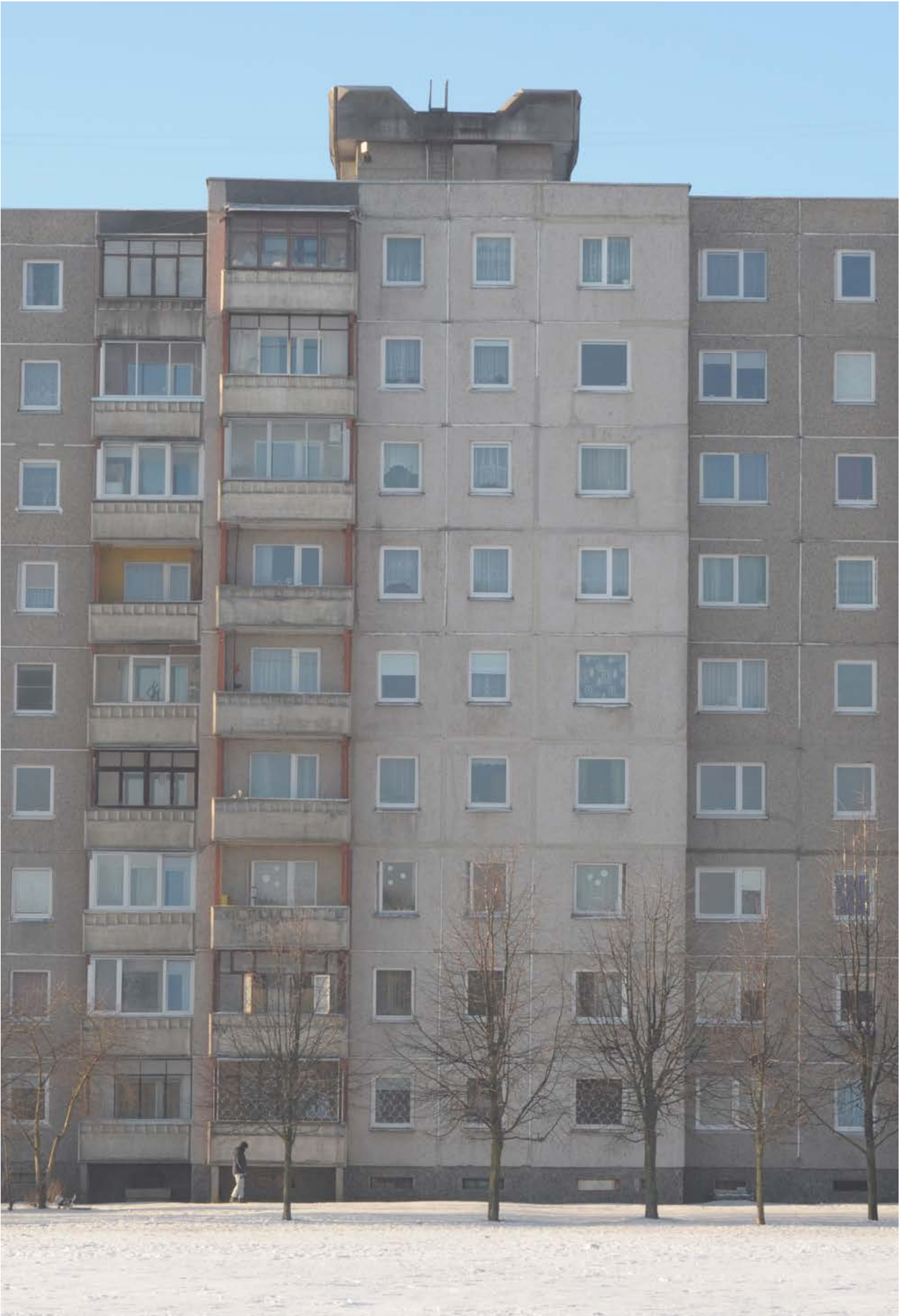


Image: Typical facade of prefab nine floor block (author's image)

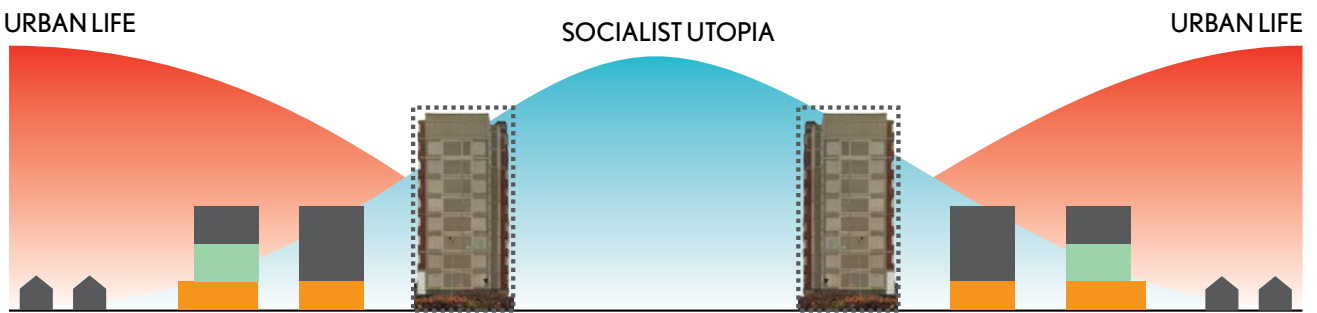
SPATIAL PLANNING GUIDELINES PROPOSAL: NEIGHBORHOOD SCALE

This proposal does not aim to change current comprehensive or detail plans but rather to explore the possibilities of new scale in spatial planning which is the neighborhood scale. In terms of governance I provide suggestions on shifting responsibilities to lower levels of city administration and an alternative decision making model that would ensure much more flexible implementation of suggested strategy. In terms of spatial planning, light is cast on issues that are often missing when planning relying completely on standards and norms.

- 1) Integration of different layers on one plan (infrastructure, zoning, built up space, green network, public space network)
- 2) Fulfilling needs of local community
- 3) Reusing space to address housing issues and increase program

CONCEPT

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Embracing open, car free neighborhoods and bringing in the typical urban structure to the neighborhood to fill in the missing urban scale. Inside of the project - calm, sleeping district with open spaces, no cars, playgrounds, community spaces, social amenities like schools and kindergartens reached by foot. Surrounding: lively streets, diverse program, small scale commerce.



SUSTAINABLE DEVELOPMENT VALUES

CONTAINMENT



Instead of building in suburb, new areas are opened around housing estates where new program and new housing typologies can be introduced.

RECYCLING



Downgraded streets used for expansion of park, development of new urban area

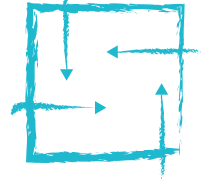
DIVERSITY



Diversity of public spaces: new hierarchy, appropriate function for existing users.

Diversity of landscape

ACCESSIBILITY

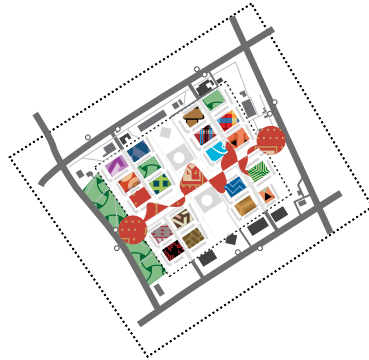
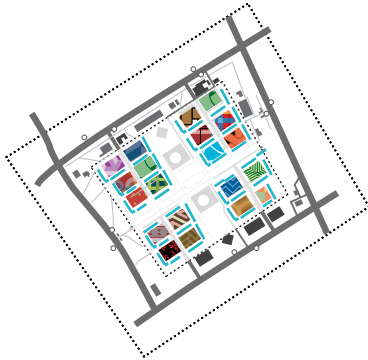


Area is reconnected to surrounding neighborhoods.

Upgrade

Connect

Infill



UPGRADE

Step 1:

Address urgent needs: Renovation of houses + Opportunity not only to change facade and improve insulation but also the program of the block and upgrade direct environment of the house, prepare neighborhoods plan. Extensions and other elements such as entrances and bike sheds can be added as part of building renovation.

Step 2:

Prepare districts concept master-plan
Address issues of public space, parking, missing program and social functions.

INFILL

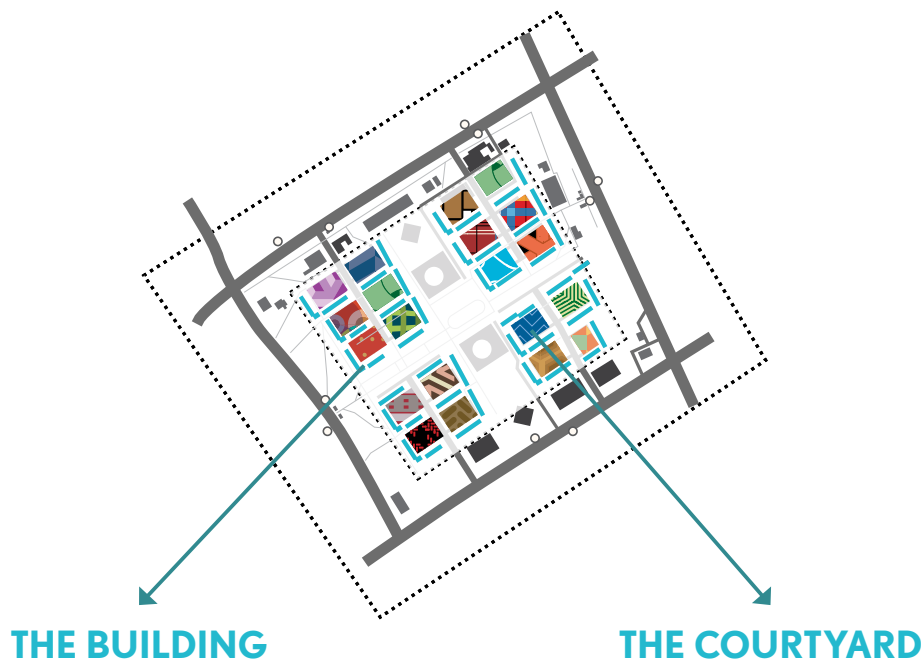
Step 3:

Start development of commercial nodes, density first neighborhoods.

Step 4:

When urban environment is upgraded and urgent issues addressed, new developments can start in empty areas.

STEP 1: FROM A GARDEN TO MY GARDEN



PHASING :

- 1) Give ownership of the courtyard to neighborhood.
- 2) Start housing renovation that includes not only insulation but also design solutions necessary for inhabitants: entrance with a roof, provide elevators in buildings that have none, install rain water collection system, solar panels to be used for residents energy use or street lighting
- 3) Provide basic structure and clean up courtyards of housing estates.
- 4) Leave space for communities appropriation.

COURTYARDS: DESIGN AS TOOL TO BUILT COMMUNITY

Design goal: Provide conditions for the community to create their appropriate their direct environment with distinct character. Renovation of the house should not be only cosmetic. Rehabilitation is a chance to add new elements to the building extra functions and add extensions or extra floor.

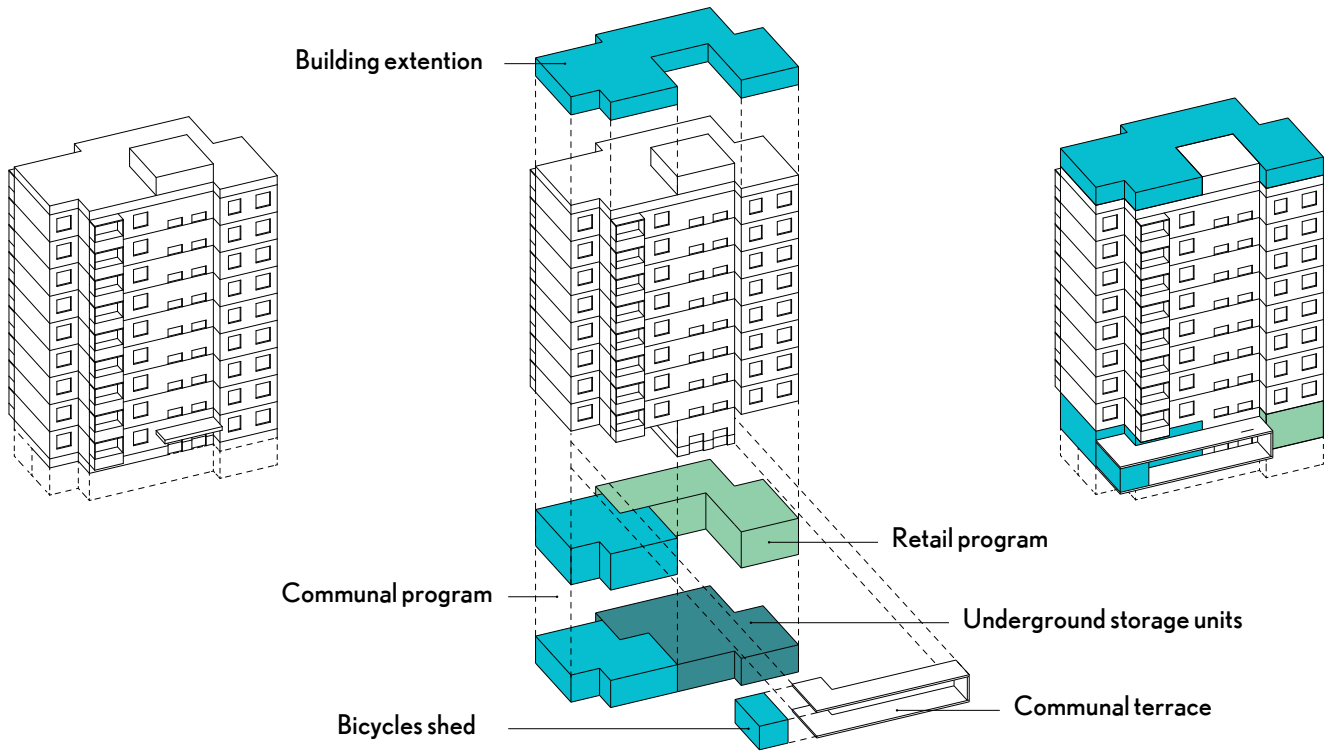
Design solutions:

Currently courtyards of housing blocks are occupied completely by squatter parking, playgrounds are of bad condition and the community does not take care of environment.

Each housing block community (group of buildings forming a neighborhood) will become the owner of their courtyard. Basic design of the courtyard provides essential elements such as:

- 1) **Green space in front of buildings**, giving privacy to people living on the ground floor;
- 2) **Wide pedestrian zone** that can also become a part of inner community spaces with movable or fixed furniture;
- 3) **Bicycle parking** in front of the house, to be visible from apartments.
- 4) **Underground parking.** Courtyards are all higher than the street level therefore long ramp can go underground to as deep as 3.5 meters which means that there is enough space for soil overground to grow trees or other kind of green cultures.
- 5) Domestic and recyclable waste **underground containers** in one place.
- 7) **Roof with benches** at the entrance of the building

THE BUILDING



Municipality of Kaunas parcelates the neighborhood and designates a plot for each block. Residents become co-owners of this land and are in charge of its maintenance.

RENOVATION STRATEGY:

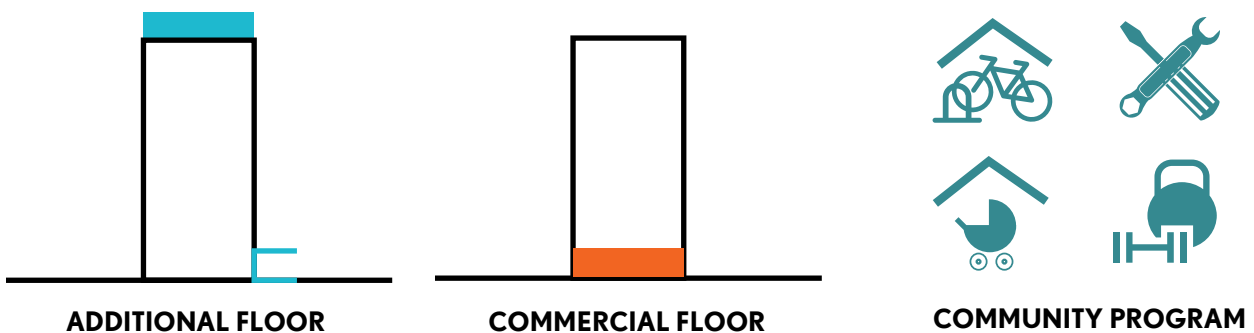
- Energy use of the building has to be reduced by at least 50% (today, after buildings are renovated, energy use reduces between 40 to 60%);

- RECREATE/ STRENGTHEN COMMUNAL SPACES in the building: Entrances can be extended to create a shared outdoor terrace. Individual storage in the basement can be transformed into communal storage for children’s buggies, small gym, workshops, bicycle storage, and smaller individual storage.

