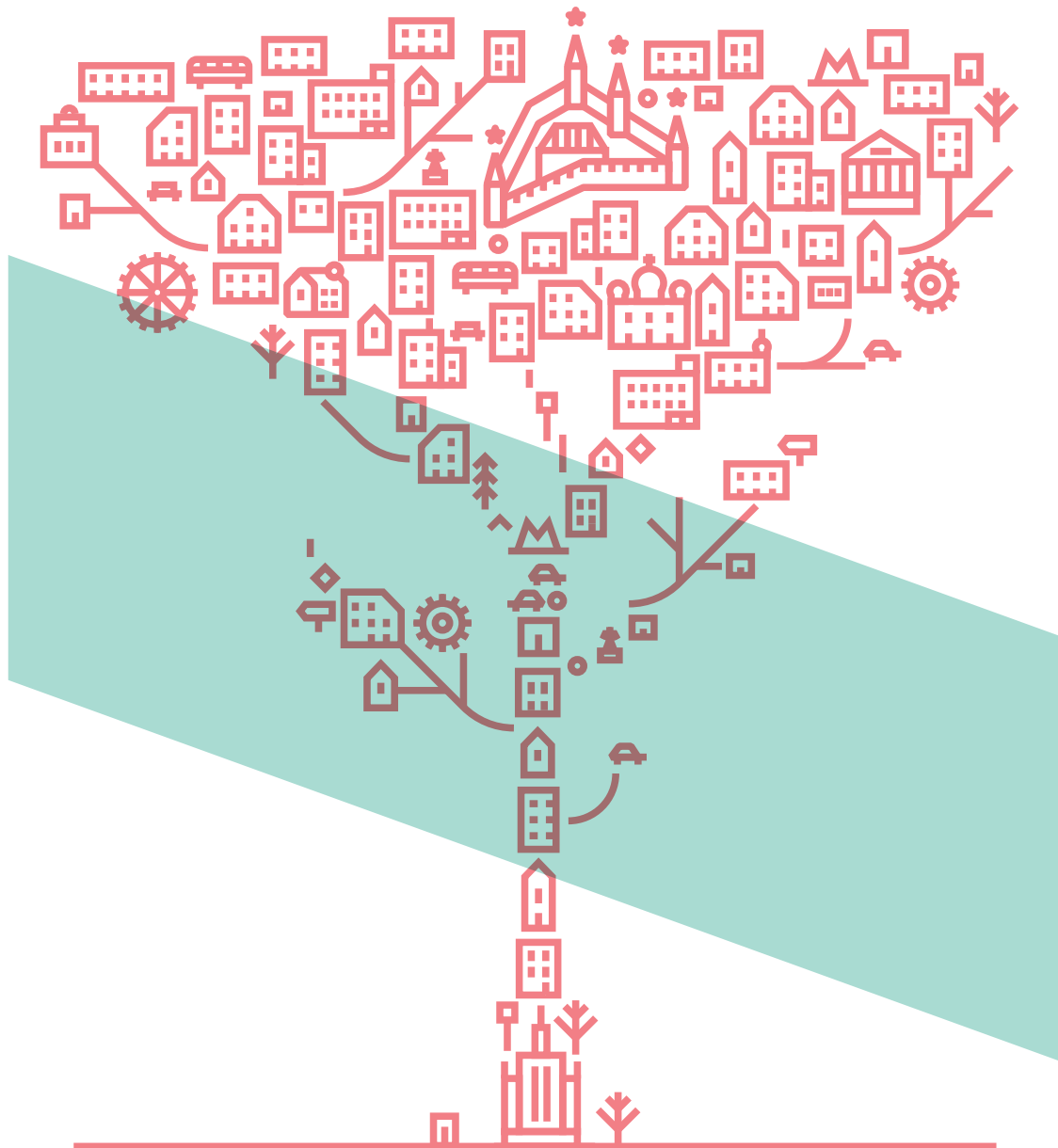


THE MECHANICS OF MOSCOW  
RESEARCH INTO AN URBAN ENVIRONMENT

# TYPES OF URBAN ENVIRONMENT



MOSCOW INSTITUTE  
FOR SOCIAL AND CULTURAL  
PROGRAMMES

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The Mechanics of Moscow. Research into an Urban Environment

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This document presents the methodology and initial results of “The Mechanics of Moscow” research. This research represents an attempt to analyze the level of development of all of Moscow’s municipal districts and categorize them into determined groups of districts with similar urban environments. In terms of the quantity and detail of sociological and statistical data about Moscow analyzed, this research is unique. The results of this analysis allow for the evaluation of inequalities in development between the various districts. It can also be used to support the formulation of priorities for working with different parts of Moscow.

