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PORTFOLIO

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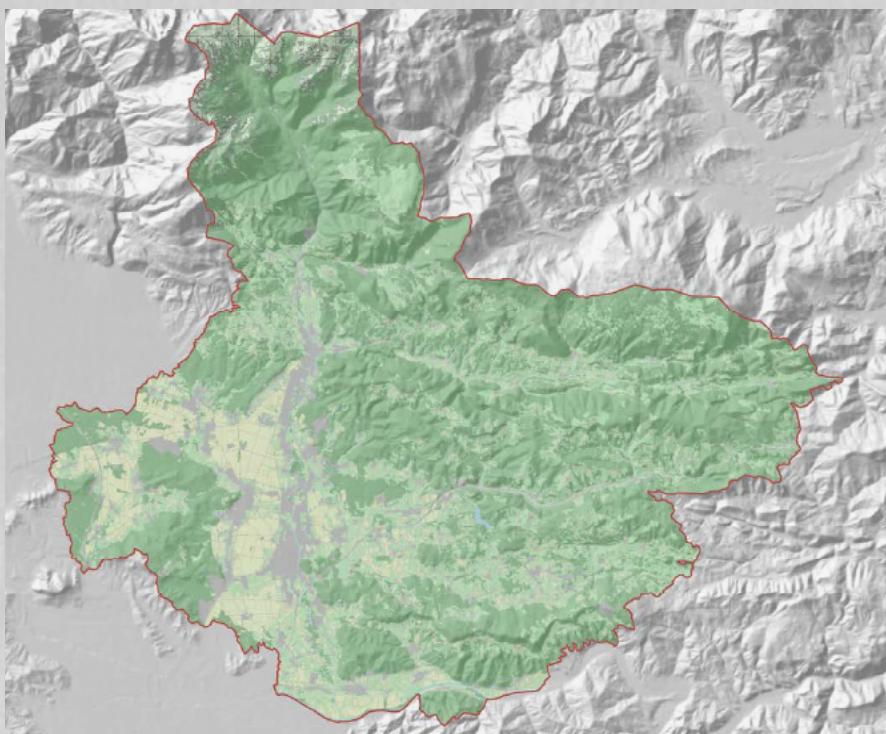
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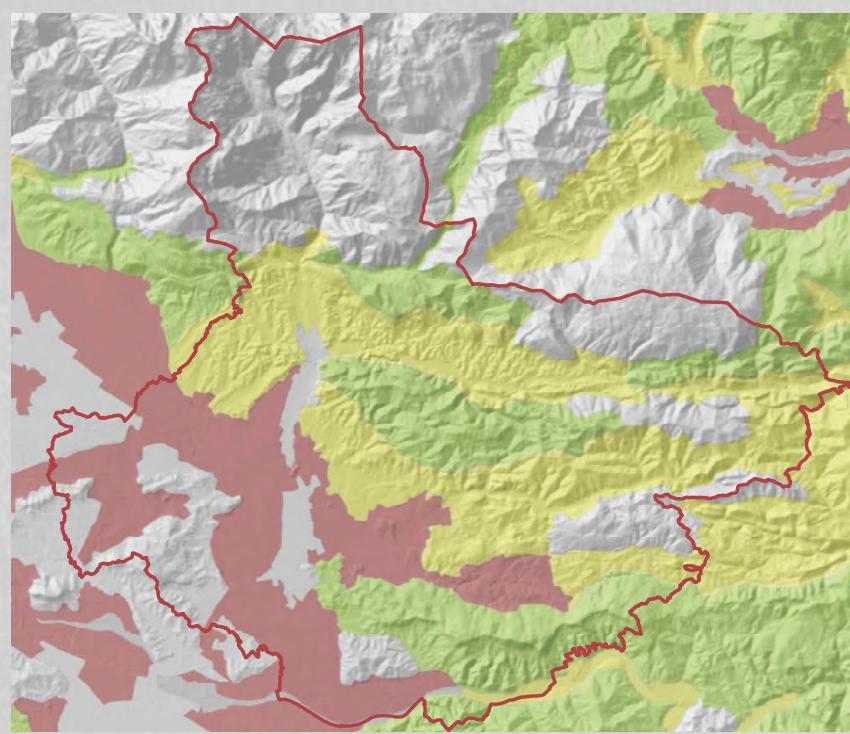
1 REGIONAL SCALE

VISION FOR NORTHERN PART OF LJUBLJANA URBAN REGION

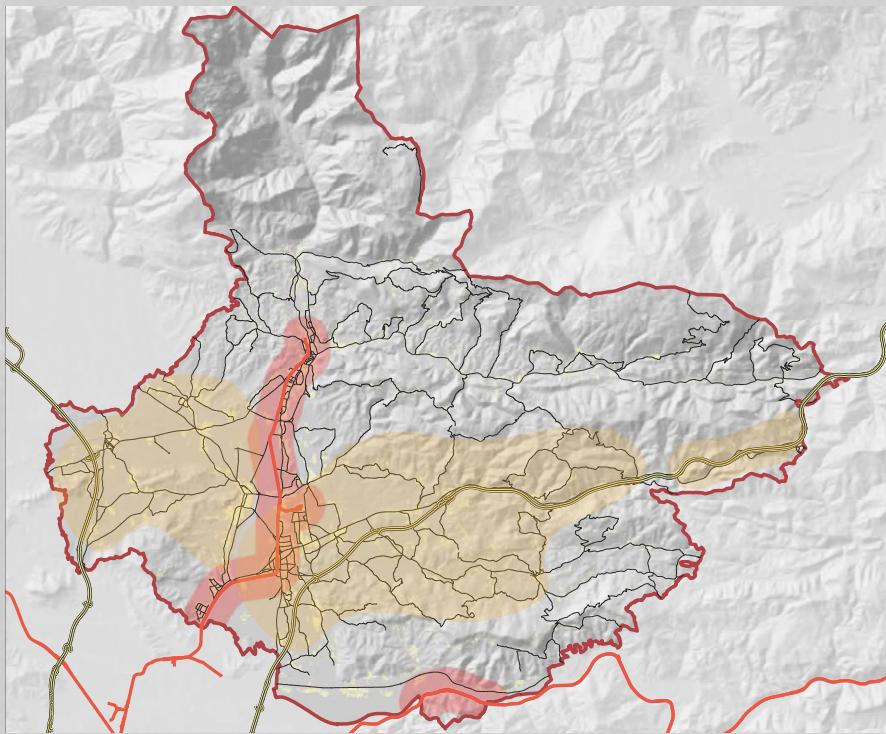
In the project I developed a strategic development plan for the northern part of Ljubljana Urban Region. As the local authority's agenda for the region is to function as independently as possible from the city of Ljubljana, I identified the development possibilities through various spatial and demographic analysis. For the region to function independently, it needs to strengthen its regional center in the south-west. Since one of the Slovenia's best agricultural land is located in the region, it is crucial that it stays undeveloped. That being said, the economy of the region should be based on agriculture and biotechnology. Local authorities should encourage tight cooperation between local companies, farmers and Faculty of Biotechnology, which is based in the region.



