Productive landscapes of Moscow: binding modernities
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CONTENTS

Acknowledgements 5
Introduction 7

Methodology

Problem field 15
Regional context
Production
Mobility
Open space

Deconstruction 29
Storyline
Urban growth
Polycentric super villages
19th century industrial city
The city of the working class

Dynamic context 73 Real estate market
Colonisation of industrial territories
Infrastructural projects

Conclusions

Case studies 97
Strategy 130
Reflection 132
References 136

The first socialist capital
Celebration of technology
Era of stagnation
Post-socialist city

Conclusions

Vision 85
Acknowledgements

I would like to thank a number of people who helped me with the completion of my Master Thesis. First of all, I address my appreciation to my mentors Stephen Read, Daan Zandbelt and Paola Viganò, whose experience, knowledge and criticism was inspiring me day by day to come closer towards the deeper understanding of what urbanism really is.

My gratitude also goes to my dear TU Delft colleagues Andrea Überbacher, Luiz Carvalho, Mrudhula Koshy, Claudiu Forgaci and Tatiana Starchenko, whose support was so important for me during this hard, but exciting months.

And last, but not least I would like to thank my first teacher in architecture Mikhail Turkatenko, who was always thinking independently from his context, and who motivated me to continue my studies at TU Delft.
Preface

Methodology
Preface

General context

The city of Moscow is a highly pronounced dominant in Russian urban system. It is the biggest and the wealthiest city in the country and there is a strong antagonism between Moscow and another Russian cities and territories. Being now on the stage of the neo-liberal development, Moscow experiences the period of extreme hierarchy. It is the result of the Russian economy, and its wealth is based on the concentration of financial flows generated from a huge resource-export income (Kosareva, et al, 2018). Economy of the city is mainly constituted by tertiary sector and construction market.

Contemporary city of Moscow is constructed through the integration of fast networks and big production. Large enterprises are active on all the levels, the space of action is punctual – without complex approach to production in relation to mobility and surrounding neighborhood. Along with market colonization, there are also city initiatives to redevelop industrial territories. But, while the goals of providing jobs, housing and qualitative public spaces are declared, the closer look shows, that these projects do not serve the goal of integration to the urban fabric on the local scale, and, if realized, will possibly reinforce local fragmentation and will not contribute to the development towards the center (see chapter “Dynamic context”).

The structure of the thesis includes the problem field, historical deconstruction, evaluation of dynamic context, the vision, three case studies, the strategy and reflection. The problem field covers three layers of problems and not destroying previous modernities, but bringing lacking functions and infrastructure, where they are needed, is not enough. In order to create places meaningful on local and global scale, to spatially and horizontally, but across all the levels of the scale. The vision then is tested in three case studies and elaborated in the strategy. The reflection field covers three layers of problems: “beautification” of neighborhood, punctual connections with another cities or only to local problems (“leisureization” of neighborhood, punctual interventions on industrial zones, minor improvements in infrastructure), the whole system is in danger to fall apart. Even that long-term objective is to create metropolitan region active on all the levels, the space of action is limited by eastern part of industrial belt. It is now one of the most deprived parts of the city (fragmented urban belt, abandoned industries, low quality housing, industrial pollution, lack of jobs and insufficient infrastructure). At the same time, the industrial belt is now in the focus of high attention of the city government and real estate companies. As there is high demand for housing, and all the other areas in the city are already built-up, industrial belt in the future will be subjected to many transformations. How to make this territory to work as a heart of a system, instead of increasing an urban divide is one of the primary concerns of the project.

Research question

How to reconstruct contemporary city and to make it operative across all the scales, without destroying previous modernities?

Thesis structure

City under transformation

The contemporary city of Moscow is constructed through history according as a heart of a system, instead of increasing an urban divide. The city was constructed through history according to shifting modes of transportation in relation to production and inhabitation. In the chapter “Dynamic context” current trends are evaluated. The vision deconstructs on a city scale how to segregate industrial territories without weakening discontinuity of urban tissue. The thesis vision is tested in three case studies and elaborated into the strategy for industrial territories, mobility and open spaces. The reflection field discussed whether developed methods can contribute to a broader theme of transformation of industrial territories in contemporary reality of the cities of postindustrial block.
City as a resource

During the course of the last century Moscow was ob-
jected to many large-scale transformations. The process
which transformed the urban form of the city had its
routes in complex dynamics of political and technological
space. Moscow, as a capital of the Soviet Union, played
an all-pervasive role in all the major processes in the
capital city at the expense of the real (Hiller & Metzker,
1984). Regarding the technological space, all the routes
arose on the same route as the western capitalist cities,
but with a substantial time-lag behind them (French,
1995).

Evolution of Moscow is studied through the lens of
technological progresses, which includes the evolution of infrastructures in relation to the changing modes and
patterns of production and patterns of inhabitation. The
idea of “technology” is described by Hard and Misa as “the
human-made materialities designed with the needs of
technology means the expansion of spaces where a differ-
ence between what was included and what was
omitted has to be performed (Read S., Budiarto L., 2003).
Nested hierarchy of scales is the critical con-
dition which makes the place operative through all the
scales. Relations between production and inhabitation are
described here as the acts of “creative destruction”. There were
possibly no means to integrate local neghbourhoods into
the network defi  ned edges beyond which they should be meaningful across several levels of scales.

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Methodology

**Problem Field**

- **Regional context**
- **City scale**

**Mobility**
- Public transport vs. car-based development

- **Past**
  - 1812-1880s: Policentric supervillage
  - 1880s-1917: 19th century industrial city
  - 1917-1932: First socialist city
  - 1932-1957: Celebration of technology
  - 1957-1971: Era of stagnation

- **Present**
  - 1991-...: Post-socialist city

**Utopia**
- Production vs. decaying industrial platforms
- Production vs. residential areas
  - Jobs vs. decaying industrial platforms
- Jobs vs. residential areas

**Urban sprawl**
- Decay of academtowns

**Mobility**
- Public transport vs. car-based development

**Open space**
- Loss of scale

**Methodology**

- **Problem statement**
  - Existing zoning plans are not able to control market forces and do not deal with the problems of industrial decay, social deprivation and transport collapse.

- **Vision**
  - Bringing production back to the city
  - To provide spatial conditions for establishment of knowledge-based economy and sustainable types of production which are only possible in an open and mobile city, and could stimulate a reuse of derelict industrial territories, and further integration of ghettos into healthy urban environments.

- **Case studies**
  - Mobility
    - Overlapping of infrastructures of different levels, expansion of slow networks of public transport
    - Integration of existing and new public transport networks on the local scale
  - Production
    - Remediation of polluted territories
    - Upgrading research institutes
    - Upgrading light industries
    - New rules for real estate development
  - Open space
    - Shifting the center
      - 1. Productive Village
      - 2. Human scale neighborhoods
      - 3. The gate to the East

- **Result**

**Evolution of historical space through the logic of integration**

Research question: How to reconstruct contemporary city and to make it operative across all the scales, without destroying previous modernities?

Evgeniya Bobkova

Productive landscapes of Moscow: binding modernities
Problem field

Regional context

City scale:
Production

Mobility

Open space
Regional context

Metropolitan area
Moscow is located along the Moscow River in the Central Federal District of the European part of Russia. The population of the city is officially 11.5 million people, and 15.1 million in Moscow agglomeration. Yet, the estimated non-official population is close to twenty million. This number includes everyday commuters who live in Moscow region but work in the city, non-regis-
tered residents and illegal migrants. Starting from the 1990s the city of Moscow and Moscow Region are two independent federal subjects of the country. Urban planning strategies of the Soviet period considered the city and the Region together, but during the last twenty years the two subjects developed almost independently. There are three civil airports, one airport as a testing ground for aviation and two military airports. The biggest airport Sheremetyevo is located to the North-West from the city and acts as one of the major attractors for the global business in Metropolitan area of Moscow.

