

STRATEGY OF DEVELOPMENT

Moscow, Russia

2021

Project area / City scale

Location



Yauza River / Bernikovskaya embankment



urban landscape

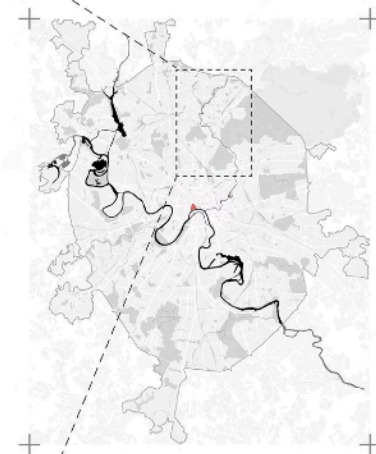
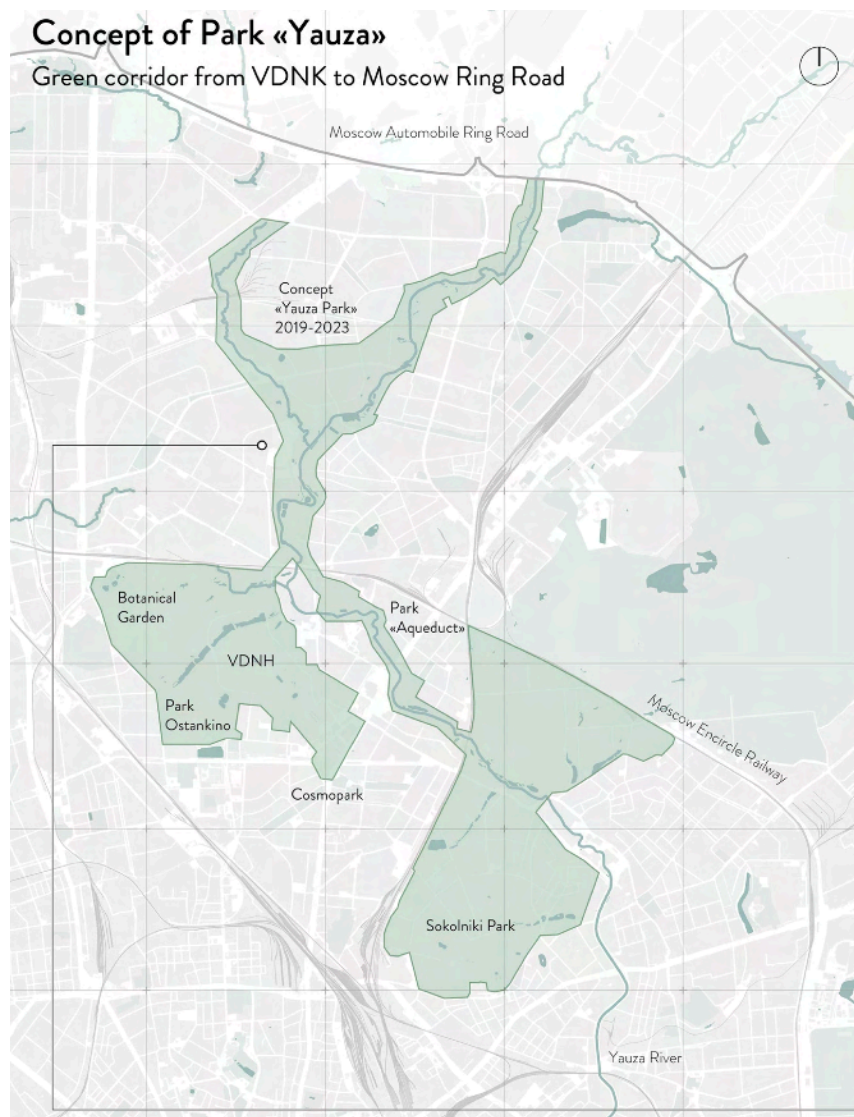
rural landscape



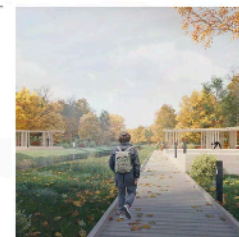
Yauza River / Medvedkov district

Concept of Park «Yauza»

Green corridor from VDNK to Moscow Ring Road



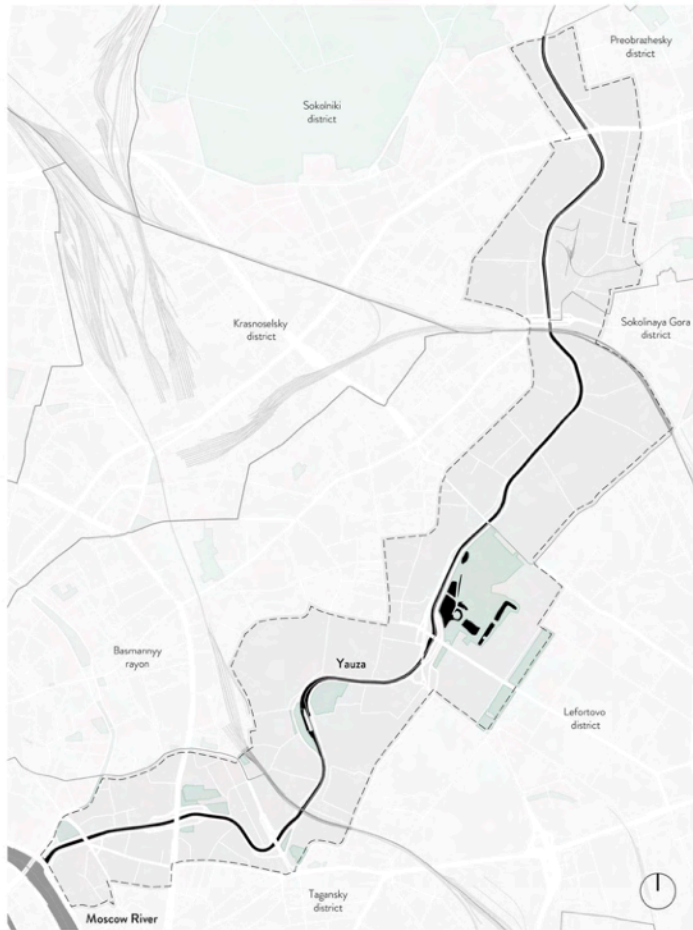
In 2020 the Institute of the General Plan started to work on a **concept of the unity of green territories** in the upper part of the Yauza River in the North-East of Moscow. The project proposes to connect already existing parks into one continuous green area of about 20 sq. km - **«Super Park Yauza»**.



Park «Yauza» Visualizations

Project area / Districts scale

Definition of project area



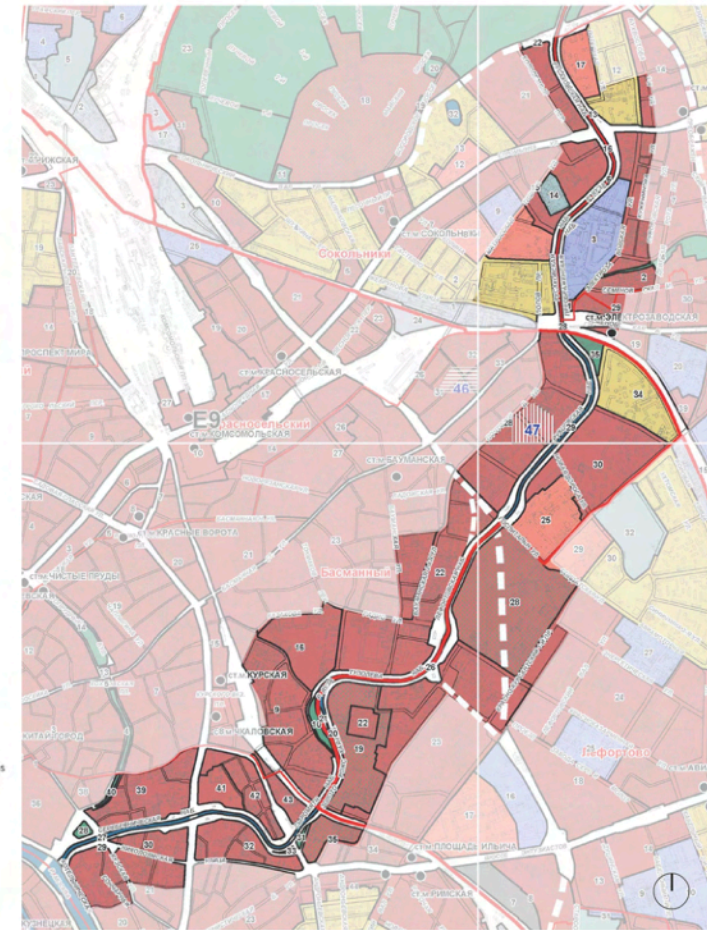
Yauza is the largest tributary of the Moskva River, **the second largest river in the capital**. Length is 48 km, within city limits - 29 km. It has a drainage basin of 452 square kilometers, within the city - 272 km².

Yauza starts **from the swamps of Losiny Ostrov** and flows in the Medvedkov and Babushkin districts, crosses the Okruzhnaya railway, Prospekt Mira, Yaroslavskoe, Kazanskoe, Kursk directions of the railway, and the Garden Ring. It joins the Moscow River in Tagansky District at the Bolshoy Ustinsky Bridge **next to the Kotelnicheskaya Embankment tower**.

Legend:

- multifunctional public areas
- multifunctional park areas
- specialized public areas
- residential area
- industrial zone
- communal areas
- special zones
- green areas
- waterfront

Project area on the functional diagram of the Masterplan 2025



Moscow's Urban Structure

Population settlement pattern and distribution of jobs

Moscow is almost the only Russian city that **maintained its medieval organization**. The urban structure formed by a historical **radial-annular system** strongly affects the formation of urban units.



6.5% of territory
62% of workplace

The **city center** occupies 6.5% of the total area and has **highly dense low-rise urban tissue**, meanwhile, **the periphery has larger-scale units with high buildings** and the less dense structure of its roads and streets network.



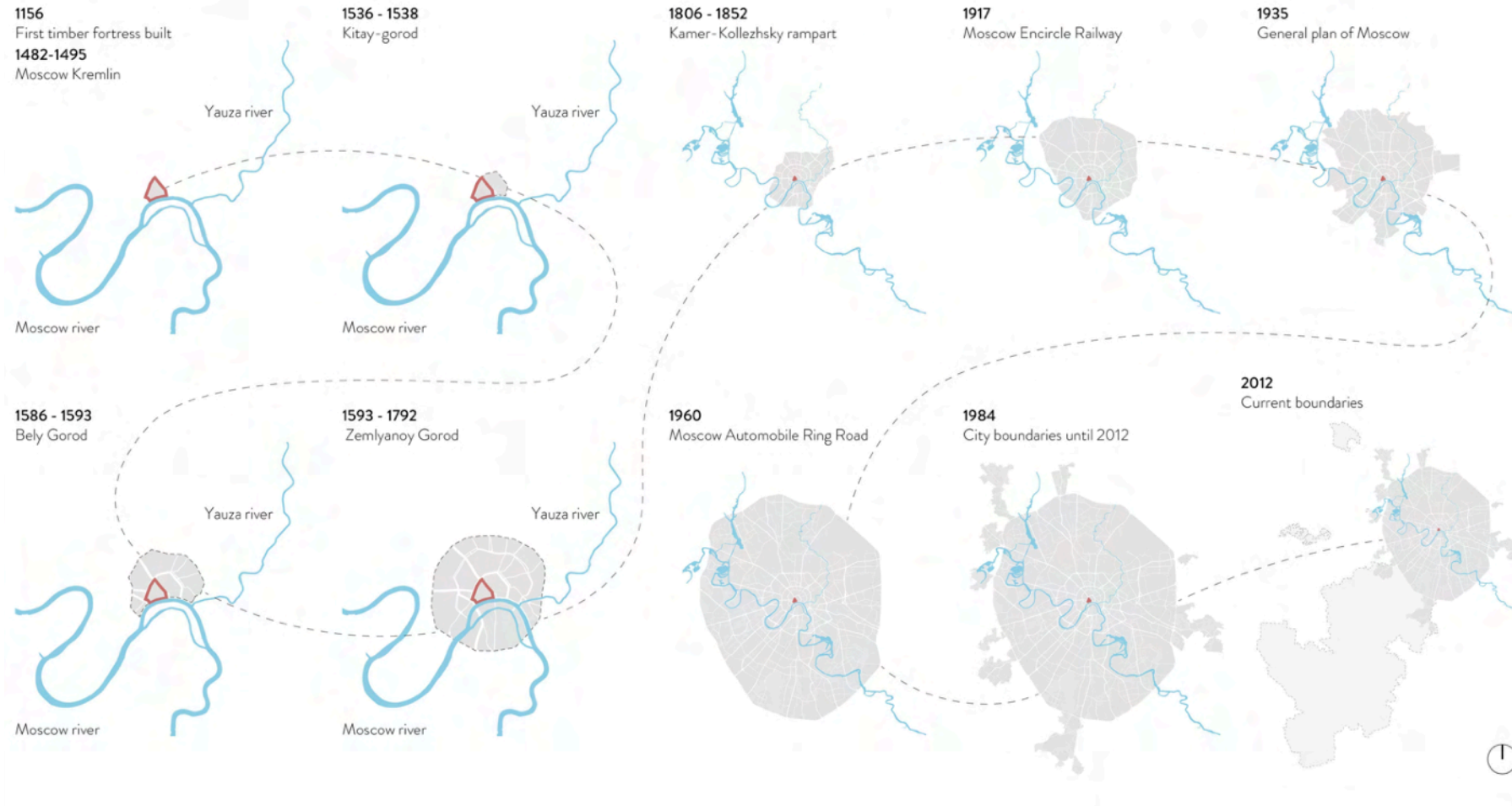
93.5% of territory
92% of population

The disbalance of the existing urban tissue causes **disharmony in the distribution and accessibility** to the public green spaces. It also complicates the creation of a continuing green chain. Additionally, this problem is enhanced by **the uneven location of natural reserves and water resources**.