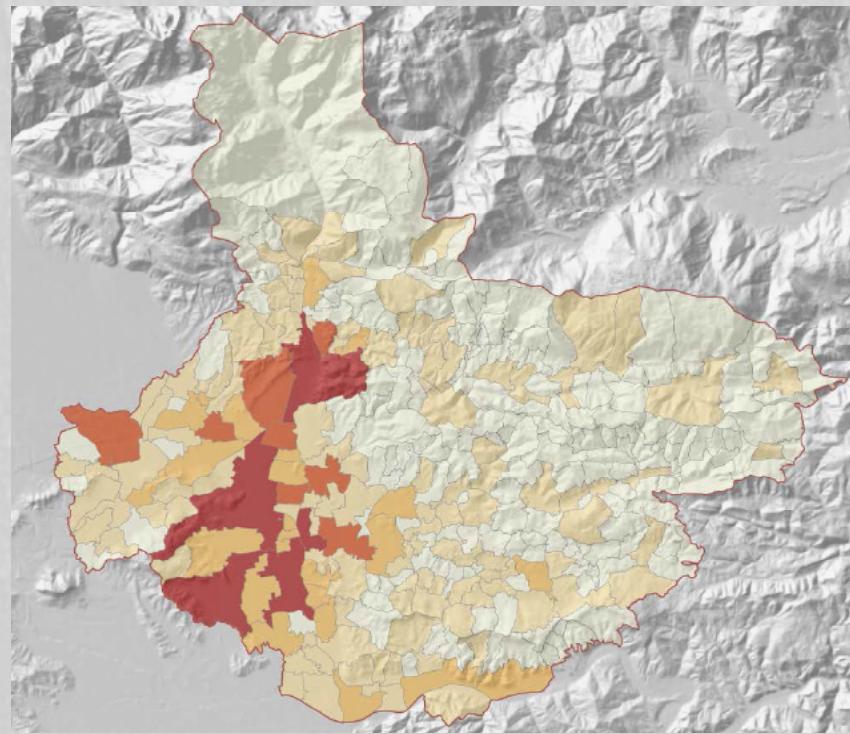
Land coverage



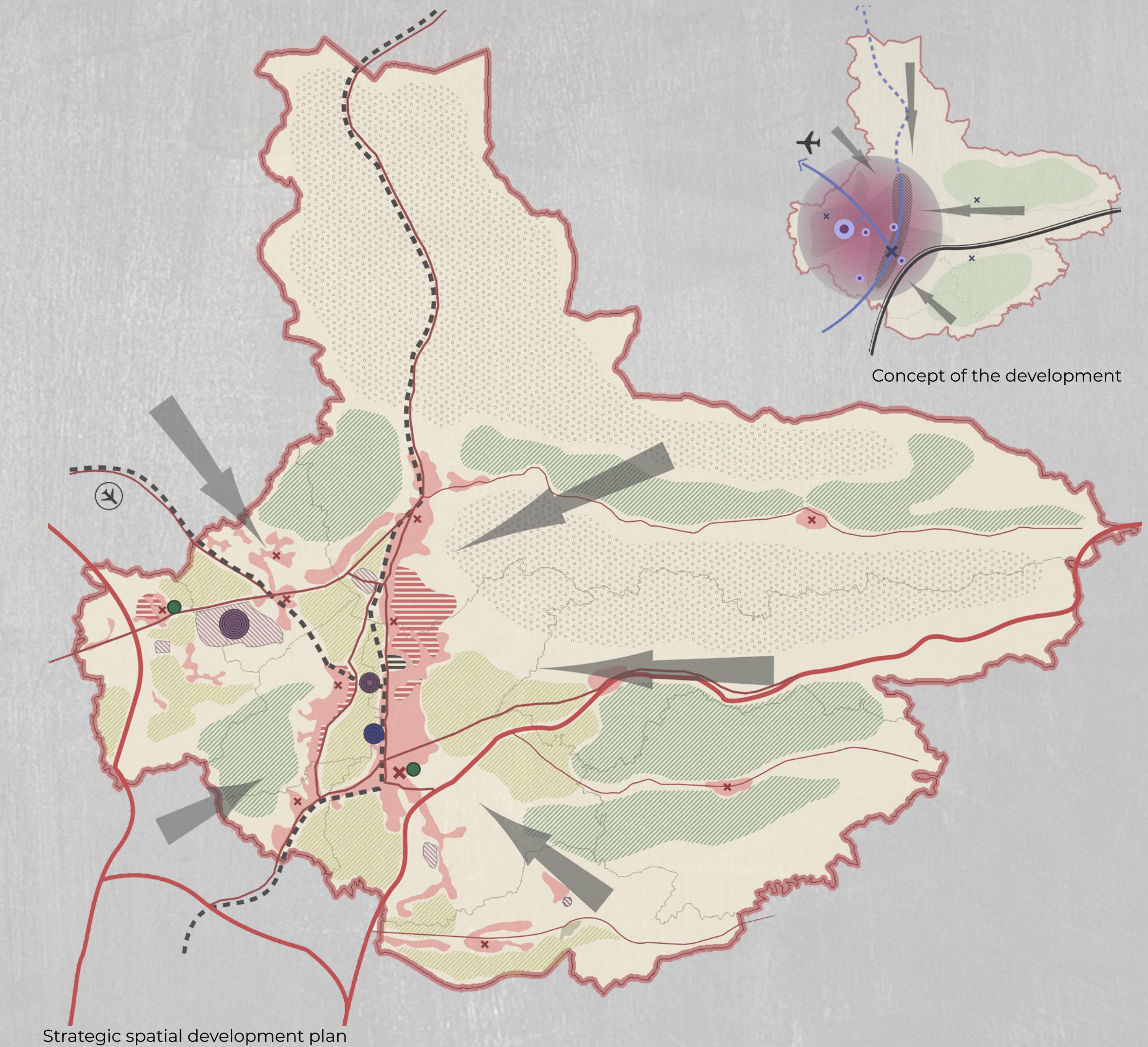
Important agricultural zones



Rail and road network accessibility