There are several academ towns surrounding Mos-
cow. In Soviet times they used to operate as science and research clusters of high technologies, but after the 1990s there was low demand for their resources. Now there is a threat that they can become Moscow dormitory satellites (Molodikova & Makharova, 2007), as the city is sprawling and there is an extreme need to build housing to accommodate migrants.
Production

Jobs vs. decaying industrial platforms

The former industrial areas occupy now seventeen per cent of the city. Most of these areas are concentrated along the ring railroad, but mainly in the eastern part of the city.

In the nineties, with the transition to service-oriented economy, most of the industries within the city have declined; the number of people involved in production decreased from 1.2 millions in 1990 to 284 thousands in 2011 (Vendina, 2012). At the same time, the amount of jobs in the center is close to 2.4 million. 1

Location of the main industries on the East has caused a reasonable disparity between the Eastern and the Western part of the city (Vendina, 2012). As the ecology in the western part is much better, than in the east (due to the lack of the industries), neighbourhoods there are traditionally associated with a more qualitative living. What is more, while the Eastern industrial part mainly accommodates working classes related to production, the biggest universities and research institutes are located in the western part of the city. The presence of the biggest airport Sheremetyevo in the North-West direction from the city is another aspect causing the tendency of businesses to gravitate closer to the western part of the city. 1

1 Strategy of the Socioeconomic Development of Moscow till 2025.
Production

Jobs vs. residential areas

After the shift to the market economy in the nineties, the accessibility and importance of the center resulted into radical increase of the rent prices: many residents and lower level services were forced to move out from the inner city (Wiessner, cited by Stanilov, 2007). Many former residential buildings were reoriented to office and commercial use, and during the 1990s the population of the inner city decreased by 200 thousands people (Bater, cited by Stanilov, 2007).

At the same time, while the most of the people live on periphery, around 65 per cent of jobs are located in the center (Bokova, 2010).

The core of the city is now the strongest dominant in the city. It accumulates most of the functions, and all the infrastructures converge in the center. At the same time, monofunctional periphery remains paralyzed and dependent from the center.

It is necessary to reconsider the relations between jobs and residential areas and to bring jobs closer to where people live.
Mobility:

Public transport vs. car-based development

Large dormitory districts on the periphery are not adequately served by metro lines and are still hardly accessible, despite the fact that the metro system is running on the maximum capacity (with the 40-second interval between the trains). The population density of residential areas increases towards periphery, up to thirty thousand people per km² (the dark grey on the map), while areas in the center, with the densest underground network have the population density of less than ten thousand people per km².

Confinement of public transport networks is primarily a result of a strong historical dominance of the city center, where most of the jobs are currently concentrated. If restructured in order to connect the densest residential areas and industrial platforms, public transport networks could become a strong catalyst for regeneration of deprived areas.

Image sources: http://upload.wikimedia.org/wikipedia/commons/a/a4/Moscow_traffic_congestion.jpg

Moscow traffic congestion

Image sources: http://upload.wikimedia.org/wikipedia/commons/0/0b/Moscow_public_transport.png

The densest dormitory districts (in black) in relation to public transport coverage (in red)

Source: GIS data, Population census 2010

Moscow traffic congestion

Image sources: http://upload.wikimedia.org/wikipedia/commons/a/a4/Moscow_traffic_congestion.jpg

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The densest dormitory districts (in black) in relation to public transport coverage (in red)

Source: GIS data, Population census 2010
Mobility

Public transport vs. car-based development

The road network density, due to the large scale of urban blocks in the periphery, is not high enough in relation to population density to provide a "healthy" operation of transport networks. Global metric choice (on the left) shows that fast roads serve mainly the center of the city, which is also due to the road width is car-oriented.

Local metric choice (on the right) shows missing links in local street network; in some cases because of parks, but mainly because of dense rail network and industrial platforms. Closed for the public, and not fitting enough streets they serve as the strongest barriers in an urban fabric.
Evgeniya Bobkova
Productive landscapes of Moscow: binding modernities

Open space

Loss of scale

Moscow inner periphery (territory between MKAD 1 and the Third ring2) is currently a large buffer zone between the city and the region. Its homogeneity and monofunctional, it keeps global scale “through” movement and it lacks local identity. At the same time it represents almost 93.5 per cent of the city territory and accommodates 92 per cent of the population (Bobkova, 2010).

The size of urban blocks, as well as population density, increases dramatically towards periphery – the largest dormitory districts as well as industrial platforms are marked by a complete loss of the human scale.

In order to make it easier for small actors to colonize the available areas and to make the dormitory districts walkable, it is necessary to downsize the enormous plots of land and to introduce hierarchy of public spaces.

1 MKAD – Moscow Automobile Ring Road, the outmost road, which starting from the 1950s was considered as a city boundary
2 The Third Ring – the high-speed freeway constructed in 2005, basically divides the inner city center of 1930s from the pro-pulated dormitory districts

Figure 1. Plot size (the biggest - dark grey, small grain - light grey) Sources: GIS data

Dormitory district Maryino (1990s-2000s)
Image source: http://upload.wikimedia.org/wikipedia/ru/
“If modernism ever managed to throw off its scars
and tatters and the uneasy joints that bind it to the
past, it would lose all its weight and depth, and the
maelstrom of modern life would carry it helpless-
ly away. It is only by keeping alive the bonds that
tie it to the modernists of the past – bonds at once
intimate and antagonistic – that it can help the
moderns of the present and the future to be free.”
(Berman, 1982, p. 346)
The Russian urban history of the Soviet time is the story of massive industrialization and industrial policy (Jopp & Polyan, 1999) in the context of centrally planned, command economy and constantly underdeveloped infrastructure. The urban transformation of Moscow was largely influenced by these processes.

The history of the city is studied through the lens of changing modes of transportation in relation to the evolution of production and inhabitation. Being a trading city with local quarters of craftsmen until the end of the nineteenth century, by the beginning of the twentieth century Moscow had become an industrial city (mainly oriented to textile production) and the biggest transport hub in the country with nine railway stations and a dense tram network. After the years of the Revolution of 1917 and the following years of the Civil War (1917-1923), when population radically shrank and any kind of production was in decline, the radical transformation of the city took place. Along with the goal to create a city as a monument of power, Moscow was reconstructed to become the biggest hub of heavy industries. The main attention of planners of that time and further on was given to developing heavy industries and military sectors of economy at the expense of manufacturing, consumer goods, and housing sector (Becker, et al., 2012). Regarding public spaces, in context of complete lack of privacy (Lappo, 1946) a great attention was given to the networks of public spaces and to public transport infrastructures. This type of development (though industrialization was made successfully) had put the city of Moscow in a deep housing crisis. In the situation of the constant inflow of population from rural areas and lack of housing stock, the planners of 1950s had radically shifted their attention to massive construction of pre-fabricated housing. New dormitory districts were connected with the center and with the industrial belt through the growing underground network. Regarding to production, starting from the 1950s the attention had shifted from heavy industries to high technologies and science (aerospace and nuclear technologies). New scientific centers were mainly located in satellite “academtowns” around Moscow, and this type of production was in general closed from public. After the shift to market economy in the 1990s, heavy industries as well as science sector have started to decline. The city center has become the main financial hub where most of the jobs are concentrated, and outer periphery of the city, with the ring road has served as the main location for the trading sector. Dormitory districts, where most of the population is concentrated, in turn, are poorly connected with jobs (public transport is not effective and car network is close to a collapse) and do not benefit from decaying industrial territories.

The deconstruction of the city into spatial-temporal layers is a way to articulate the routes of current conflicts within the city and to explore hidden potentials on the territory. Maps are made with the use of historical maps and materials from the research “Archaeology of Periphery” (2013), excluding layers of production, which are drawn by the interpretation of the writings about each period.
Local and global networks

The city was founded in the twelfth century as a fortress, and in the thirteenth century the residents of Kitai-gorod quarter built a new fortification, the Kitai-gorod Wall, which laid the foundation of Moscow's annular structure. During the course of the following eight centuries, until the middle of the twentieth century, what now is the center of Moscow took shape. Moscow is almost the only Russian metropolis which kept its radial-annular structure and escaped planning transformations which were common during eighteenth and nineteenth centuries (Bokova, 2010). For these two hundred years, the capital of Russia was Saint-Petersburg, while Moscow was functioning mainly as a trading city and was growing in a self-organizing way. Local quarters of artisans and tradesmen grew naturally along the main radial roads, and roads used to connect the city with other villages and monasteries and then with the other cities and with the neighbouring countries (Sitin, 1958). Supergrid networks were integrated into local networks of public spaces.