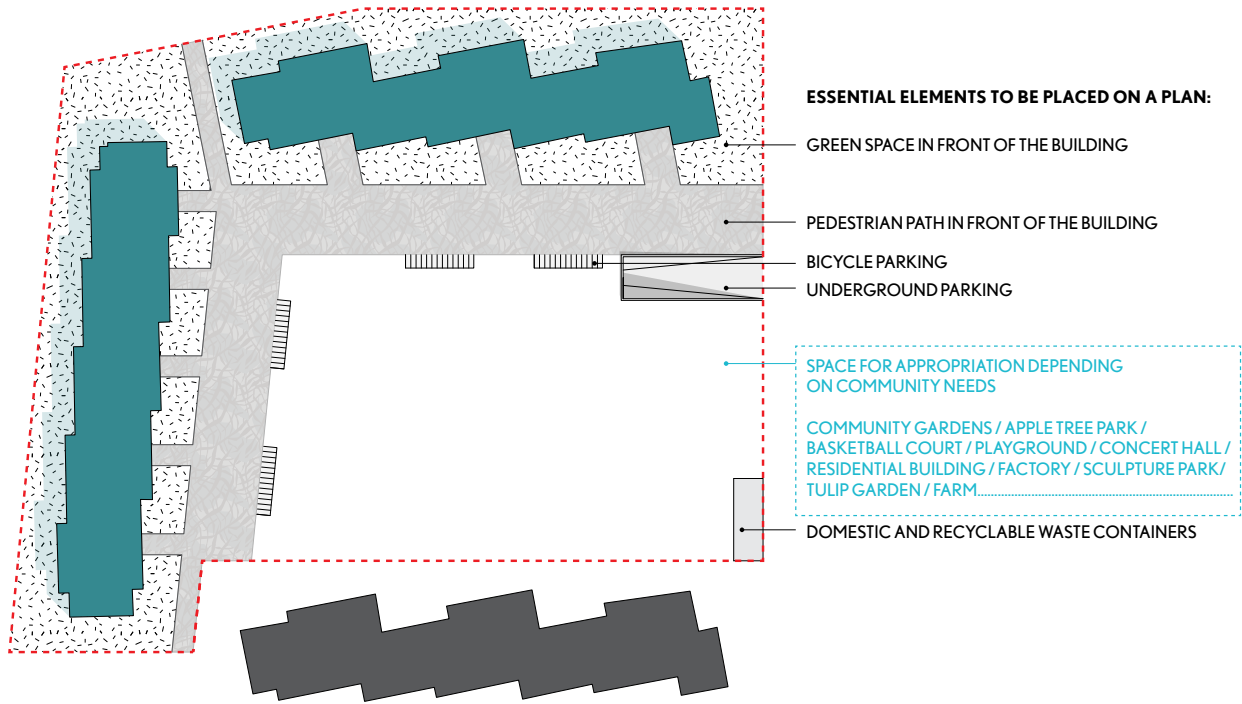
- IMPROVE ACCESSIBILITY: Install elevators in buildings without one, ensure barrier free access to the building (raps, handrails, good lighting).

- ADD EXTENSIONS TO THE BUILDING (extra floor, additions)
Transform ground floor to commercial or office space. (Entrance outside the block);

- CREATE MODELS FOR POSSIBLE TRANSFORMATION OF STANDARD LAYOUTS that residents themselves can safely implement. This would make renovation process safer and people would be aware what is happening in the building.

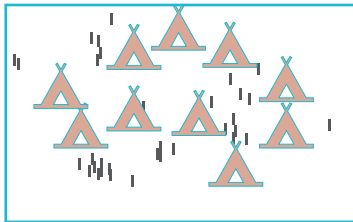


THE COURTYARD



After the basic elements are in place, community with the help of urban designer or architect can design their inner garden space. Depending on the needs of the community, public space can become a playground, small fruit or vegetable garden.

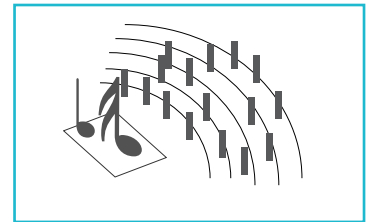
Basketball court can be added. If paved properly, community can have BBQs or burn bonfires.



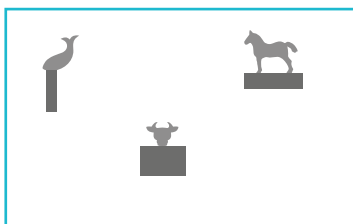
Camping site



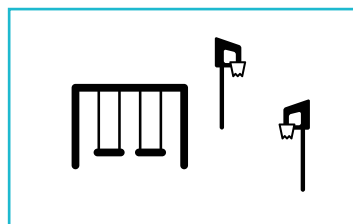
Bonfire place



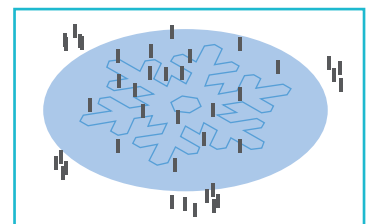
Concert space



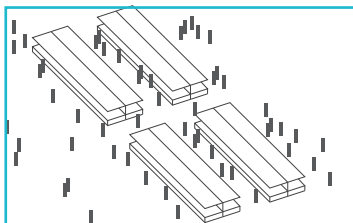
Sculpture park



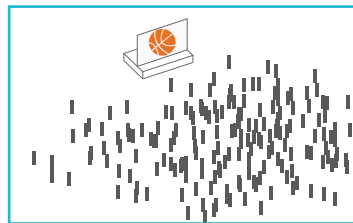
Playground



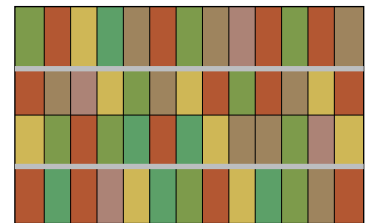
Ice skating area



Community market



Game viewing



Community garden

CREATING A DISTINCT CHARACTER FOR EACH NEIGHBORHOOD



Concept collage (author's image)

COMMUNITY APPROPRIATES COURTYARDS BASED ON THEIR NEEDS

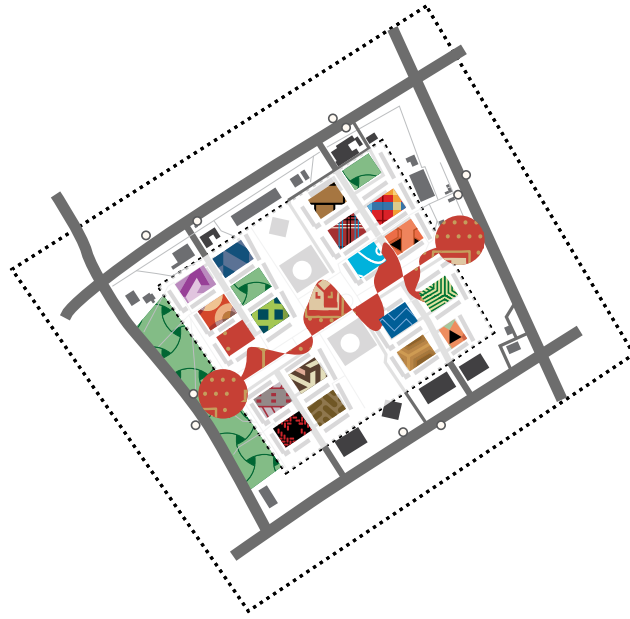


Concept collage (author's image)



Concept collage (author's image)





STEP 2: COMMUNITY PUBLIC SPACE DESIGN

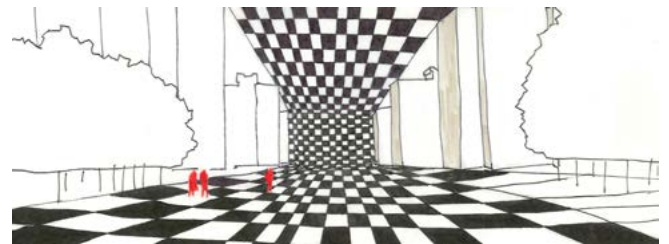
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PUBLIC SPACE THAT:
IS STRUCTURED WELL DEFINED
ENSURES FEELING OF SAFETY
IS COMPREHENSIBLE
IS FAMILIAR
MAKES YOU FEEL HOME
CHALLENGES AND INSPIRES

REACTION TO LOCAL NEEDS AND CULTURE

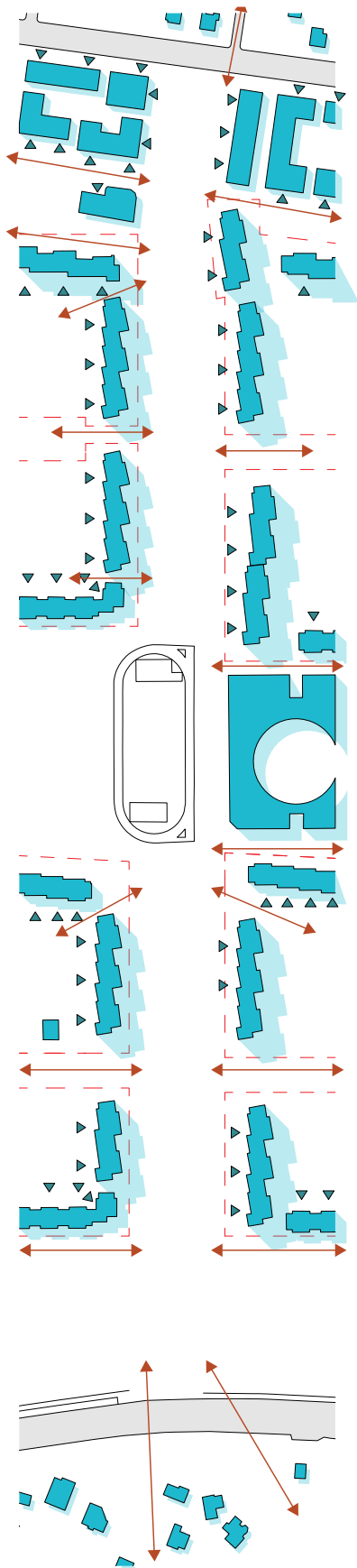
With this project I try to propose different public spaces that on one hand have structure, themes, are located on one path, have clear direction, on the other are challenging senses, introducing new landscapes, giving freedom to act. Post-war housing estates desperately need contrast to the gray, boring environments of today and people need to experience space that is not filled with monuments.

Inspiration for design came thinking what is actually not allowed in public space, what people do hiding of what are the simple needs of elderly and families with small kids so that they could feel safe and enjoy public spaces just in front of their house.

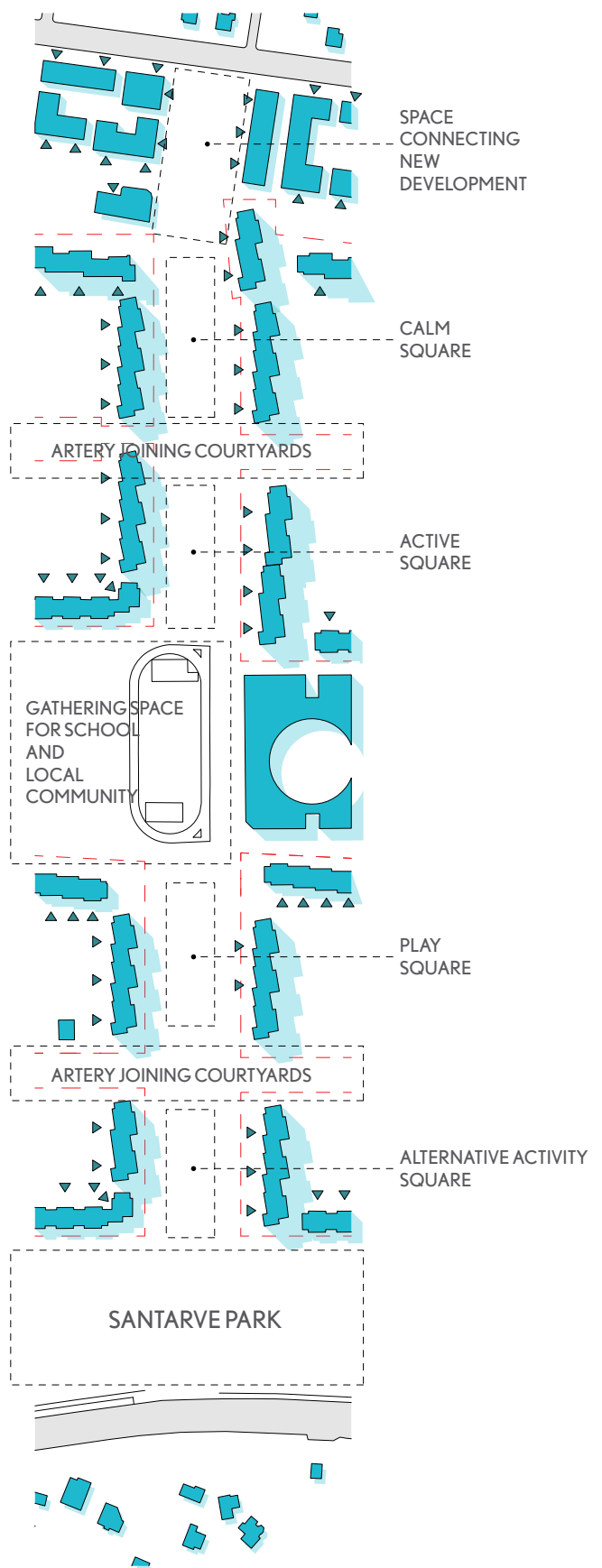


Concept sketch: Space as one room (Own image)