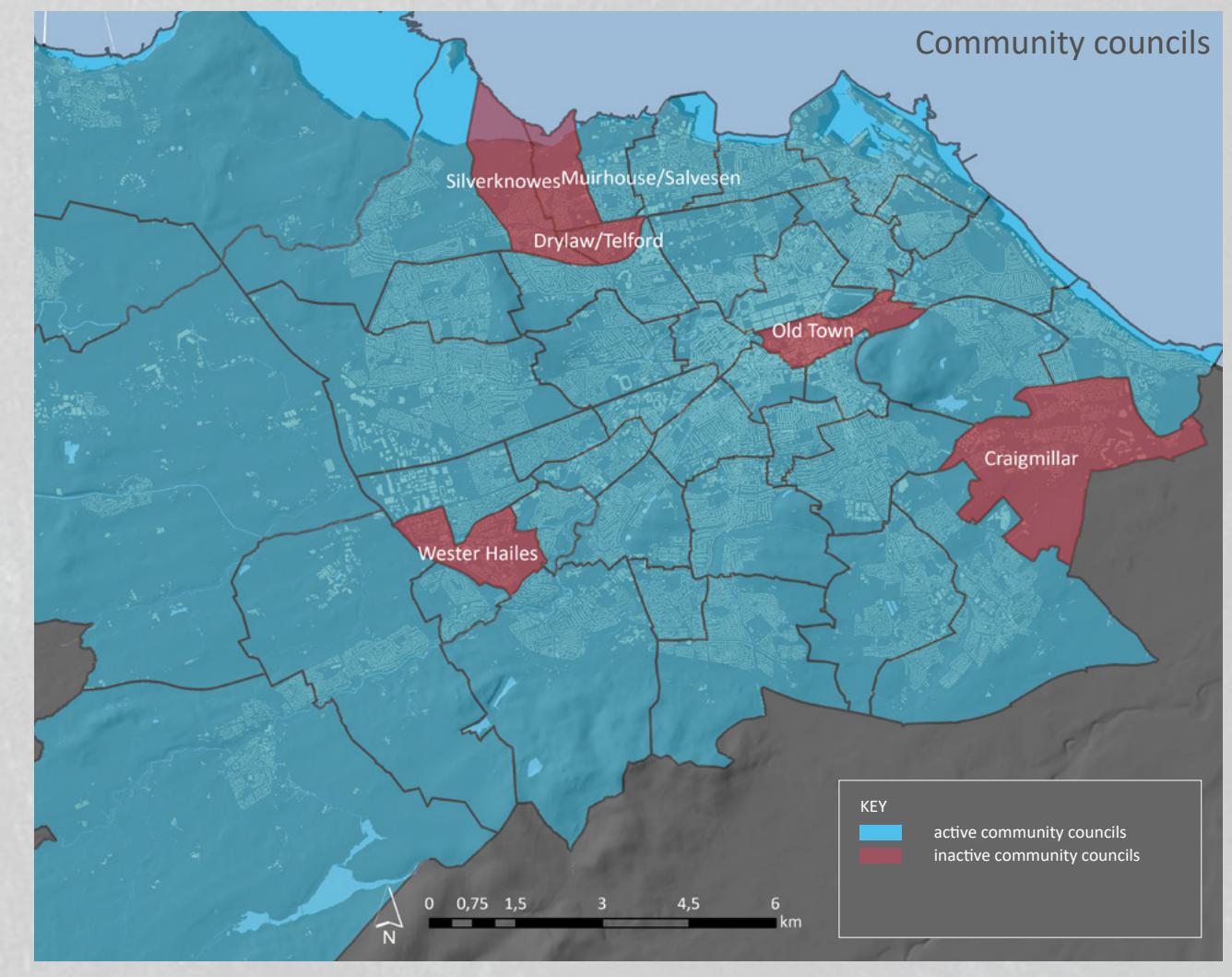
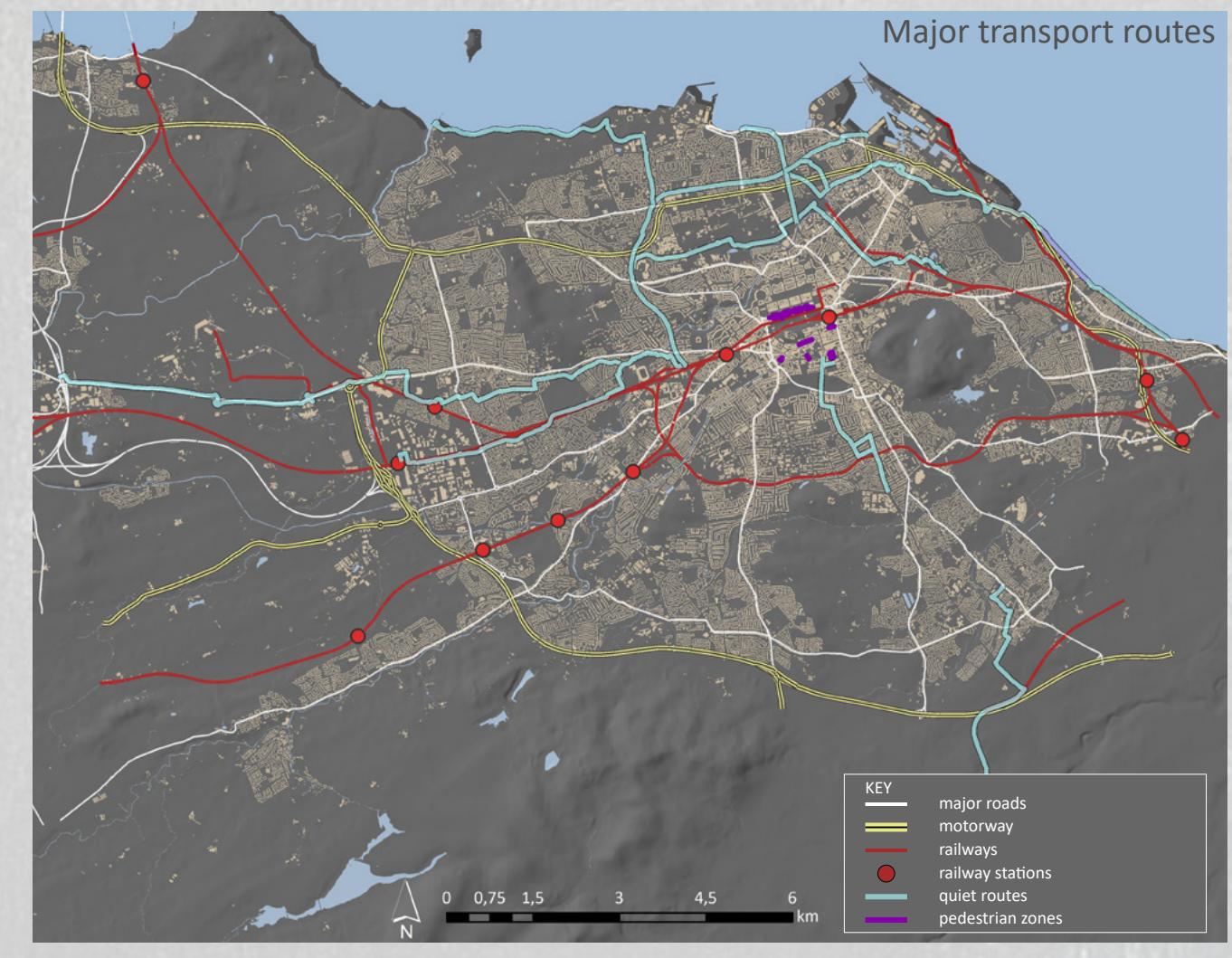
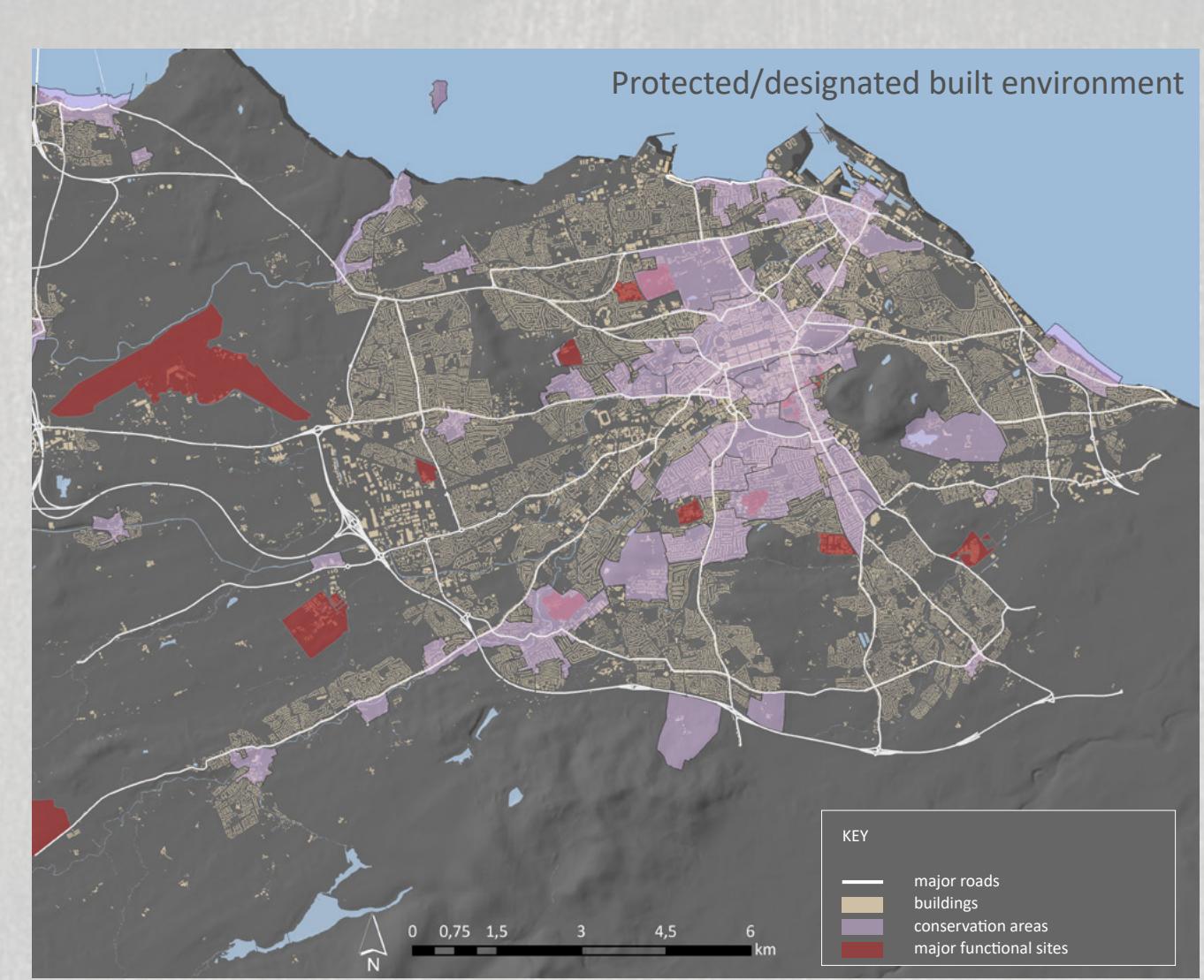
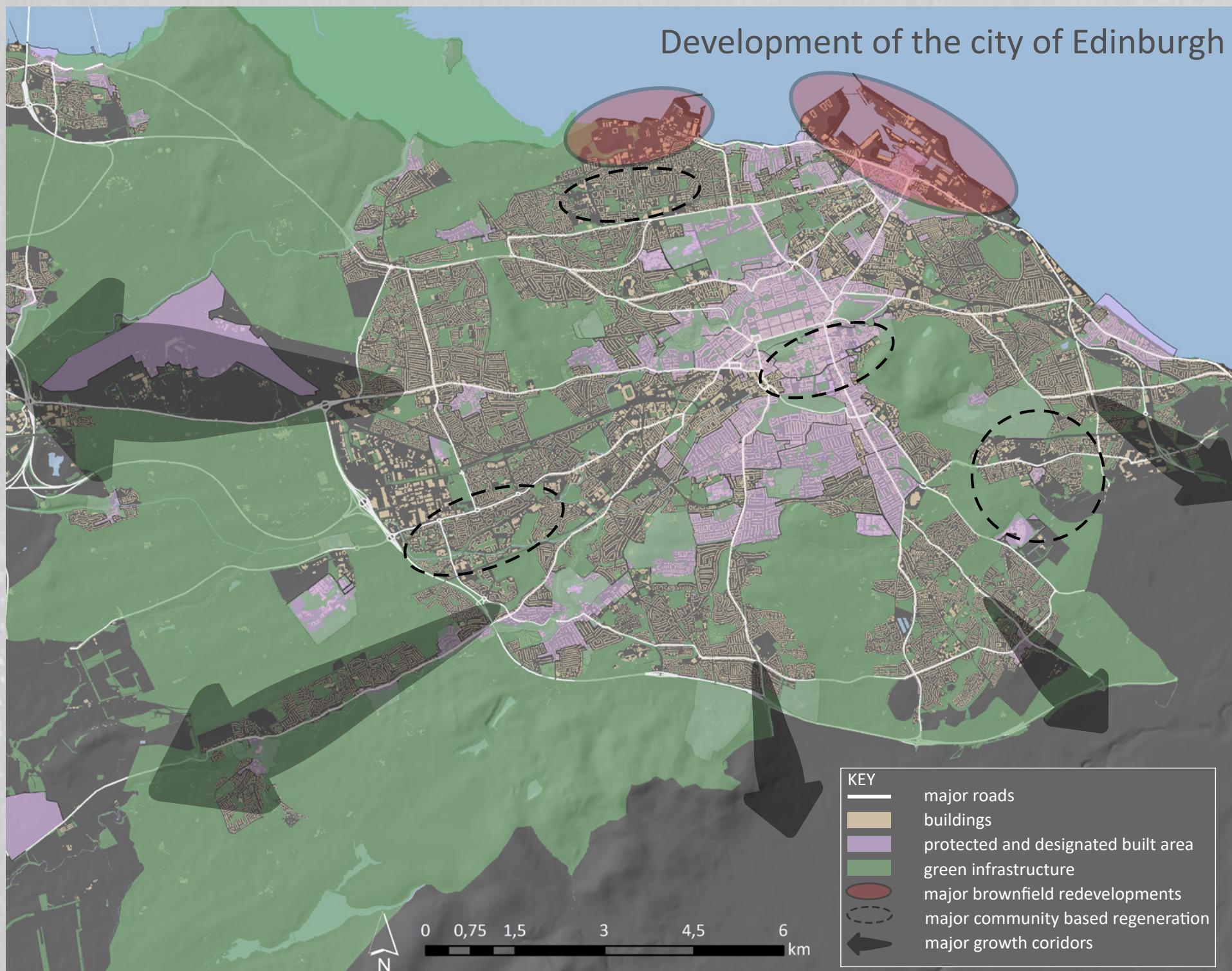
Population distribution