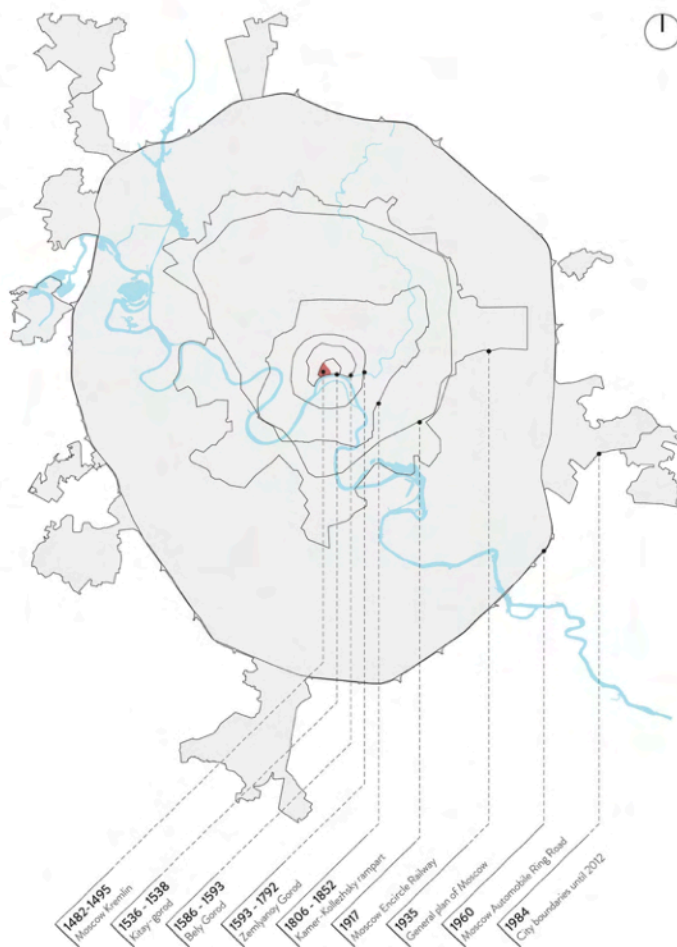
Green areas occupy 34% of
the total area of Moscow

History of Moscow Development



History of Moscow Development

Scheme of «Historical Circles»



Transport System Scheme



Green Belt



1935

Population		Territories	
Total, mil. people	3.9	Total, thsd. ha	204.5
Moscow	3.6	Moscow	60.5
WPPB	0.3	WPPB	144.0
		Cities and urban village	14.0



1961

Population		Territories	
Total, mil. people	7.2	Total, thsd. ha	267.5
Moscow	6.3	Moscow	87.5
WPPB	0.7	WPPB	180.0
		Cities and urban village	17.3



1985

Population		Territories	
Total, mil. people	10.0	Total, thsd. ha	266.2
Moscow	8.6	Moscow	103.8
WPPB	1.4	WPPB	162.4
		Cities and urban village	21.8



1995

Population		Territories	
Total, mil. people	9.9	Total, thsd. ha	266.2
Moscow	8.6	Moscow	103.8
WPPB	1.3	WPPB	162.4
		Cities and urban village	22.9

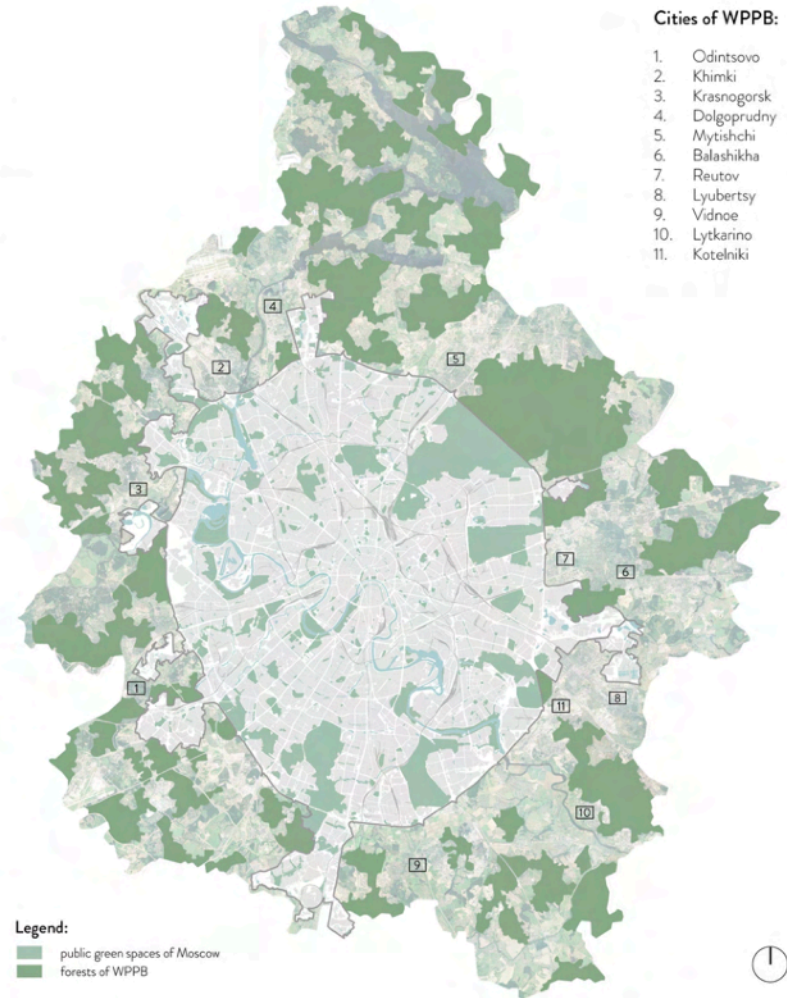
Woodland Park Protection Belt

In 1935 **Woodland Park Protective Belt** of Moscow was the main urban concept that determines **the ecological state** of the capital. Over time, it became clear that the idea of limiting the growth of the city was carried out only formally.

The industrialization process was highly active and natural boundaries could not hold back the rapid development. **The unity of the green ring was broken apart** by the Moscow agglomerations.



Green Wedges of Woodland Park Protection Belt



Cities of WPPB:

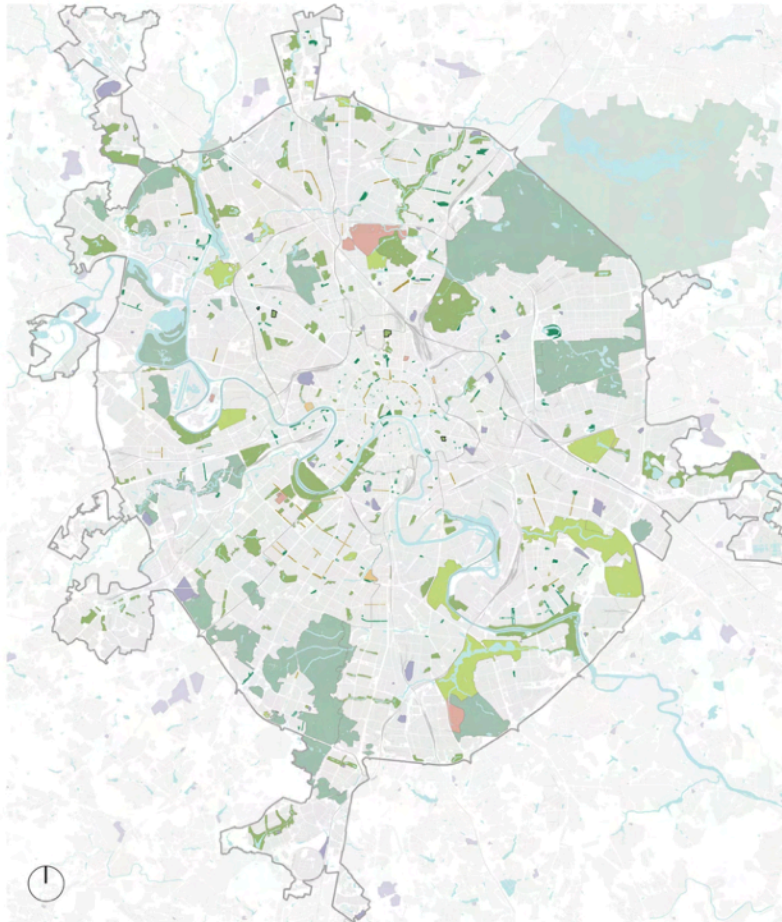
1. Odintsovo
2. Khimki
3. Krasnogorsk
4. Dolgoprudny
5. Mytishchi
6. Balashikha
7. Reutov
8. Lyubertsy
9. Vidnoe
10. Lytkarino
11. Kotelniki

Legend:

- public green spaces of Moscow
- forests of WPPB

Public Green Spaces

Typologies of public green spaces:



Skver

- 0.5 - 2 ha
- Short term stay
- Passive recreation / Short walk / Transition path through the urban structure
- Lawn / Flower garden / Few trees and bushes around the perimeter



City Historical Garden

- 0.5 - 5 ha
- Long term stay
- Passive recreation / Short walk / Optionally playground and sportive zones
- Preservation of historic landscaping

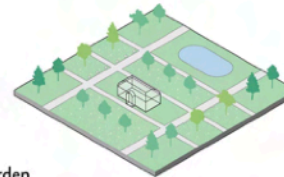


Park

- From 10 - 500 ha
- Long term stay
- Active and Passive recreation / Wild range of different activities for all age groups / Mass cultural events
- Numerous variety of plants / Greenery zoning / Relief organization

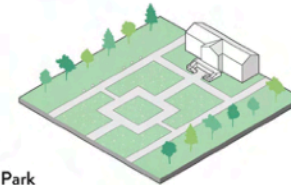
Botanical Garden

- Up to 150 ha
- Long term stay
- Passive recreation / Long walk / Exploration of nature
- Unique collection of plants / Selection of species



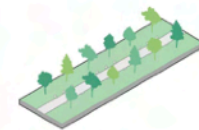
Manor Park

- Up to 400 ha
- Long term stay
- Passive recreation / Long walk / Exploration of the history
- Preservation of historic landscaping / Large areas occupied by green array / Optionally orchards



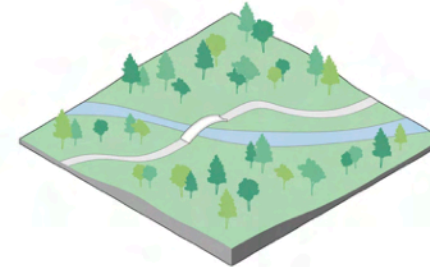
Boulevard

- Short term stay
- Passive recreation / Walk / Transition path through the urban structure
- Lawn / Flower garden / Linear planting of trees and shrubs



Legend:

- park
- square
- forest park
- historic city garden
- manor park
- botanic garden
- cemetery
- boulevard
- liquidated cemetery

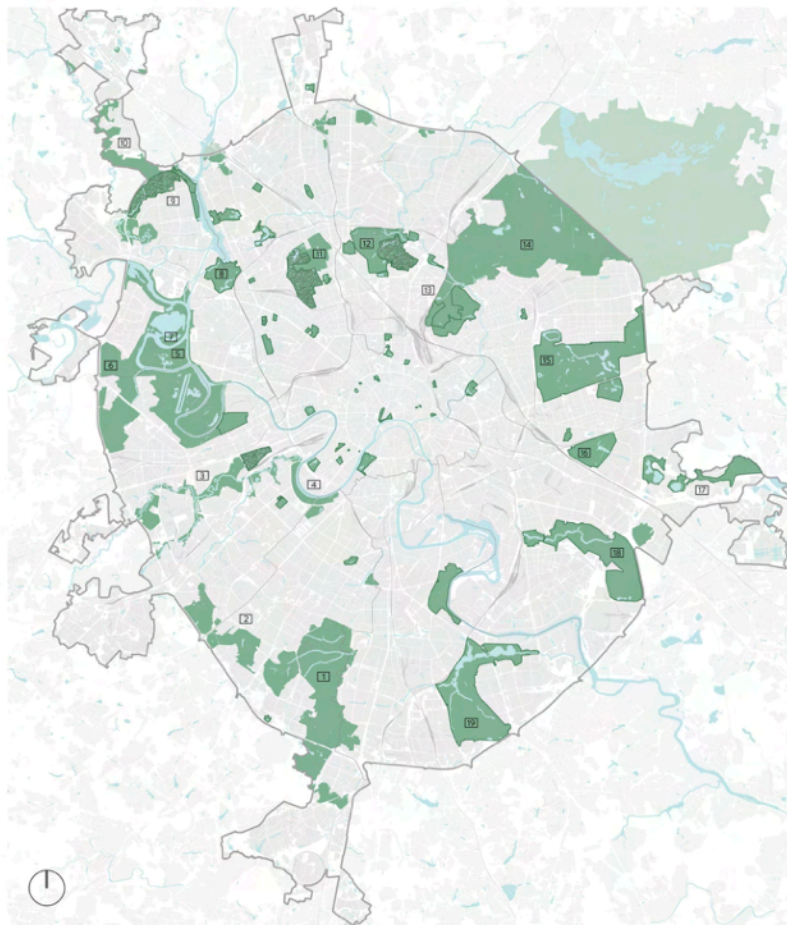


Forest Park

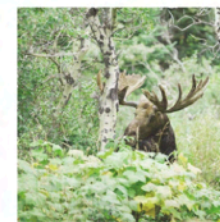
- Up to 12,000 ha
- Long term stay
- Passive recreation / Long walk / Exploration of nature
- Preservation of the natural landscape and diversity of flora and fauna

Nature Reserves

Specially protected natural areas



National Park «Losinyy Ostrov»