CONNECTING SPACE TO NEIGHBORHOODS



DEFINING STRUCTURE AND ACTIVITIES

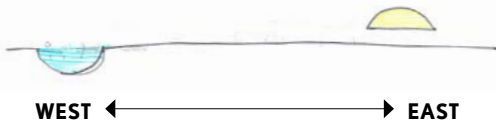
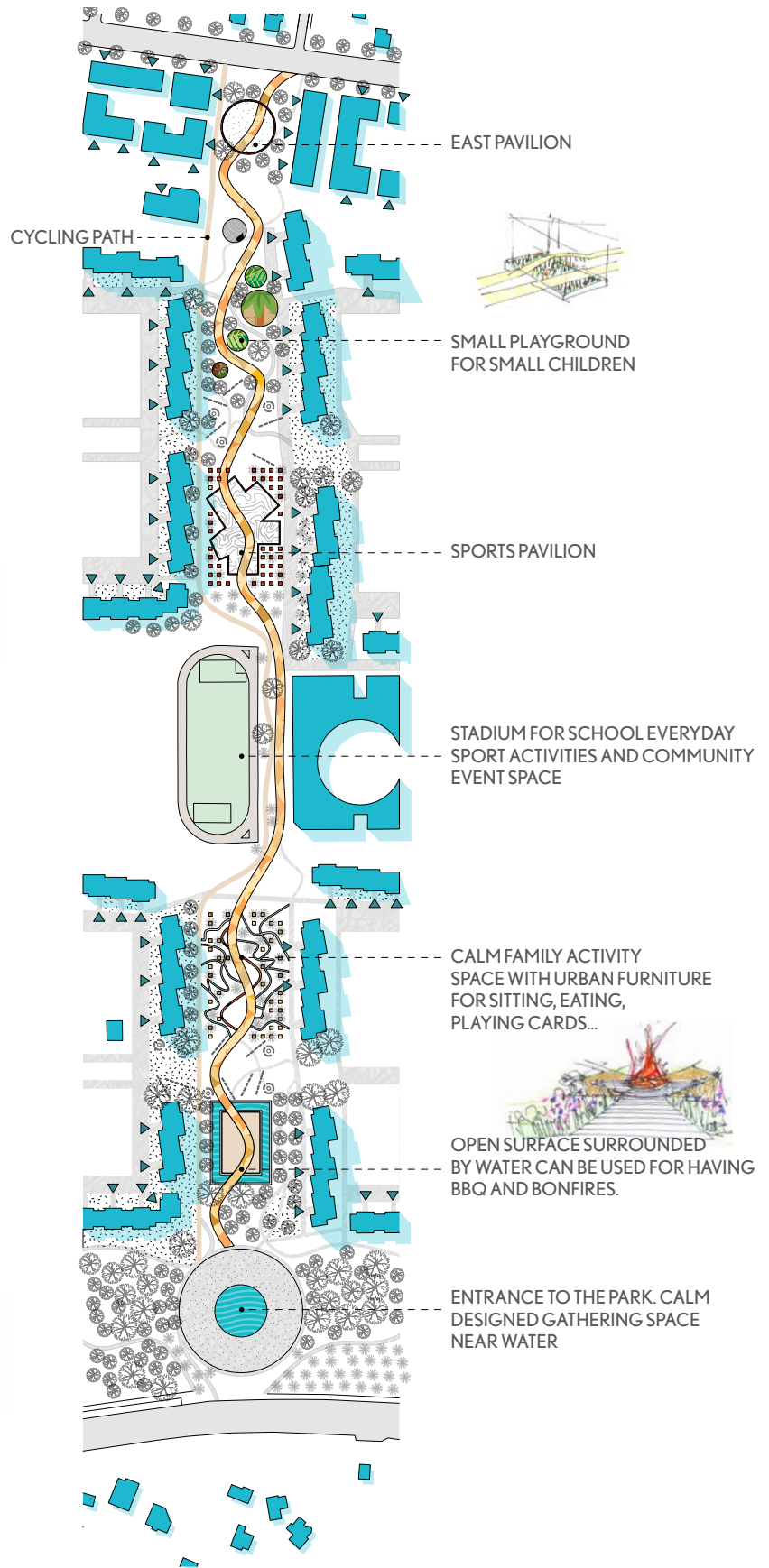


PUBLIC SPACE DESIGN

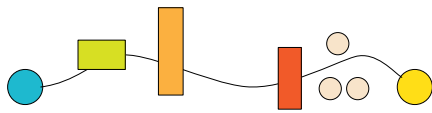
Objective of the design is to create space for all kind of people to wonder freely, have different kind of squares for different activities. All squares are connected by pedestrian and cycling routes.

Different types of spaces offer diversity of activities: playgrounds for children, sports areas where basketball courts can be set up, climbing on walls that come out of the ground and form a changing landscape, calm meadows for elderly to sit and enjoy good weather. Mothers with little children can stroll around undisturbed by traffic.

Space starts and end with round pavilions. On the east side, it could be an elevated structure, while on the west, water square in park.



WEST ← → EAST



BUILDING ACTIVITIES AROUND THE PATH

EXAMPLES OF SPACES:

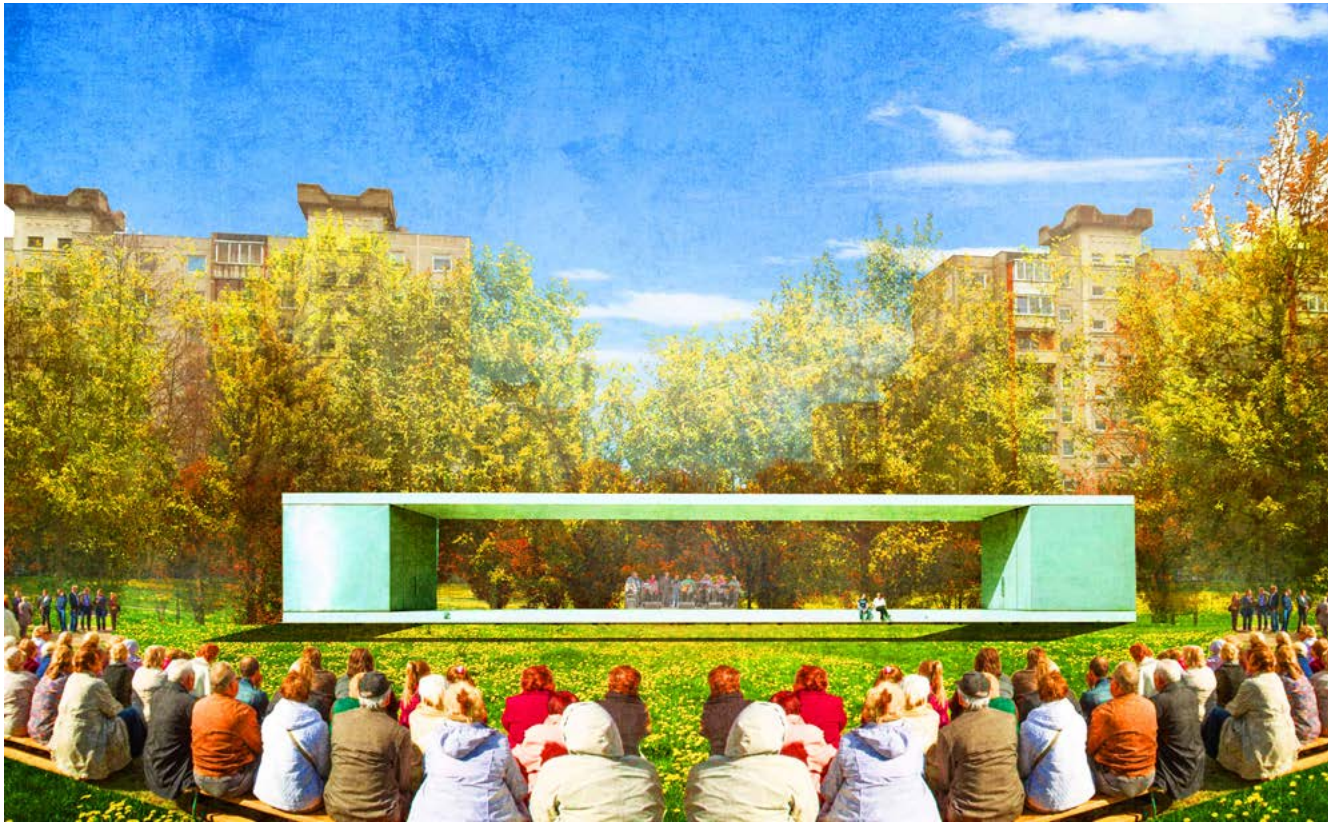


BONFIRE AREA



LITTLE POND OF THE WEST

IMPRESSION COLLAGES



COLLAGE: **Space leading to inner gardens for community activities** (Own Image)

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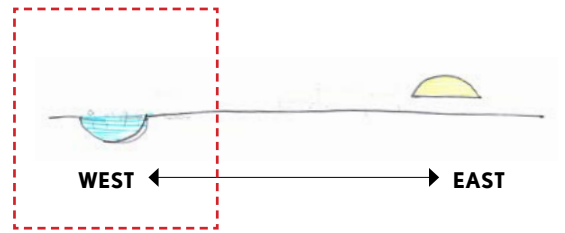
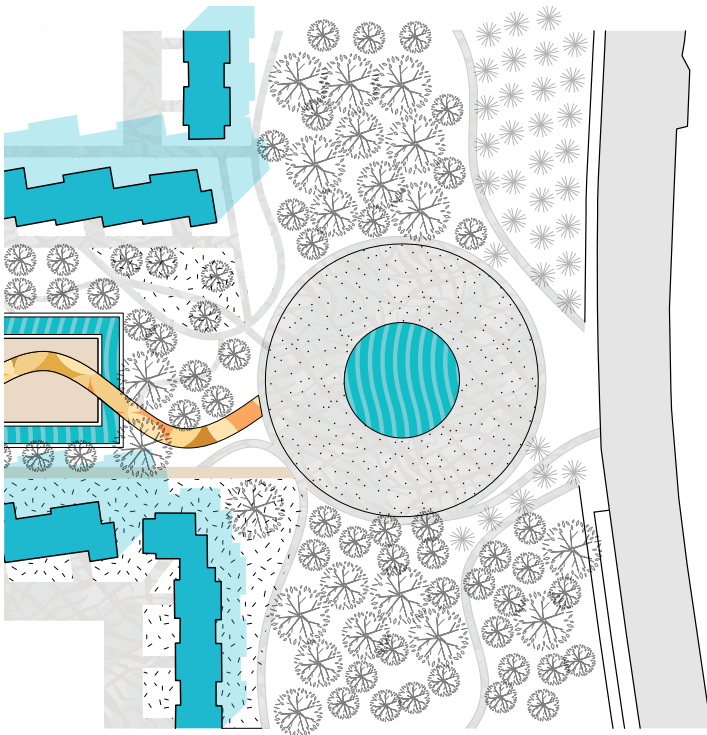
COLLAGE: **Active Sports area for Youth** (Own Image)



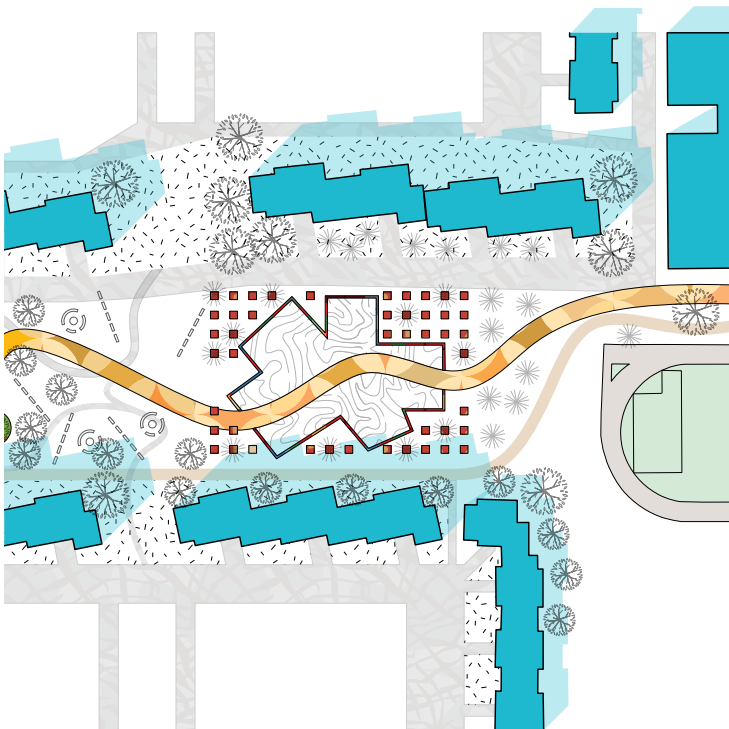
COLLAGE: Entrance to housing area from the park (Own Image)



ENTRANCE TO THE PARK



SPORTS SQUARE



REFERENCES:

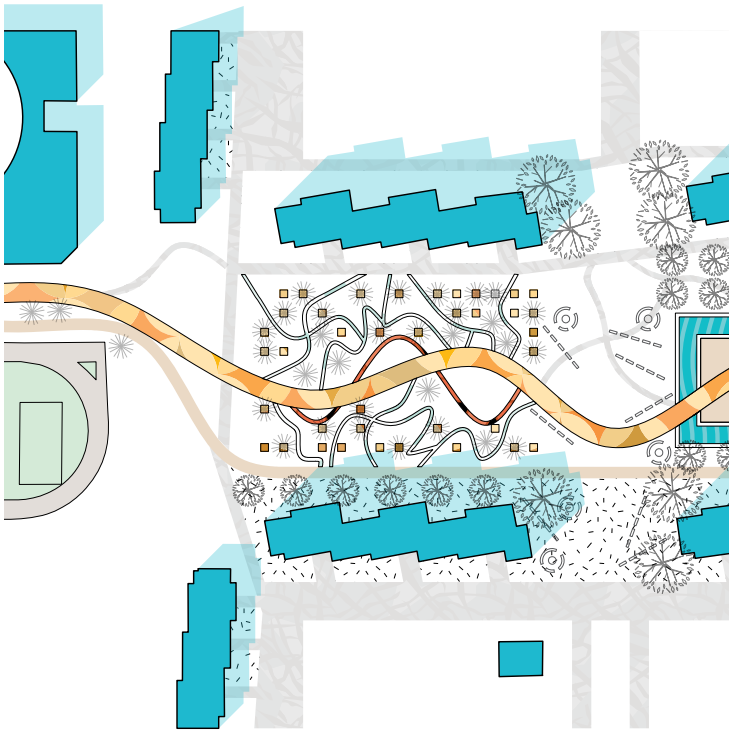


Basketball courts



Playgrounds

CALM FAMILY SQUARE



REFERENCES:

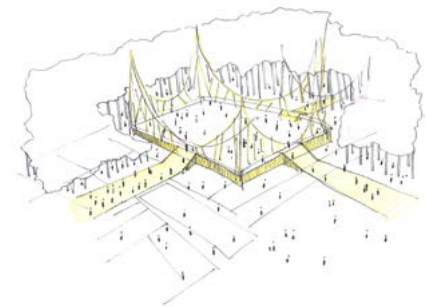
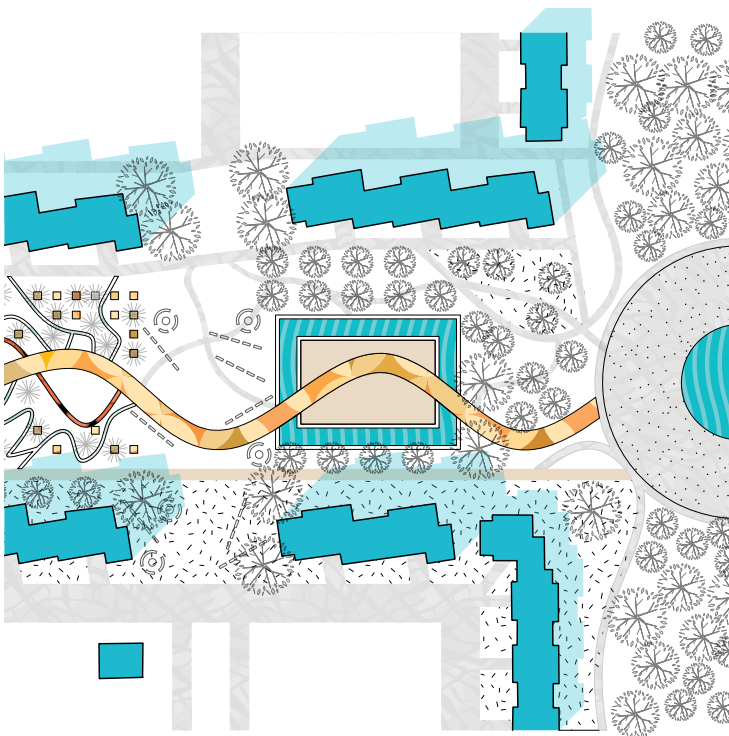


Urban seating integrated into the landscape



Path in a dynamic landscape

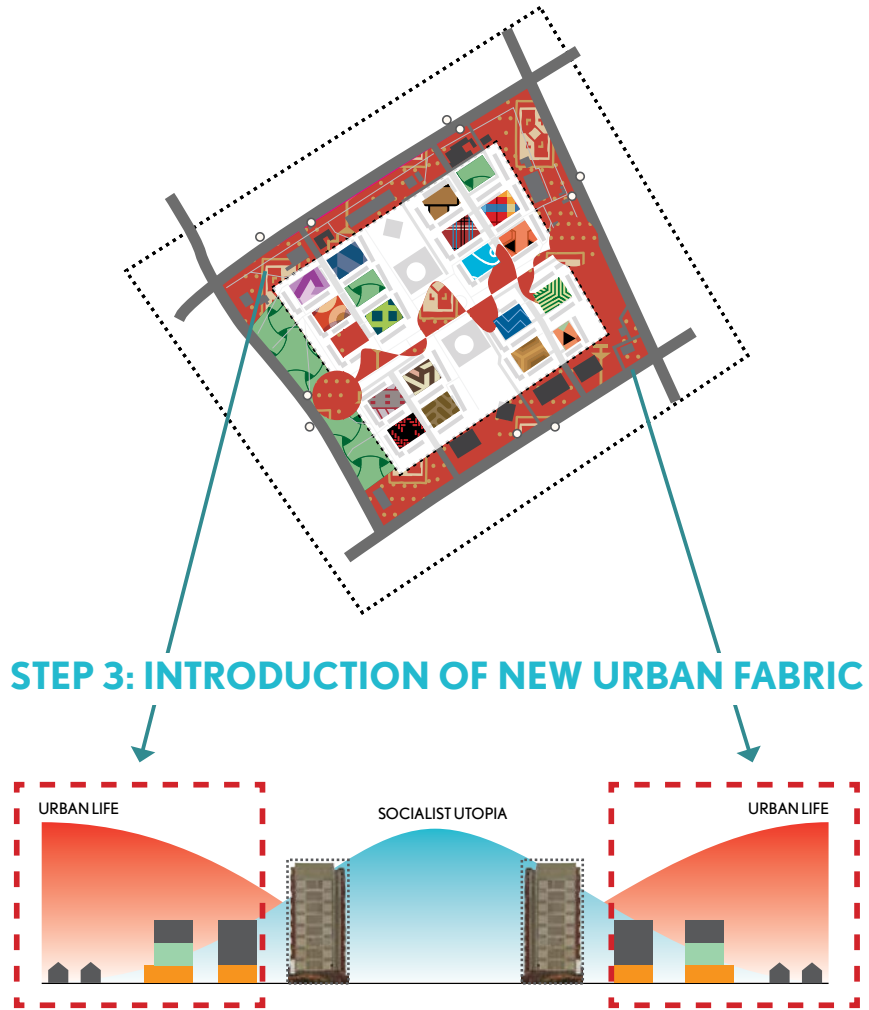
OPEN SPACE FOR SMALL GATHERINGS AND BBQ



Sketch: golden palace (author's image)



Sketch: Space used for having bonfires and barbecues (author's image)



Step 3:

- 1) Development plan is prepared based on the strategic guidelines of the eldership plan;
- 1) Introduce new program and new typologies into the area;
- 2) Restructure roads (reduce amount of lanes, introduce cycling paths and green strips).