1 CITY SCALE

ALTERNATIVE SPATIAL VISION FOR THE CITY OF EDINBURGH

In the project, an alternative spatial vision for the city of Edinburgh is proposed. The concept of green belt around the city is replaced by the TOD (transit oriented development) concept, similar to that of Copenhagen, where the city grows along the transit corridors, allowing undeveloped wedges of greenery to penetrate in the city, thus ensuring green space accessibility and sustaining bio diversity. While the growth alongside transit corridors is desirable, development inside the motorway ring should be prioritized, especially redevelopment of brown fields, community based regeneration and filling of gaps in urban fabric.

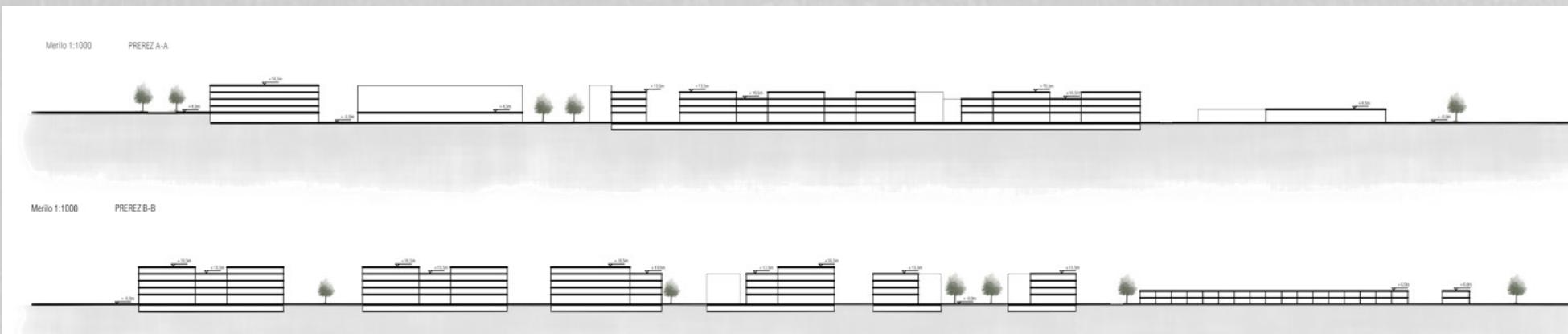


2 MASTERPLANNING

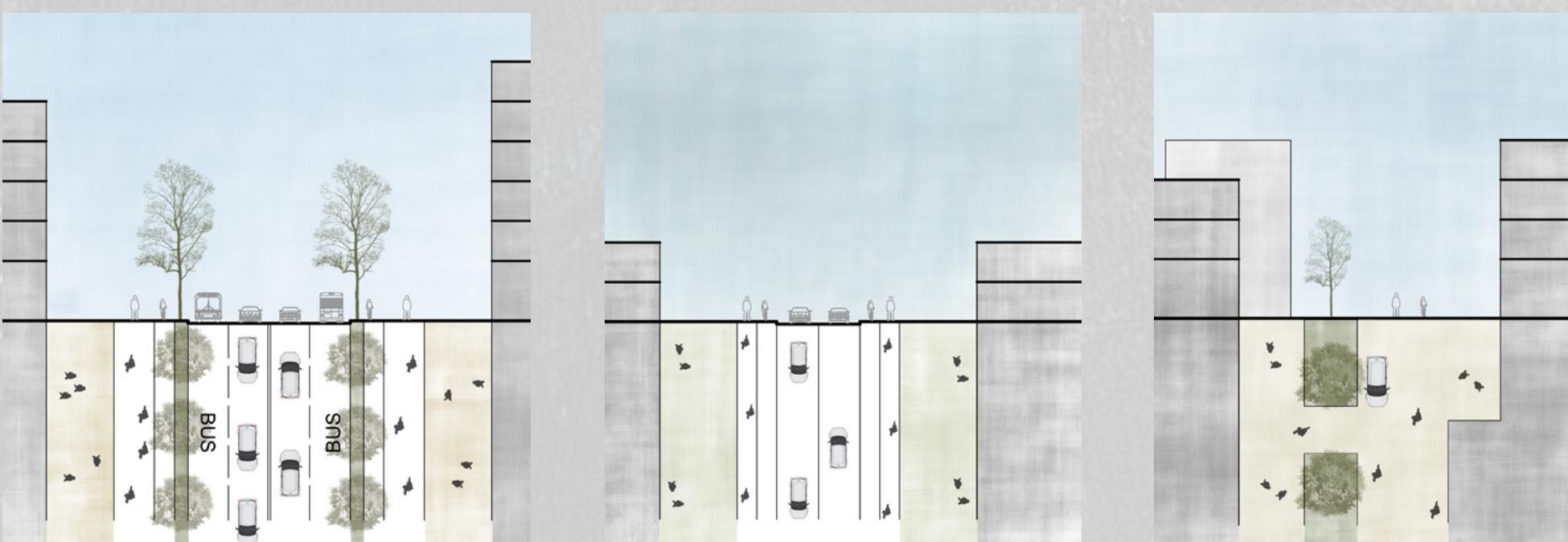
The masterplan for the neighborhood was designed to achieve relatively high density, while also respecting the surrounding context of mostly individual housing. With that in mind, density gradually drops from west, towards the east part of neighborhood, and from the south towards the north. In the northern part of the neighborhood alongside the river, former brownfield is converted to the leisure and recreational area, with few buildings being redeveloped as indoor recreational facilities.

Commercial activities and ammenities for locals are mostly concentrated in the southern part of the neighborhood. Street network is strongly oriented in the south-north direction to drag people towards the green and recreational spaces alongside the river.