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## INTRODUCTION

“The Mechanics of Moscow” research has confirmed and illustrated with examples a long-held suspicion of many researchers and analysts: Moscow as a single, unified entity does not exist. It’s an administrative and managerial abstraction. Instead of one unified city, it is actually a conglomeration of around ten cities, each with a population of approximately a million people. To be even more specific, it could be described as a variety of different interconnected environments each containing a varied selection of districts within its borders, where residents lead very different lives to each other. These “city-types” can be outlined and described in terms of geographical boundaries or displayed as a more fluid network—distributed evenly throughout the megalopolis. This “polyphonic” view of Moscow marks a significant change from the traditional view of the city as a “bagel” i.e. one city center with a ring of suburbia around it.

The types of environment are intra-homogeneous, meaning that districts that were aggregated into one type have similar parameters of urban environment development. The typology used has, for the first time, united infrastructural and behavioral characteristics of people’s lives in a city. This step allows us to see exactly how certain features of the urban environment of an individual district can define the lifestyle of Muscovites.

It is important to note that these types do not form a qualitative scale from ‘best’ to ‘worst’, but instead create a multi-dimensional descriptive system. This approach enables us to determine the special characteristics and problems within each district, making it possible to understand how to effectively work on them. This means that for each of the identified types of urban environment we can later develop common managerial approaches based on their relative homogeneity. Local government planning for future development and management can therefore be made on a much more focused, district by district basis informed by our analysis of the different types of urban environment and their individual requirements.

This typology can be useful to a very wide circle of people, primarily the city council, experts and researchers who work with city planning and are in need of data. The suggested typology

gives an opportunity to rethink and redesign the city as a whole. The same methods of management can be applied in districts of one type, but will not work in a different type, as the diversity within one megalopolis is much more significant than that between several averaged massive urban areas. In other words the difference between the Golyanovo district and the Arbat district is bigger than that between Moscow and New York. Furthermore, the tendencies of recent years have shown an increase in these intra-city differences.