CURRENT EMERGING PROGRAM OF THE AREA INFORMS THEMES FOR CLUSTERS FOR FUTURE DEVELOPMENTS

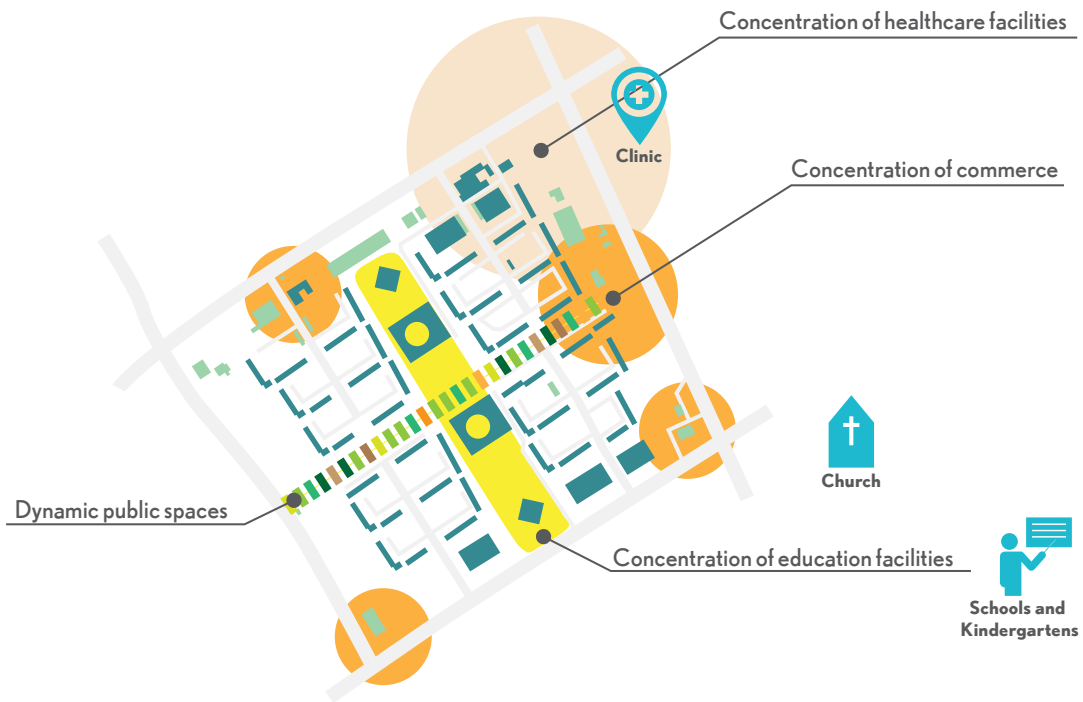


Diagram: Development concept (author's image)

DEFINING BLOCKS



In order to activate the area and join it to surrounding neighborhoods, new developments will be introduced around the main roads. Building typology: urban block. Currently, continuation of urban structures from pre-fabricated blocks is one family villa. Urban block, on average height of 3 floors will become the missing scale from the area, joining two existing ones together. Moreover, urban block will be providing the missing programs in the area and replacing big scale commercial centers typology.

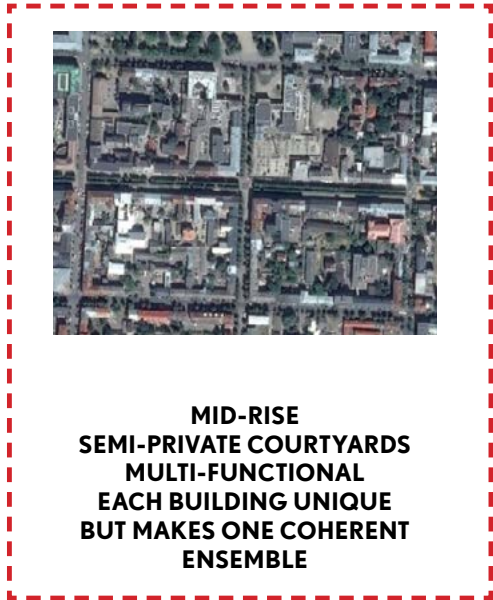
- Set visibility and permeability lines that connect to outer areas and gives better access to current residents.
- Parcelation of project area:
 - 1) Post-war neighborhoods
 - 2) Borders around existing buildings
 - 3) Borders for new urban blocks
- Infill following urban block guidelines

MISSING SCALE

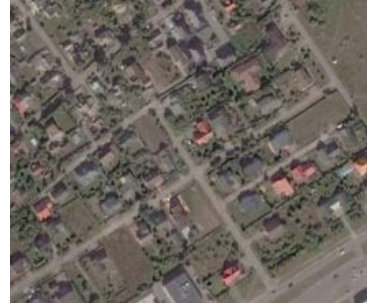
SUPER BLOCK
Post-war socialist housing



URBAN BLOCK
Typology of the inner city of Kaunas



SUBURBAN VILLAS
Post-socialist housing

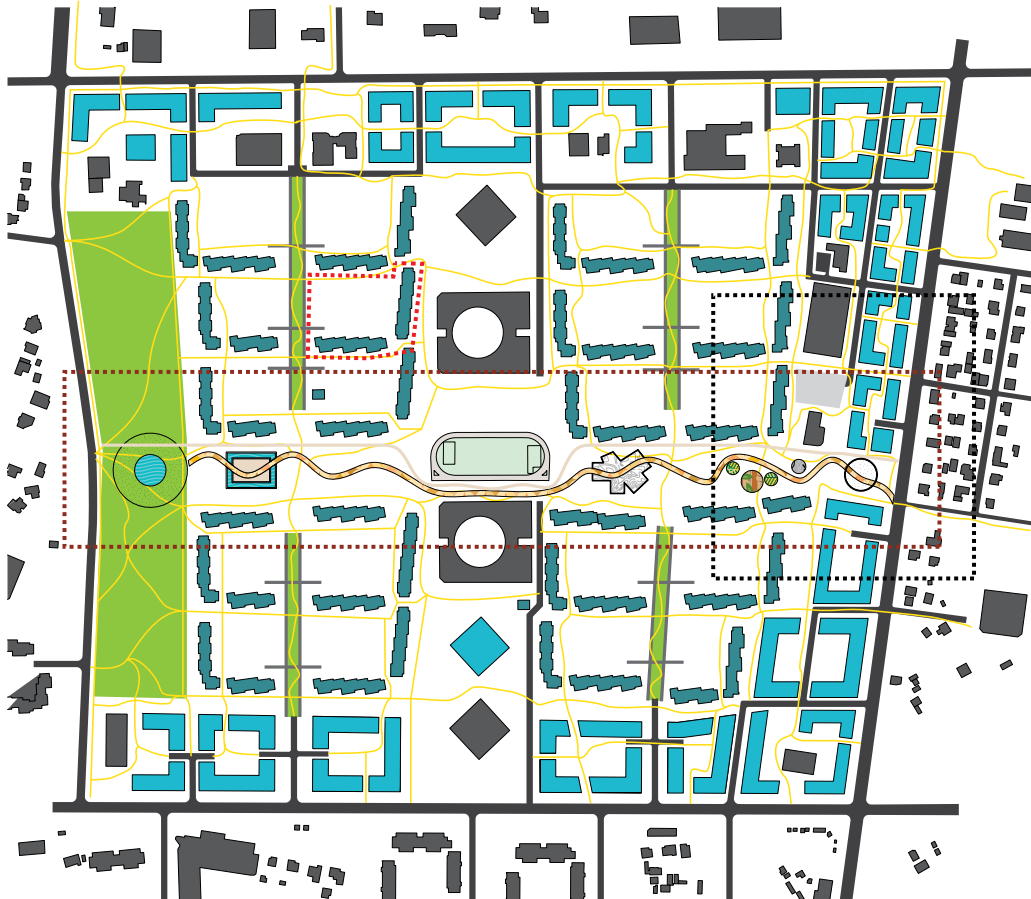


HIGH-RISE
OPEN COURTYARDS
MONO-FUNCTIONAL
STANDARDIZED

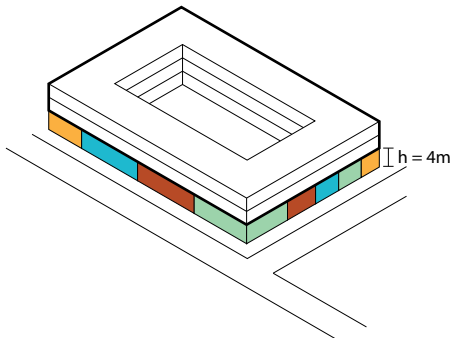
MID-RISE
SEMI-PRIVATE COURTYARDS
MULTI-FUNCTIONAL
EACH BUILDING UNIQUE
BUT MAKES ONE COHERENT
ENSEMBLE

LOW-RISE
PRIVATE GARDENS
MONO-FUNCTIONAL
EACH DIFFERENT

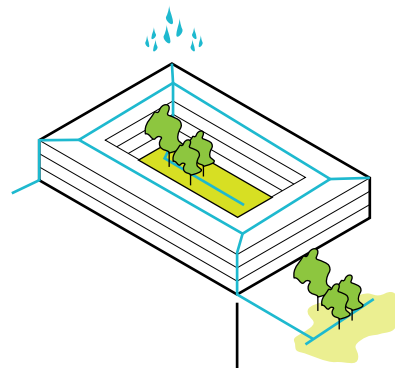
URBAN INFILL SCENARIO



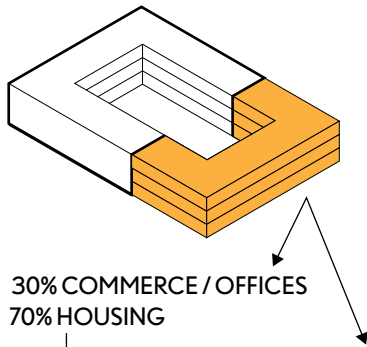
DESIGN GUIDELINES:



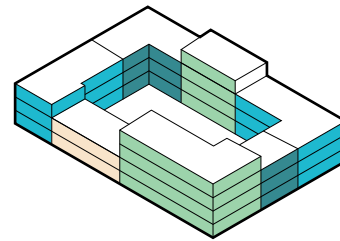
COMMERCE ON THE GROUND FLOOR
ALONG THE MAIN STREETS



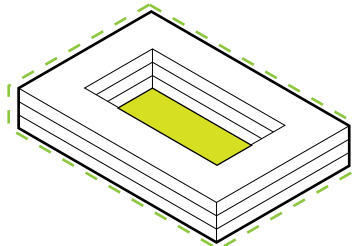
GREEN COURTYARDS RAIN WATER
HARVESTING FOR GREEN ZONES



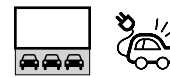
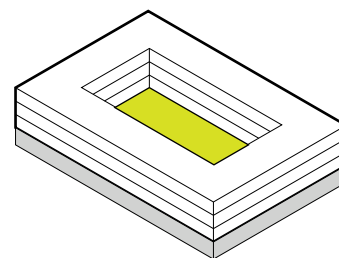
30% COMMERCE / OFFICES
70% HOUSING
↓
40% ECONOMIC, SMALL APARTMENTS