SECTIONS



ROAD PROFILES



Main road profile

Local road profile

Shared space profile

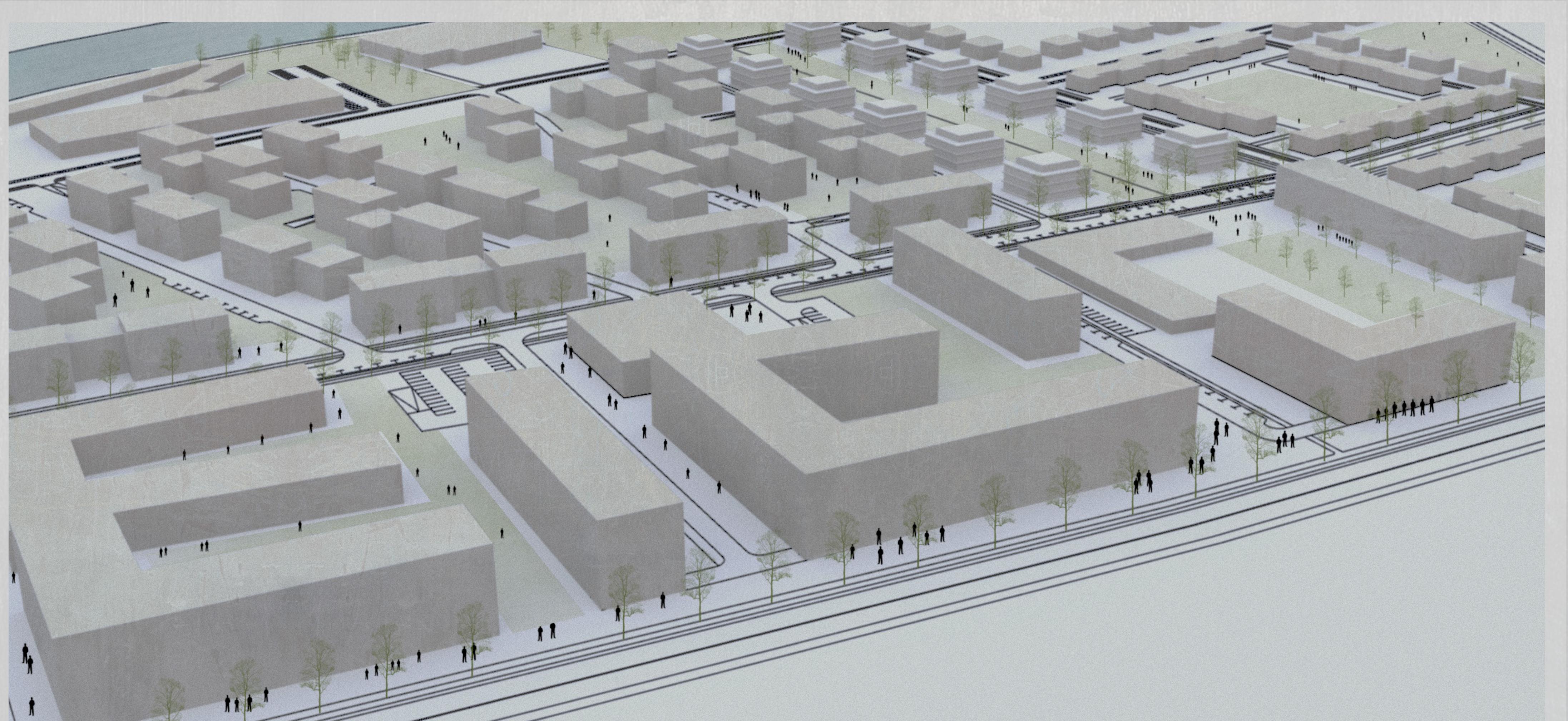
SITE PLAN



2 MASTERPLANNING

NEIGHBORHOOD IN SOUTH-EASTERN PART OF THE CITY OF LJUBLJANA

3D MODEL OF THE MASTERPLAN



3 PARAMETRIC DESIGN

ADJUSTMENT OF URBAN FORM, USING BUILDING FOOTPRINT AS LEADING PARAMETER

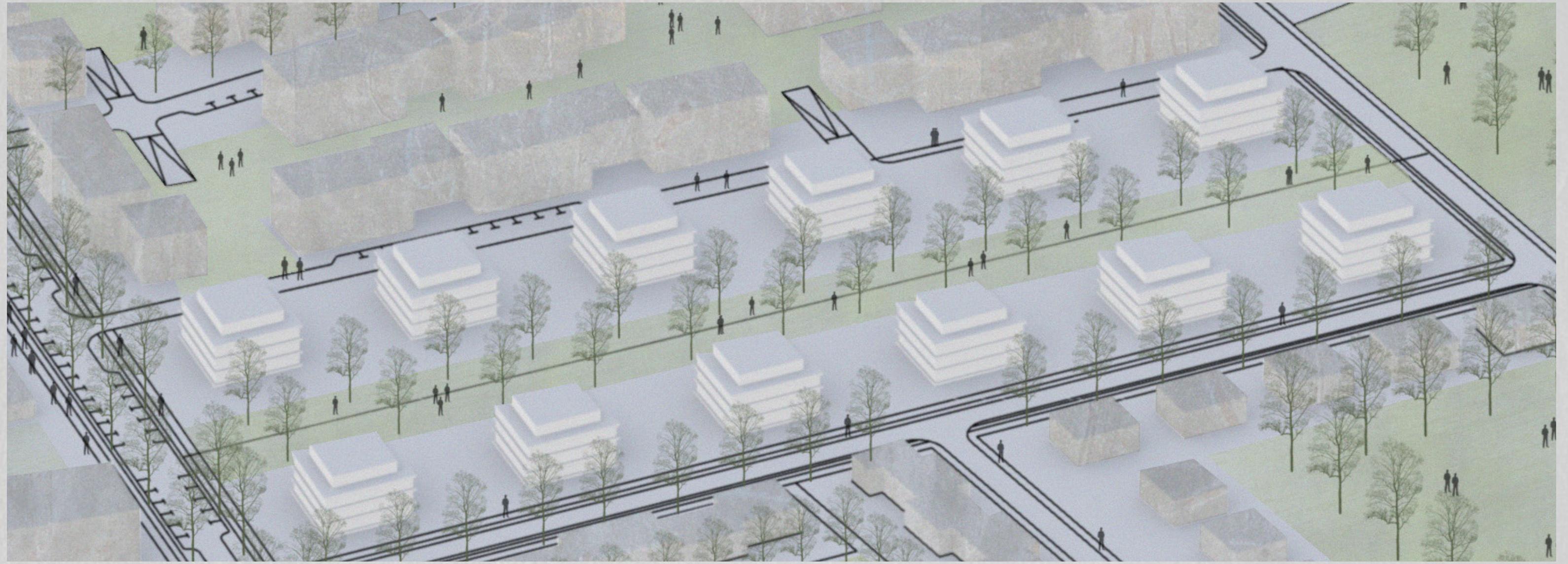
Parametric model is based on one of the urban blocks from the masterplan on the previous two pages. Through the middle of the urban block passes a green corridor which divides the block in two lines of buildings. Building type used in this case in an urban villa.

The goal was to create a flexible, responsive 3D model, with which the building footprint and floor area ratio can be verified and adjusted to a desired value. When the desired building footprint is set, other parameters can be adjusted, while the building footprint remains unchanged.

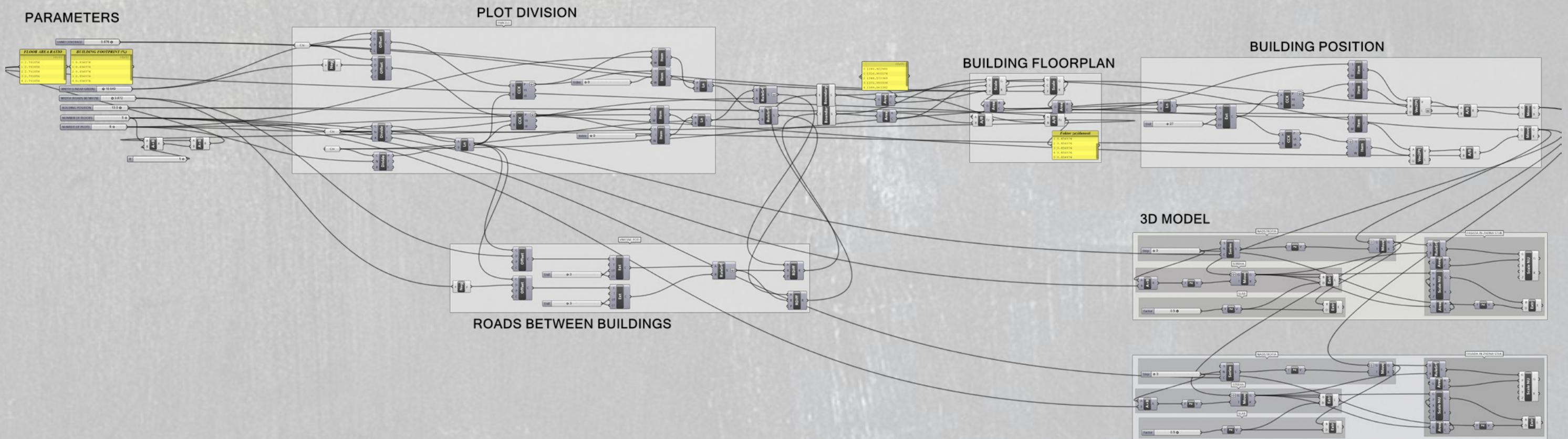
ADJUSTABLE PARAMETERS

FLOOR AREA RATIO	LAND COVERAGE	0.634
BUILDING FOOTPRINT (%)		
{0;0}	{0;0}	
0 2.00978	0 0.401956	
1 2.00978	1 0.401956	
2 2.00978	2 0.401956	
3 2.00978	3 0.401956	
4 2.00978	4 0.401956	
WIDTH (LINEAR GREEN)	10.640	
WIDTH (ROADS BETWEEN)	3.872	
BUILDING POSITION	13.0	
NUMBER OF FLOORS	4 ♦	
NUMBER OF PLOTS	6 ♦	