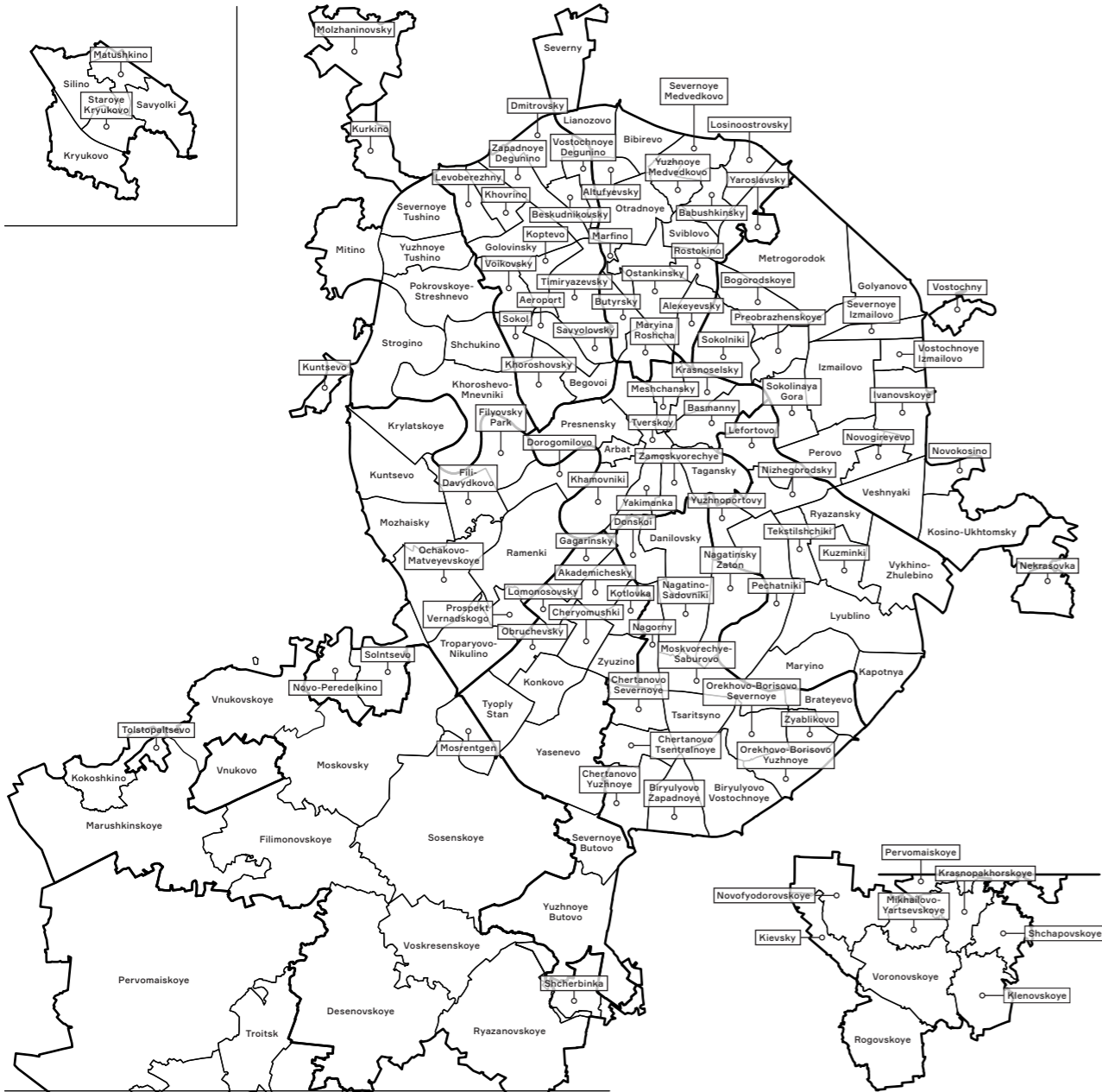
What might this mean for city politics? First of all, this methodology allows for a new way of managing Moscow, not according to arbitrary administrative units, but to the detailed characteristics of districts. This approach can group districts for targeted programmes, based on their status as a certain type of urban environment.

Secondly, the collected data can help evaluate the success of various city reforms: understanding the specific differences between districts will enable the evaluation of the effectiveness of reform measures depending on which type of urban environment the district belongs to—which in turn will help to use resources and funding more productively.