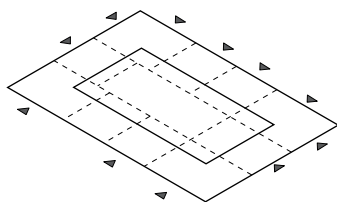
DIVERSE FACADE PROFILE



ZERO WASTE
PASSIVE BUILDINGS
RENEWABLE ENERGY USE

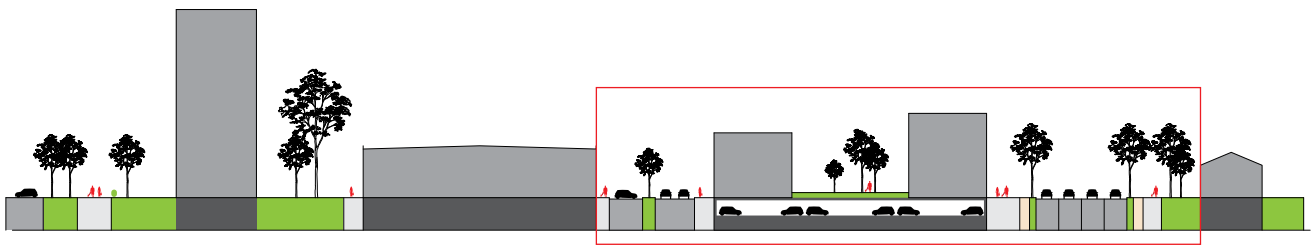


UNDERGROUND PARKING
ELECTRIC CAR CHARGING POINTS



DIVERSE PARCEL SIZES
COURTYARD - COMMON SPACE
ENTRANCES FROM THE STREET

ROAD DOWNGRADING



Narrowing down of Zemaiciai pl. road



Street view today: Zemaiciai pl. Road



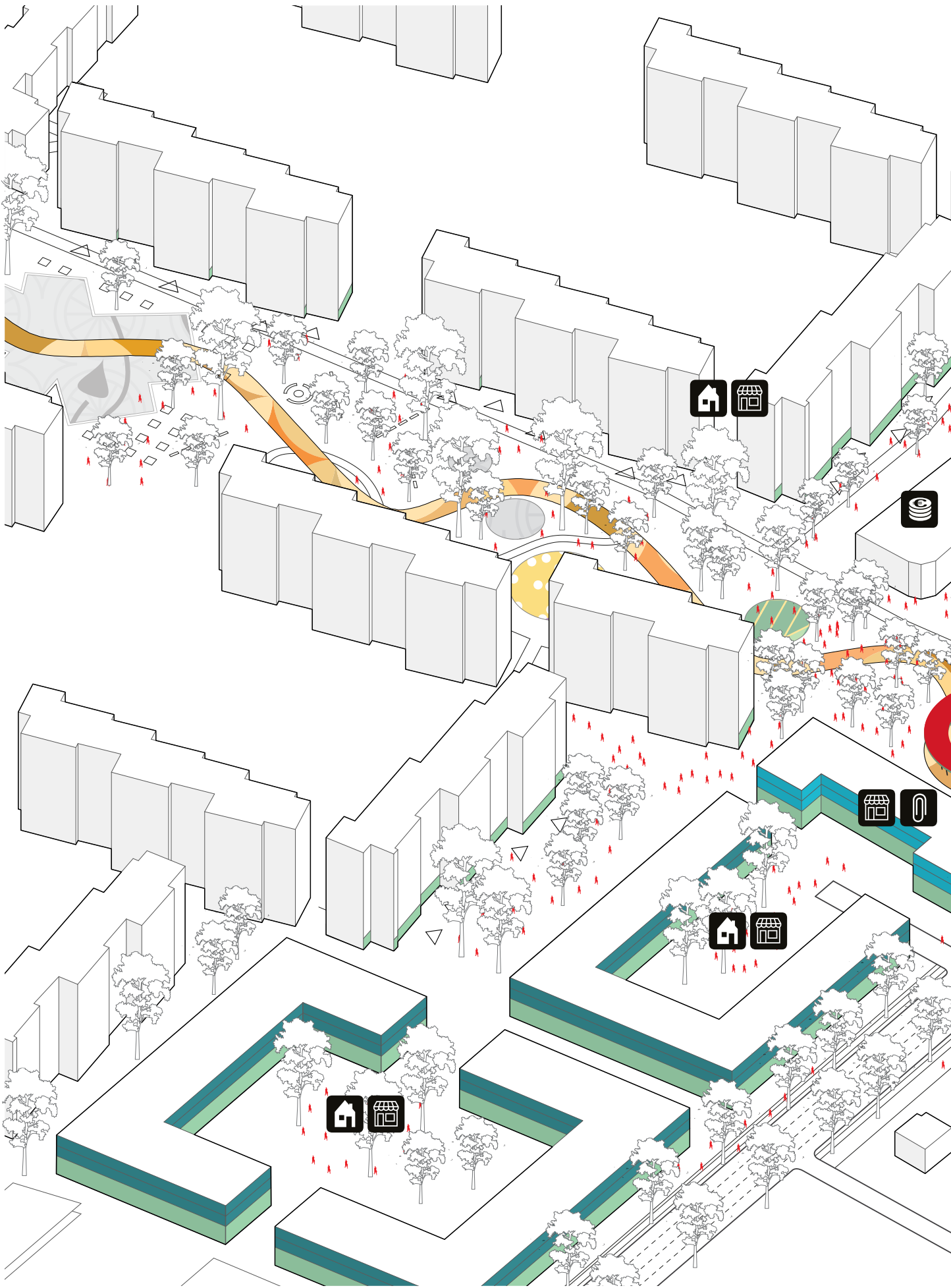
Collage: Designed street (Own image)

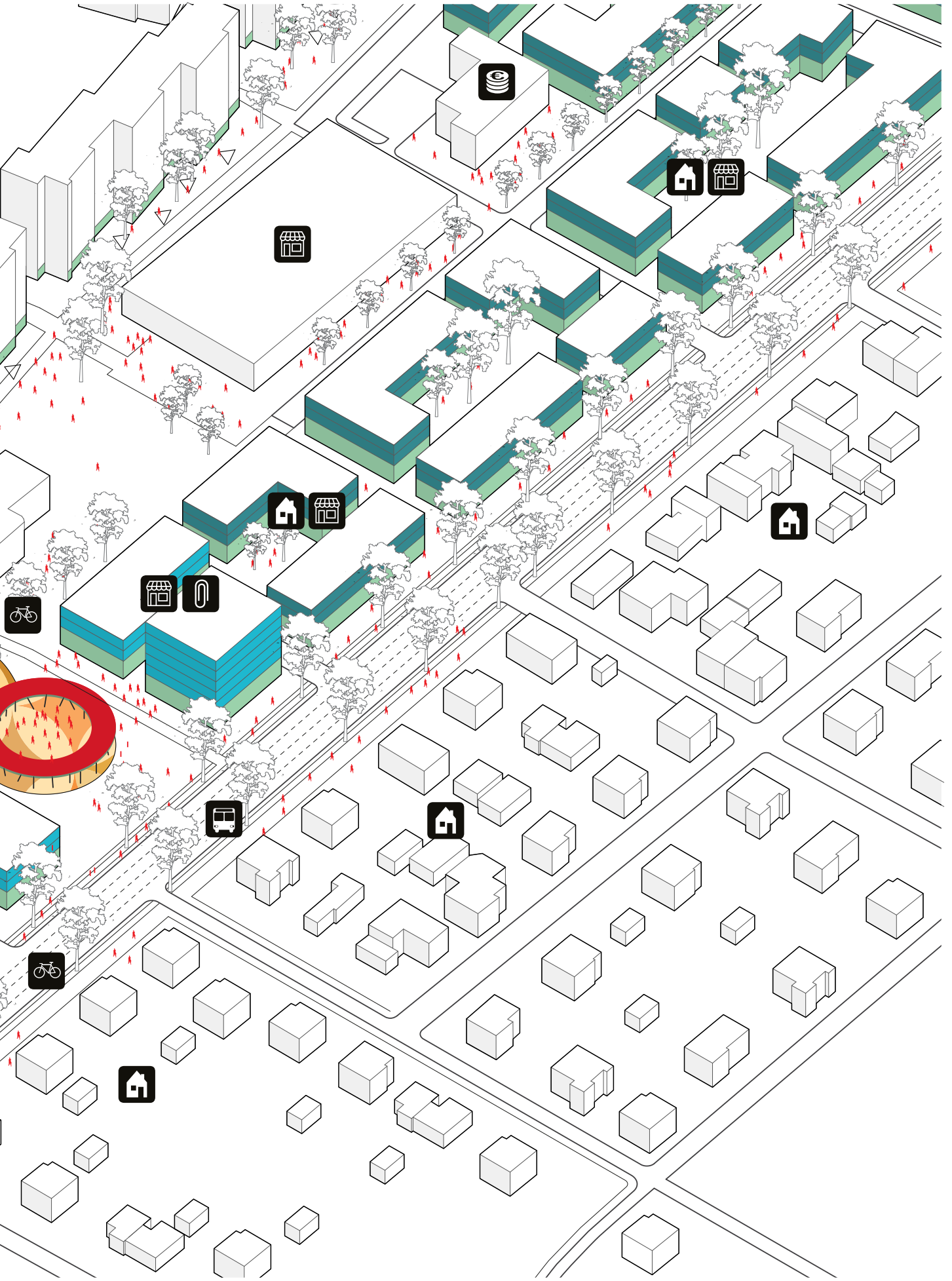
DEVELOPMENT SCENARIO



LEGEND:

- ▲ Entrance to new developments
- ▲ Entrance to commercial spaces in housing blocks
- New buildings
- Reconstructed buildings





Stakeholders and participation

STAKEHOLDERS IN THE AREA



ELDERSHIP ADMINISTRATION

Eldership administration is the lowest level of local governance in the city that has the direct contact with the local community. Civil servants and elected local community representatives understand the local needs and have best overview of social and spatial aspects of the eldership.



MUNICIPALITY

This governance level consist of both elected representatives that govern through the council of the city and decides on big issues and directions of the city. Civil servants are the engine of the city taking care of administrative aspects of urban management and implement the vision set by the council.



SCHOOL & KINDERGARTENS

There are nine schools and ten kindergartens in the eldership and over ten thousand children and young people until the age of 18. Schools play a big role in educating young population, providing after-school activities, participating in community life.



MOTHERS COMMUNITY

Community of mother is at the moment main initiator of various conversations about life in the area on social problems, security, quality of public space. Community organizes various events for children and parents, are highly involved in activities of the local library.



ELDERSHIP COMMUNITY REPRESENTATIVES

Silainiai Eldership has six community representatives that have been elected by the local community to represent their needs in city matters. These are the people that have most direct contact with residents in their district.



HOUSING BLOCK RESIDENTS

At the moment, residents in Silainiai are not strongly involved in issues of their environment. Needs of this group are personal and uncoordinated. Their direct living environment is the biggest interest.



LOCAL BUSINESSES

Despite being over-dominated by big commercial centers, local businesses find their place inside housing estates or newly established small scale centers. Their needs are to have access to big amounts of people, having fair competition.



BIG SCALE COMMERCIAL CENTERS

Owners of supermarkets and specialized commercial centers have similar needs to local businesses but for time being they are in a better condition, considering their location and accessibility.



DEVELOPERS

This group is an external addition to the future developments. Biggest interest for this group is financial gain from urban developments, fair competition, low risk environment.



CHURCH

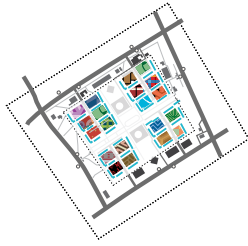
Silainiai parish is involved in daily activities in the community what are not only religious based. Church gets involved in rising awareness on safety and social equity.



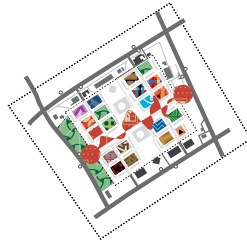
ELDERSHIP CLINIC

With over sixty thousand patients, Clinic of Silainiai has a well informed opinion on local public health.

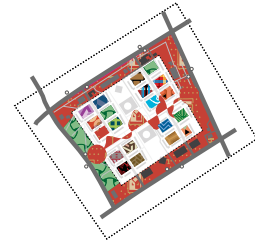
STAKEHOLDER INVOLVEMENT IN DIFFERENT PROJECT PARTS



Courtyards and housing renovation



Community public space



Infill Developments

STAKEHOLDERS INVOLVED:	<p>In-case building extensions, additions or change of function is planned:</p>	<p>Involvement:</p> <p>Consultation:</p>	<p>Involvement:</p> <p>Consultation:</p>
ROLE OF THE URBANIST:	<p>URBANIST</p> <ul style="list-style-type: none"> - Help the community to clarify their needs, - Prepare the standard elements of the inner garden in consultation of with the residents; - Present the possibilities for community planned area and their implications. <p>ARCHITECT</p> <ul style="list-style-type: none"> - Participate in the workshops where community clarifies their needs; - Propose renovation options. 	<ul style="list-style-type: none"> - Analyze and present the possibilities of public space upgrading to the stakeholders. Through public consultation, gather the needs all stakeholders. - Working closely with eldership and planners of municipality, phase project implementation, organize competition to select best proposals for different themes of the project. 	<ul style="list-style-type: none"> - Analyze and present the possibilities of urban structure infill's for the development area. - Create a phasing strategy and define rules for development. - Working closely with the eldership and municipal planners, help mediate and negotiate on different developments in the area. - If necessary adapt guidelines for different blocks, depending on agreements with developers and private investors.
FINANCING:	<ul style="list-style-type: none"> - Renovation of the buildings is partly financed from EU structural funds. - Revenue from extensions and additions can cover renovation of the building or the courtyard. - Building renovation partly financed by the residents and if there are no additional sources, courtyards have to be financed fully from residents. - Municipality partly subsidizes underground parking. - Waste management companies fully finance installation of underground containers. - Residents cover maintenance cost. 	<ul style="list-style-type: none"> - Municipality subsidizes basic infrastructure for the public spaces and upgrading of areas around educational buildings. - Projects or their maintenance are partly funded by revenue or internal agreements with developers of infill area. - Eldership finds external funding sources and it already has a fund for maintenance of public spaces (it has to be increased). - Local businesses contribute to upgrade of areas that they have direct link to. 	<ul style="list-style-type: none"> - Preparation of the development plan is financed from municipal budget. - Developments funded by developers and private investors. They share some cost of infrastructure around the developments. - Municipality contributes to basic infrastructure of the area.

CAPACITY BUILDING

Certain skills and capabilities are needed to ensure fair distribution of planning responsibilities and governing powers, which are necessary to implement the envisioned project withing the proposed governance structure.

Capacity building is crucial to have good communication between municipal authority, eldership administration and local community. All sides have to have ways to understand their needs, express themselves and make informed decision. This is a time consuming process but is essential to achieve a more inclusive dialogue.

To ensure sustainable urban planning in the city, it is necessary to have training and mentoring stakeholders about public engagement processes, motivate groups to get involved:

SPATIAL PLANNING: There has to be certain awareness and understanding on the complexity of spatial planning. All stakeholders need to understand the cause and effect of planning decisions, be able to have an overview of a bigger territory, become aware of the needs that exist in the area that are beyond their interests.

PROCEDURAL SAFEGUARDS TO ENSURE IMPLEMENTATION OF SUSTAINABLE DEVELOPMENT

INTEGRITY

Local authority have to emphasis their commitment to achieve the principles of sustainable development values set in the guidelines of urban development and community involvement. They have to follow through with every decision they make.

- Develop strong relationships with stakeholders
- Demonstrate how public and stakeholder views have been taken into account in decisions for the eldership.

VISIBILITY

The local authority has to ensure that those, directly affected by plans and decisions have a reasonable awareness of the processes and manageable expectations.

- Identify the best methods to communicate with each stakeholder.
- Publish a comprehensive consultation schedule.
- Communicate with all departments in the municipality and the eldership involved with certain plans and decisions to avoid overlapping and duplication of assignments and responsibilities.

ACCESSIBILITY

The local authority has to ensure that methods chosen for public consultation and community involvement are adequate to the needs and capabilities of certain groups. Especial hard to reach stakeholders. Authority has to be aware that different stakeholder groups would respond to different communication methods and channels.

- Check if the proposed consultation methods are accessible to all target groups;

COMMUNICATION: for planners and civil servants to understand community and for community to understand the planning process through collaboration, learning to express their ideas, critically evaluate information and make compromises.

Train eldership administration to make **INFORMED DECISIONS ABOUT URBAN DEVELOPMENTS** in their monitored territory with local needs and municipal guidelines in mind. Be able to go into partnerships with private businesses/developers, negotiate, be consistent and transparent about where developments are going.

Encourage planners to **PARTICIPATE IN COMMUNITY COUNCILS OR FOCUS GROUPS**, hold consultation events, engage community through direct or indirect consultation as part of their planning activities.

- Train people who carry out engagement activities how to deal with responses of different groups;
- Translate all documents and plans into a language and media which is understandable to different stakeholders.

TRANSPARENCY

The local authority has to ensure a transparent process where everybody is aware of partnerships authority decides to get into, use if public money, conditions for investing in certain projects.

- Ensure maximum transparency;
- Ensure involvement of independent experts and advisors;

FULL DISCLOSURE

The local authorities have to ensure that no information is withhold, discussions are open, expectations are managed well. Full disclosure is expected from local authorities as well as from stakeholder and stakeholder organizations.

FAIR INTERPRETATION

The local authorities and planners have to ensure that all data collected and analysis done is presented with least ambiguity, with clear distinction between facts and interpretation of facts.

PUBLICATION

And last but not least, all decisions, plans, public consultation summaries, opinions and anything relevant is to be published. Information published in an accessible way.

DECISION MAKING MODEL

In the research part on sustainable development (p. XX) it has been established that there are different kind of decision making models in planning. Plan-led system is the one where zoning plan is the document where most of planning decisions are made. In such system, plan is legally binding and does not provide much space for negotiation. This system is beneficial as it creates a level of certainty of future development possibilities. On the other hand, if design proposal does not fit within fixed regulations, it will be rejected.

Other type is development-led planning, where zoning plan gives an idea of thinking of the local authority and gives space for mediation from those ideas in the moment when developer comes with the project to local authority. Benefit of this system is that it provides high flexibility, but it makes it difficult to manage uncertainty.

In terms of sustainability, a mix of these systems would be most successful. A system where local authority has a specific idea what area could become, but has some space for negotiation. This space could be used to fulfill specific objectives that authority might not have budget or capacity to fulfill and in return gives something that developer of the project wants.

Such model could be applied for the detail plan of the neighborhood that is the new type of planning document in the Law of Lithuanian territorial planning.