Image source: Moscow map 1880, 1852 Sources: http://www.etomesto.ru

Local street network

Image source: Moscow map 1880, 1852 Sources: http://www.etomesto.ru

Global trading routes (in black) and local quarters of artisans (in grey)

Image source: Moscow map 1880, 1852 Sources: http://www.etomesto.ru
1. Policentric supervillage (1147-1860s/1880s)

Networks of public spaces

Orthodox churches were focus points of every small city quarter. They formed irregular public spaces which served for gathering of public guilds (Bo-goescu, 2010). Situated on public squares, they provided sense of place for local networks and played an essential role in people’s everyday life.

Boulevard and Garden rings were created on the place of old fortifications in the end of the 18th and the beginning of the 19th centuries respectively. They represented rings of linear public spaces with beads of centralities strung on them. Parks were originally used for hunting or as estates of noblemen, but in the 19th century they were given to the city for public use.

The medieval city of Moscow represents a place where infrastructures of different scale are overlapping, what makes it meaningful across all the levels. Policentric supervillage is not comparable with the contemporary city nor in size, nor in the ways it operates. It also had faced the crisis of overpopulation and had to deal with the problems of lack of basic engineering systems. Nonetheless, the way it was constructed across the scales can be exemplary, when new rationalities of acting in the urban space are being developed.
2. 19th century industrial city (1860s/1880s-1917)

Mobility as a public space

As a response to a rapid modernization of the country in the end of the 19th century, nine railway stations were constructed around the inner city and then were later connected with a ring railroad to shape a largest transport hub in the country. Newly constructed dense network of tramlines was naturally integrated into network of railways. Railway stations represented new type of centralities, providing a smooth shift from one scale to another.

In the 19th century industrial city mobility served not only to connect different places, but as a public space itself, offering ‘explorability’ of the city through movement.
2. 19th century industrial city (1860s/1880s)

Factories

Modernization of infrastructure was a response to new factories emerging in the city. Heavy industries were located in the eastern part of the city (due to wind direction and downstream), while light industries and textile manufacturing were located close to the water and main upstream (western part of the city).

In pre-evolutionary Moscow the main economy of the city was the textile production.

Despite the fact that the scale of production increased in comparison to the previous period (factories replaced local quarters of artisans), the relation between production and inhabitation was still presented, and transportation networks adequately bound together layers of production and open space.

Maps of Moscow in the beginning of the twentieth century show that the city was not so monocentric as it is now: being developed without real plan, it expanded towards the North. There were several reasons for that: flatter topography on the North, swampy lands on the South-East, existing strong centralities on the North-East (three railway stations, park ‘Sokolniki’), the presence of another river ‘Yauza’. The location of ring railroad also shows that it was supposed that the future northern parts of the city would be much more urbanized.

By the 1917 Moscow city faced many common problems of industrial cities of that time. City was overpopulated and its structure was still archaic: buildings were low-rise, mainly wooden, and water supplies, sewerage and electricity were extremely short (Khazin, 2007). The quality of life was still very low and urban form of the city required modernization.

Map source: Moscow map 1915, 1913 Sources: http://www.etomesto.ru

Prokhorovskaya factory

Image source: http://www.etomesto.ru/
	Oxomalo/155/260/1552601312889263.jpg
3. The city of the working class (1917-1928/32)

The Revolution, the Civil war and complete restructuring of the society had devastating effects on the city of Moscow after the 1917. In the first years of socialism, the whole economy of the city was destroyed, and population of Moscow shrank drastically (Heller & Nekrich, 1986). At the same time, the capital of the country was shifted from St Petersburg to Moscow. The city had to be transformed to represent an utopia of the first socialist capital in the world. Not so much was done during the 1920s, but it is still important to follow the traces of the concepts in the urban fabric of Moscow. Transformations, modest in scale, had a strong cultural and historical meaning. What was done is the construction of projects of Russian avant-garde: mainly worker clubs as new temples of socialism. They shaped a ring according to Shestakov plan of Bigger Moscow (1926), which meant to reinforce radial-concentric structure of the city.

After the nationalisation of the economy, due to the transition to communism, all the local production in the city had declined. The process of disintegration of production and inhabitation had started from this moment in history.

1 The short period of New Economic Policy, when private ownership was temporarily revived, was the only driving force that facilitated constructions in the city (even engineering systems).
4. First socialist capital  
(1928/32-1953/57)

During the Stalin regime the city had to be transformed into a majestic ensemble which would represent the first socialist capital in a period of ten years. Actual plan meant complete reconstruction of the existing city, as well as huge expansion, especially to the South-West, in order to make the city more even towards all the directions from the center and by doing this to reinforce a centralized position of Moscow.

Besides making a monument from the city, the first and primary goal was to transform Moscow into the largest in the country hub of heavy industries.
4. First socialist capital (1928/32-1953/57)

Industrialisation

The plan was never fully implemented. Yet, looking at what was done, it is possible to see a logic of upscaling the city to a single monument. The main transformation involved expansion of industrial belt, creation of the wide thoroughfares with new housing blocks along them and introduction of the new underground network. New infrastructure was connecting the city center where most of people was living with the belt of heavy industries.

Public space

New roads even extremely wide were designed to be used mainly by public transport. What is more, immense in scale they did not serve as transit roads—they were carefully integrated into surrounding street network. Yet, the type of roads aggravated the problem of traffic congestion, which happened in the nineteen with a rapid increase of car users.

Underground stations were not merely points of intensity in the certain locations of urban fabric. The underground network of public spaces was planned in relation to the centralities above the ground. Metro stations, designed as the temples provided continuity and exploitability of spaces both above and under the ground.

The main interest of planners was dedicated to the rehabilitation of the economy, which was completely destroyed after the years of the Revolution and the Civil War.

While industrialisation was successful, and development of infrastructures provided connections between production and inhabitation on a city scale, the attention to housing conditions was very low. Most of the population lived in commensal flats (4 m² per person) or in the wooden slums hidden behind the posh facades of the new buildings in extremely low conditions. Crisis of the city as a monument was very deep and required strong and radical actions from the next generation of planners.
4. First socialist capital
(1928/32–1953/57)

Big projects as large-scale centralities

After the Second World War the plan of 1935 was partially changed. Originally planned Palace of the Soviets was never built, but several large-scale centralities were constructed. They were seven high-rises in a city center and two big projects: Moscow State University and National Economy Achievement Exhibition (VDNKh). The last two emphasized the importance of northern axis (which was there already) and the newly introduced South-Western axis.

Starting from this moment urban development on the South-Western part of the city became one of the most prestigious districts for living. University campus became an important focal point which attracted later another universities and research institutes to this area.
4. First socialist capital  
(1928/32-1953/57)

Port of the five seas

Reconstruction of the city involved not only the reconstruction of the urban fabric, but also strong transformation of its water landscape. The wider goal was to make Moscow a port of five seas: to connect Moscow river with Baltic and White sea on the North and with Black, Azov and Kaspian sea in the South. Three big canals were constructed, and one of them (Moscow-Volga) was constructed within the city. It also provided the city with extra fresh water which was in shortage before.

The ambitions to make Moscow a port city were never truly successful, but, what is important, that the river was for the first time rethought as a meaningful part of the city. Ring of industries by that time has already almost reached its modern size. Industries that gravitated to the South Port located downstream later shaped one of the largest industrial territories of the city.