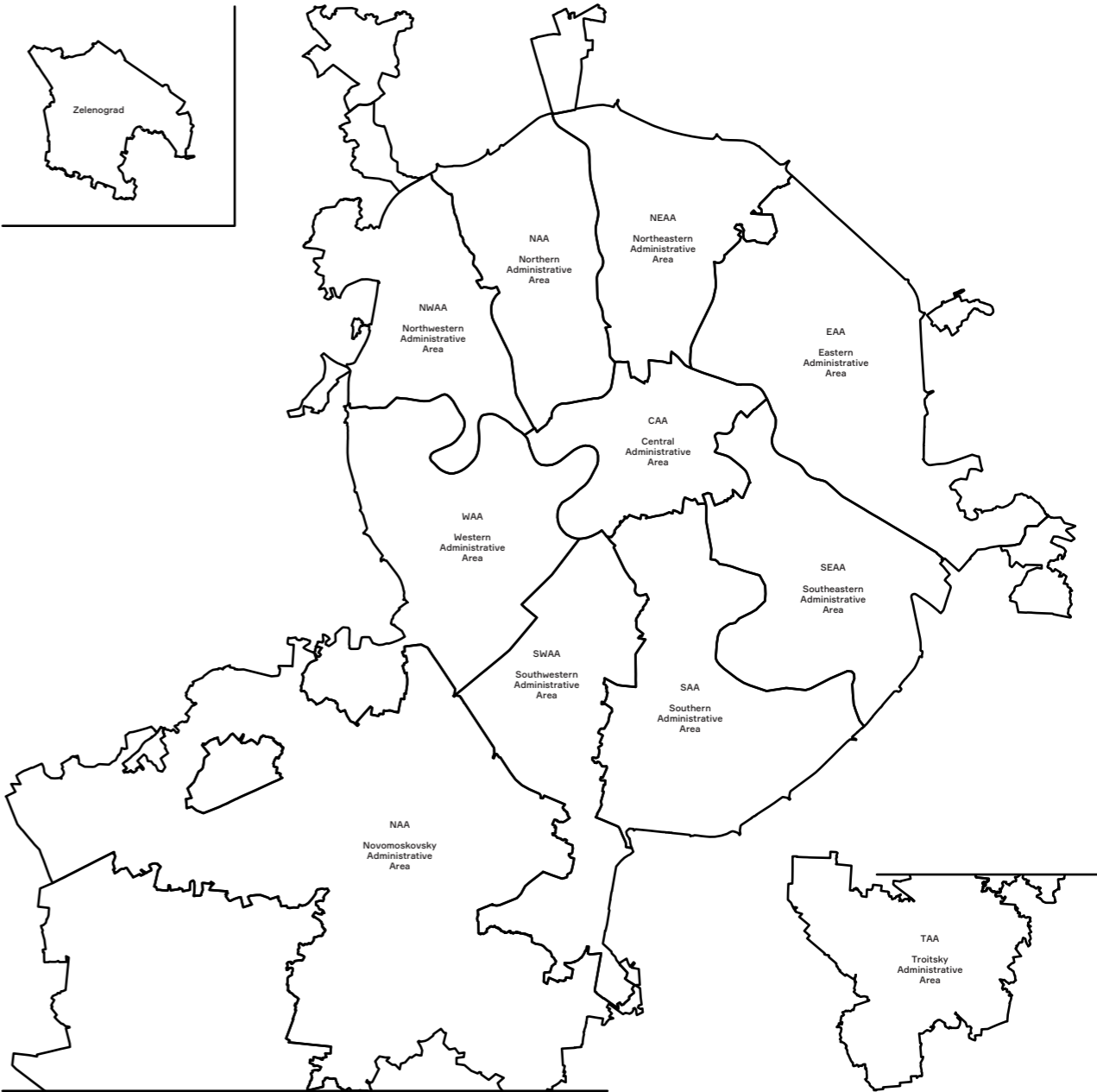
Thirdly, metaphorically speaking, these types allow us to ‘speak the language’ of the city—as the types are based on the reality of facts on the ground, they are likely to allow for a view of urban development that is much more in sympathy with the realities of the lives of each district’s residents

In this document we will describe the identified types of urban environment, concentrating on characteristics that make each group of districts stand out from the background of the city. Each type involved a calculation of essential basic characteristics: the quantity of included districts, their total area, population and average density.

MUNICIPAL AREAS (DISTRICTS)  
OF MOSCOW MAP



ADMINISTRATIVE AREAS  
OF MOSCOW MAP



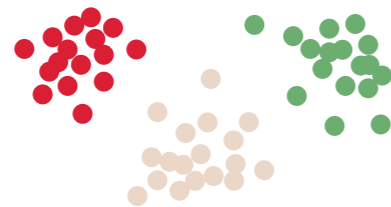
## CLUSTER ANALYSIS

Using factor analysis we identified 49 parameters of urban environment development. The goal of cluster analysis is to identify types of urban environment based on the collected data: areas with similar levels of infrastructure, social and cultural development etc.

Cluster formation is a procedure based on mathematical methods of analysis that allows the grouping together of districts with similar given variables. The point of this procedure is that it automatically classifies the bulk of elements (districts), creating relatively homogenous groups.