Specially Protected
Natural Areas



1 National Park
«Losinyy ostrov»



2 Faunal Reserve



11 Natural
Historical Park



1 Ecological Park



5 Nature
Reserve



2 Complex
Reserve



11 Landscape
Reserve

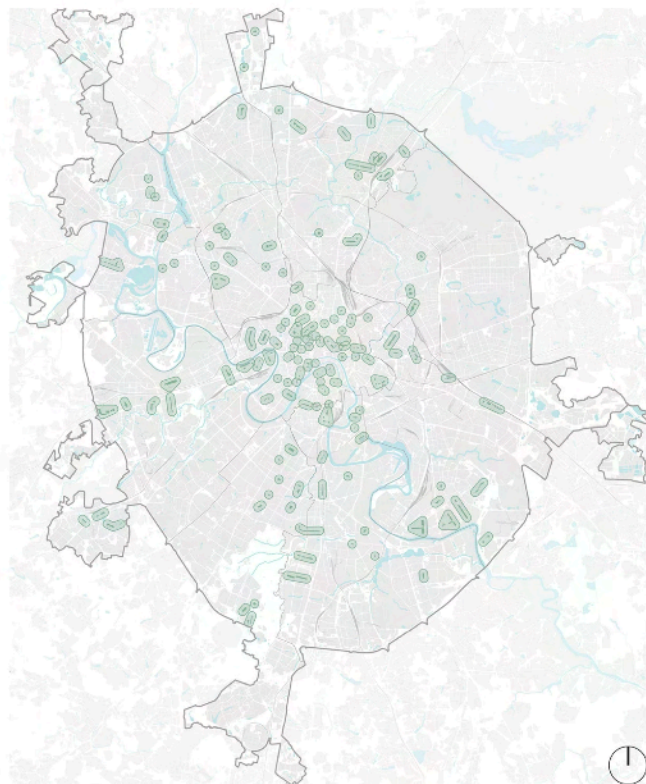


107 Natural
Monument

Distribution of Green Areas

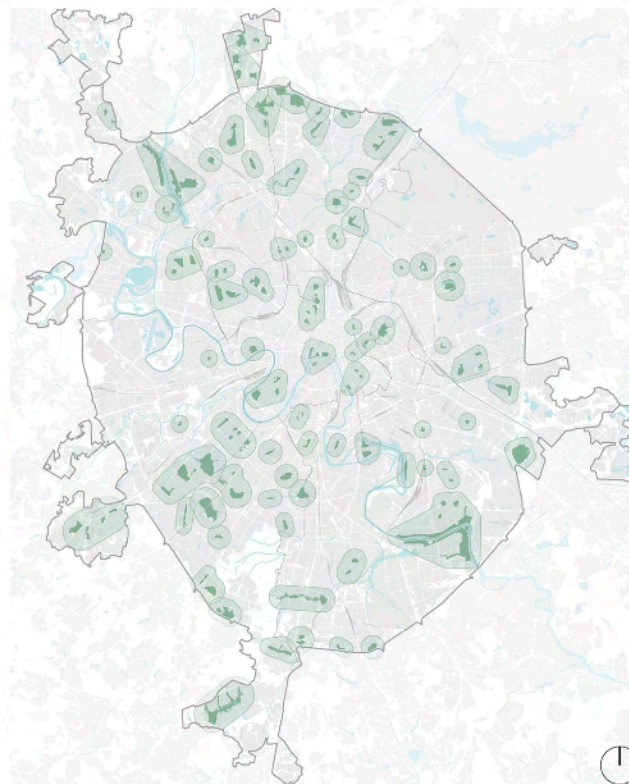
Pedestrian accessibility to public green areas

Size S



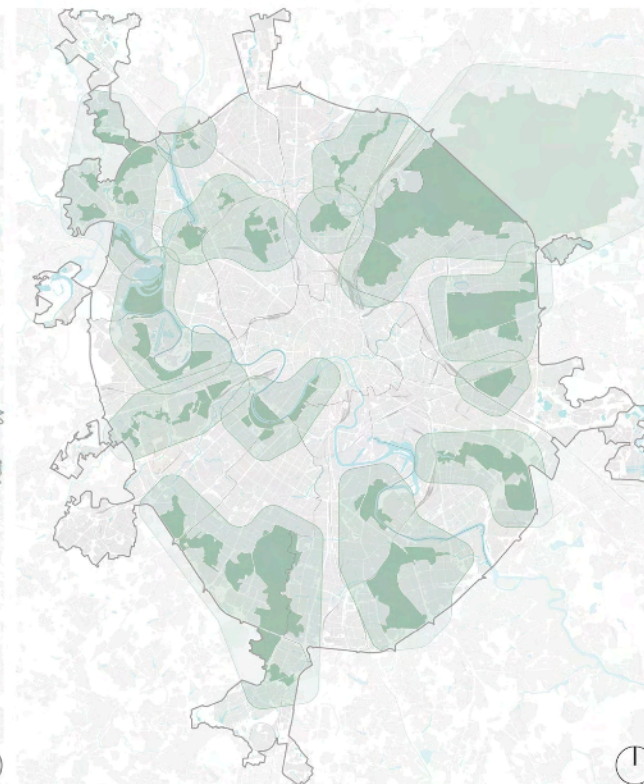
250 m / 3 min

Size M



500 m / 6 min

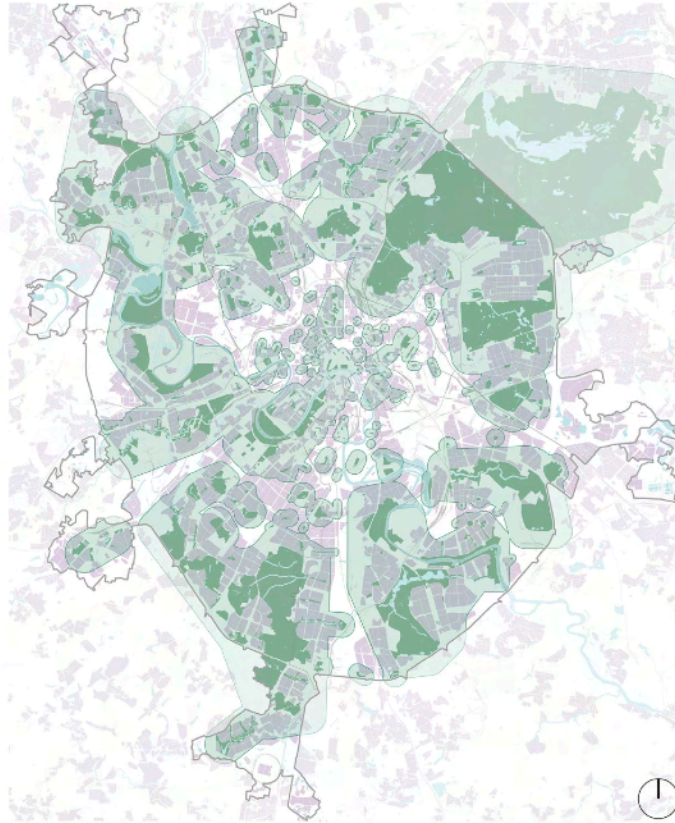
Size L



1 km / 12 min

Distribution of Green Areas

Pedestrian accessibility to public green areas



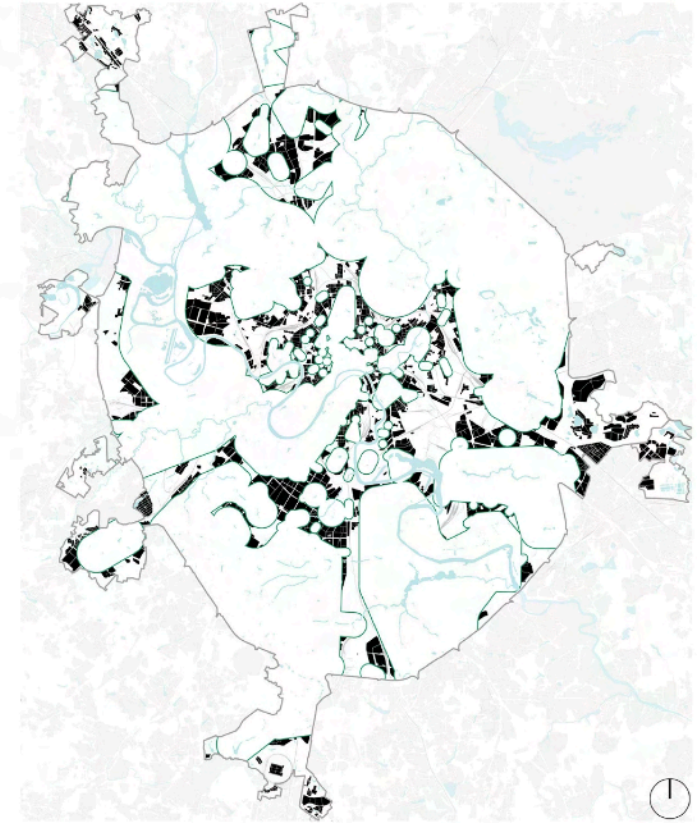
Legend:

- residential areas
- public green areas

This research is demonstrating **the pattern of distribution** of green facilities around the city. It can be identified that **the city center has a dense concentration** of "green island" while **L-size natural territories are equally spread on the periphery** of Moscow.

Joining all green areas together with their accessibility radius demonstrated the territories of residential units that **possibly experienced a lack of natural facilities**. The last diagram shows **the gap between a dense city center and a wild periphery**.

As we can see Moscow has high potential to develop **a large chain of green spaces** connecting them in **one united soft mobility system**.

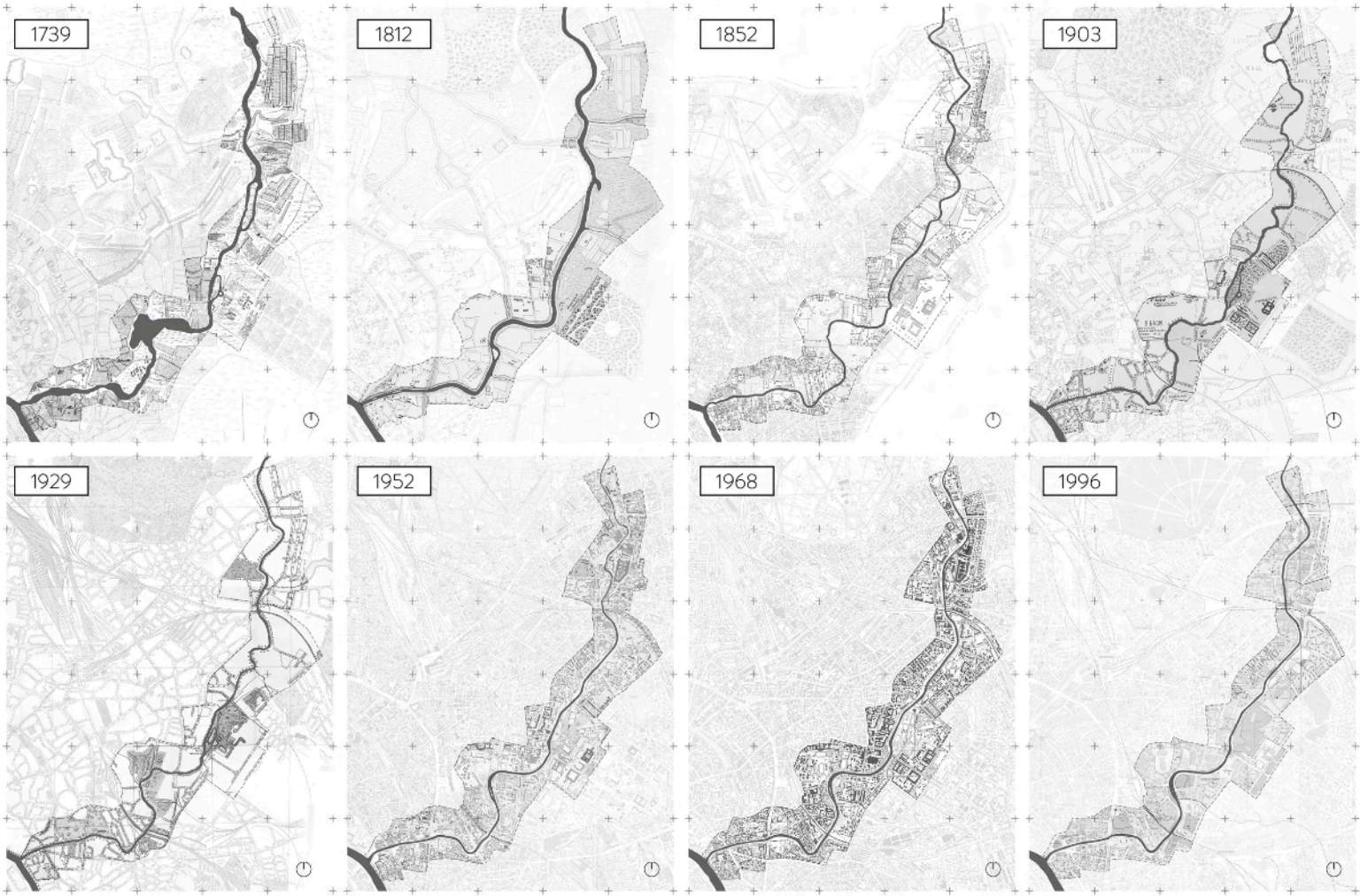


Legend:

- residential areas
- catching area of green zones

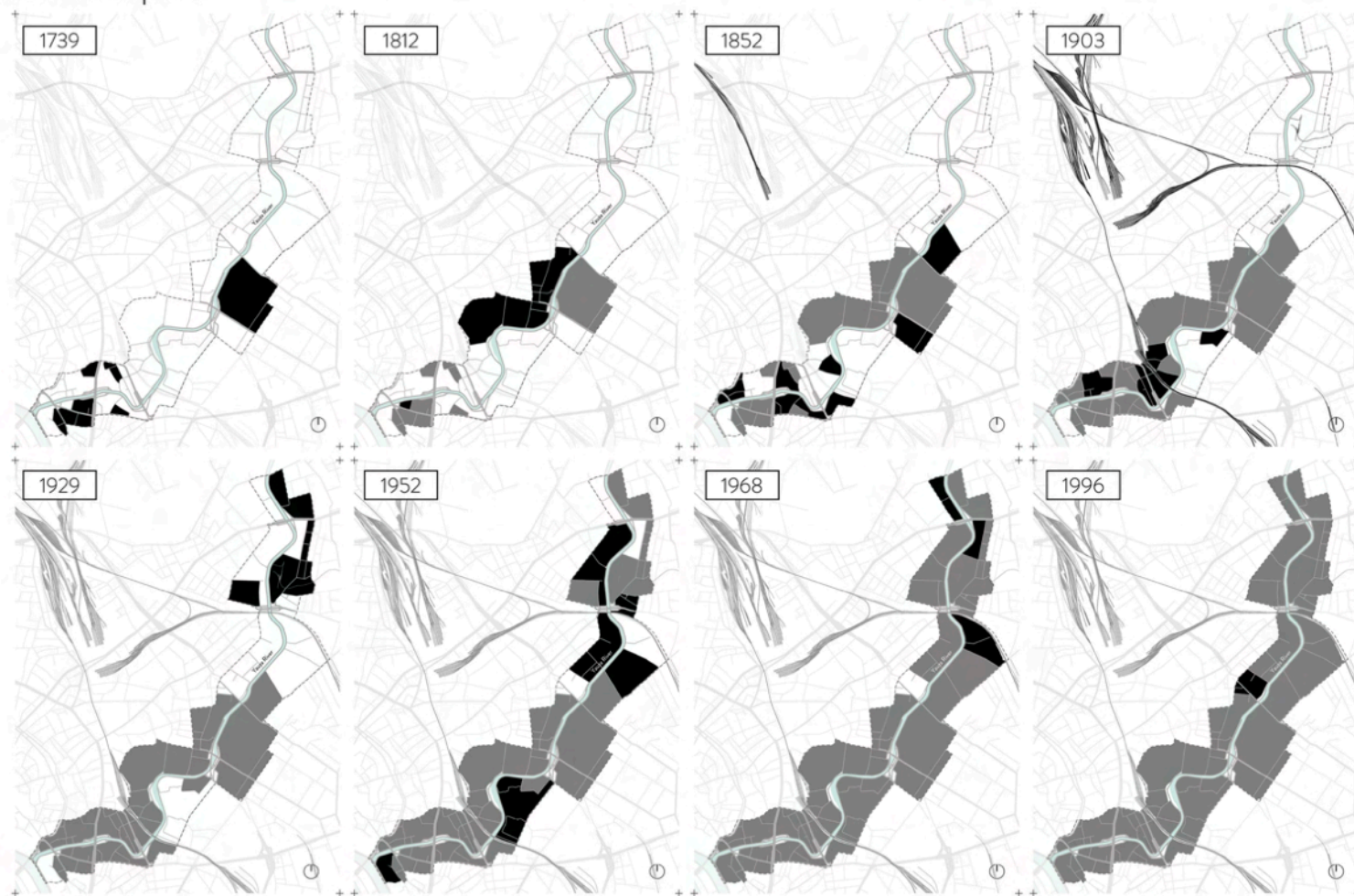
History of the Yauza River

Historical maps of coastal areas along the Yauza river



History of the Yauza River

Urban development in selected periods



History of the Yauza River

Construction periods of coastal areas along the Yauza river

Pre-revolutionary period (before 1917)