Northern Port  
Western Port  
Southern Port

New canals linking Moscow with five seas (in dark blue)  
General Plan 1935  
Map source: General Plan of Moscow Reconstruction, Moskovsky rabochy, 1936, p.75

Ports (red outlines) and industrial territories (in grey)  
Map source: maps.google.com

Moscow-Volga Canal

Nine canals linking Moscow with five seas (in dark blue)

Map source: General Plan of Moscow Reconstruction, Moskovsky rabochy, 1936, p.75

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Ports (red outlines) and industrial territories (in grey)  
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4. First socialist capital
(1928/32-1953/57)

Celebration of the landscape

Great attention to the large-scale, qualitative public space greatly influenced the shape of green and water landscape of Moscow. Green and blue networks became both centralities and carrier structures for the networks of public spaces. System of green wedges was established to reinforce the star-shaped structure of the city.

Being now one of the greenest in the world, Moscow urban fabric has lost the logic of the carrier green structure: equally dispersed everywhere green spaces do not serve anymore as backbones for networks of public spaces.

The Girl with an Oar in Gorky Park, by Naum Granovsky
Source: http://slavikap.livejournal.com/5826536.html
5. Celebration of technology (1953/57-1971)

The period is marked by a radical change in inhabitation patterns. Fascinated with technological progress, there was a “time of space exploration programs” the planners of the city believed that technology can completely change the way people live. The result was that the production of housing was put on fully pre-fabricated base.

With regards to production, from the remount, besides industrial belt it was also concentrated in newly constructed scientific cluster - satellite “academ” towns outside Moscow.

As its type of production was related to aerospace, aviation and nuclear energy, most of the plants and research institutes were closed from public.

Starting from the Technical plan of 1957, general plans had less and less influence on real constructions in the city. They had more and more retroactive character (Sitar, 2013) and became merely document made to legalize what already had been built (Sitar, 2013).
Extreme minimalism

An extreme need for housing coupled with Nikita Khru-
rushchev’s technocratic optimism resulted in an immense
scale program of massive housing construction after
1957. By 1965 amount of massive housing came up to
3.02 million square meters, while in 1972 it was 0.8
per square mile. Such a strong jump in scale
and in speed of construction became possible because
production of the housing had been put on a fully indus-
trial base. The very idea of housing and open space
related to it was reduced to extreme minimalism: home
as a sleeping box, mobility as transit, public space as
“just” green equally dispersed everywhere (Sitar, 2013).

The idea of modest life, while reducing the complexity of
the city, or even the complexity of the human being, was
a solution to housing shortage in the end, every family
got the opportunity to have their own place to live.

The underground network was expanded along with
dormitory districts, and transportation systems were still
public transport oriented. Yet, the paths of the fast
movement went along with the fascination of the techno-
logical progress. It’s important to mention, that between
1950s and 1970s the amount of goods transported

by cars became equal to those transported by cargo
trains (Statisticheskiy komitet, referenced
Sitar, 2013, p.226). Since that moment, the share
of goods transported by cars was only increasing.

One of key conflicts related to a period of mas-
sive housing construction was that most of dor-
mitory districts were designed without any re-
lation to local context (Kruglyansky, 2013).

The integration happened through the underground
network, and while it worked well (to a certain ex-
tent) connecting large chunks of dormitory districts
and industries, the fragmentation of the local urban
tissue was a result on another level of scale.

Celebration of technology has shaped a huge
amorphous mass strongly dependent from the cen-
ter and industrial belt. There was a strong need
to introduce hierarchy in completely multifunctio-
nal urban fabric of new peripheral territories.

5. Celebration of technology
(1953/57-1971)

[Map: Housing construction (in light red) in relation to underground net-
work, tram networks (in red dashed) and industries (in grey).
Source: http://tram.ruz.net/maps/sh19730300.gif]


[Diagram: Utopia]

[Crisis]

Construction of “Khrushchovka” - first residents
Source: http://nnm.me/blogs/kot_vaska/kak-stroili-hrushevki/page2/
5. Celebration of technology (1953/57-1971)

Each next generation of the housing construction was marked by a radical increase in scale of not only housing typologies, but of a public space related to it. While the first series of “Khrushchovkas” were mainly 5-storey housing blocks, the next series were 9-12 storeys, and after the 1970s their height increased to 14-22 storeys. The scale of the public space (as the width of the courtyards had to be the double of the building height) increased respectively, while the density of the street network was decreasing towards the periphery.

Mobility as transit

The plan of the 1971 clearly reflects on the problem of monofunctional periphery completely dependent from the center. There is an attempt to decentralize the city by introducing the grid in radial-concentric city and by creating new urban centers with jobs on the periphery. Created in the period of stagnation of the Soviet system this plan was never realized. Yet, some transformations took place.

Several fast roads were constructed, but never integrated into urban urban fabric: large scale of dormitory districts did not allow to create a dense street network.

Loss of human scale

Urban centers, though partially realized, were just immense empty boulevards or squares. Meant to be used as centralities, but having wrong scale, they became another non-places or voids in a huge mass of Moscow Periphery.

Even though the construction of the microrayons went along with underground expansion, the pace of residential constructions had been much faster than the expansion of metro lines (Glazychev, 2008). As a result, public transport was always congested and is not able to adequately serve the periphery of the city.

On this stage, it is possible to observe the complete loss of scale in the public space, the crisis of transportation networks, which become dependent from the center and industrial territories.

At the same time, the pace of construction reached such a high speed, that any general plans issued from 1957, were not able to regulate processes shaping the urban structure of Moscow.

Comparison of the scales of public spaces in the city center (on the left) and in the dormitory district of the 70s (on the right)

Map source: GIS data

Housing construction and new local centers (in red) in relation to underground network (red, dashed)

7. Post-socialist city (1989/91—)

Zoning plans and land use regulations

The main feature of a contemporary post-communist city is the inability of the planning system to regulate market forces which shape the urban form of Moscow for the last twenty years. What is more, during this time, urban planning system was in a period of a deep crisis, as the whole idea of the government control over the private initiatives was regarded as an attempt to reintroduce former socialist practices (Stanilov, 2007). As a result, all the plans issued after the 1990s were only documenting what was already happening. In this context, construction market became the main actor on the field: endless demand for shopping malls, office buildings and housing made construction business extremely profitable (Bronovitskaya, 2013).

The General Plan of 2010 reflect more clearly than any plan before, the crisis of the post-socialist city. It establishes only the most general quantitative parameters within particular functional zones (Muratov, 2010). In some cases the change of use is prescribed from industrial to residential, from residential to mixed-use and so on. But when one makes a closer look to detailed drawings, it is possible to see that basically everything can be transformed. The overall plan of territories of reorganisation (on the map they are shown in blue) covers almost the whole city. Without giving guidelines of how to build, it only gives prescriptions where to build and how much (Muratov, 2010).

The density and the height of urban fabric are established in Rules for Land Use and Development (see example). Not only they give very basic quantities, they also do not regulate the scale of constructions: the size of plots is extremely big. It means that it is possible to build any project of any scale, without paying attention to the scale of public space or density of existing street network.

The key problem of the Plan (which is actually an intended policy) is a complete lack of any principles (Muratov, 2010). The General Plan of 2010 allows building anything anywhere.

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1 After the doubling of the administrative borders of the city in July 2012 this plan is being changed: the new one has to be issued in 2015. Yet it is the main document to be used when regulating all the constructions in the city.
7. Post-socialist city
(1989/91–...)

Big projects: big boxes and highways

One of the most important trends from the beginning of the 1990s was a decentralisation of commercial functions (Sykora, cited by Stanilov, 2007). Shift of large-scale commercial functions to the outer periphery, due to the lower administrative barriers for the business community in the Region, meant dramatic change of commercial patterns. Later “big boxes” developments have spread into the city periphery along the major thoroughfares, forming a new type of centralities with the residential districts.

From one hand, contemporary neoliberal development of Moscow is typical for many cities. But, it is important to remember that the previous socialist periods were marked by a constant shortage of consumer goods. So, the complete reorientation to tertiary sector of economy was not only a global trend, but also a response to a deep crisis of the former system.

In this context, an extreme celebration of individualism and endless consumption is a logical reaction to lack of privacy and to shortage of consumer goods which lasted for seventy years.