If you imagine districts as little dots, that are situated in a multi-dimensional space of characteristics (in our case it's the parameters of urban environment development), then what we get is several groups of dots, that are located closer to each other than to others. (see Picture)

### AN EXAMPLE OF CLUSTER ANALYSIS



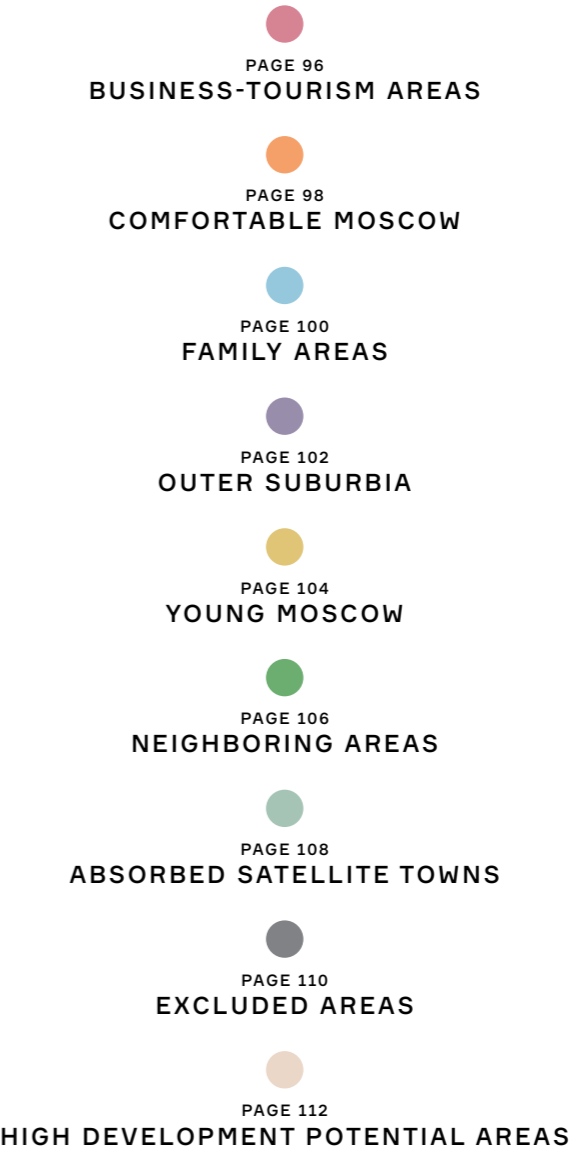