Pre-war period (before 1941)



Post-war period (before 1992)



Modern period (after 1992)





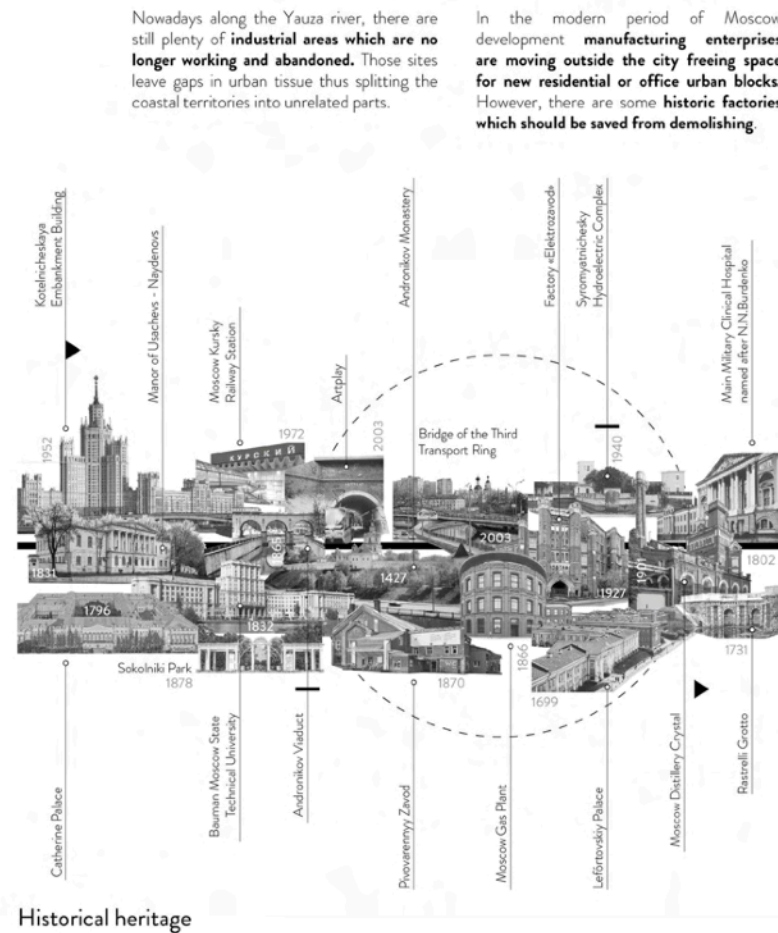
Legend:

- 1361-1689
- 1689-1917
- 1917-1924
- 1924-1953
- 1953-1964
- 1964-1982
- 1982-1991
- 1991-2010
- 2010-2020



Legend:

- 18+
- 16 - 18
- 13 - 15
- 10 - 12
- 7 - 9
- 5 - 6
- 3 - 4
- 1 - 2





Coastal territories of Yauza own vast green spaces which have mainly **chaotic organization and are not included in the soft mobility system**. Additionally close to the waterfront in some parts there are **high and sharp hills**. They make **straight access to the embankment complicated**.

Unique landscape features of Yauza on the one side have a **negative impact on the permeability** of surrounding urban fabric, but at the same time hiding the potential of **extraordinary solutions** for coastal territories connections.



Ustyinsky Square



Usachev-Naydenov Manor Park



Syromyatnichesky hydroelectric complex



Lefortovo Park



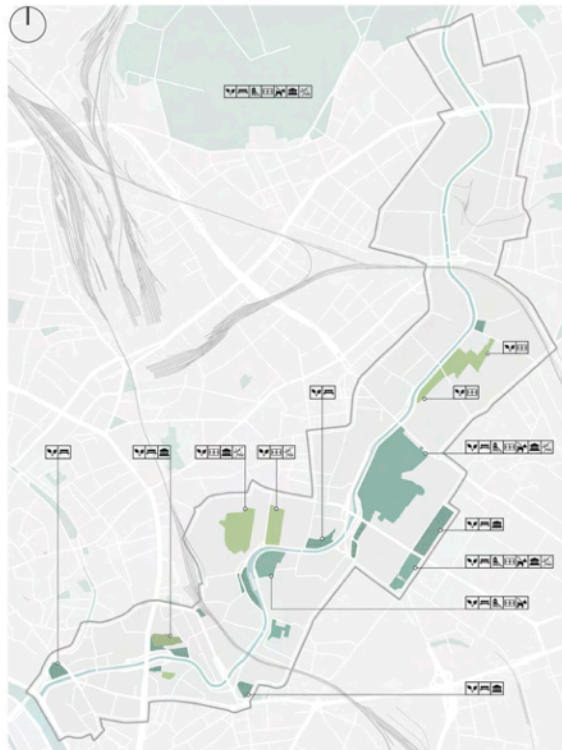
Lefortovo Park



Krasnokursantsky Square

Landuse of Green Spaces

Public green spaces



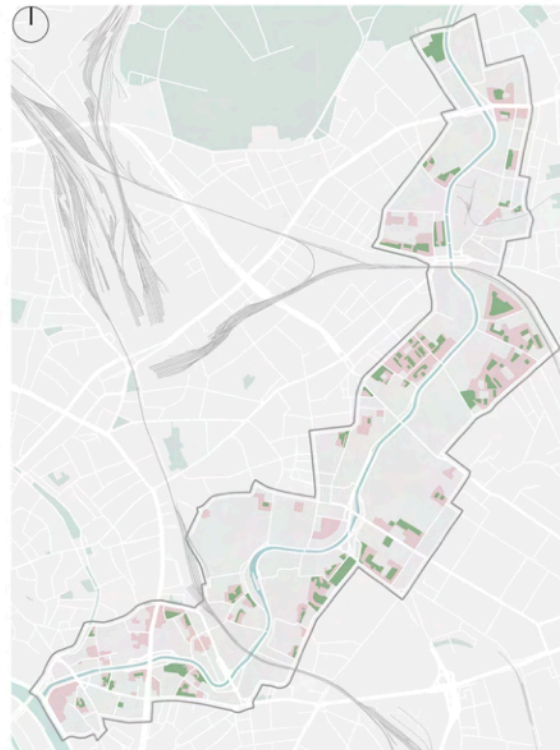
Legend:

- parks
- square
- sport parks
- manor park

Functions:

- greenery
- calm recreation
- children playground
- sport facilities
- dog walking area
- historic site
- city events

Green space attached to public buildings



Legend:

- residential area
- green areas in residential blocks

Green space attached to residential areas

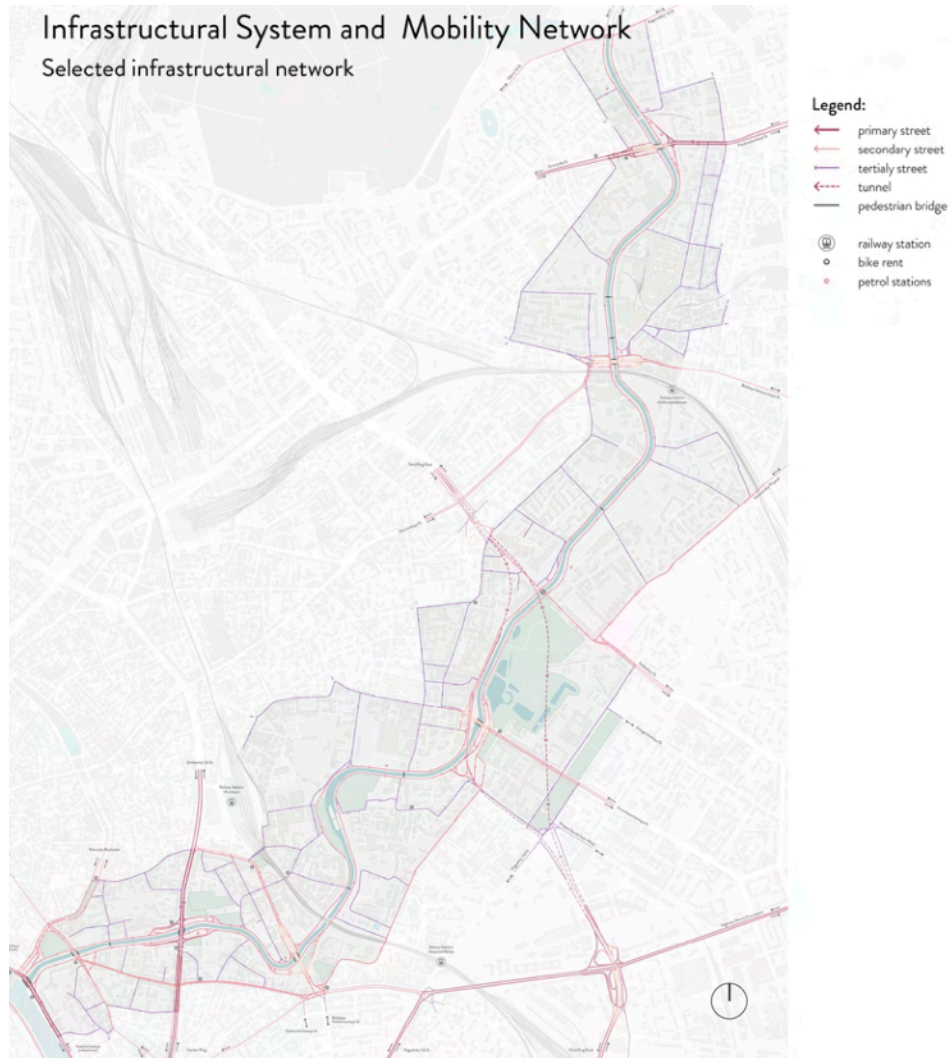


Legend:

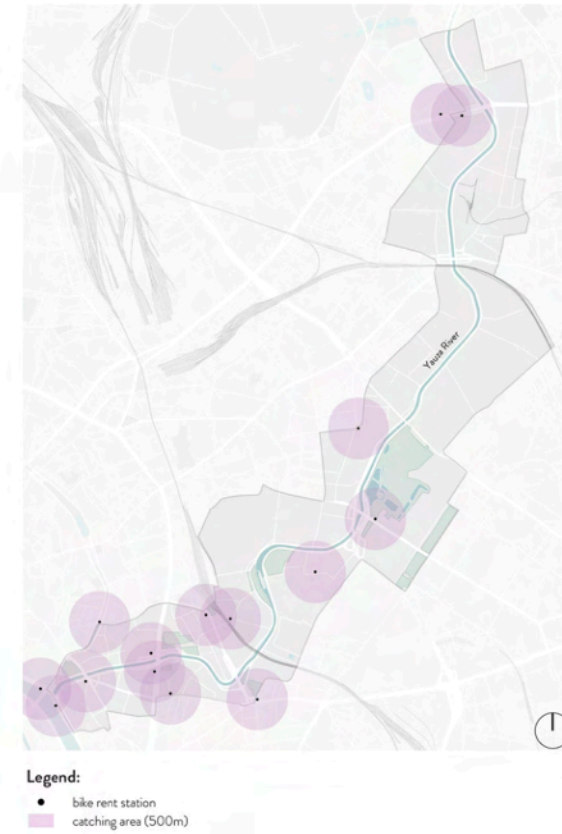
- social facilities:
 - education building area
 - health building area
 - religious building area
 - cultural building area
- green areas in social facilities

Infrastructural System and Mobility Network

Selected infrastructural network

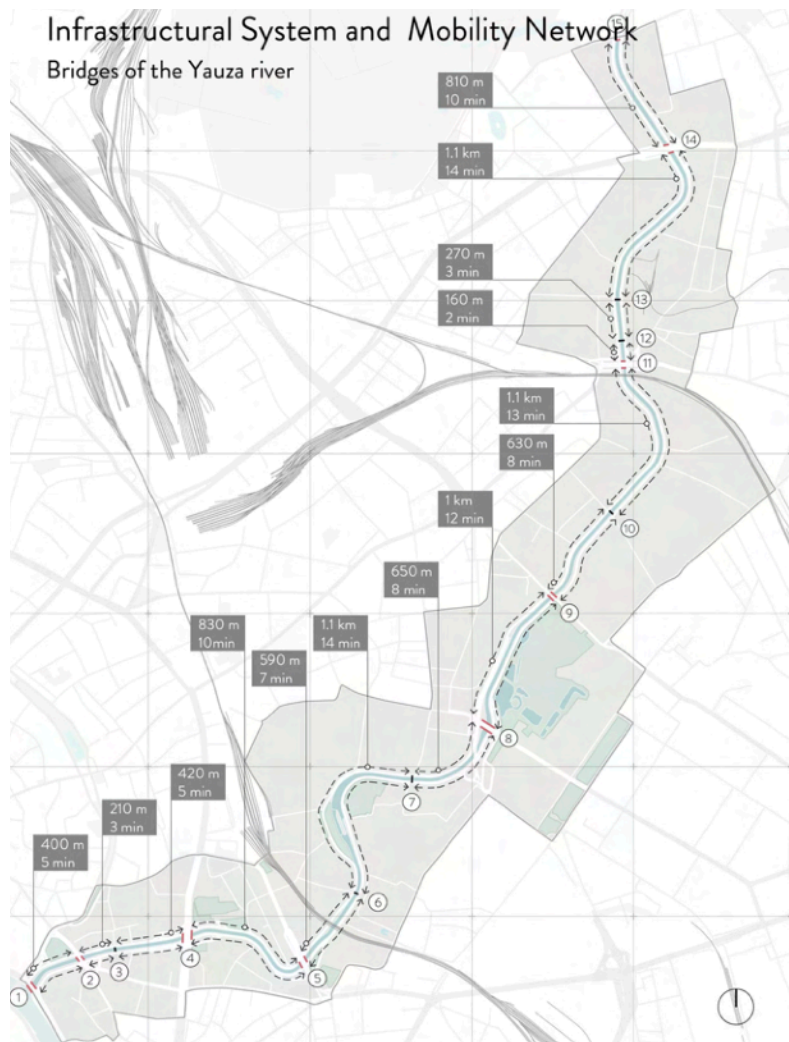


Bike rent stations



Infrastructural System and Mobility Network

Bridges of the Yauza river



Legend:

- pedestrian bridges
- road bridges



Malyy Ust'inskiy Bridge



Astakhovskiy Bridge



Tessinskiy Bridge



Vysokoyauzskiy Bridge



Kostomaroskiy Bridge



Tomozhennyy Bridge



Saltykovskiy Bridge



Lefortovskiy Bridge



Gospital'nyy Bridge



Rubtsov Bridge



Elektrozavodskiy Bridge



No name Bridge



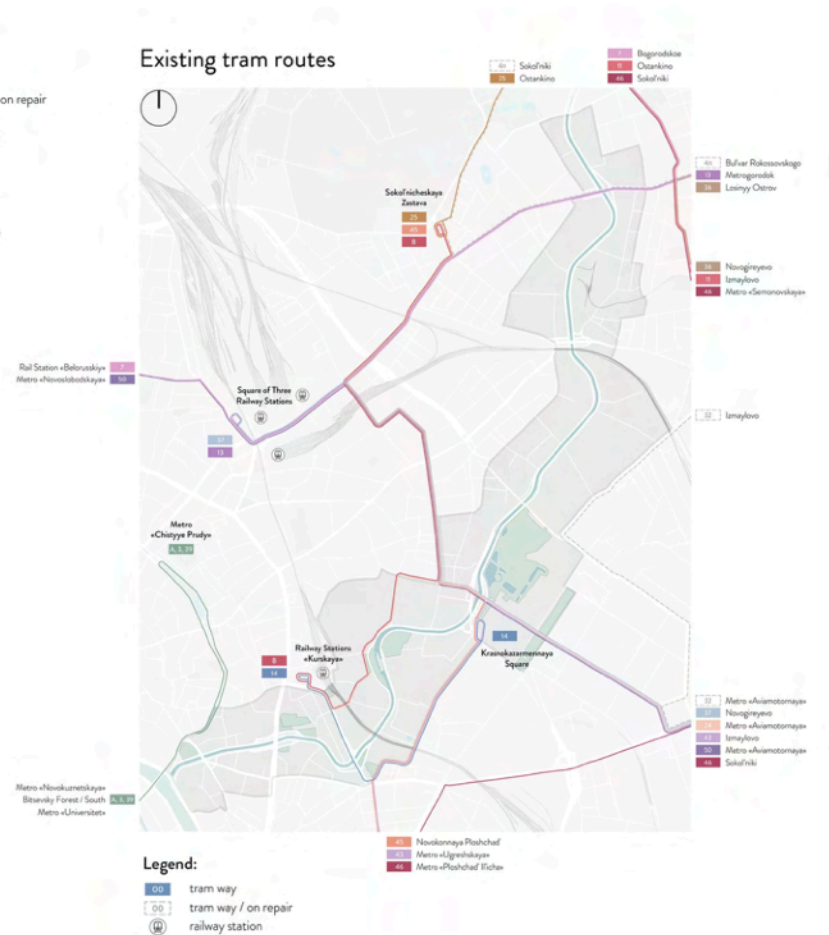
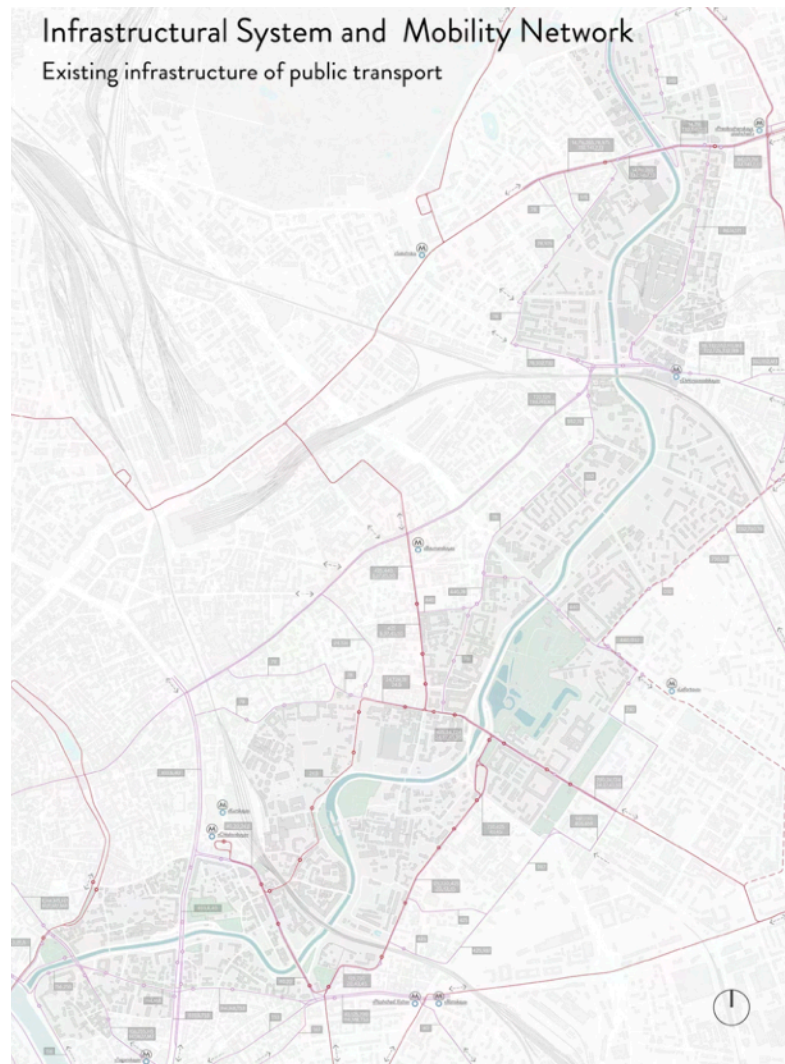
Rubtsovo -
Dvortsovy Bridge



Matrosskiy Bridge



Glevovskiy Bridge

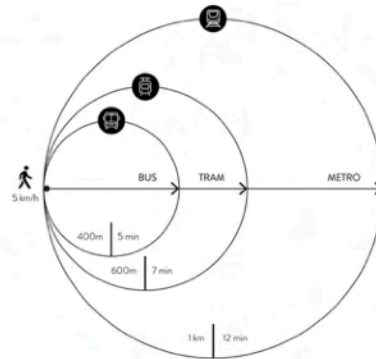


Infrastructural System and Mobility Network

Catching area of public transport

Legend:

-  tram way
-  tram way / on repair
-  tram stop
-  bus way
-  bus stop
-  metro stop
-  catching area

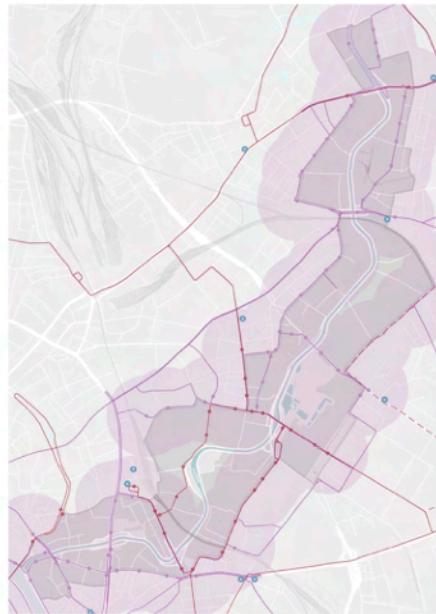
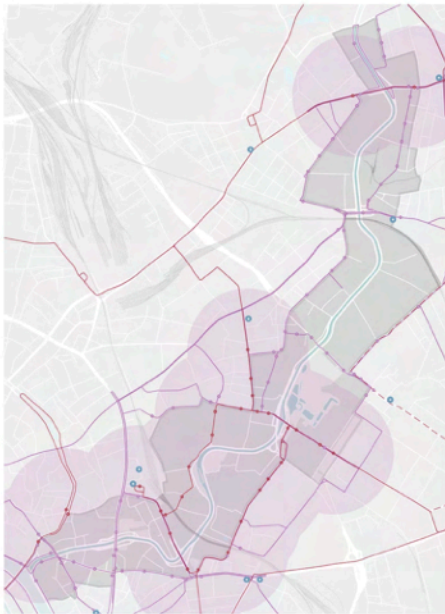