Sources:
- GIS data
- Sykora (cited by Stanilov, 2007)
- Stanilov, 2007
7. Post-socialist city (1989/91–...)

Externalities: brownfields

The external effects of the change in modes of production from industries and science to tertiary sectors of economy were the huge spaces of exclusion, which cover almost all the territories of industrial territories.

Rail network designed to serve industries is also declining, as most of the goods are currently transported by cars, and industries are decaying. It only transports people from the suburbia to the city.

Cars washes, services 20%

C-grade offices 40%

Production, warehouses 40%

Depreciated assets 40%

Effective production 20% loss-making 24%

Existing activities on industrial platforms


Declining industrial territories and railroads

Source: GIS data

Evgeniya Bobkova

Productive landscapes of Moscow: binding modernities

Industrial platform near Pechatniki Source: author’s own

Declining industrial territories and railways

Source: GIS data

Externalities: brownfields

The external effects of the change in modes of production from industries and science to tertiary sectors of economy were the huge spaces of exclusion, which cover almost all the territories of industrial territories.

Rail network designed to serve industries is also declining, as most of the goods are currently transported by cars, and industries are decaying. It only transports people from the suburbia to the city.
Conclusions

- If the problems instead of being solved, are transferred to another level of scale through bigger and faster infrastructures, there is a threat that the result would be a fragmentation on a lower level of scale.
- Loss of relations between production and inhabitation, and uneven development of Moscow city is a direct result of this process.
- In order not to repeat fails of modernists of the past, we should not neglect any of existing spatial-temporal layers, but have to bind together what is already there.

- Only by overlapping infrastructures of different scale and speed it is possible to create a place operative across all the levels.

Policentric supervillage and 19th century industrial city, though had their problems, were constructed through the integration of fast and slow mobility networks across all the levels.

Though contemporary city is much bigger and much more complex, than policentric supervillage, it is possible to extrapolate the principles of integration from organically developed, medieval city.
Dynamic context

Real estate development

Colonisation of industrial territories

Infrastructural projects

Conclusions

ZIL renovation project (bureau Project Meganom)  http://stroi.mos.ru/rekonstrukciya-promzony-zil
Real estate development

Housing market currently lies in the core of Moscow economy. "The living standards gap between Moscow and the rest of Russia, the huge labour market, proximity to the government and business decision-making centers, the boom of the service sector and the booming of middle class seeking better housing conditions have all contributed to huge demands on Moscow's housing construction market" (Kosareva et al., 2013, p. 376) What is crucial, is that land taxes add only 0.09% to the Moscow budget, taxes for individual property are 0.004%, and land leases taxes are 0.02% (Kosareva et al., 2013) So, having an extremely profitable and monopolized construction sector, the city does not benefit from it at all.

In the context of high demand for housing and at the same time the lack of empty territories available for redevelopment, investors are starting to colonize abandoned industrial territories. According to General Plan, some territories have to be redeveloped for mix-use, and some have to keep the industrial use, but upgraded.

Redevelopment for mix-use is not the interest of investors, as they understand that at this moment only housing construction is profitable (Madarenova, 2013). Giving the general framework for mix-use, the General Plan does not give spatial guidelines how to achieve "mixed-use" development. Confusion of investors is understandable: for them effectiveness of the project (if it is mix-use) depends on location, environment and perspective of developments of surrounding territories (Madarenova, 2013). As a result, General Plan does not guarantee effectiveness, for real estate companies it is much easier to make punctual projects, according to their specialization, not context, without giving any attention to the needs of the city.

It is important to mention that pre-revolutionary industrial areas, as they have qualitative architecture, located close to the center and served by public transport, are already reclaimed as creative clusters. As they operate successfully, these areas are out of the thesis concern.
Colonization of industrial territories:

ZIL (city initiative)

In order to demonstrate how general guidelines for mix use development and for reclaimation of industrial territories are working, two recent projects are analyzed and evaluated.

Area of former ZIL (car production) plan is owned by the city and is declared to become the first pilot project, where methods of reclaiming industrial platforms are tested.

Nevertheless, mixity is not presented in the project. As this area is locally disconnected from the surroundings, new part of the city, if implemented, can become another monofunctional enclave in fragmented urban fabric.

ZIL renovation project (bureau Project Meganom)


<table>
<thead>
<tr>
<th>Area</th>
<th>300 ha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approx. investments</td>
<td>7.775 billion euro</td>
</tr>
<tr>
<td>Private investors</td>
<td></td>
</tr>
<tr>
<td>Time span</td>
<td>2014-2018/2022</td>
</tr>
<tr>
<td>Demolitions</td>
<td>1.09 million m²</td>
</tr>
<tr>
<td>New constructions</td>
<td>3.59 million m²</td>
</tr>
<tr>
<td>Reconstruction</td>
<td>0.85 million m²</td>
</tr>
<tr>
<td>Green spaces</td>
<td>82 ha</td>
</tr>
<tr>
<td>Housing</td>
<td>15,6 thousand people</td>
</tr>
<tr>
<td>Hotels</td>
<td>14.4 thousand people</td>
</tr>
<tr>
<td>Jobs</td>
<td>45 thousand people</td>
</tr>
</tbody>
</table>

Evaluation:

- Land owned by the city
- Relatively easy to develop single project
- Small residential units
- 50% jobs, 50% housing
- Former production is partially kept (cars)
- Public spaces are immense in scale and will possibly serve not as carrying structures but as barriers
- Few links across the Third Ring and the river
- More than 500 meters between future railway station and new metro
- Redeveloped area is connected with the city only by highway and railway
- On a local scale highway and railway will serve as barriers
Colonization of industrial territories: Serp and Molot (construction company initiative)

The project of Serp and Molot factory redevelopment as a real estate company initiative seems to mark a large step forward: construction company (Don-stroy), which specialization is mainly luxury housing and gated communities, arranges an international competition together with the city, and chooses the project which is integrated in surrounding context. The street network density provides the continuity of urban landscape, scale of new housing is almost the same as historical part of the city, and mix use functions are introduced on a scale of building unit.

Yet, even if new plots are based on a factory layout, most old buildings have to be demolished. What is more 50/50 ratio between jobs and housing does not contribute to the disproportion of job distribution on city scale: to balance periphery with the center, much more jobs have to be introduced.

<table>
<thead>
<tr>
<th>Area</th>
<th>Approx. investments</th>
<th>Timespan</th>
<th>Expected number of people</th>
</tr>
</thead>
<tbody>
<tr>
<td>74.5 ha</td>
<td>3.9 billion euro</td>
<td>2021</td>
<td>19 thousand people</td>
</tr>
<tr>
<td>16 thousand people</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Evaluation:

- Small, closed building units
- Mostly housing
- Demolition of existing buildings (not possible to keep production: heavy industries)
- Though mix use is introduced on a project level, on a city scale proposed ratio 50/50 does not contribute to the problem of uneven distribution of jobs.
- Reuse of old rail as a linear park
- Possible to introduce tram
- Dense street network - integrated into surrounding urban fabric

Serp & Molot factory project (MVRDV)

Sources: http://www.mvrdv.nl/projects/serp_and_molot/gallery.html
Infrastructural projects

Road construction

Current actions for solving the issue of congestion involve the constructions of new fast connections, tunnels, and the physical widening of the main thoroughfares at the expense of pedestrian and green spaces.

Instead of reinforcing fast roads structure it is necessary to add missing links in local street net work, in order to transformindustries into livable parts of city instead of being barriers and to integrate them into surrounding dormitory districts.

Underground and railway expansion

Underground expansion involves the construction of the second ring and addition of the new radial lines, and inner ring road is currently under reconstruction for public use. Though it is clear that the metropolitan city needs extensive public transport network there is a threat that the construction of the new rings can reinforce the dominant position of the center. The thesis project will test if it would be possible to reduce possible negative effects of new fast networks, if slow networks are extended and integrated into underground rail networks.