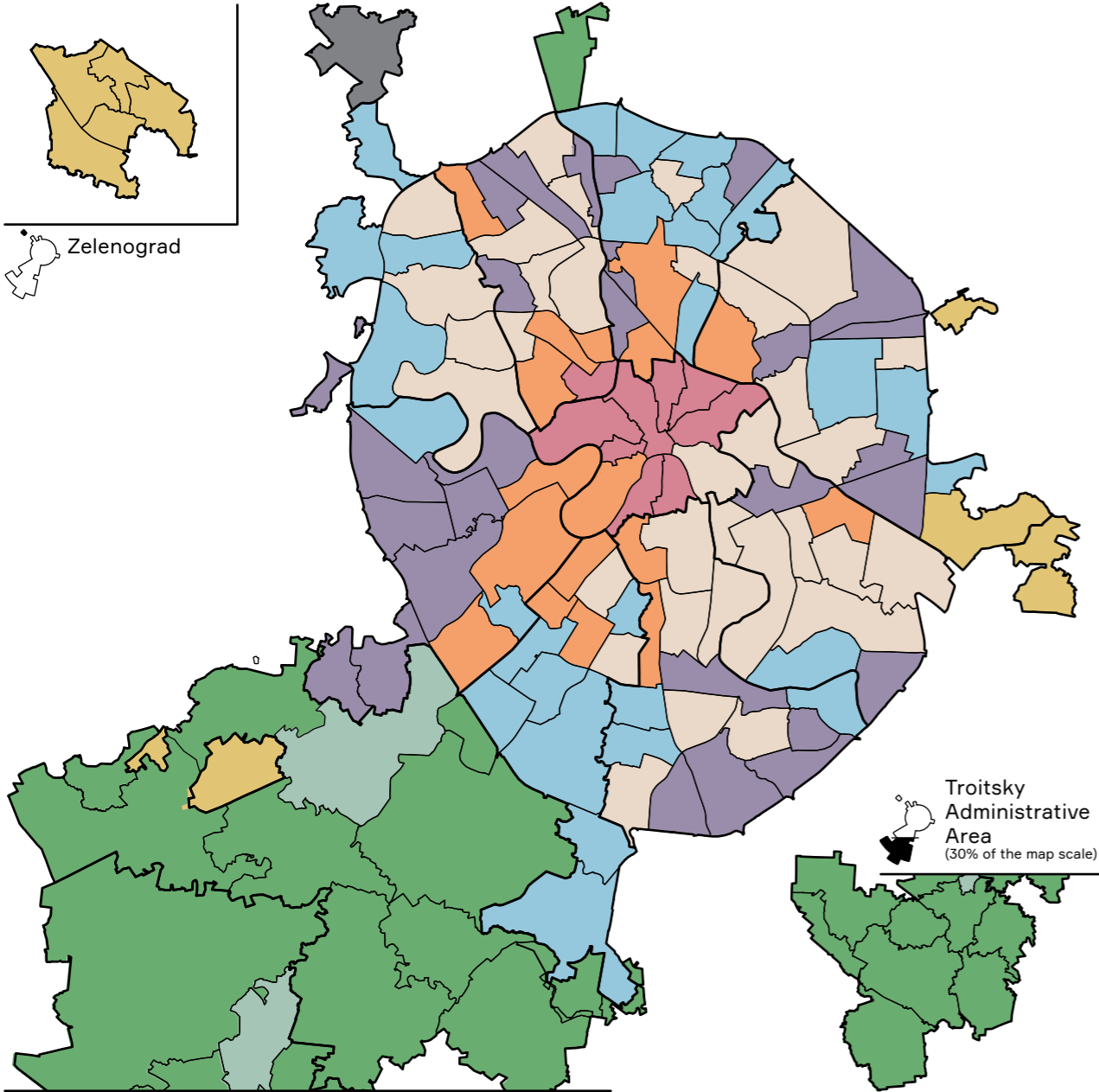
This picture is an illustration of cluster analysis in action. In a two-dimensional space of characters there are 3 groups of dots, which are located in relative proximity to one another. This means that the shown elements are significantly similar to each other in the given characteristics.