Catching area of tram

Catching area of bus

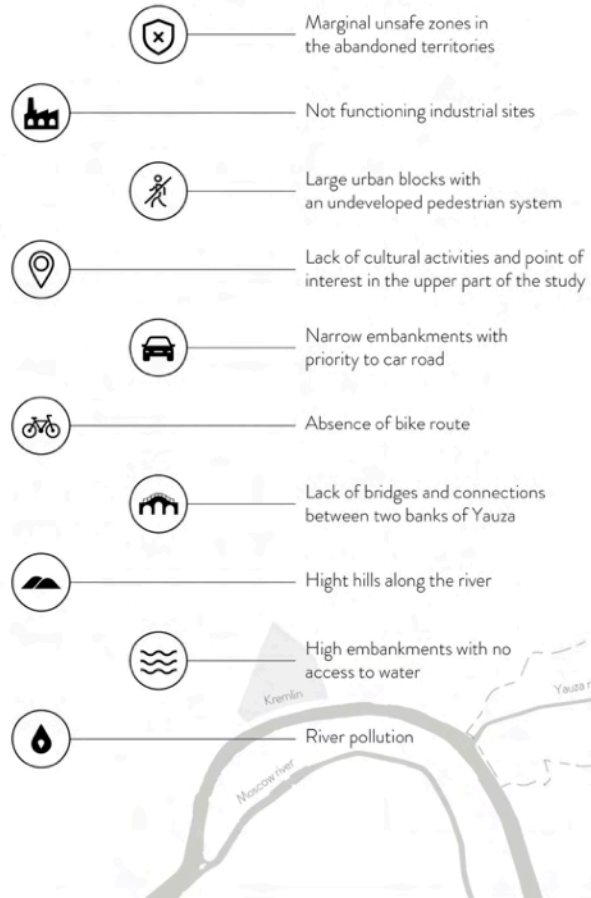
Catching area of metro

Catching area of all kinds of public transport



Key point Qualities

Negative qualities of the Yauza coastal areas

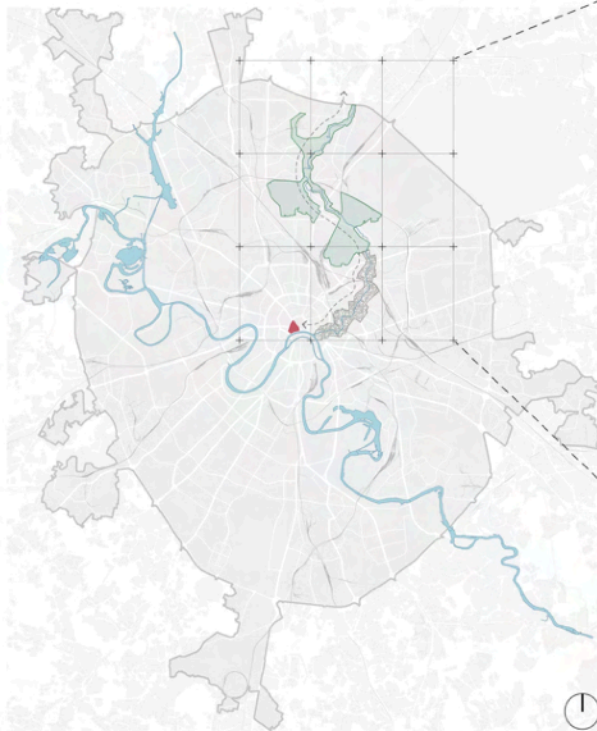


Positive qualities of the Yauza coastal areas



Location

Project area / City scale

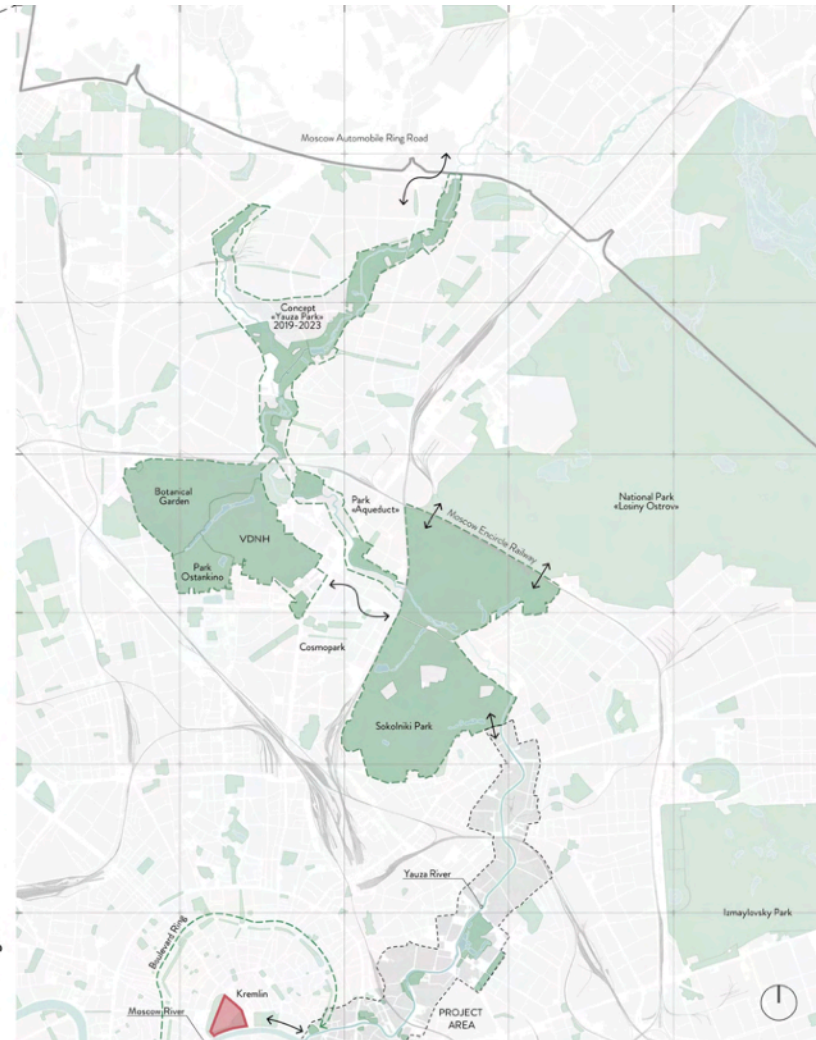


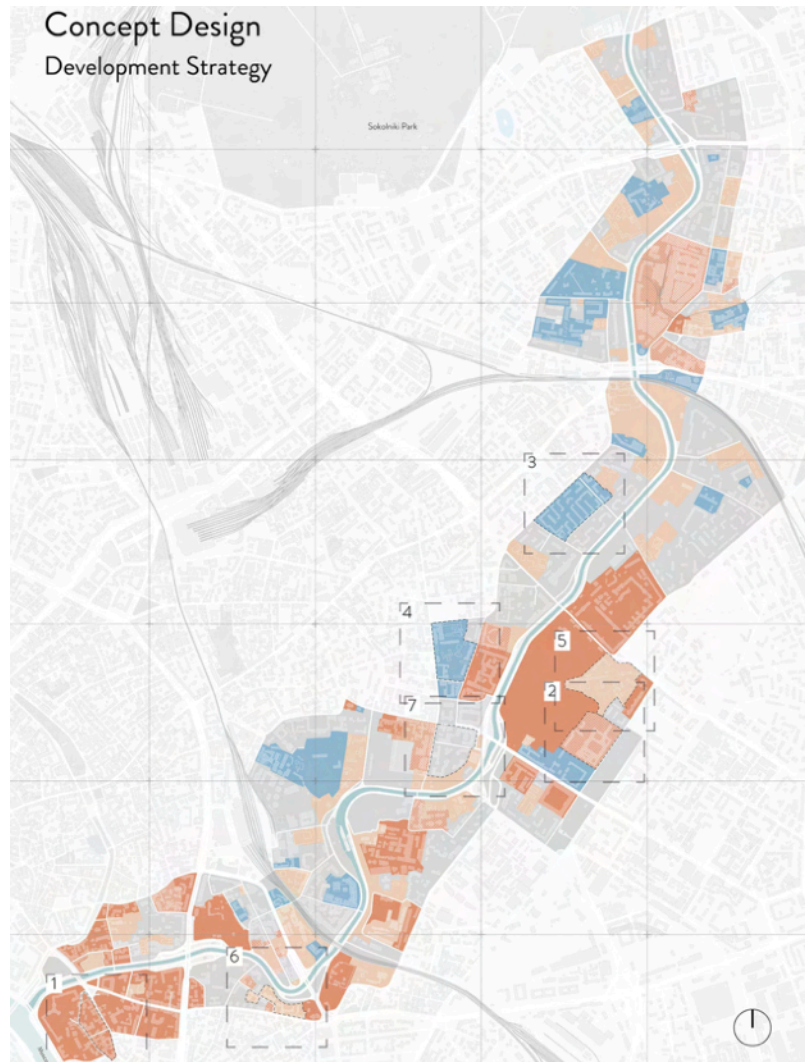
Area of Moscow: 107.000 ha
 Population of Moscow: 12.6 mil. people (2020)
 Project Area: 140 ha
 Population on Project Area: 180.000 people

Historically Yauza was developing parallelly with the Moscow river. Modern urban planning tendency gives a lot of attention to the «re-opening» of unique natural resources which suffered from the previous stage of industrialization.

Stretching from the large national reserve located in the north of the city and going straight to the heart of Moscow this water artery has the potential to become a **green corridor that could connect existing green public spaces in the union chain** and reinforce sustainable mobility in this part of the capital.

Project area / District scale



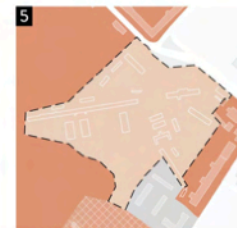


Legend:

AREAS:

- historical tissue to maintain
- historical tissue to restore
- renovation urban tissue
- transformation urban tissue
- existing urban tissue

TRANSFORMATION URBAN TISSUE



Demolition of abandoned buildings / create new project

TRANSFORMATION URBAN TISSUE



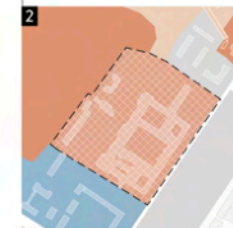
Transformation of existing buildings for new function

HISTORICAL URBAN TISSUE



Historical tissue to maintain

HISTORICAL URBAN TISSUE



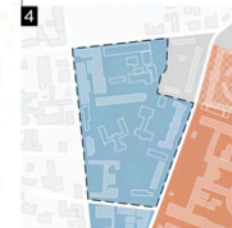
Historical tissue to restore

RENOVATION URBAN TISSUE



Renovation and improvement of urban spaces

RENOVATION URBAN TISSUE



Renovation of urban spaces with new buildings construction

EXISTING URBAN TISSUE



Existing urban block to confirm

The main goal of the strategy is to emphasize existing urban tissue with **historical significance** and to unlock the potential of unique urban formation which is now in an abandoned condition.

Concept Design Masterplan



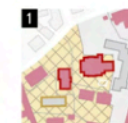
Legend:

- BLOCK:**
- transformation
 - renovation
 - restoration
- BUILDINGS:**
- historical
 - maintain
 - change of function
 - restore
 - repair
 - demolish
- current construction area
existing public green area
- improve road
close road
new pedestrian path
bike road
descent from the hill
- new bridge
bridge transformation
automobile bridge
railway bridge
- A view points

- ACTIONS:**
- with space
 - with building

The **priority** was given to the **restoration and maintenance** of existing urban fabric with **delicate** implementation in the form of **transformation and modification** of blocks that have lost their relevance.

HISTORICAL VALUE



- ACTIONS:**
- Keep the function
 - Restore urban space
 - Restore historical buildings
 - Repair building



- ACTIONS:**
- Change the function
 - Transform urban space
 - Restore historical buildings



- ACTIONS:**
- Change the function
 - Transform urban space
 - Restore historical buildings
 - Demolish abandoned buildings
 - Propose new project

Dismissed historical and industrial buildings received a **new purpose** in order **to be preserved** and to participate in the life of the city.

NO LANDUSE CHANGES



- ACTIONS:**
- Keep the function
 - Renovate urban space
 - Repair buildings

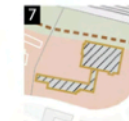


- ACTIONS:**
- Keep the function
 - Renovate urban space
 - Demolish petrol station



- ACTIONS:**
- Keep the function
 - Renovate urban space
 - Demolish abandoned buildings
 - Repair building
 - Propose new project

LANDUSE CHANGES



- ACTIONS:**
- Change the function
 - Transform urban space
 - Repair and modify building according new use



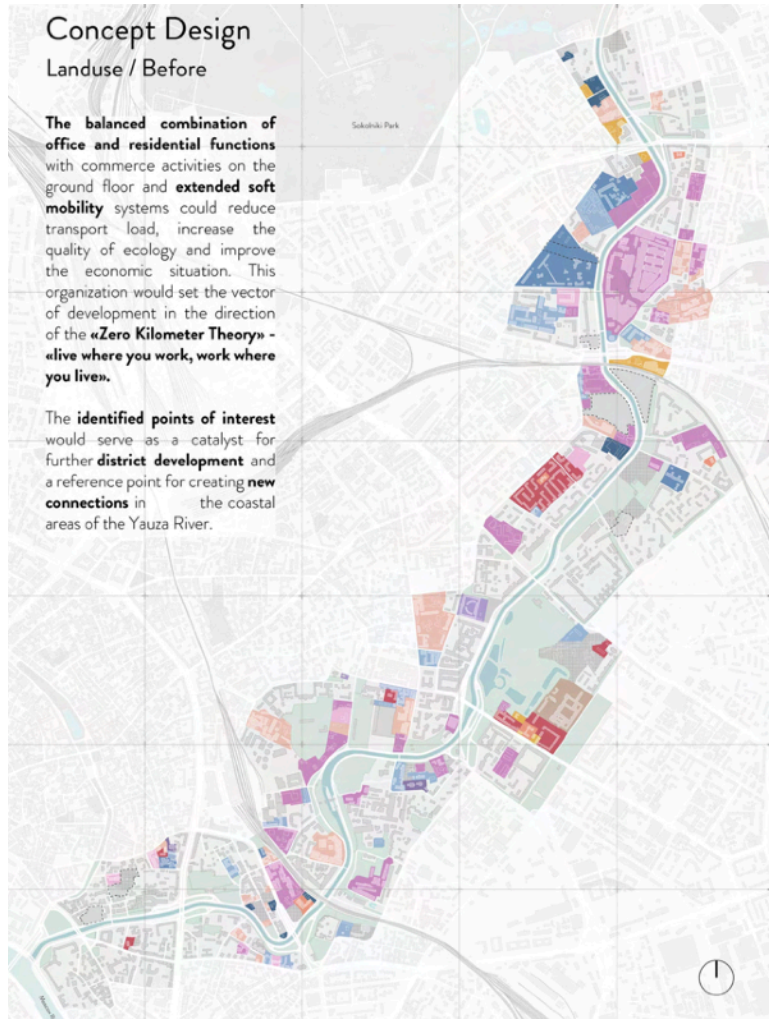
- ACTIONS:**
- Change the function
 - Transform urban space
 - Demolish industrial buildings
 - Propose new project

Concept Design

Landuse / Before

The balanced combination of office and residential functions with commerce activities on the ground floor and **extended soft mobility** systems could reduce transport load, increase the quality of ecology and improve the economic situation. This organization would set the vector of development in the direction of the **«Zero Kilometer Theory»** - **«live where you work, work where you live»**.

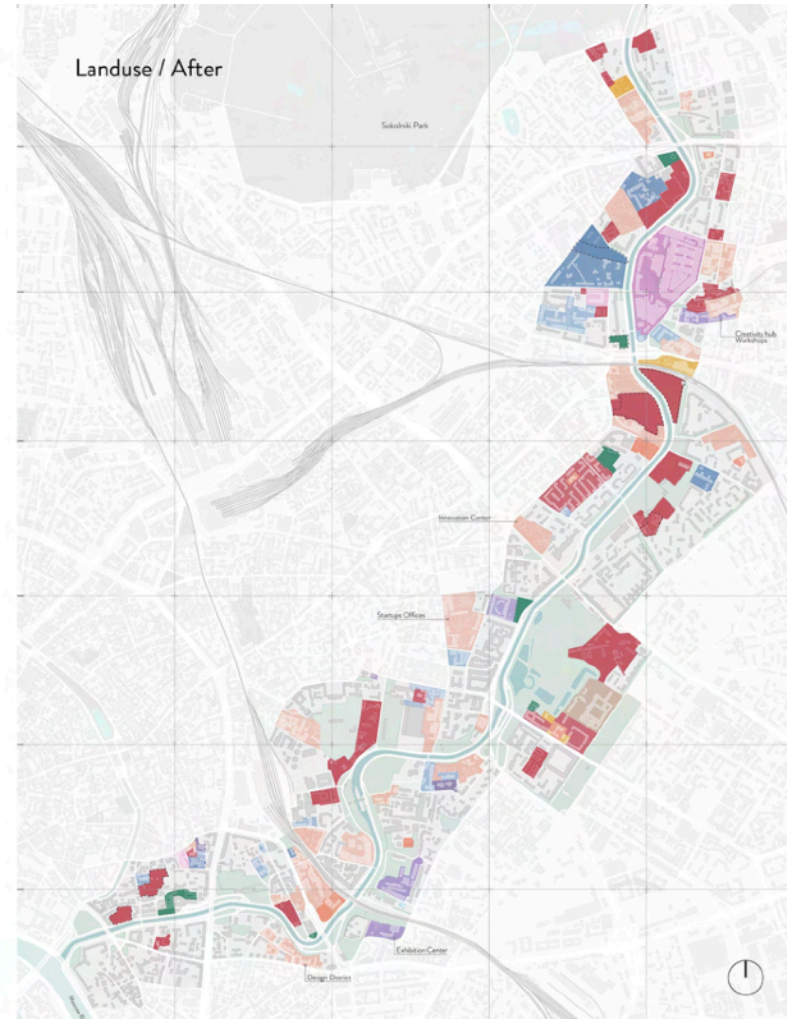
The **identified points of interest** would serve as a catalyst for further **district development** and a reference point for creating **new connections** in the coastal areas of the Yauza River.