Reconstruction of the inner ring road for public use Sources: mkzd.ru

Sources: http://www.metrokomsomolec.ru/start/2017/02

Plane of road construction
(2011-2012 - green
2013-2015 - blue
after 2015 - red)
While the goals of introducing jobs, housing and mixed use functions on industrial territories are declared, the methods of achieving these goals are not satisfactory. It is hardly possible to introduce a diversity if the project is based on zoning plans. It is difficult to integrate projects in the surroundings if sectors of construction companies are not limited, and if whole range of possible stakeholders is not involved in the planning process. There is a little understanding of actual meaning of mixity. In most cases it involves mixing of housing or retail with offices, while other types of production are kept segregated from inhabitation (start-ups, knowledge production, R&D clusters, small-scale manufacturing, light industries). If goal of reconstructing live and work relations is declared, there is a need to incorporate all types of open and safe production into city processes. Mixity on a scale of building unit or on a project level can mean homogeneity on a city level and mixity on the territorial level can mean zoning on a level of the neighbourhood. It is important to introduce mix use across all the levels: building unit, urban block, neighbourhood, city district, city periphery. As most part of Moscow periphery is residential, the ratio between jobs and housing in newly reclaimed territories cannot be 50/50; the percentage of jobs should prevail over housing.

Conclusions

Infrastructures and mixed use cannot be planned separately. Transport network is planned independently from fast infrastructures, and its expansion is not part of General Plans. Fast public transport networks provide points of intensity in urban fabric, but do not connect urban fabric locally. Tram networks offer explorability of urban space. Fast and slow networks should be planned together and benefit from each other.
Vision

The project vision is to reconect live and work relations in the Eastern periphery of Moscow, towards more even distribution of jobs and housing and providing spatial conditions for mixity between production and inhabitation.

This can only happen along with necessary improvements in infrastructure and along with transformation of public space configuration.

In order to fully use the potentials of industrial territories, it is crucial to incorporate all the possible open and safe types of production into the process of urban transformation. These would not only be offices, but also small manufacturing, light industries, R&D clusters and knowledge production.

Space of action

Eastern belt is chosen not only because it is the largest void in an urban fabric. Dormitory districts were actually designed close to industrial belt to provide workers with the place to live.

So, if production is would be brought back to where it originally was, there is a possibility to shift the center from historical center to the East, as it would already be surrounded by the densely populated residential fabric.

The main integrative force for this process would be slow public transportation, as an expansion of existing one.
Mobility

Public transport

Existing projects of public transport deal only with fast modes of public transportation, without providing the possibility to shift to slower modes of transportation.

Projects of the TOD stations, if implemented, can become large-scale enclaves not connected with surrounding neighborhoods.

At the same time existing tram network is not efficient and not integrated into existing underground and railway network.

What is proposed, is to introduce slow tram network, as a continuation to existing one. It would go through the derelict industrial platforms and dormitory districts and connect existing and future city-scale metro and rail stations.

This would facilitate redevelopment of productive territories on industrial platforms, connect dispersed inhabitable areas with newly introduced jobs and integrate eastern periphery into the existing movement network on a city and metropolitan scale.

Proposed expansion of tram network and new TOD stations.

Legend
- Existing public rail network
- Existing underground network
- Existing tram network
- Proposed tram network
- Proposed TOD stations
Industrial territories and abandoned rails currently operate as large voids within road network. Small-scale links should be added across sites and industrial platforms in order to reconnect street network and to increase integration of the dormitory districts.

Industrial areas as voids in the urban fabric (on the left)
Reformed street network with new major links in red (on the right)

Open space

Allotments of industrial territories and dormitory districts should be downsized following existing built landscape (existing driveways, reused rail). This would allow to introduce new streets, make it easier to regulate new constructions and allow new small and local actors to colonize the territories.

Large-scale grid of urban fabric (on the left)
Downsized grid would increase the permeability of urban fabric (on the right)

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Productive landscapes of Moscow: binding modernities
Despite the fact that almost all territory of dormitory districts is green, there is a lack of green structures which shape a slow network of public spaces. At the same time, abandoned rail network carries a strong potential to be restructured in order to connect existing parks as main centralities on the periphery. Rails can be redesigned to become boulevards and bike routes to connect parks and water bodies.
Dangerous and polluting industries (oil refineries, heavy industries, building materials production) should be replaced, allowed for land remediation and then reclaimed.

Thermal power plants, and waste treatment plants can be kept, but upgraded and surrounded with green buffer zones.

Actors: city government, owners of enterprises, Moscow department of science, industrial policy and entrepreneurship.

Small-scale warehouses should be rented cheaply to individual entrepreneurs and start-ups.

Parking garages should be replaced with multi-storey parking.

Actors: city government, Moscow department of cultural heritage, landowners, start-ups.

Existing research institutes (Radioelectronics, biomedical engineering, space engineering, nanotechnology etc.), light industries (beverages, furniture manufacturing and offices) should keep their functions, but upgraded. Their territories should be open to the public. Military production should be transformed to civil.

Actors: city government, Moscow department of science, industrial policy and entrepreneurship, landlords, owners of enterprises.

Areas along the new tram lines can boost mixed-use activities in multifunctional dormitory districts.

Actors: start-ups, individual entrepreneurs, local residents.

Downsized, empty or partially empty plots on industrial territories can be allowed for intensification (residential and mixed-use) by real estate development companies under certain conditions.

Actors: city government, construction companies, land owners.

TOD stations, when constructed (approx. 2020) can be developed as business districts, but integrated into existing urban fabric.

Actors: city government, transport companies, construction companies.

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Actors: city government, transport companies, construction companies.
Case studies

Productive supervillage

Human scale neighbourhood

Gate to the East
In three case studies it is tested, what would be the possible result, if tram network would be extended and would pass through industrial zones (case one), dormitory districts (case two) and fast infrastructure (case three).

Three case studies would shape a new center in the Eastern periphery. They would also become the pilot projects where principles of reclamation of post-socialist built landscapes would be tested and evaluated.

1. Productive supervillage
The project deals with the possibility to regenerate the derelict industrial territories by connecting them with the surroundings, reusing industrial heritage, upgrading existing production and regulating new constructions.

2. Human scale neighbourhood
The case study tests the opportunity to bring mixed-use functions and activities to monofunctional dormitory districts by transforming public spaces along the newly introduced tram line.

3. Gate to the East
Existing projects of TOD stations on the ring railroad, if implemented can become another enclaves in urban fabric, where local neighbourhoods and productive territories are not integrated into global city processes. The goal of the case study is to reduce possible negative effects of existing projects and to incorporate new productive landscapes of eastern periphery into global processes on the city and metropolitan scale.

Case studies
Productive supervillage

Context

Declining area of the Southern Port is located in between densely populated districts: Var- htevskiy, Pechatniki and Textilshchiki. The whole industrial zone has the area of 900 hectares and owned by 240 land owners. Area of interventions covers approximately 240 hectares.

The city has the plans to transform it both for non-residential and residential use, but as the land is not owned by the city government, the process of cooperation with stakeholders is not yet established and reclamation of the territory is happening very slowly.

As it was shown in the chapter “Dynamic context”, the existing methods of reclaiming industrial territories for mixed-use and production are not satisfactory.

Thus, the goal of project is to demonstrate how to redevelop an industrial platform in a way that the city and surrounding residential districts could benefit from it.

The elements that constitute the territory of the Southern Port are in a great deal similar to those that exist on another industrial platforms of Moscow. So the principles developed in the project area can be further applied to another industrial zones of the city.
Analysis

As it was discussed before, Southern Port is strategically located between densely populated residential districts, so, if well connected, it potentially could become a new, alternative to the historical center, centrality for the city.

Now this area serves as an immense barrier in an urban fabric, as almost all its area is fenced. River Port is declining, and old rails serving it, while not in use anymore, still have very few crossings.

The majority of large-scale industries is closed, although C-grade offices, as well as various car services are flourishing along the few roads. There are also several manufacturing enterprises which are still active (wood works, cosmetics). Most of the warehouses serving heavy industries and port needs are abandoned.

The main pollutant in the area is ferro-concrete plant, but the rest of the territory is not heavily polluted.