APPLICATION:

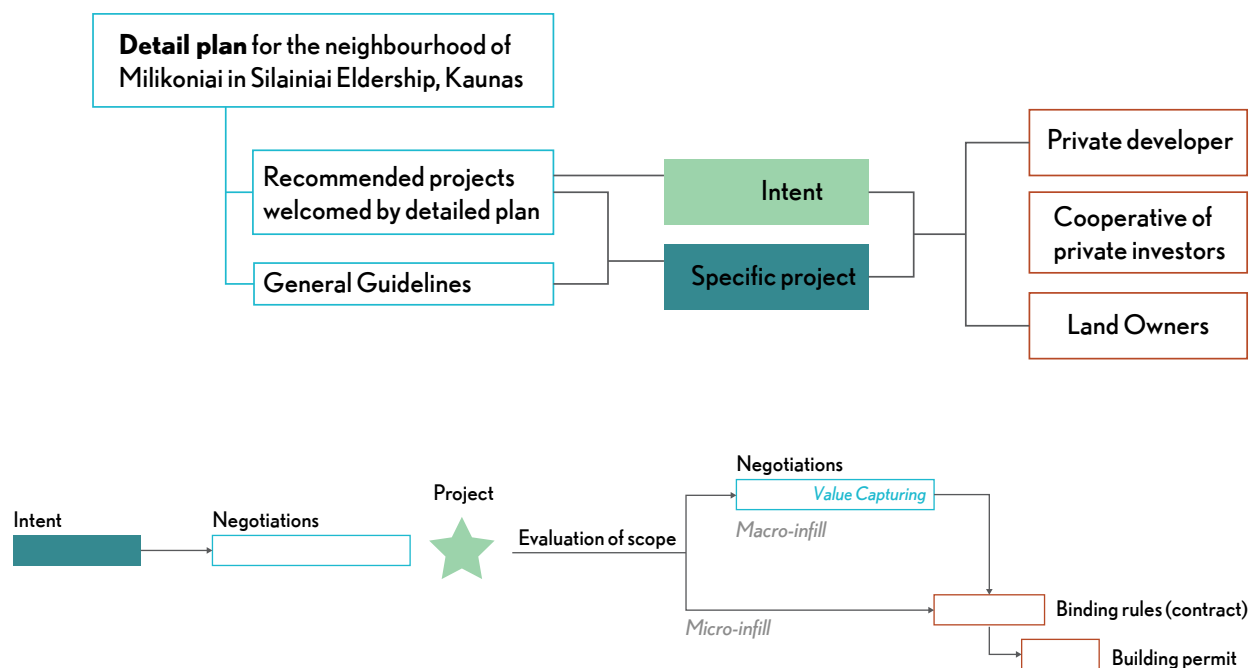
Detailed plan defines guidelines for future development. Plan consists of two types of guidelines: one – general guidelines of detailed plan, for which projects can be prepared and special areas of development where private investors,

developers or land owners can express intent and together with municipality create a project guidelines for which project can be prepared.

Private parties prepare project based on general guidelines of detail plan, depending on the scope of the project, either goes to negotiations phase or straight to evaluation for approval. Distinction of different scales of projects is necessary as small and clear projects can move through the system fast and easy (as long as they fit the guidelines) and bigger scale projects have to go through negotiations procedure where project specific planning decisions are made, there is a chance for municipality to ensure that not only private party benefits from the project but some public value is captured.

After negotiating contractual agreement is reached and building permission issued.

As most of developments will happen on a public land, local authority can strategically plan how to use profits from land sale/lease to finance renovation of public space, building underground parking spaces and narrowing down the roads. In cases where local community of housing block decides to allow development in their courtyard, representatives from the community participate in negotiation procedures along with planning experts.

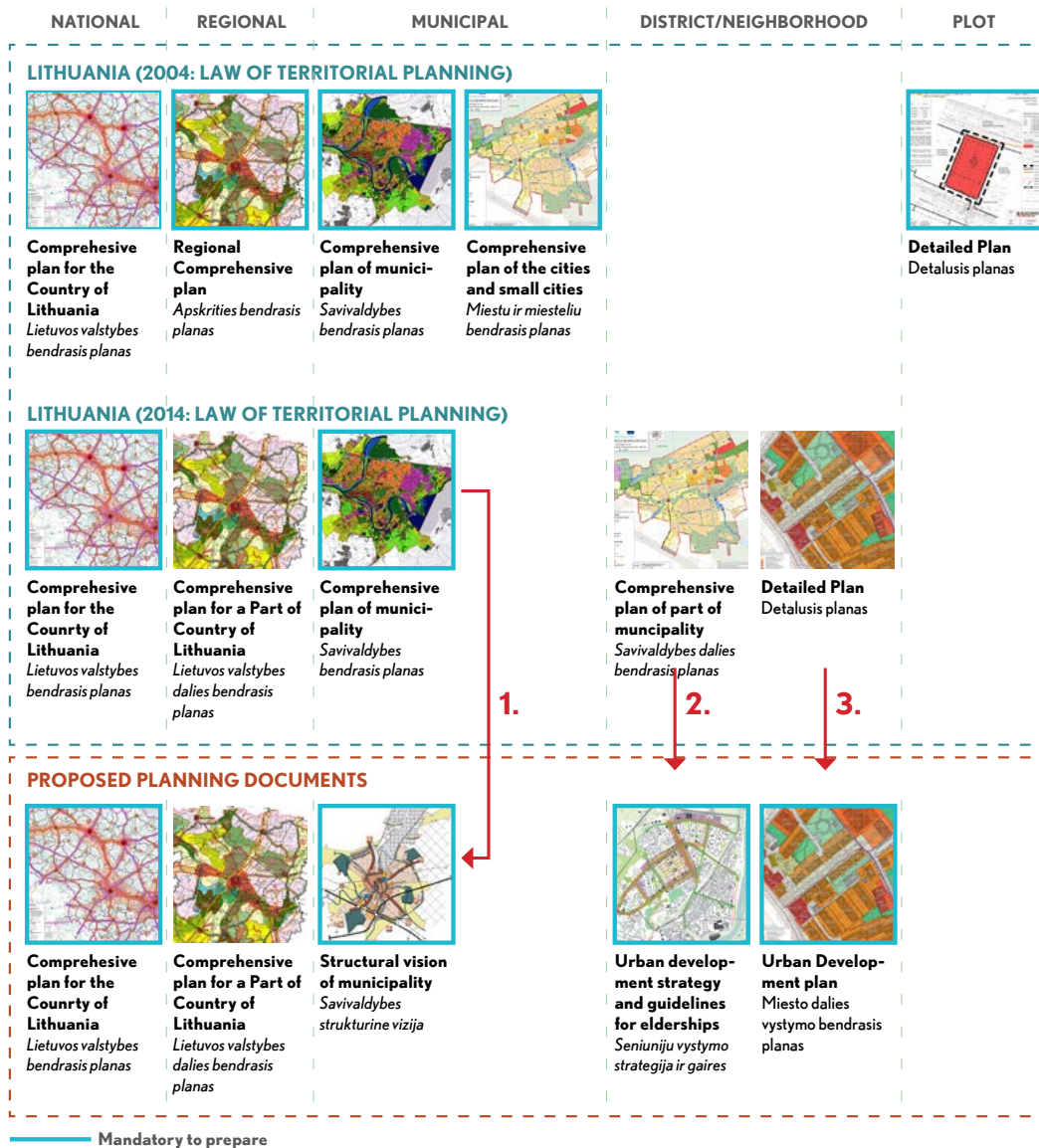


Spatial Planning

Revision

COMPARISON: Existing vs. Proposed.

Spatial Planning documents for different administrative levels



ROLES IN SPATIAL PLANNING:



MUNICIPALITY:

- Establishing general direction of urban development of the city that follows values of sustainability;
- Provide safeguards;
- Observe eldership work in implementing spatial planning goals;



ELDERSHIP:

- Implementation of the general vision of the city;
- Ensuring implementation of sustainable development values;
- Coordinating incoming developments;
- Initiating development plans for the area;
- Ensuring participation of the public and defending public interest in projects.



LOCAL COMMUNITY:

- Demand quality of spatial plans and transparency of planning process, representation of own needs;
- Participation in community engagement activities;
- Having contact with eldership community representatives;
- Contribute to urban renewal projects;

FROM ZONING TO STRATEGIES AND GUIDELINES

1. The main function of the current Comprehensive plan of the municipality of Kaunas is to define zoning of territories and plan big infrastructural project that are of relevance of the city. Plan lacks guidance and position of the municipality on where city is going. Architects expect grand vision, politicians are not capable to provide one while the main thing the city needs is direction. Municipality tries to control the city by making all the decisions in advance in a form of a zoning plan. If zoning plan does not fit an important development that comes to the city, Municipal council is open to change the plan. Project proposes look for alternatives to zoning plans and concentrate on understanding the direction

of the city. Strict zoning plans get changed without difficulty all the time therefore it is only logical to make that decision on a smaller scale in accordance to existing land use. To ensure that lower level plans and incoming projects fit the guidelines of the municipality, spatial planning and administrative safeguards have to be defined.

Objective of the structure vision: Set urban development guidelines, sustainable development values and qualitative and quantitative measures to implement them, identify priority redevelopment areas. These aspects are further developed in the lower scale plans.

2. Urban development strategy and guidelines for the eldership is a plan that applies structural vision plan of municipality with sustainable development guidelines in a specific context of the territory of the eldership. Plan concentrated on future interventions of the eldership territory with identification of implications it might have on adjoining territories. Coordination with neighbouring eldership is essential to ensure fluent implementation of the general strategy of the city.

and cycling networks), commercial distribution, designation of redevelopment areas, evaluation of missing program or typologies.

Development safeguards: to reduce risk of the manipulation of the plan that is not in the best interest of the public, certain safeguards are implemented with the plan. Design guidelines ensure that future developments respond to the demand and capabilities of the area and ensure sustainable development. Procedural safeguards ensure transparency of the planning process, involvement of stakeholders in the development area and good level of public consultation.

Proposed plan is done combining various layers of the city: Green structure, infrastructure (including public transport

3. The eldership initiates preparation of the urban development plan. Zones are selected for special development areas (in case of proposed project for courtyards of housing blocks, public space in between blocks, public park or infill developments). Responding to development guidelines and needs/opportunities in the area, eldership, together with involved stakeholders, municipality planning department and an urbanist prepare a plan.

Plan for public space between the blocks: First workshop with local residents has to be held to determine their needs for the place. Later, design firms, in consultation with representatives of local residents and eldership administration, give proposals for each zone of the public space. Implementation of the plan can be funded partly by residents, partly by municipality and partly from revenue generated from the sale of land for the development area. During negotiations with developers, they can be required to implement a stage or part of public space regeneration as value generated from upgrading space will also be affecting real estate value of their developments.

Example below: spatial planning process to prepare development plan for the pilot project of this thesis:

Plan for housing blocks:

Guidelines for the basic structure and important elements for courtyards of housing estates are prepared, leaving designated area for the community appropriate. Architect in consultation with residents of the building prepare a reconstruction plan. Along with good insulation and ensuring energy efficiency, design is done for improving entrances, staircases, communal spaces. New additions or extensions of building can become part of renovation and finance partly the expenses of the project.

Plan for infill development:

Developers or private investors come with proposals or express interest to develop on a selected area. Together with eldership and city planners from municipality that work for the eldership ensure that development rules of urban blocks are met, supervise the distribution of functions and implementation. Eldership planners ensure that new developments are coherent, consistent and carry values of sustainability.

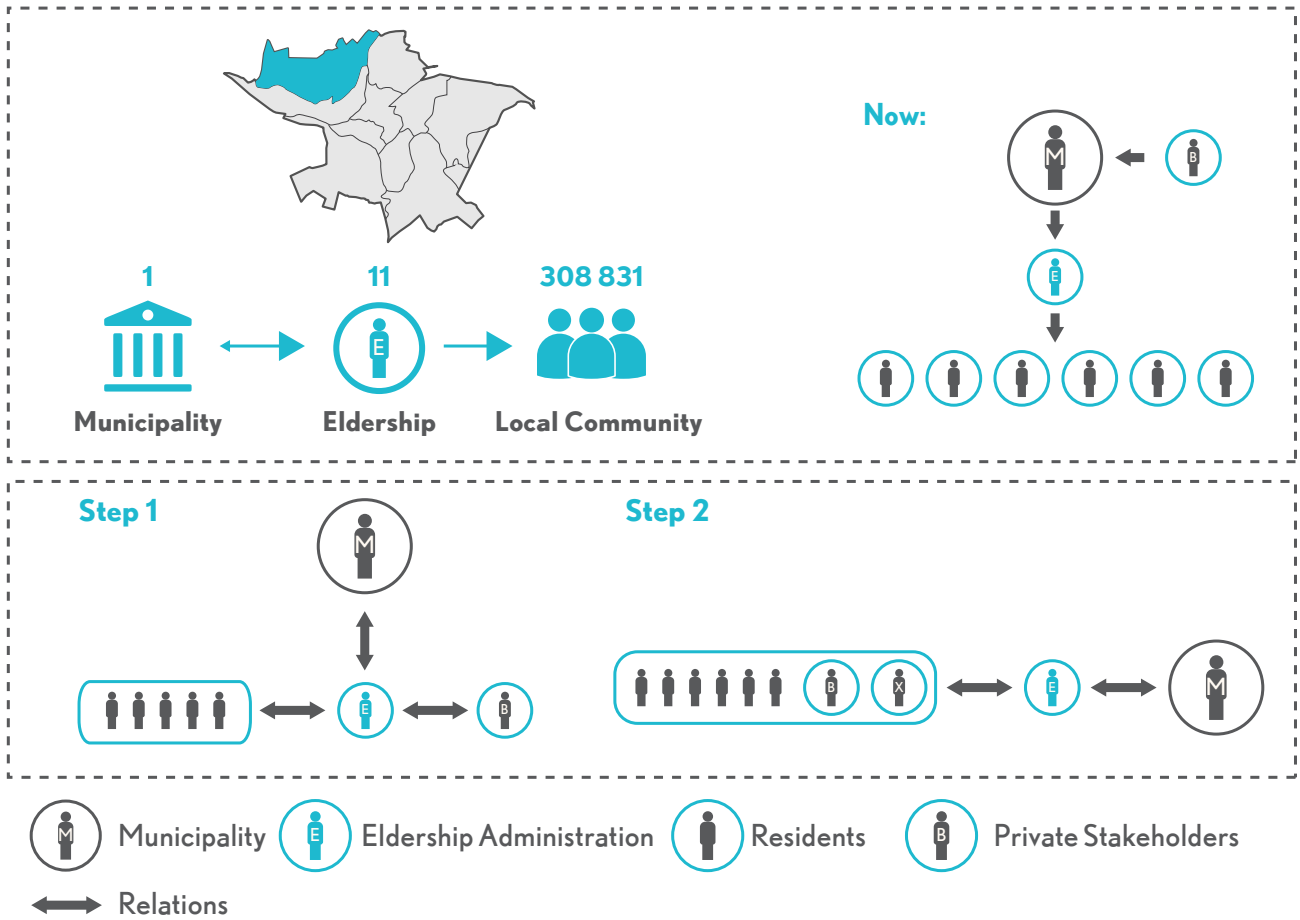
Plan of the park:

An urban design competition is held to find the best concept for the park. The plan is implemented and funded from municipal budget.

Governance

Decentralization of power and decision
making system

DECENTRALIZATION OF POWER



The participation of local inhabitants in the decisions of local authorities is essential to rebuilding the community in each eldership around the city and strengthening the civil society. This requires on one hand listening, discussing, negotiating and catering for the needs of the locals as well as sharing power that is now concentrated in the administration of municipality with eldership administration.

Currently eldership administration, that is the lowest level of governance in the city of Kaunas are appointed formal representatives of city council and city administration to the local community. In order to get better representation it is necessary to have a shift in the hierarchy.