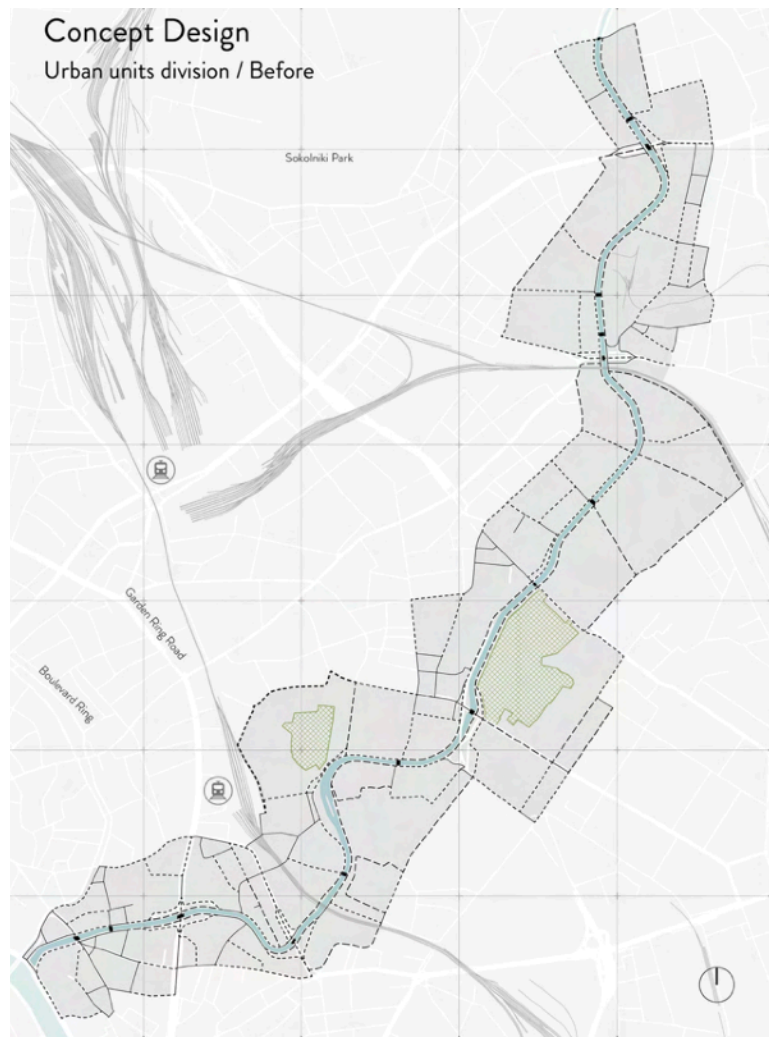


Legend:

- AREA:
- residential area
 - commercial area
 - office
 - public green area
 - area sport activities
 - green area
 - research centers
 - industrial zone
 - education building area
 - health building area
 - religious building area
 - cultural building area
 - administrative building area
 - services
 - military zone
 - railway
 - roads
 - parking zone
 - current construction area
 - abandoned area
 - area of restoration
- BUILDINGS:
- maintain
 - demolish
 - transformation / change of function
 - restore

Landuse / After



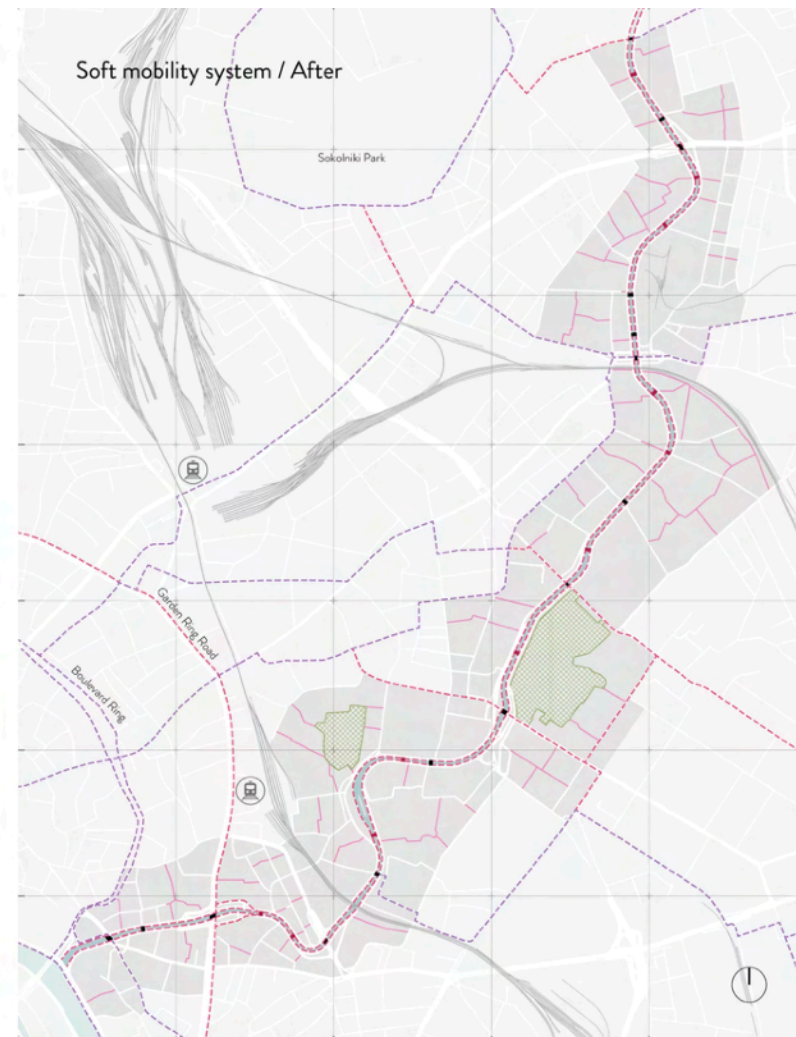


Legend:

— 0 - 200 m	5 min walk
- - - 200 - 400 m	5 - 10 min walk
- - - 400 - 800 m	10 - 15 min walk
· · · · 0 - 200 m	15 - 20 min walk

— existing bridge

■ public green area



Legend:

--- existing bike path

--- new bike path

— existing bridge

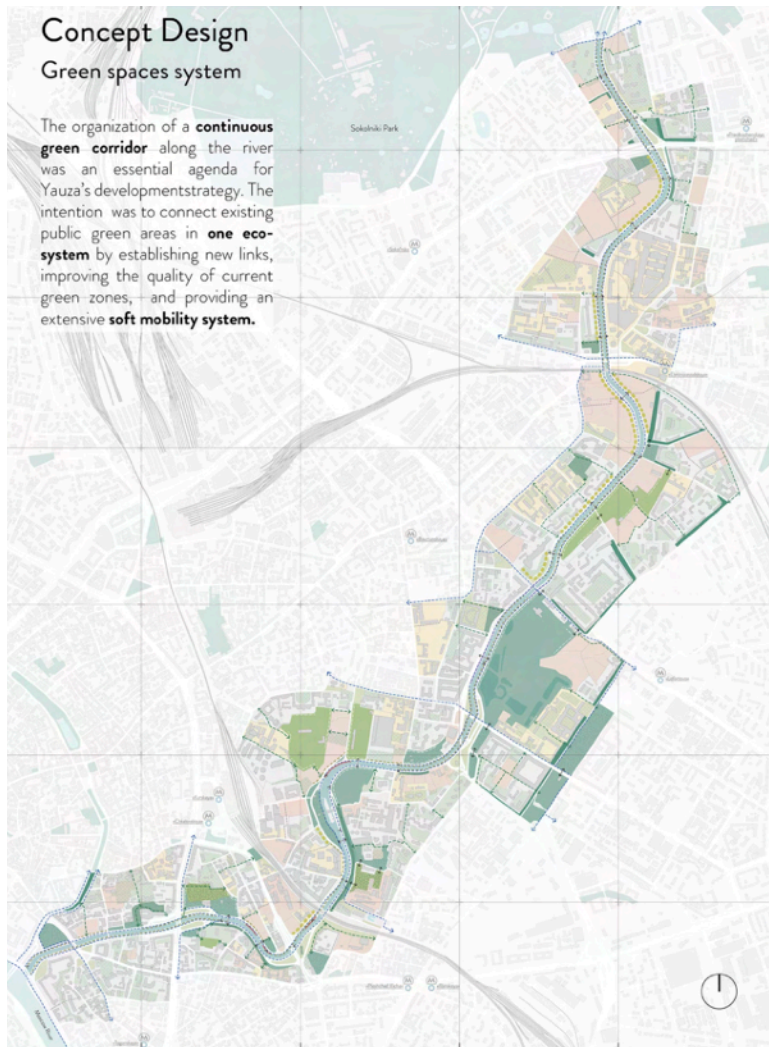
— new bridge

— new pedestrian path

■ public green area

Concept Design Green spaces system

The organization of a **continuous green corridor** along the river was an essential agenda for Yauza's development strategy. The intention was to connect existing public green areas in **one eco-system** by establishing new links, improving the quality of current green zones, and providing an extensive **soft mobility system**.



Legend:

- parks
- square
- sport parks
- manor park
- green areas in residential blocks
- green areas in social facilities
- green boulevards
- green space along transportation
- green boulevards
- greenery along the river
- descent from the hill
- new pedestrian path
- new pedestrian green path
- bike road
- lower level of the embankment
- ramp to the lower level
- opening of park border
- view points

Legend:

- residential area
- office
- education building area
- cultural building area
- public green area
- linear park
- greenery along the river

Distribution of green areas



Concept Design

Area I



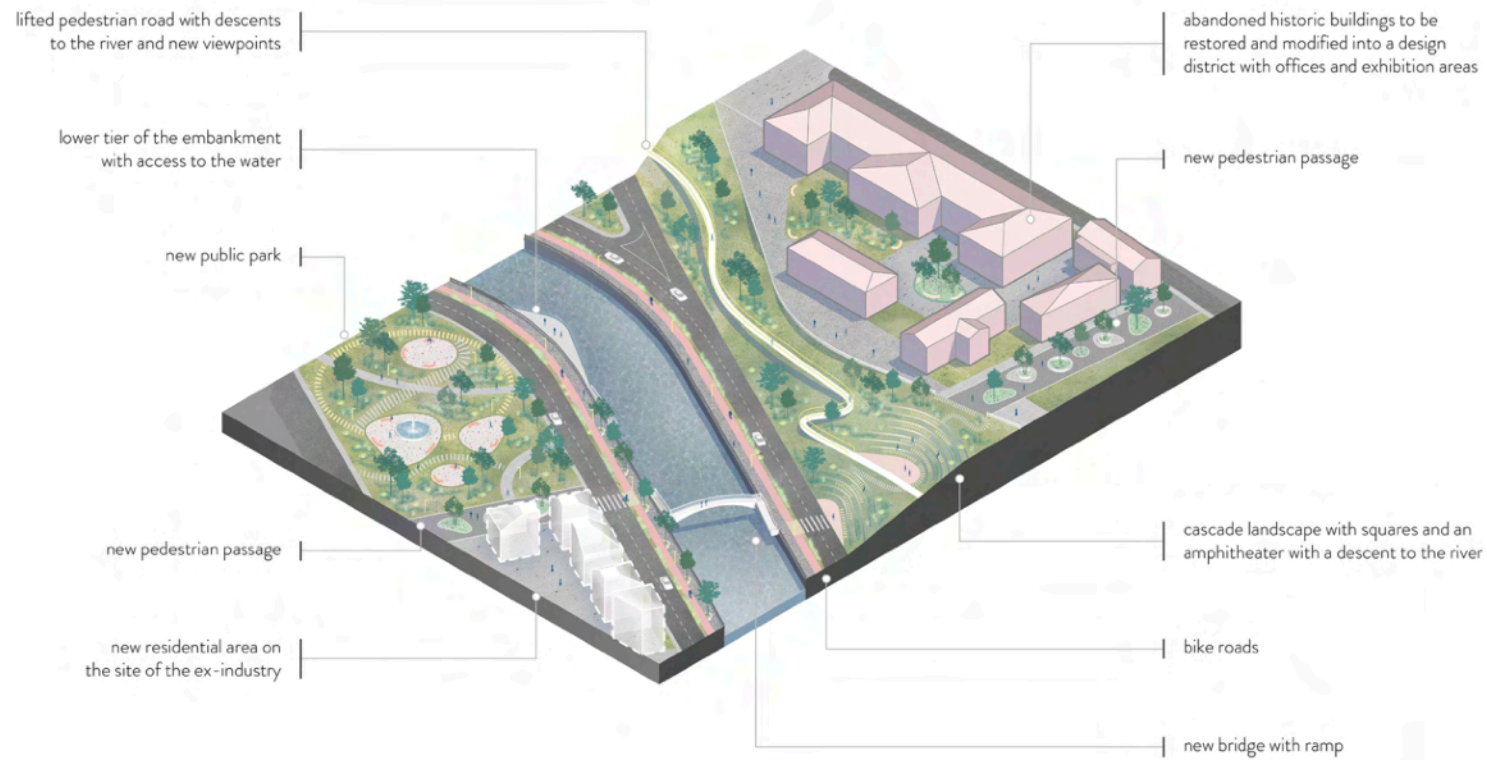
Approaches and principles were identified after an in-depth analysis of the main problems, challenges, and opportunities of the considered area. Within the conceptual design project two sections characterized by **high hills** were chosen to demonstrate the step of further development.

Both areas have **abundant greenery** which, was previously not involved in a soft mobility system. The project is intended to change this state: existing natural characteristics could fully reveal their potential with a **new transit function or calm recreation**.



Concept Design

Axonometry I



Concept Design

Area II

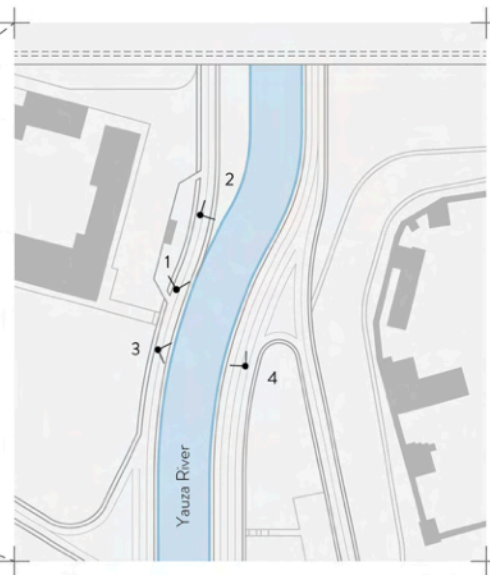


Soft mobility links contribute to **the permeability** of coastal areas with **new pedestrian connections** and facilitate access to the river.

Further out, a conceptual project provided **a straight path from the hills by creating a new panoramic deck** and, thereby, opening new visual perspectives on the surrounding historical architecture.