On the North industrial zone „Southern Port” is partially redeveloped for a new center of innovations „Technopolis”. It is located in old buildings of car manufacturing plant „Moskvich”. Still, its area not accessible for the public and not connected with the surroundings by public transport. Nevertheless the fact that new functions are brought to the declining plant, can be regarded as positive and potential for future reclamation of the territory.
Intervention

The main catalysts for the re-emergence of the Southern Port would become the tram lines which would connect densely populated neighbourhoods through the project area. New functions introduced along the tram would at first be primarily work places, as the quality of existing building structures does not allow to reuse them for housing, and as on the city scale there is a need to introduce mainly jobs. Existing port architecture and abandoned warehouse should be preserved as a heritage, in order to protect them from demolition, if land is bought by construction company.

If tram lines would connect project area with surrounding areas on a city scale, boulevards on old rails would provide sense of place on local scale, as they are a part of slower mobility network for cyclists and pedestrians. Boulevards would also connect existing waterfront with a system of parks on a city dimension.

Along with the introduction of fast and slow networks, redevelopment of territory can start along the new lines. Colonisation must follow the rules of newly introduced small-grain grid structure. Grid structure should be established according to the configuration of existing landscape which consists of building structures, driveways, roads, rails and green spaces. It should also be integrated in the surrounding street network.

Phasing:
1. Existing chunks of land
2. New tram lines + activities in reused buildings
3. Boulevards on rails + activities in reused buildings
4. Development of the grid along the main lines
5. Expansion of the grid on a whole area. Land owners, real estate developers and individual entrepreneurs can act on the territory according to the rules established for the grid.

Actors: municipality, transport company, department of cultural heritage, land owners, individual entrepreneurs.
Use of streets

Ground floors of the buildings along the tramlines and boulevards should mainly host mixed-use public functions, such as retail, recreation or culture as well as accommodate workplaces (both offices and local manufacturing).

Most of the space on the streets should be oriented for pedestrians, cyclists, or public transportation. Nevertheless, every plot of land should be accessible by cars. As far as production would be active on the area, it would be needed for goods transportation.

On the areas of new developments, where housing prevails over production, some streets can be made fully pedestrian and serve as linear public spaces of neighborhood scale.

Shopping street (public functions, production, housing): pedestrians, cyclists, cars, trams

Boulevard (public functions, production, housing): pedestrians, cyclists, cars

Regular street (production prevails over housing): pedestrians, cyclists, cars, trams

Local neighborhood street (residential use prevails, over production, local services): pedestrians, cyclists.
Hierarchy of public spaces

Main linear public spaces of the area are shopping streets, boulevard and water front. They connect Southern Port with the surrounding city district and metro stations and are integrated in the local street network. They also go through existing centralities such as old port buildings and the remains of industrial heritage.

Pocket squares shape local centralities on neighborhood scale and are linked with the supergrids by small grain street structure.

Where tram lines cross metro lines it is possible to introduce in the future an extra metro stations.

Car accessibility

Car access is provided for every plot, for the needs of goods transportation.

In order to give the possibility to shift from the car to public transport, several multistorey parkings are provided in the entrances to the supervillages.
Evgeniya Bobkova
Productive landscapes of Moscow: binding modernities

New tram lines
Existing buildings
Industrial warehouses: preserved as heritage and reused (on plan)

Accessibility
- cars
- pedestrians
- public transport

Hierarchy of public spaces
- Public
- Semi-public

Height
Defined by the size of the grid and orientation to the North.

Landscape park on contaminated area, possible intensification in long term

Demonstration
The newly introduced grid must be small-grained in order to increase the permeability of the street network and also to make it easier for small developers to reclaim the area.

Plots with existing industrial heritage can be intensified with housing, and empty plots can be devoted mainly new building units.

Size of the grid and maximum height of the buildings should be regulated by the city government. Plots within the grid can be developed by land owners and construction companies according to the established rules.

Rules for the plots

Board and interconnected industries

Residential and industrial (2-4 storeys)

Residential and (4-6 storeys)

Residential and (6-8 storeys)

Technological typology

Residential unit (6-8 storeys)
Residential unit (4-6 storeys)
Residential unit (2-4 storeys)

Use
- Local services
- Public functions: retail, recreation, culture
- Production: manufacturing, offices, R&D, startups
- Residential
- Industrial warehouses: preserved as heritage and reused (on plot)

Size of the grid and maximum height of the buildings should be regulated by the city government. Plots within the grid can be developed by land owners and construction companies according to the established rules.

Approx. workspace = 13300 m²
Approx. amount of inhabitants (20 m²/person) = 500

Approx. workspace = 2400 m²
Approx. amount of inhabitants (20 m²/person) = 120

Approx. workspace = 2760 m²
Approx. amount of inhabitants (20 m²/person) = 130

Approx. workspace = 18900 m²
Approx. amount of inhabitants (20 m²/person) = 950

Approx. workspace = 2400 m²
Approx. amount of inhabitants (20 m²/person) = 120

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Approx. workspace = 2760 m²
Approx. amount of inhabitants (20 m²/person) = 130
When tram line is introduced, old warehouses could be reused to hold new uses, which would be mainly small-scale production and manufacturing. Warehouses can be rented cheaply to start-ups and individual entrepreneurs. Existing production would be kept active (woodwork manufacturing). Open spaces could be intensively utilized for new constructions which would be both residential, mix-use, and production. Ground floors oriented towards tram line could have retail and recreational use.

**Actors:** municipality, transport company, land owners, individual entrepreneurs

**Minimal implementation**

Redevelopment can start where two infrastructures of different scale are overlapping and where built structures already exist to accommodate new functions. The crossing of a new tram line with a rails resulted in a boulevard with this initial qualities. These qualities could be reinforced with the intensification of plots along the tram line and introduction of local scale public functions on a boulevard.

The size of boulevard is dictated by the size of old rail structure. In the widest parts, besides having public promenade and bicycle paths, it can also host cafes, sport grounds, or temporary public functions such as Sunday market or cultural events.

**Actors:** municipality, immigrants, local community
Human scale neighbourhood

Context

The area chosen for the second case study is a typical example of the dormitory districts of the first generation pre-fabricated housing in Moscow. It is constructed mainly from twenties houses ("khrushchyovka"), or nineties houses ("brezhnevka") with the punctual insertions of 14-17 storey housing from the 1990s. The definite quality of the kind of this built landscape is that it is completely green. Nevertheless, the presence of the "green sea" can be described also as a drawback - lack of hierarchy of green structures contributes to lack of hierarchy in the network of public spaces.

This type of residential fabric is the most common for those that surround industrial zones. It is rather easy to intervene, compared to another residential districts towards periphery, where population density as well as height and scale of construction increases several times.

Nonetheless the main problems - unlimited, non-hierarchical public space, lack of non-residential functions and insufficient integration with the surroundings, are common for all the dormitory districts of Moscow periphery. Thus, the principles applied in the project can with certain degree of elaboration be transferred to other monofunctional neighbourhoods.
Evgeniya Bobkova
Productive landscapes of Moscow: binding modernities

Analysis

Most of dormitory districts of Moscow were built in a period of extreme need for housing. Designed to serve mainly industrial territories, they were made completely monofunctional and connected with the center and the industries by the underground network.

Due to the housing typology, the whole area is open to the public and accessible for everybody. In combination with the large amount of green it results in the lack of visibility, what makes the places unsafe. Equally important is that when areas are absolutely open, locals do not perceive them as their own. The result is lack of interest and responsibility for the area: owned by everybody, it really the neighbourhood does not belong to no one.

The neighbourhood is provided with basic services, such as sports grounds, food stores, schools and kindergartens. Schools and sports are equally distributed all over the area, mostly in-between residential buildings without direct relation with the street. As neighbourhood is connected with the city only by metro and through the fast roads, mix use facilities are flourishing only around metro stations.

The park located in the middle of the area could potentially serve as a centrality, but as far as everything is green and everything is accessible, it does not work as an attractor nor for diverse activities, nor for different axes around it.

So, the main issue of this area is unlimited open space, lack of jobs and lack of connectivity with the surroundings.