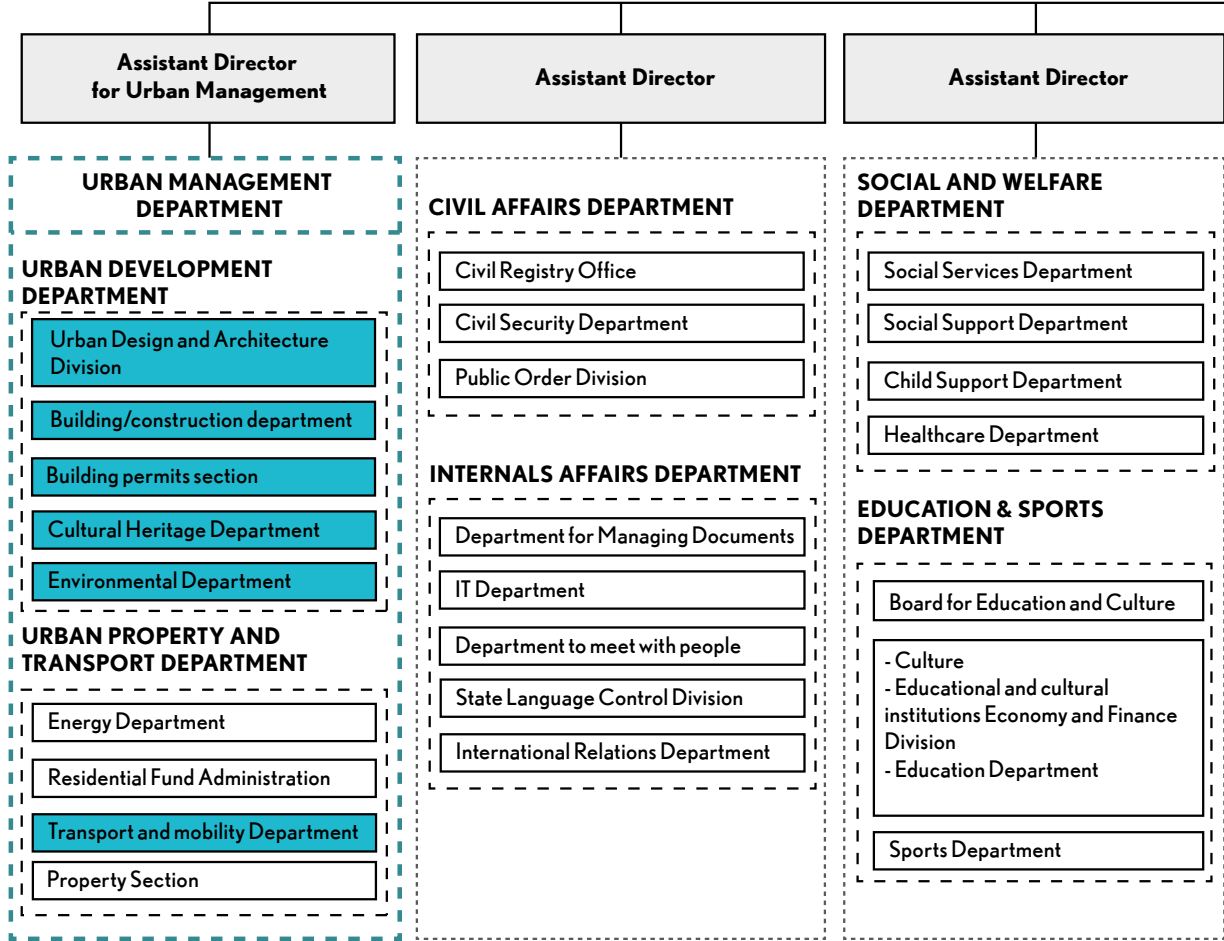
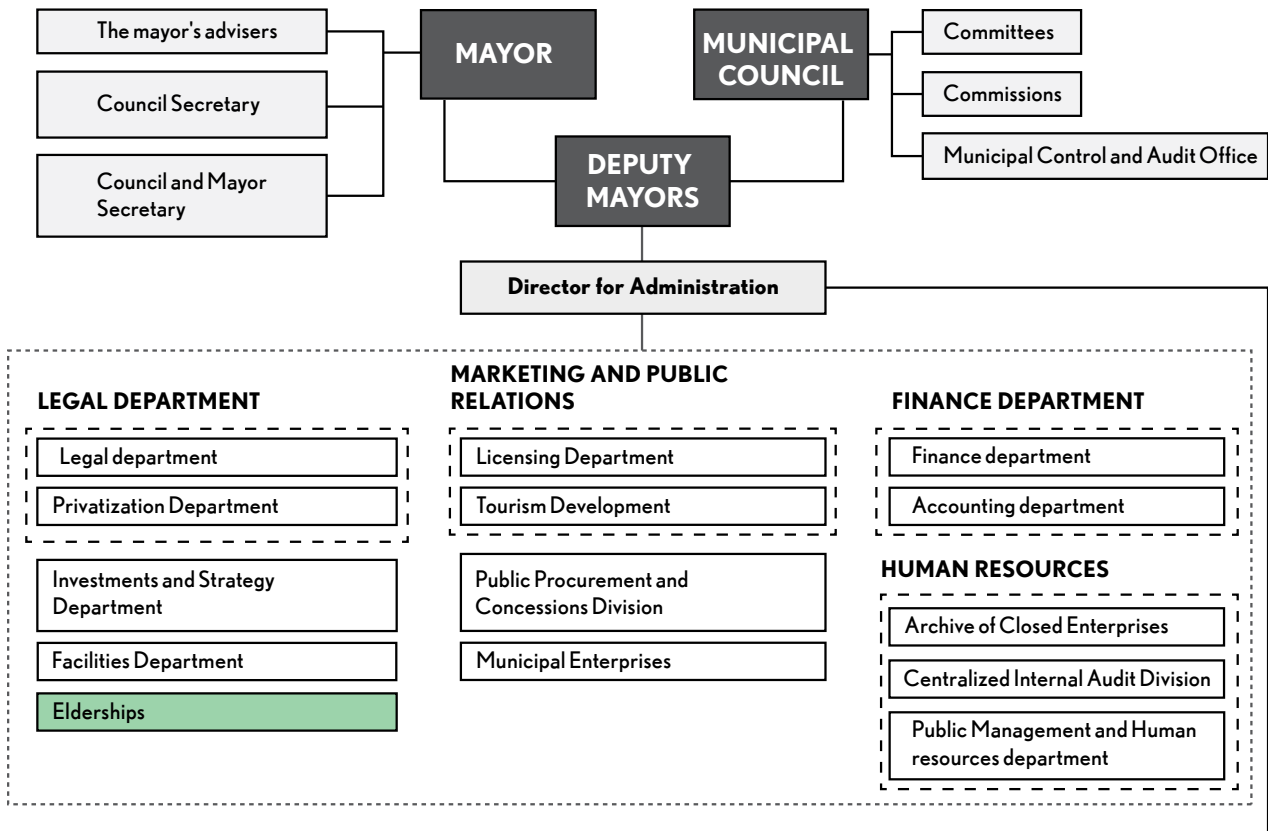
SHARING RESPONSIBILITIES

To ensure good representation of the local needs, sharing responsibilities of municipality with the Eldermen and the community representatives is essential. To begin with, people should have a right to choose their representatives. Municipality has to ensure quality of Eldermen work, and have safeguards to ensure that community can be involved in evaluating Eldermen, suggest civil servants to this position, change one if necessary. Eldership community

representatives should be given more powers to control their environment and have a say in spatial planning and other decisions in the city.

Spatial planning for the territory of the eldership is one important step that has to be taken in order to ensure sustainable future of the community. The new policy of territorial planning in Lithuania provides local communities with a tool to start planning process in their direct environments.

PROPOSED STRUCTURE OF MUNICIPAL ADMINISTRATION



PROPOSED STRUCTURE OF MUNICIPAL ADMINISTRATION

Administrative structure of the municipality of Kaunas is highly fragmented. Different functions of the municipality are distributed through huge number of departments. There is no clear hierarchy in the administration itself. Departments that are working with urban management are not only concentrated in different departments but also they are under supervision of different assistant directors. Municipality of Kaunas has a goal to reduce the number of civil servants in the administration, which is a good approach if intended outcome is to save public spendings, but the problem lies in the structure itself. Administrative mechanism has to become more efficient, different departments have to collaborate, share responsibilities and ensure there are not overlapping work.

Proposed administrative structure combines different divisions to big themed departments:

- **Urban Development Department;**
 - **Urban Property and Transport department**
Supervised by the assistant director for urban Management

- **Civil affairs department**
 - **Internal Affairs Department**
Supervised by the second assistant director

- **Social and Welfare Department**
 - **Education, Culture and Sports department**
Supervised by the third assistant director.

Four departments are proposed for the general administration and public relations of the administration. These departments are under direct control by Director of Administration.

General administration is a link between the City Council, Residents and Departments that are executing direct matters of the municipality.

GENERAL ADMINISTRATION:

- Legal Department
- Marketing and Public Relations
- Finance Department
- Human Resources
- Investment and Strategy Department
- Facilities
- Public Procurement and Concession Department
- Department for Municipal Enterprises
- Eldershops.

POSITION OF ELDERSHIPS IN THE STRUCTURE:

In the new proposed administrative structure, elderships are moved from being under supervision of one of assistant directors along with a pile of disconnected departments to the general administration of the municipality. Eldershops will be under supervision of the director of administration and will have a close contact to the mayor and the city council.

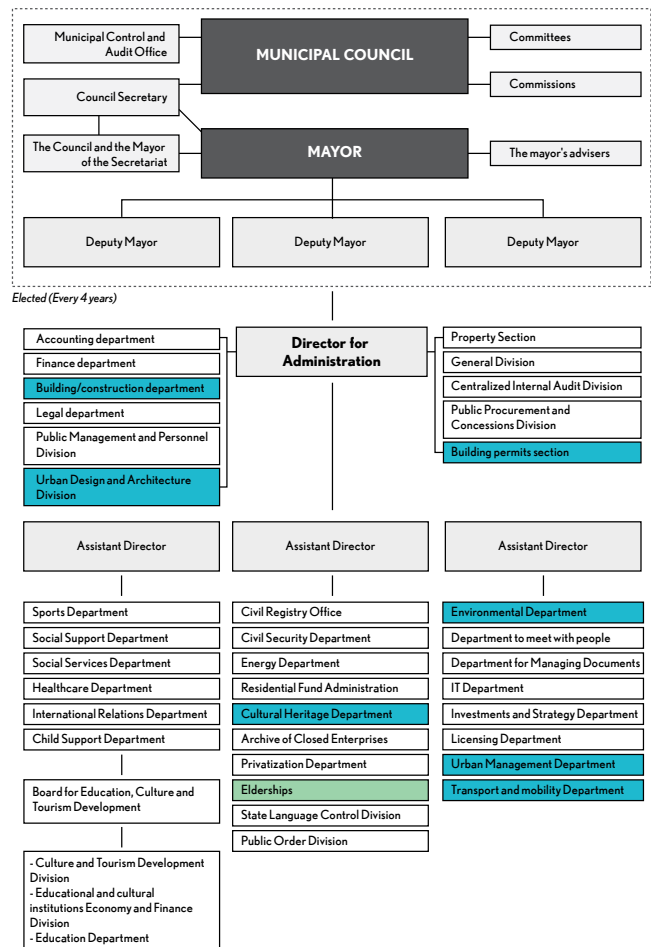
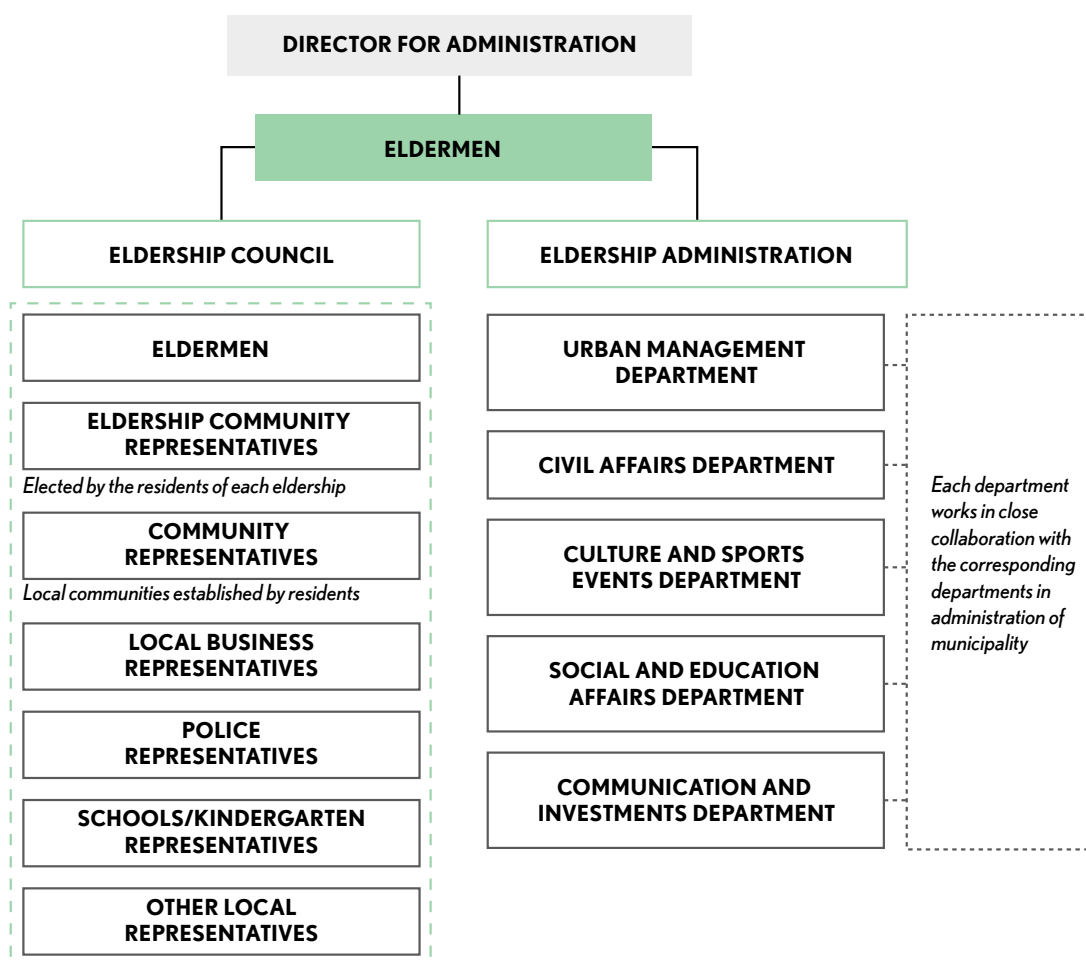


Diagram: Current administrative structure of the municipality

PROPOSED STRUCTURE OF ELDERSHIP ADMINISTRATION



Eldership is a part of municipality and could have the comprehensive plan of part of municipality prepared. Big change that has to happen in planning: move away from zoning plans. Alternatively, urban strategy with a development should be prepared. Document would provide guidance and propose a general vision municipal sustainability goals in comprehensive plan of municipality. To ensure goals are met, there has to be both planning process safeguards and development safeguards.

FROM ZONING TO GUIDING

After that each Eldership community (which is another smaller administration unit in the city of Kaunas) can prepare their own detailed plans of the neighborhoods. In this way, plans are prepared from bottom up, decisions are made in the direct environment of the place of interest and city council and administration of municipality ensures that these plans are coordinated with the “grand” vision of the urban area, follow the values of sustainable development.

MAKING ELDERSHIPS PROACTIVE

Eldership budgets are to be distributed based on the needs of local communities and based on projects eldership manages to initiate. At the same time elderships are responsible to attract funding and enter into partnerships with private parties for projects that cannot be supported from the budget of the city.

NO EXTRA RESOURCES

Decentralization of power does not need extra resources and is one of ways to optimize administration mechanism in the city. Each eldership has planners designated to the area who work in the municipality as part of local administration. At the moment they are answering to local politicians and municipal administration, therefore have very little contact with the community they work for.

If each eldership is strengthened by professionals from an administration team, who are responsible for planning in the area, they can answer to the community directly.

Conclusions & Reflections

CONCLUSIONS

Cities in Europe today does not just happen. There is a plan or planning system, governance and authorities who create and execute the plan. One cannot happen without another. Even if we take a great plan, government with low integrity or civil servants who don't really know what they are doing, won't deliver a good city. Moreover, city is not an ontological given: it is a combination of different systems, different urban forms and qualities, different social fabrics, behaviors and interrelations. One size does not fit all, thus relying on norms and standards as solution for any problem, will not work. There needs to be a certain level of understanding of the diversity of the city and openness to react differently to every situation.

Post socialist context is a difficult one, but the best way to understand it is to start from the basics with open mind. It is important to realize that things that hold truth or a "common sense" in western Europe, might not be so in Lithuania, or contrary, things that seem worth destroying might actually turn out to be not too bad.

In Lithuanian we have a saying "Kuo giliau i miska, tuo daugiau medziu" (The deeper into the forest, the more trees you find). This means that the more you try to understand about the certain issue, the more problems or obstacles you find. This was the reality of this thesis project, thus it was crucial to have an analytical and design frameworks as well as a guiding theme that kept me on track.