3D MODEL



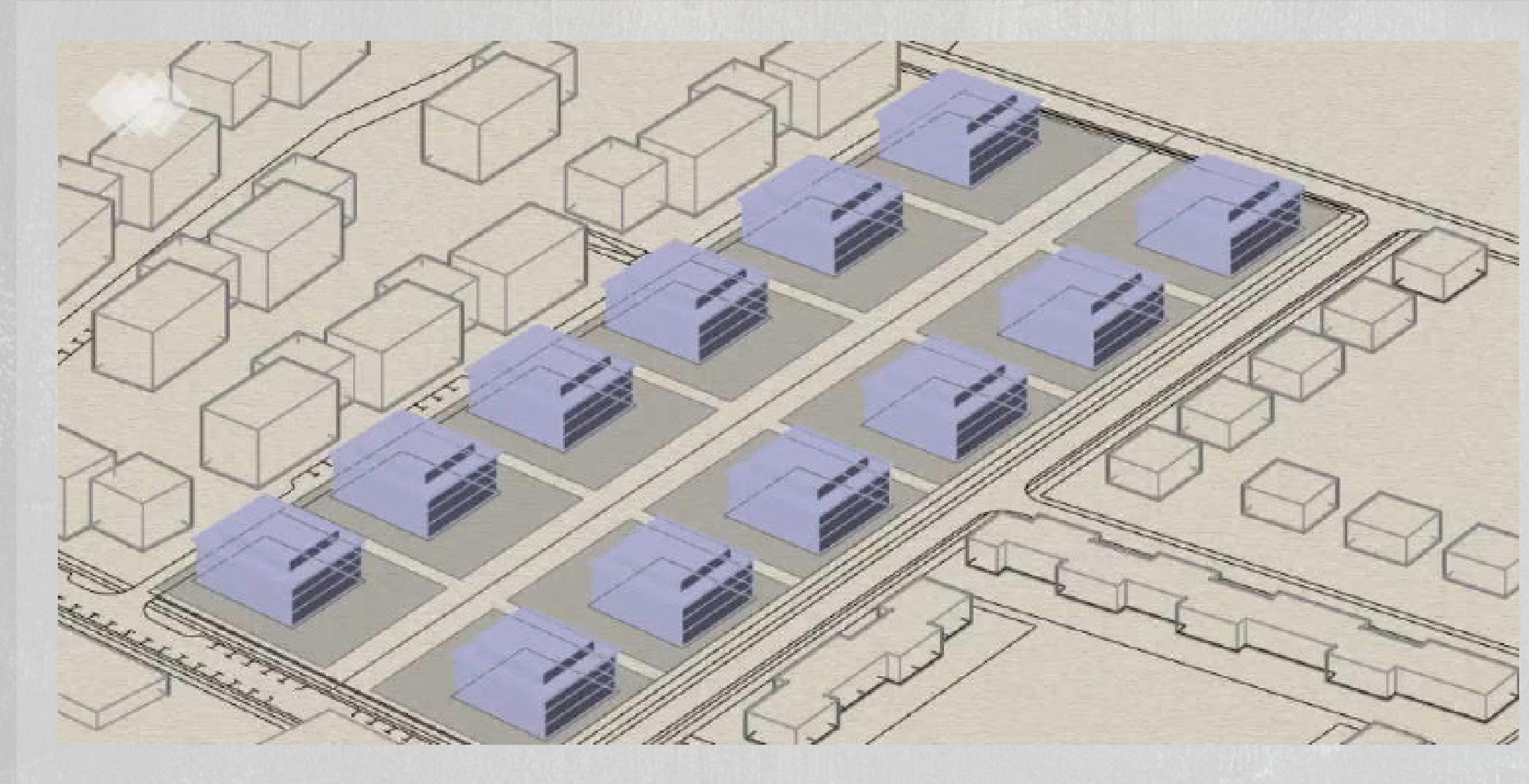
PARAMETRIC ALGORITHM USED TO CREATE A 3D MODEL



3 PARAMETRIC DESIGN

ADJUSTMENT OF URBAN FORM, USING BUILDING FOOTPRINT AS LEADING PARAMETER

ANIMATION: ADJUSTING PARAMETERS, WHILE KEEPING UNCHANGED BUILDING FOOTPRINT



[For the animation to work, Adobe Flash Player is required.]

4

URBAN REGENERATION AND BOTTOM-UP APPROACH

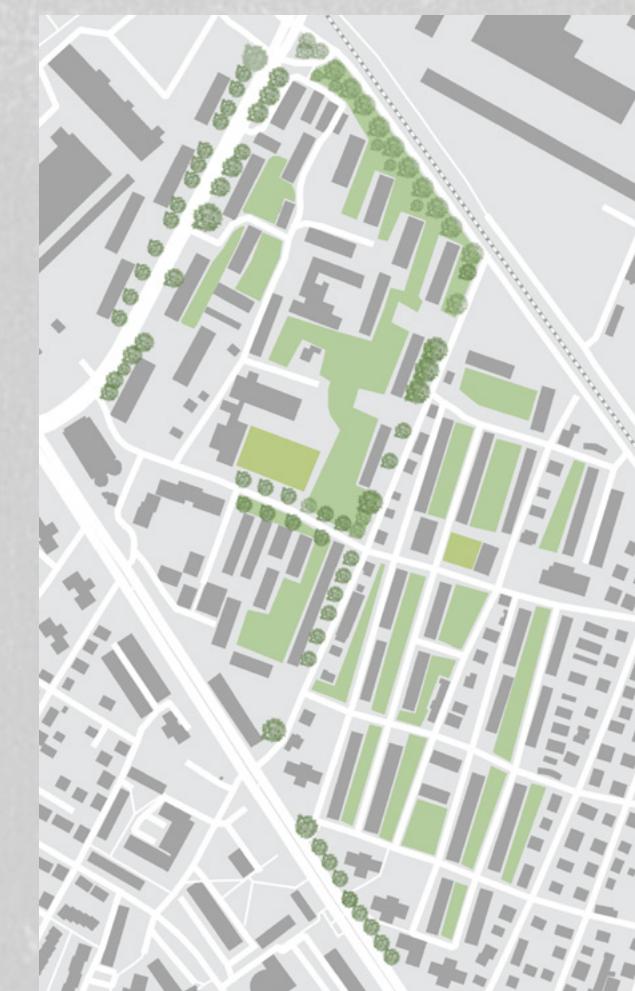
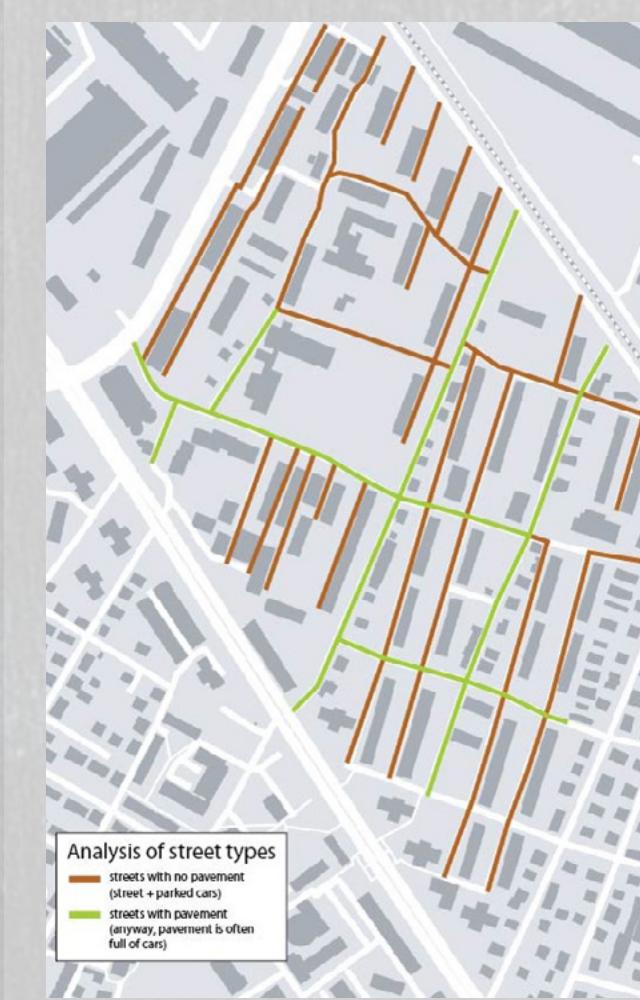
/ LITOSTROJ NEIGHBORHOOD REGENERATION

The goal of the neighborhood regeneration was to bring back the vibrant public life in the community, which was gone due to low maintenance of the public spaces, and to increase the accessibility of public transport.