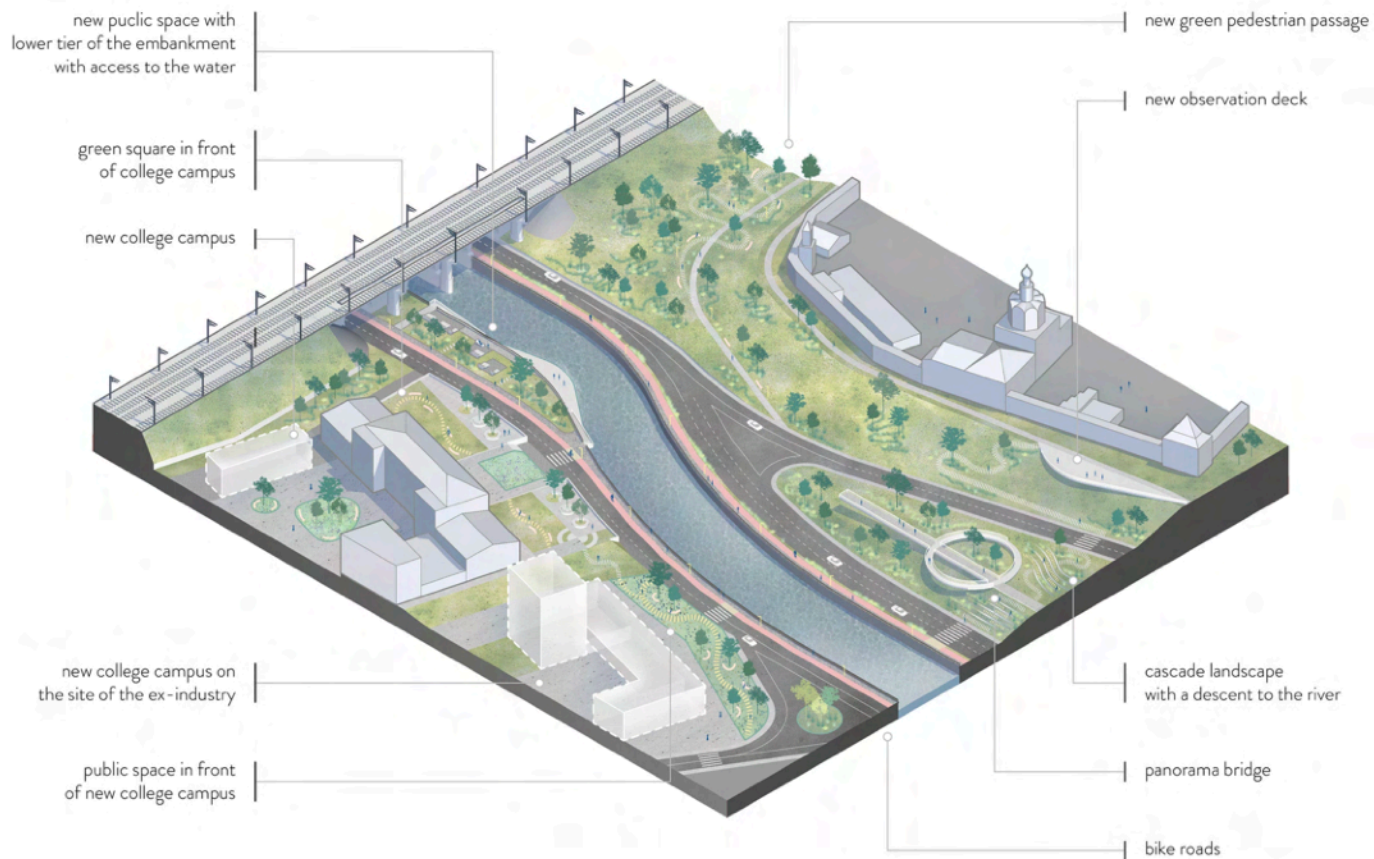
Priority was given to **safeguard historical buildings, giving them a new function**. The transformation of surrounding industrial sites was made in accordance with **the urban context and city needs**.

Existing state



Concept Design

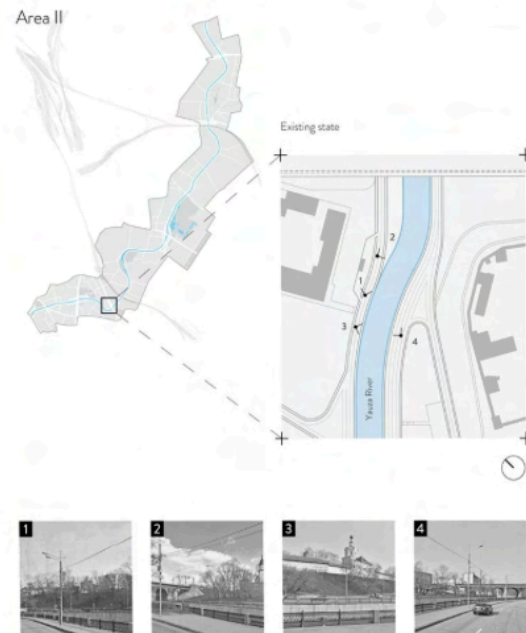
Axometry II



Area I



Area II



Zoom 1



Approaches and principles were identified after an in-depth analysis of the main problems, challenges, and opportunities of the considered area. Within the conceptual design project two sections characterized by high hills were chosen to demonstrate the step of further development.

Both areas have abundant greenery which, was previously not involved in a soft mobility system. The project is intended to change this state: existing natural characteristics could fully reveal their potential with a new transit function or calm recreation.

Zoom 2



Zoom 3



Zoom 4



Soft mobility links contribute to the permeability of coastal areas with new pedestrian connections and facilitate access to the Yauza river.

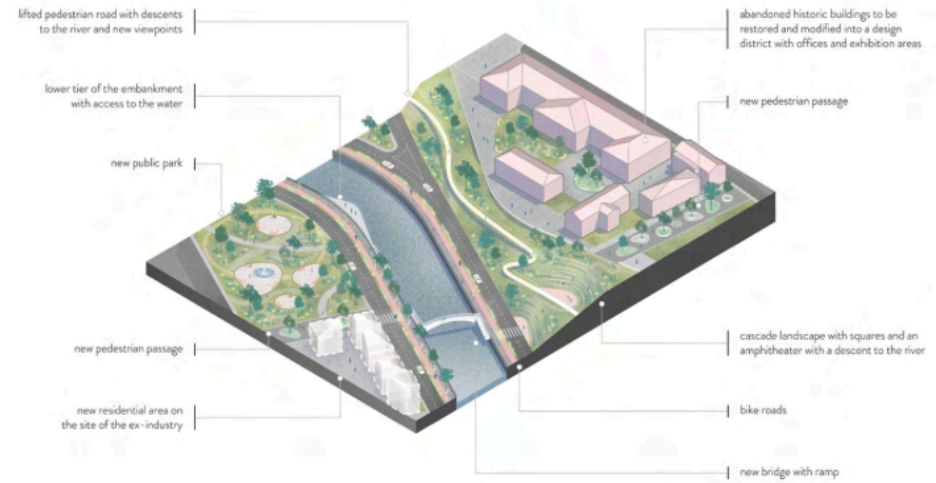
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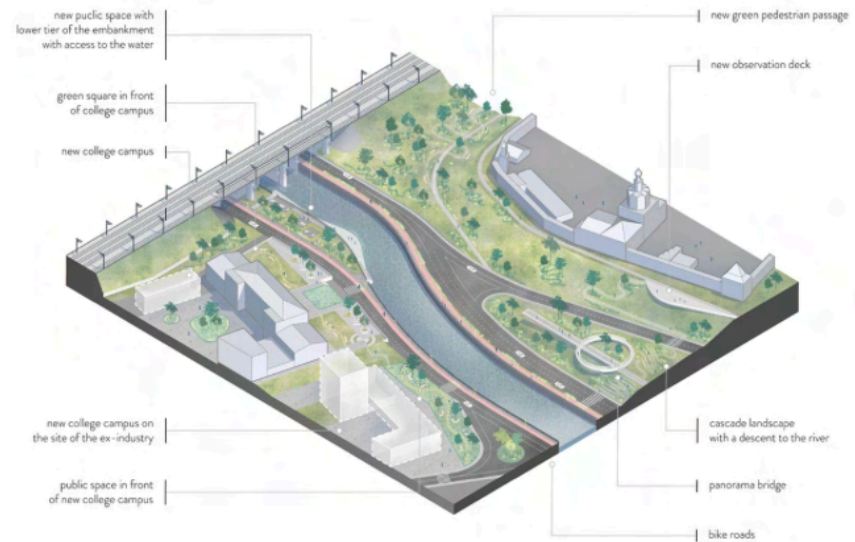
Zoom 5



Area I



Area II

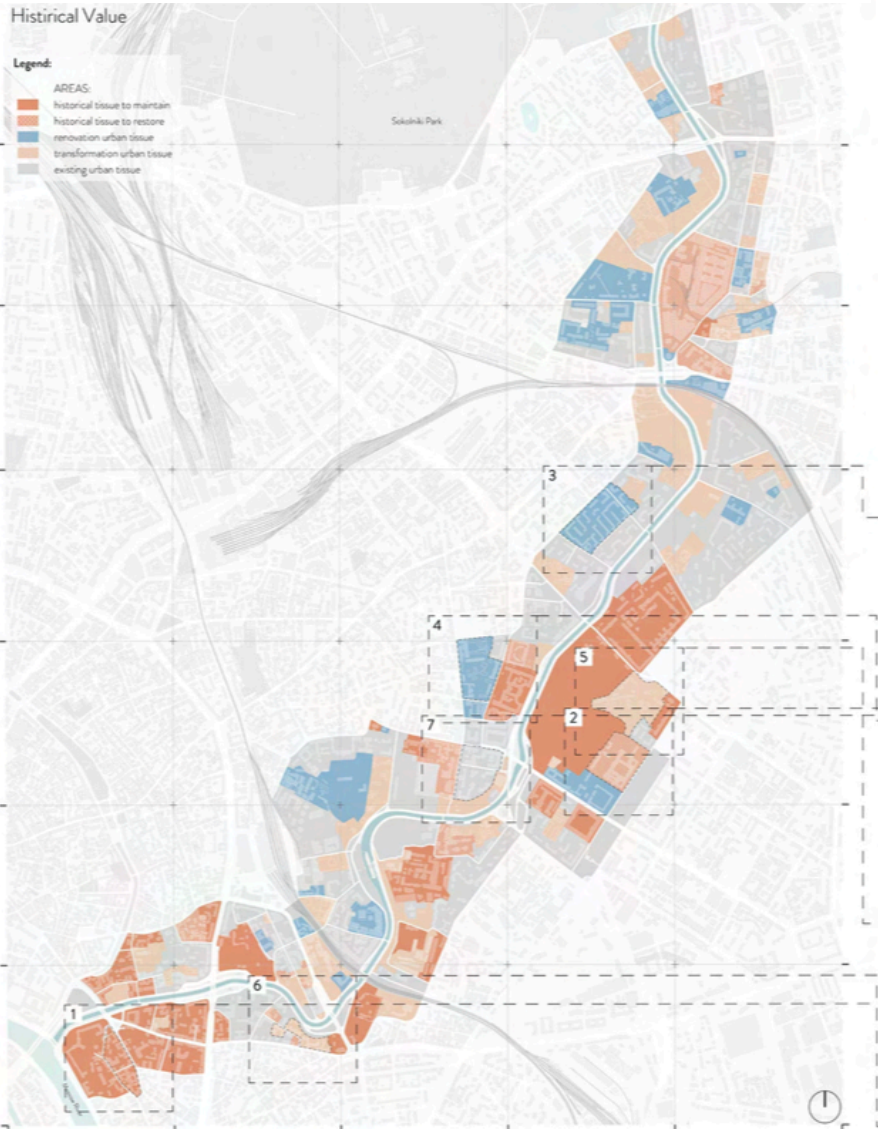


Historical Value

Legend:

AREAS:

- historical tissue to maintain
- historical tissue to restore
- renovation urban tissue
- transformation urban tissue
- existing urban tissue



HISTORICAL URBAN TISSUE

Urban tissues are defined by historical relevance, and should not be altered in any way. All historical heritage objects and spatial organization are kept and maintained in their original form.

1. The current quality of urban space is sufficient.
2. Urban space has a poor condition and requires restoration measures.

This type of block can have delicate interventions for improvements of soft mobility systems and permeability of urban tissues.

RENOVATION URBAN TISSUE

Tissues are defined by opportunities to enhance and improve. The spatial structure has poor connections inside of the block and with surrounding areas. The quality of urban space is identified on a low level.

Blocks are keeping original functions. Priority is giving to the maintenance of current spatial compositions, but it could be slightly changed and new buildings may be constructed if it is required. Urban space is renovated.

EXISTING URBAN TISSUE

Tissues are confirmed satisfactorily and not to be altered. The current quality of urban space is identified on a sufficient level.

TRANSFORMATION URBAN TISSUE

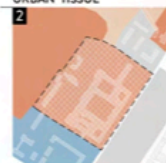
Urban tissues have the potential for transformation or modernization. Block has disordered or poorly composed and connected space. Areas are abandoned or have low-quality architecture.

The functional layout is changing for of current city interests and considering the surrounding context. These areas could have a new project with different spatial compositions or modernization of existing historical buildings for new purposes. Urban space could be transformed accordingly to updated use.

HISTORICAL URBAN TISSUE



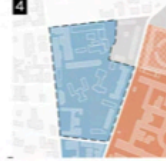
HISTORICAL URBAN TISSUE



RENOVATION URBAN TISSUE



RENOVATION URBAN TISSUE



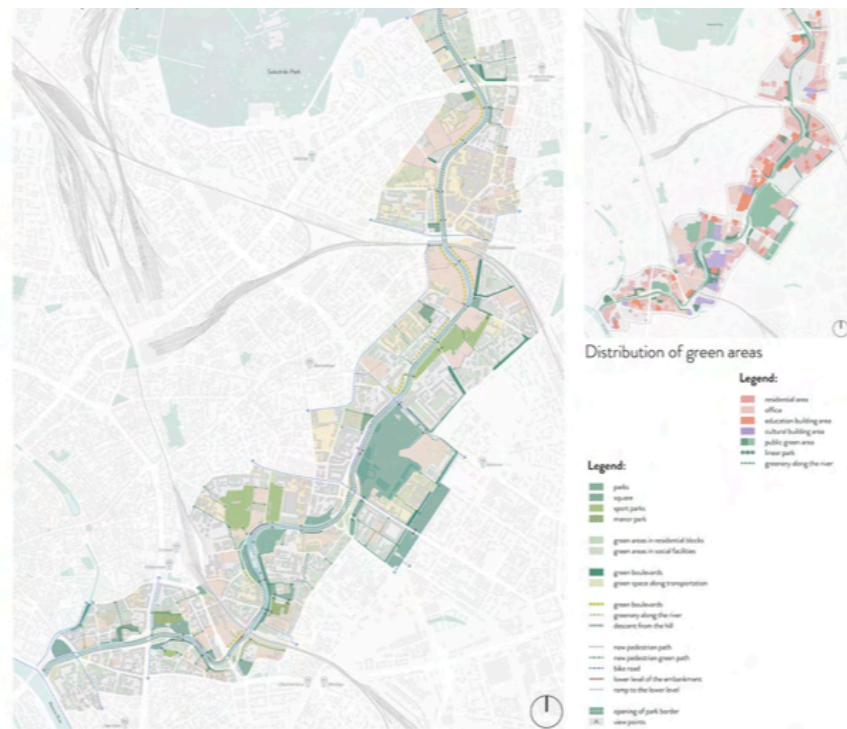
TRANSFORMATION URBAN TISSUE



TRANSFORMATION URBAN TISSUE



EXISTING URBAN TISSUE



Urban units division / Before



Soft mobility system / After