With a bundle of problems identified in the analysis of the city of Kaunas my goal was to find out how to tackle unsustainable development patterns by focusing on: the city, the spatial planning system and the local governance.

Research question: What needs to be changed in Local Governance & Spatial Planning in Lithuania in order to achieve sustainable development of cities?

To answer this question, a design framework was created under a theme: "Policy by design". One hand, this thesis is about proposing changes in the policy of planning and governance, on the other, design of a specific place within a chosen theme and scale become an instrument to understand the relationships between all three aspects of planning and identify, where the necessary changes have to be done first.

During the research part of the thesis, different layers of the city of Kaunas have been explored. Research started with the station area of Kaunas, claiming that the place is run down but has a lot of potential to become a business, science and transit hub. The deeper into research I went, the more theory I read, the more I understood that the station area is not the right place to start. There are major issues in spatial planning and governance, moreover there is an urgent theme of post-war socialist housing that is relevant for the whole city and most post-socialist countries in general. This lead to an informed decision for the project location.

Sustainable development become a guiding theme to connect all aspects of planning, while the chosen design framework allowed to move forward systematically without getting lost.

The concept of sustainable development is clear and complicated at the same time. Deeper research into this topic led to an understanding how the concept can be operationalized and applied in spatial planning and design to reach the overall goal of sustainability. The institutional dimension is very important for achieving sustainability in cities. There has to be strong political will and institutional instruments to ensure that planning becomes a shared responsibility between the local administration, local representatives and the residents. Moreover, concept was a tool to connect the identified problems in the scale of the city and address them on a local scale.

Context for strategy and design proposals : post-war socialist housing estate district. This typology today houses over a half of the population in Kaunas, but receives the least attention from local authorities in terms of addressing their urgent spatial needs. Topic is relevant to most of the cities in Lithuania and beyond in the Eastern Europe. Spatial quality of housing estate districts have been reducing since the fall of the Soviet bloc. All apartments are privately owned by residents, while all land was kept by the municipality. This created a situation where residents expect local authorities to maintain the surrounding areas while municipalities invest very little for it and provide only the basic services like the minimum of street lighting, garbage bins in public spaces and maintenance of underground infrastructure.

After analyzing three references chosen based on the relevance to the context of Lithuania and different approaches they had towards reconstruction of post-war housing, it was concluded that there are four main strategies to address spatial problems in post-war housing districts: Demolition of worst quality housing and infill of new housing blocks (Bijlmameer), redevelopment of existing apartment layout and adapting them to current needs of residents (Tensta, Million houses program, Sweden), upgrading or public spaces and introduction of commercial and cultural program in the district (Marzahn, Berlin, Germany) and total reconstruction of the estate by adding communal program and additional floors, revision of apartment layouts and upgrading direct public space in front of the building (Pimavska Sobota, Slovakia).

The pilot project was based on the strategic sustainable development guidelines and a mix of solutions from the reference projects. The goal of the pilot project was to find best proposal for diversification of the area. To introduce new urban fabric, good mix of housing units sizes and public program in the open spaces around the housing blocks (avoiding developments inside the blocks). It was important to eliminate the boundaries that created severe fragmentation between neighborhoods and at the same time embrace the existing

qualities of the area.

Traffic free neighborhood with open green spaces and important social amenities at the walking distance in the post-war housing estate districts are very valuable and lacking in suburban or inner city developments. Local population in the project area is diverse (from different economical, educational background and different age groups), people with similar interest form communities and organize local events. On the other hand, squatter parking, waste management and public safety are big issues. Old buildings are not energy efficient and renovation program is struggling to find its way to the project area. Renovation of the building would reduce energy consumption for heating up to 60%.

Demolition of existing prefab buildings is economically unfeasible and socially dangerous. Real estate value is not that strong in the area that it would be profitable for anybody to buy out the apartments from current residents, demolish and built new. Moreover, quality of the structure of the building is still in a good shape, thus it would be wasteful in terms of energy to destroy materials that already used lots of energy to be created, than use energy to demolish, use energy to create new materials and built an new building.

In terms of social structure, for the moment, the mix of residents is very good but in general urban system is fragile. There are two types of housing (prefab of suburban villas), all estates were built at the same time and all grow old within the same paste. People do not have an alternative. Diversification of urban fabric would create a more sustainable urban life-cycle and actually make demolition possible in the future.

The position of the pilot project proposal was to keep the estates (but reconstruct them and the neighborhood block), embrace modernist bigness and without major interventions in the estate territory, create an attractive public space. The old estate is to be surrounded by the new urban structure with the mix use functions, middle height, diverse housing sizes, good connection to the surrounding neighborhoods.

Development guidelines have been proposed along with development scenarios for the building, the courtyard, the public spaces and the new developments.

The design project revealed that problem of participation and representation of local needs is deeply rooted in the governance and decision making system of the municipality. The administrative structure of the municipality is very fragmented, there is a lack of coordination between different departments that all deal with the urban fabric of the city. Eldershops, that are the lowest level of the government, working directly with local communities are completely disconnected from planning activities and in general have no power to represent the locals but rather are an informant of municipal decisions to the residents.

Project proposal suggest to reorganize the administration structure of the municipality. Eldership administration comes closer to the city council, is in direct contact with the director of the administration and has better connection with all the departments of municipality. Eldership administrative structure consists of eldership council and administration. For the moment municipality is responsible for giving a vision, guiding, implementing, supervising, etc. while the proposal suggest to share these responsibilities with the eldership.

With this in mind, modified spatial planning policy is a following part of the thesis. Project proposes to move away from zoning and go towards direction of guiding. This has to be reflected in the planning documents too. Municipalities role is to shape the direction of the development of the city while eldership with the local community, implements it through eldership strategic plans and location development plans. Procedural and development safeguards are established ensuring correct use of the new responsibilities and powers.

To all in all, the brief answer to the research question is:

In order to achieve sustainable development of cities in Lithuania, local governments have to take the role of guiding the urban development rather than controlling and restricting it. First, adapting a new way of planning that allows for addressing the local needs, is flexible but has restrictions safeguarding from initiatives that are not in the best interest of the public, and is inclusive. Development of the city is a shared responsibility, thus elderships have to gain power from municipality to be included in spatial planning activities, but at the same time, local authorities have to work a lot on capacity building for their personnel, NGO's and community representatives to ensure an efficient dialogue based on understanding, transparency and informed decision making. Civil society would be strengthened by simply giving a chance to have a say in local decisions. Strong civil society demands for quality, transparency, equity. It redefines what is the public interest in city development is and has capabilities to defend it.

PROBLEM FIELD:**UNSUSTAINABLE DEVELOPMENT PATTERNS:**

- SPRAWL
- OVERDEVELOPED ROAD NETWORK
- ISOLATION OF RESIDENTIAL HOUSING ESTATE NEIGHBORHOODS
- INVASION OF BIG SCALE COMMERCIAL CENTERS TO THE CITY
- NEGLECTED HOUSING ESTATES
- SACRIFICE OF ENVIRONMENTAL ASSETS FOR ECONOMIC ACTIVITY

SOCIAL PROBLEMS:

- DECREASING PUBLIC HEALTH
- WEAK CIVIL SOCIETY

GUIDING THEME**SUSTAINABLE DEVELOPMENT (SD):**

- SUSTAINABLE DEVELOPMENT IS A GENERAL GOAL THAT NEEDS DEFINITION OF PRACTICAL MEASURES AND USE OF OPERATIONAL TOOLS TO IMPLEMENT IT;
- STRONG POLITICAL COMMITMENT IS ESSENTIAL PART OF IMPLEMENTATION
- ITS AN INTERSECTION OF ENVIRONMENTAL, SOCIAL AND ECONOMIC ASPECTS
 - TOOLS TO IMPLEMENT SD ARE CONTEXT DEPENDANT
 - SUSTAINABLE DEVELOPMENT IS THE PUBLIC INTEREST

PROPOSALS**VALUES FOR SUSTAINABLE DEVELOPMENT:**

- CONTAINMENT
- RECYCLING
- DIVERSITY
- ACCESSIBILITY

Application of these values to the urban form of the city allows to tackle all the unsustainable development patters that have been identified in the city.

Through containment of urban footprint of the city it is possible to identify potential development areas in the city. This provides an alternative for people to choose living inside the city, with good access to public transport, social amenities, enables to be a part of a local community.

Recycling is understood as reuse of underdeveloped land, wide roads that can be downgraded, reuse of post-industrial sites and ability to do developments in post-war neighborhoods that at the moment have wast areas of unused green spaces.

Diversity means addressing both programmatic,

housing and transport issues in the city. Areas with least diverse urban fabric are identified, like the post-war neighborhood where strategic guidelines and pilot project is proposed. The strategy itself proposes different ways to introduce missing program in the area and to enhance qualities of the existing program.

Accessibility is the aspect that connects several levels of the urban development. Project suggests to address issues of public space, proposing ways to identify the needs and habits of target groups in the city. Diversification of program throughout the city would allow people to have their work and necessary commerce in a close proximity. Accessibility also means being able to participate in the governance of the city, influence decisions, fight for their rights. This is a crucial point to strengthen the civil society and local governments liability to the citizens.

PROBLEM FIELD:**SPATIAL PLANNING:**

- MAIN FUNCTION: ZONING
- DEPENDANT ON NORMS AND STANDARDS
- WEAK COORDINATION BETWEEN PLANNING DOCUMENTS
- PUBLIC INTERESTED = DEMANDS OF INTERESTED PUBLIC

PROPOSALS

Project proposes to move away from zoning and go towards direction of guiding. This has to be reflected in the planning documents too. Municipalities role is to shape the direction of the development of the city while eldership with the local community, implements it through eldership strategic plans and location development plans. Procedural and development safeguards are established ensuring correct use of the new responsibilities and powers.

PROBLEM FIELD:**LOCAL GOVERNANCE:**

- FRAGMENTED STRUCTURE OF MUNICIPAL ADMINISTRATION
- ELDERSHIPS ARE ONLY FORMAL REPRESENTATION OF LOCAL COMMUNITIES
- PUBLIC PARTICIPATION IS A FORMAL CONSULTATION PROCEDURE
- MISUSE OF EUROPEAN STRUCTURAL FUNDS

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CIVIL SOCIETY:

- CITIZENS DISTRUST LOCAL AUTHORITIES
- CIVIL SOCIETY IS WEAK AND FEELS THAT IT HAS NO CONTROL
- CONSTRUCTION AND PLANNING PROCEDURES ARE PERCEIVED AS LEAST TRANSPARENT AND UNRELIABLE

PROPOSALS

Project proposal suggest to reorganize the administration structure of the municipality. Eldership administration comes closer to the city council, is in direct contact with the director of the administration and has better connection with all the departments of municipality. Eldership administrative structure consists of eldership council and administration. For the moment municipality is responsible for giving a vision, guiding, implementing, supervising, etc. while the proposal suggest to share these responsibilities with the eldership.

Eldership administration with the help of urban planners manage stakeholders, public interests and municipal guidelines. New decision making model gives eldership a stronger position to negotiate and have public value capturing from new developments.

Ensured transparent spatial planning and governance process would help regain public trust and get people more involved and initiative about problems in their environments.

THEME AND CASE STUDY

The project was carried out within the Design of urban fabrics and spatial planning and strategy research groups. During the graduation I have tried to connect aspects of spatial planning and strategy with small scale design interventions, strategic guideline and decision making model proposals.

Location for graduation – Kaunas, Lithuania. Lithuania is one of the countries that have been for 50 years a part of a communist block. 50 years of central planning and plan economy highly influenced the form of cities, traditions of spatial planning and the habits of people to use space. After becoming independent, cities went through a complex period of transition from communist ideology to free market economy and neo-liberal ways of living. Problems in Lithuanian cities seem to be similar to those in Western Europe (sprawl, commercialization, car oriented planning) but the context for these problems are very different.

The clash of different ideologies can be clearly seen in communist housing estates in Lithuania. Places do not receive enough attention from local authorities and are victims of market led planning. Ironically, places that have been designed under a socialist ideology provided housing, social infrastructure, public spaces while new interventions in an independent country are increasing fragmentation, allows large scale commercial developments to occupy parks and valuable public spaces, there are no improvements of housing stock, areas are surrounded by wide roads with no street life. As if 'the enemy' cared about local communities more than representatives of free society.

With research I have tried to understand where Lithuanian Spatial Planning policies and the governance model went wrong and what aspects of it that can be used to get back on track and provide a sustainable future for citizens of Kaunas. The theory of sustainable development is the guiding theme of the whole research and design. This was chosen when trying to understand what the country is actually transitioning to, hoping that current way of using and planning space is not the end stop. Post-war socialist housing is a case study for which theory will be applied to.

The research question was formulated from the problem definition and guiding theoretical framework: What needs to be changed in Local Governance & Spatial Planning in Lithuania in order to achieve sustainable development of cities?

RESEARCH AND DESIGN

The research done during the beginning of graduation consists of analysis of the current spatial patterns of development in Kaunas and spatial characteristics of post-socialist transitional cities. Moreover, research on Lithuanian Law of territorial planning gave a general understanding of the policy structure and influence over the built environment and conclusions from this part of research suggested the scale on which possible project could be carried out on. Furthermore, research on the sustainable development concept followed by the evaluation of sustainability of Lithuanian cities and policies, provided tools for the operationalization of the concept of sustainable development which is later used throughout the design proposal.

Applying values of sustainability on the urban territory of Kaunas led to an informed choice of the case study location. After project location was chosen, a broad analysis on its spatial and the social issues was carried out.

The aim of the research was to understand the problems and values of the place and also compare it to current planning documents that determine in the area. As the area is a post-war neighborhood, references of other post-war housing areas in Stockholm, Amsterdam, Berlin and Petrzalka were analyzed.

The design task represents the coming together of multiple lines of research: from understanding and embracing the local qualities to applying sustainability values in the form of strategic guidelines. The final objective of the project was through design to set guidelines and later test them on the local scale - the new scale in Lithuanian law of territorial planning: The detail plan of the neighborhood (new planning document type since 2014:). The final result is to provide insight on possible changes in spatial planning and governance that would help develop the city in a more sustainable way.

Design was done in two scales:

First: Strategic guidelines for the whole territory of the post-war neighborhood. Based on these guidelines design on the neighborhood scale is done:

Second: Design of the neighborhood. Reacting to case study conclusions and the current development patterns in post-war neighborhoods, a position was taken to both embrace existing qualities of modernist housing estates and diversify surroundings by bringing in the city and local landscape. Public space becomes the binding element joining the new and old together.

METHODICAL LINE OF APPROACH:

Methods chosen for the graduation project:

- Policy analysis (Laws and Norms versus implementation and spatial development patterns of the city),
- Understanding historical context and how it influenced culture and lifestyle of people in Lithuania
- Understanding of the general concept of Sustainable development, operationalization of concept through selection of core values;
- Proposal of guidelines strategy for selected context;
- Acting across scales: while applying strategy and proposing design interventions
- Reflecting what changes are necessary in current planning policy so that proposed interventions could be implemented.
- Testing new scale in Lithuanian planning

THE RELATIONSHIP BETWEEN THE PROJECT AND THE WIDER SOCIAL CONTEXT

Investigating the issue of spatial planning of post-war neighborhoods and how it influences the provision of the sustainable environment is relevant in several aspects. On one hand, the majority of residential neighborhoods in Lithuania that host the largest number of people are the post-war socialist housing estates. They are altogether neglected by local authorities and if the living quality in those areas continues to decline, people will choose to move out and this can lead to major social problems. There is a necessity to find ways to adapt these areas to current needs of people so that they could continue housing people for the upcoming 100 years.

The issue of territorial planning and governance is relevant to Lithuanian cities in general. All areas: suburbs, inner cities and post-war housing areas are planned without coordination or understanding of local needs. Planning is based on standards and norms. The new scale introduced in the current edition of the Law of territorial planning gives opportunity to explore possibilities of planning locally. A strong planning process would ensure more sustainable development patterns, therefore sustainable future.

Sustainable development is the theme that is evident in most planning and strategic documents. Despite that, it remains too abstract to be realized or provides guidelines for rural areas while not considering cities. Therefore, operationalization of the concept and providing application of it throughout several scales, can give a more usable model of application of important values to actually achieve sustainability of developments.

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