Immense amount of open space could, though, be regarded as a potential, because there is a lot of physical space to introduce new functions, if its configuration is modified.

What is more, the population density in the area is relatively high (approx. 17 thousand people per km²). It means that it is possible to introduce extra, slow public transportation and by doing this to facilitate an emergence of functions other, than residential.

1 Population census 2010
Intervention

The main intervention would be, as in the first case study, a tram line which would go across the neighborhood, connecting it with several metro stations. It would become the main attractor for mix use functions and possible small-scale production.

But the next step after the introduction of the tram line would be reducing the amount of accessible areas by introducing borders between public and semi-public space.

The basis for that would again become the downsized grid, formulated according to the composition of existing houses, streets and driveways.

It would be important to change the character of the driveways into streets and side streets. That means that any through movement across the next-to-the-house area should be restricted, while new borders of the plots would shape the facades for the streets.

It is not possible to transform existing urban fabric into the closed semi-public building units as in historical centers, due to the typology of housing, its height and the presence of the green. What can be done instead is partial intensification with the low-rise construction, where possible, and in other areas, the construction of the permeable fences, to demarcate the semi-public spaces from public.

Hierarchy of public spaces:

- First level public space: tram line + mix use and production, city scale, used by locals and non-locals
- Second level: Pocket squares, accessible by everybody, used mostly by locals
- Third level public space: inner courtyards, semi-public, visible, used by residents of building units.
Demonstration

Newly introduced hierarchy of public spaces would shape the character of activities in the neighbourhood.

Localized courtyards could be reclaimed by local residents for gardening, local production or another purposes according to their local needs.

Shared public spaces of neighbourhood scale can keep sports facilities which are already there, but could be enriched with extra public functions.

The line along the main street, where tram is passing, could be used also by non-residents, as jobs, as well as retail and recreation would be introduced in new infill constructions.

Due to the height of existing fabric new constructions should only be low-rise. Housing can only be set on the northern part of each plot, in order to prevent it from shadows from existing buildings.

Actors: the city government, transport company, local residents, individual entrepreneurs.
Gate to the East

Context

The project is located in district Nizhegorodskoy, on the crossing of Moscow inner ring railroad, radial railroad, and Riazansky highway. Currently, the area is almost empty and hardly accessible. But in the future, it will become an important transport hub in the Eastern part of the city. Along with the ongoing project to reconstruct existing railroads for public use, there is also a plan of underground expansion, with the construction of the second underground ring and several new radial metro lines (see chapter “Dynamic context”). According to the plans, the crossing of the second underground ring with the new railroad will be situated exactly in the area chosen for the third case study.

It is possible to suggest that construction of a new transport hub will be followed by the emergence of high-density business district around it.

The goal of the project is to demonstrate how to integrate large scale infrastructure and new business district into surrounding urban fabric, in a way that it would not become another enclaves in the middle of nowhere, but would work for the city on local scale, facilitating regeneration of the depressed surroundings.
Analysis

The square limited by two railways and one highway is located in the meeting point of five residential districts and of several industrial zones as well. If transformed, it could not only become business hub on a global scale, but also local center which connects together the chunks of residential fabric.

The residual spaces of the rails serve as voids, where private parking garages are and car services are located.

There are two centralities on the chosen area. The first one is a shopping mall which is globally connected with the surroundings by the highway. The second one is an old church. Surrounded by the highway and large empty spaces it does not work as focal point on the territory and stands separately from its context.

With regards to the dynamic context, in the future new fast infrastructures will come to this area. It will become extremely important on global scale. Nonetheless, to make a place meaningful across all the scales, not only shift from fast to fast must be provided, but also a possibility to shift from fast to slow infrastructure.

On city scale this is made by integrating existing slow tram network into the fast public transport networks. On a project scale, it is shown how the place works when two, fast and slow infrastructures meet.
Intervention

The composition of the new station should react on existing anchor buildings. It also has to be permeable in order to connect fragments of urban fabric from two sides of the railway.

The highway can be partially slowed down with the introduction of the tram lines. Several multi-storey parkings would provide the possibility to shift from the highway to fast public transport, in order to unload from cars congested areas within the Third Ring (city center).

Lastly, the station area can be intensified along the lines connecting existing (shopping mall and the church) and new (railway station) centralities.

Phase 0: borders, voids and centralities
Phase 1: New railway station should be oriented towards the city and react on existing centralities
Phase 2: Highway can be partially slowed down. Tram lines should connect the station with the surroundings.
Phase 3: Configuration of the new square should react on the existing centralities and reinforce stimulations between them, and between the centralities and the city.

Network of public spaces. Interior and exterior public spaces are integrated into one continuous system.
Demonstration

In order to integrate large scale anchor buildings (shopping mall and the station) in a surroun-
dings, their interior public space should be orga-
nically connected with exterior public space.

The station hall (with entrances from three sides), big
station square, small pocket square of the church and
inner public space of the shopping mall would work
then as one continuous system of public spaces.

Though inner public space in the shopping mall is
already constructed and has one main entrance from
the side of the highway, it could be transformed with
the widening of the entrance from the South, in order to
increase its permeability and possibly attract clients with
cars, but also locals from surrounding neighbourhoods.

New constructions on a station square would
mainly host business functions with ground floors
used for retail and recreation functions.

Actors: the city government, transport companies,
shopping mall authorities, real estate developers.
Principles developed in each of three case studies can be im-
plicated in the areas with similar conditions.

As a result they would shape three interconnected corridors of three le-
vels of scale and different degree of mixity between productive and in-
habitation, interconnected horizontally and integrated vertically.

Corridor 1 (Productive supervillages)
Production areas on industrial platforms connecting neighbourhoods

Corridor 2 (Human scale neighbourhoods)
Local centers in dormitory districts

Corridor 3 (Gates to the East)
Integration of productive landscapes into global processes on city and metropolitan scale.
Reflection

Urban fabric transformation: before

Urban fabric transformation: after
It is possible to imagine that by shifting attention to one of the most deprived parts of the city, we can change the way the whole metropolitan region operates?

The claim of the new plan for the city expansion is to decentralize Moscow, to shift the administrative core from the inner city, to create new urban centers with jobs, to provide areas for housing construction and to reduce the traffic congestion in the city. Presumably it will never be fully realized, as the attempts to create polynuclear structures is from the scratch usually end up in failure. Nonetheless, the tendency to invest in the South-West has already established. Existing plans for the underground expansion clearly reflect on this model major metropolitan extensions are designed in the South-West of the city, while Eastern part is meant to be served mainly by reconstructed ring road. As a result, we can suggest, that even if the Greater Moscow will not be built, the conflict between more successful Western part and more segregated Eastern part is to be expected. The strategy of the intervention into an active urban environment. The process of rehabilitating industrial territories, shifting the center to another level of speed and scale. Metropolitan area would keep growing spontaneously, and the city would expand in scale. Radials would only reinforce extreme hierarchy of existing urban structures is provided, there is a chance that the new center could bring more benefit to the whole metropolitan area, than the old city core or another ring of centrality around the outer city expansion to the South-West.

Is it possible to imagine that by shifting attention to one of the most deprived parts of the city, we can change the way the whole metropolitan region operates?

With the certain level of generalization, we can say that even the whole city, as the case of Moscow, can not be compared with any of the post-communist cities, the way it was conducted through soviet and post soviet history is very similar to them. The planning principles of integrating transport infrastructures across the west, transforming public spaces and dealing with the industrial heritage can be applied to the cities of post-soviet block. Nevertheless, the meaning of the study of particular historical context of each case should not be underestimated. Even though the technological progress and political conditions shaping these cities through history are comparable, their context is always unique.

We can observe in the city of Moscow: population density which increases from the center towards periphery. There was a general scheme of constructing soviet cities, where large industrial belt was planned around the city center and then surrounded by densely populated dormitory districts. Consequently, we can imagine that if new uses are brought to industrial platforms, they would be actively exploited, as the people already live in the proximity to industrial belt.
References


136

Evgeniya Bobkova

Productive landscapes of Moscow: bonding modernities

137