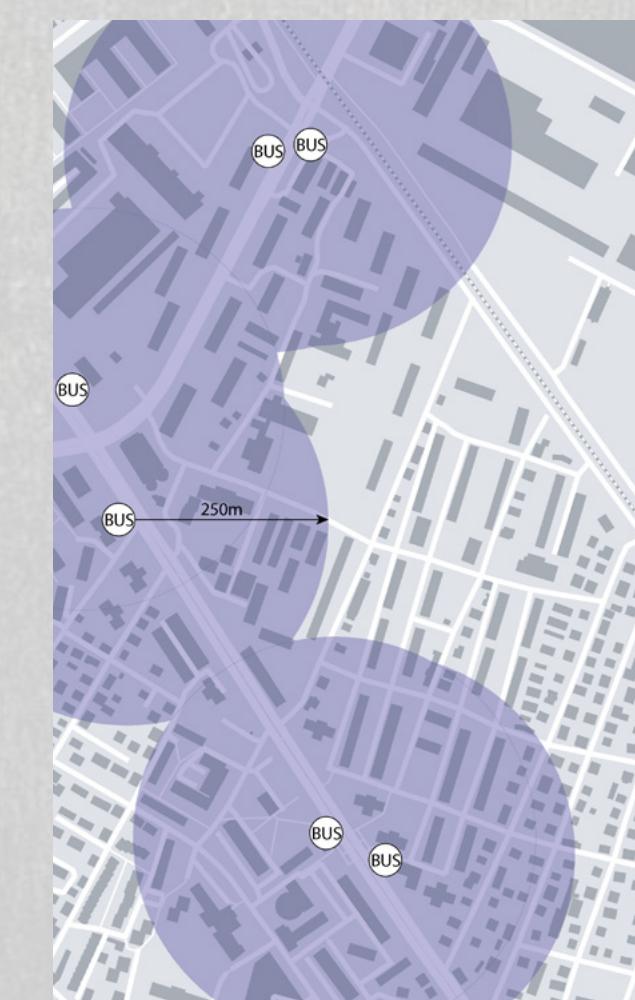
The idea was to create a hierarchy in the space, converting the road in the center of the neighborhood to a shared space, connecting existing points of interest and potentially adding new ones where possible, while also improving the quality of green spaces and road pavement. To improve public transport accessibility, a new bus stop was added, resulting in all housing units to be within 250m radius from the bus stop.



Sketch of thriving public life in the community



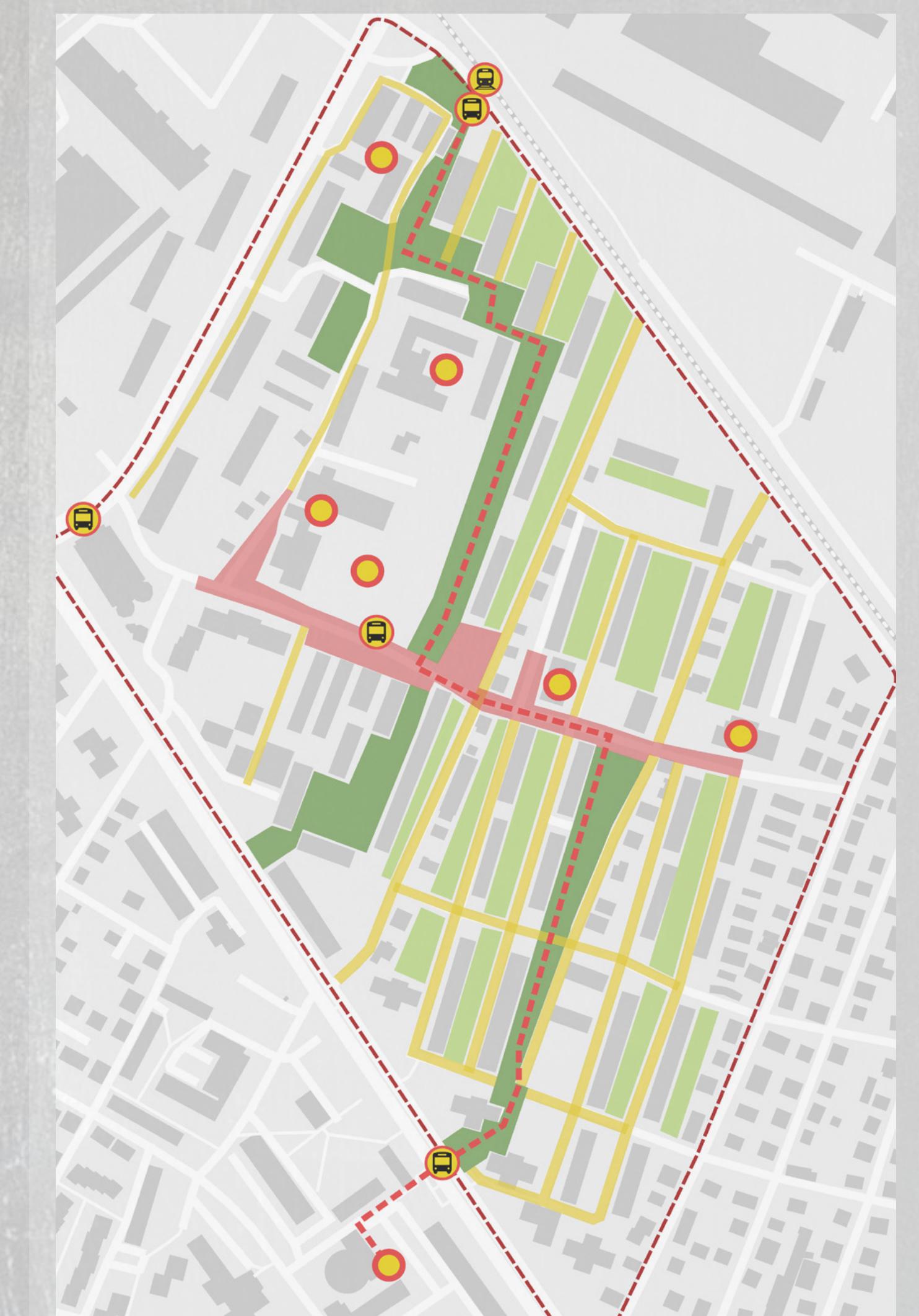
Analysis of green spaces



Analysis of public transport accessibility



Photo analysis

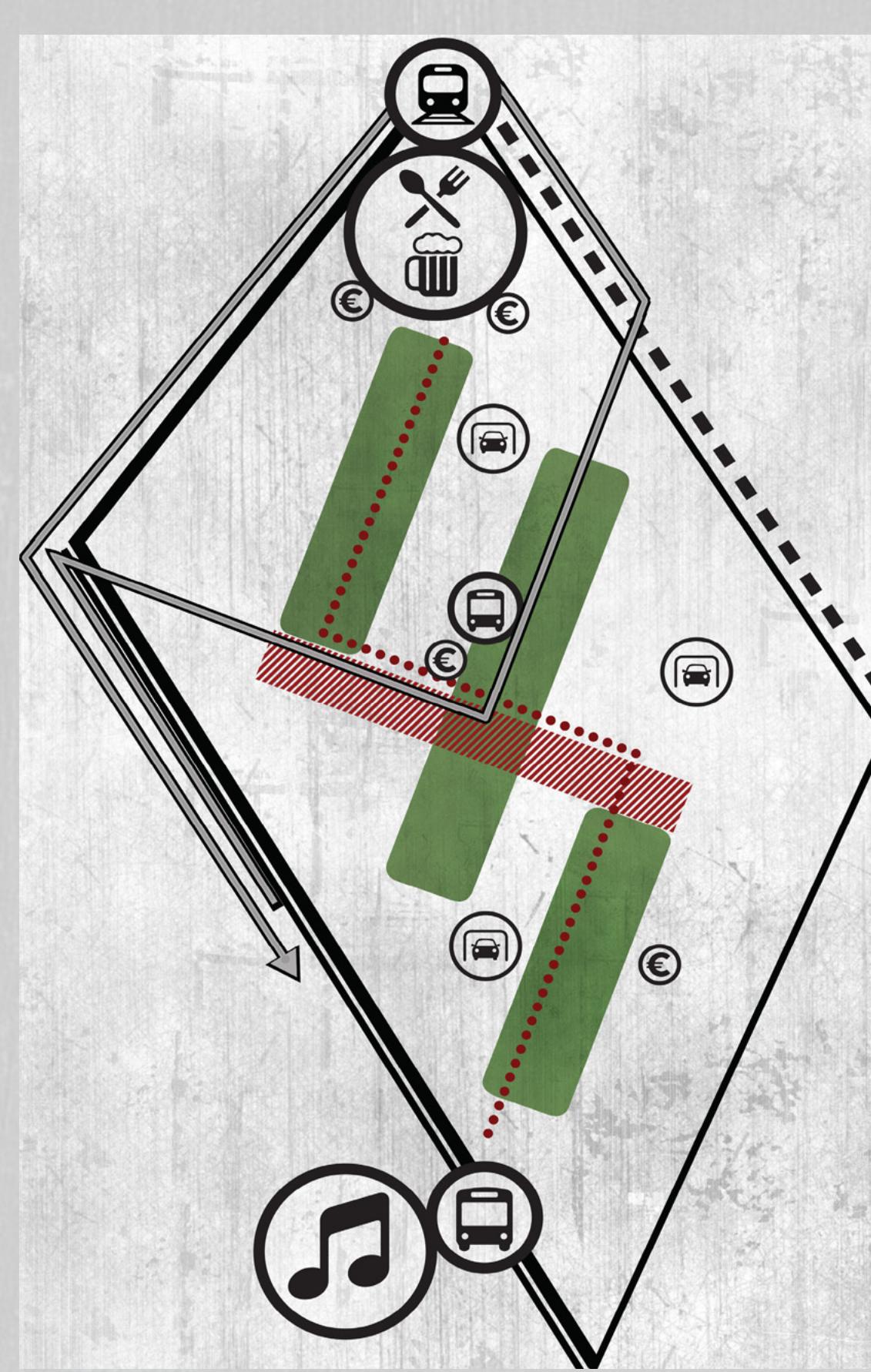


Concept of regeneration

4

URBAN REGENERATION AND BOTTOM-UP APPROACH

/LITOSTROJ NEIGHBORHOOD REGENERATION



Scheme of the concept



Visualisation of one of the redeveloped streets

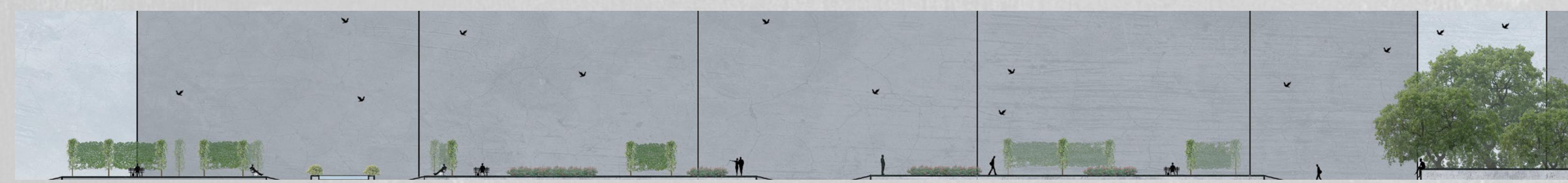
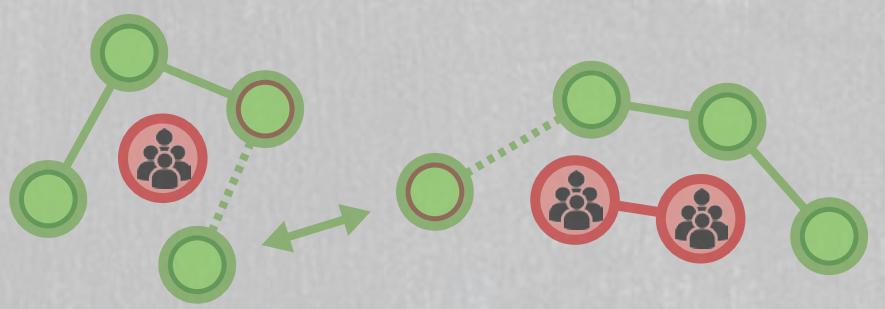
4

URBAN REGENERATION AND BOTTOM-UP APPROACH

/RUSKI CAR NEIGHBORHOOD REGENERATION

The goal of the regeneration was to introduce green elements in the blank spaces between high rise residential buildings. Since the space below the ground level is used as a parking garage, the possibilities of introducing tall trees were rather limited.

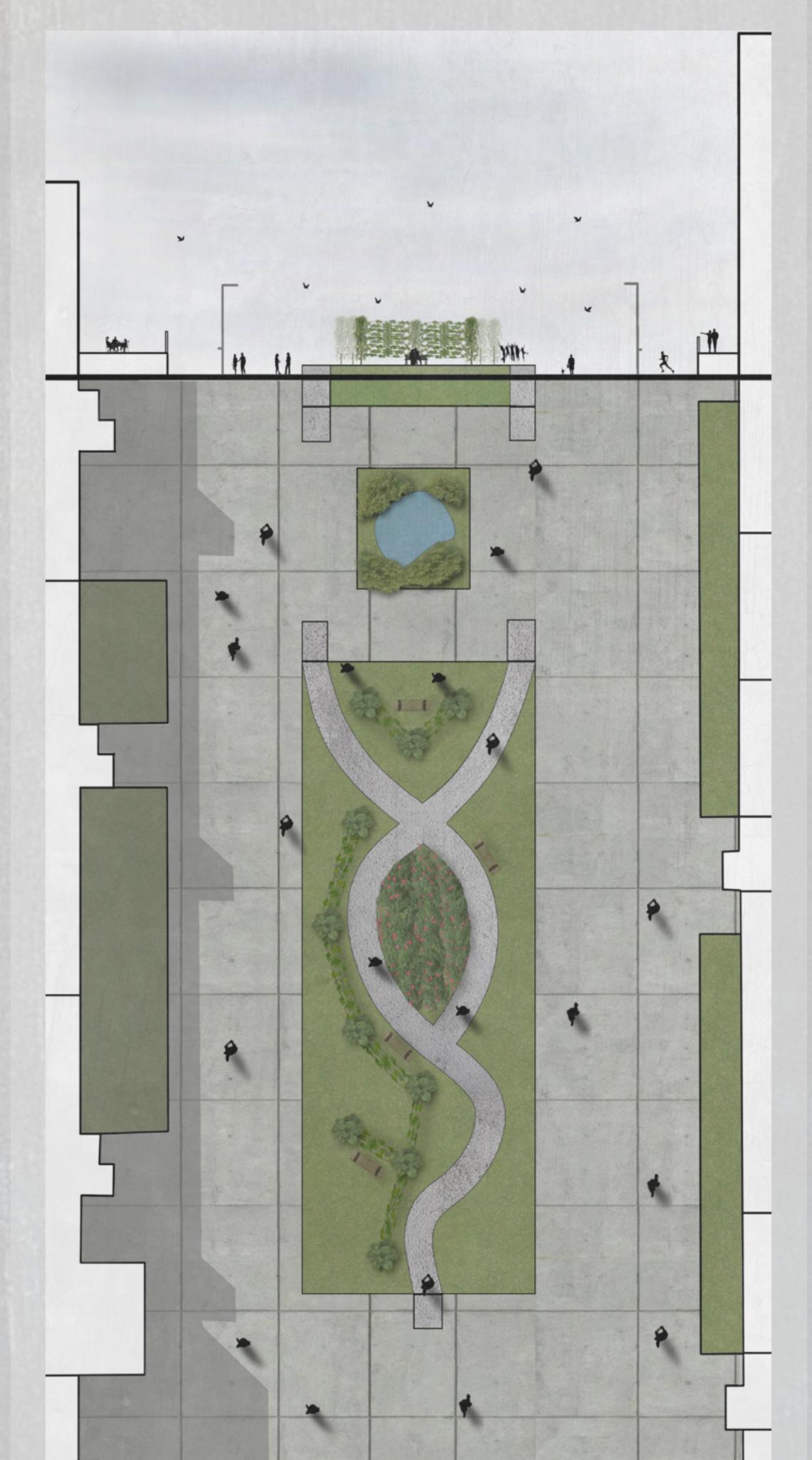
That being said, the idea was to make a network of climbing plants on existing patches of grass. Climbing plants are connected in a way that they create 'green curtains'. The configuration of spaces between can be relatively open, providing a place for socialising, or closed, providing more intimate ambient.



Section



Visualisation of newly created public space



Floorplan and section

5

PARAMETRIC MODELS



5

PARAMETRIC MODELS