The connection between the units of analysis was calculated in accordance with the squared Euclidean distance. Cluster formation of units was carried out using Ward's method. Interpretation of clusters was based on comparison of an average figure for each of the 49 factors (This document includes 46 of them) per cluster with an average parameter figure for Moscow.

The result of this cluster analysis was the identification of 9 types of urban environment. A description of each type follows below.

# HOW WERE MOSCOW DISTRICTS GROUPED INTO TYPES OF URBAN ENVIRONMENT?

Total number of districts 146  
Total area of Moscow districts (km²) 2474  
Total population of Moscow districts 11738547  
Average density of population (per./km²) 4745



BUSINESS-TOURISM AREAS

Number of districts in type	9	Share of all city districts	6.2%
Total area of districts (km²)	54	Share of the city's total area	2.2%
Total population of districts	563998	Share of total population	4.8%
Average density of population (per./km²)	10505	Deviation from the average for the city	121.4%

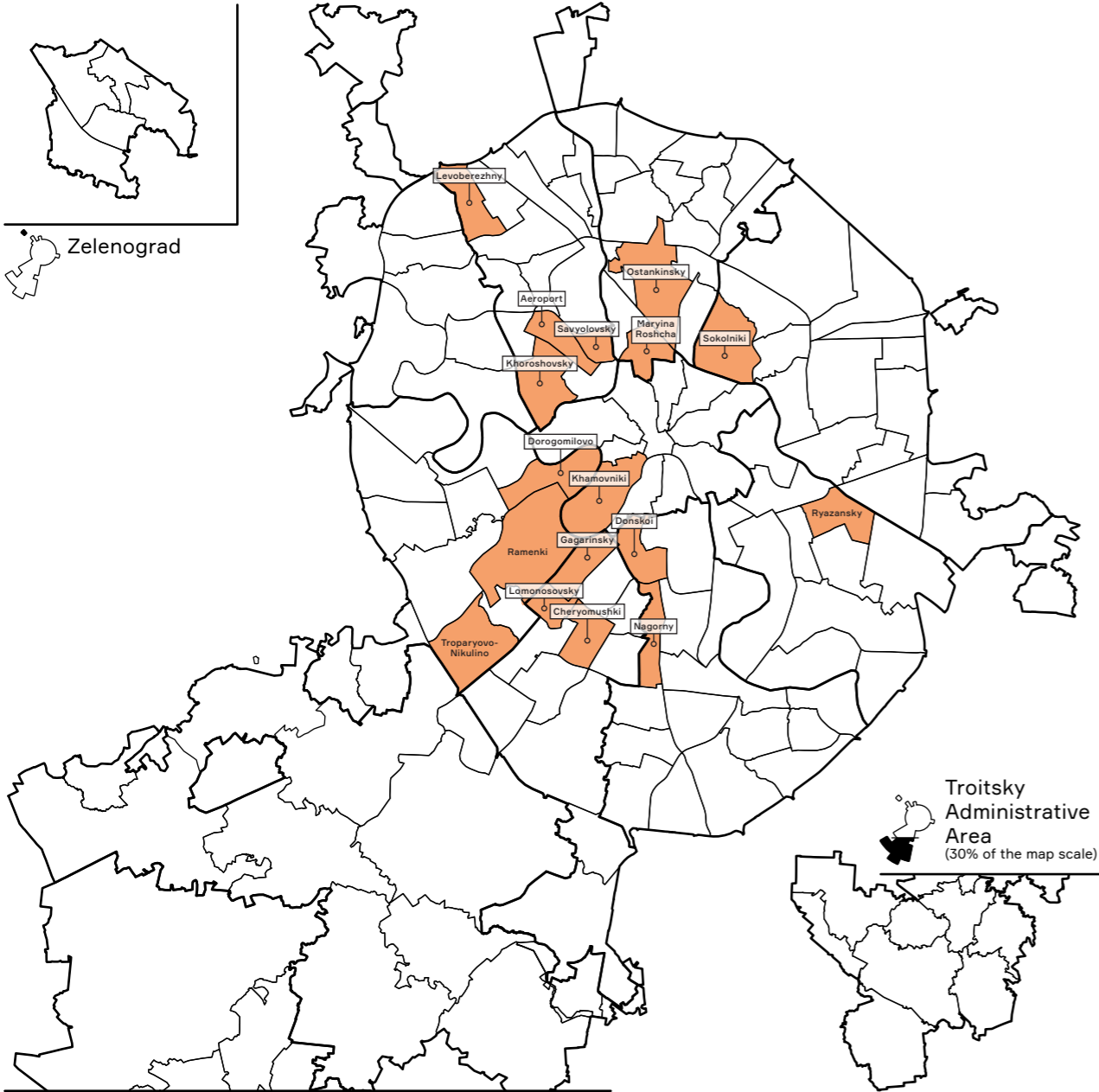


This group includes districts with the most developed infrastructure and highest number of amenities. Most of them are located in the center of Moscow, inside the Garden Ring Road. These areas are leaders in terms of access to education, public health, cultural and entertainment options. However, even with such objective indicators of developed infrastructure and amenities, the local residents feel that they are lacking in outdoor leisure opportunities (parks etc.) where they could spend time with their family and children.

The main reason for this perceived lack is that the infrastructure of these districts is primarily geared around servicing the needs of the many citizens who commute into the area for work purposes, and only secondarily around the local residents. Outdoor leisure spaces are thus the subject of heavy demand from the “day migrants” and tourists. All this means that from the point of view of local concerns these districts are not that comfortable for their full time residents, and this can stir up discontent. This has also resulted in a peculiar phenomenon: despite high subjective safety evaluation of these districts, full time residents of “Business-Tourism” areas are often far more concerned than residents of other districts about limiting the access of ‘outsiders’ to their apartment building territories and communal areas. Residents of these areas are three times more likely to install safety precautions near communal areas than the average residents of Moscow. The closed off communal areas are symptomatic of the negative reaction to the local outdoor leisure spaces being overloaded with ‘incomers.’

COMFORTABLE MOSCOW

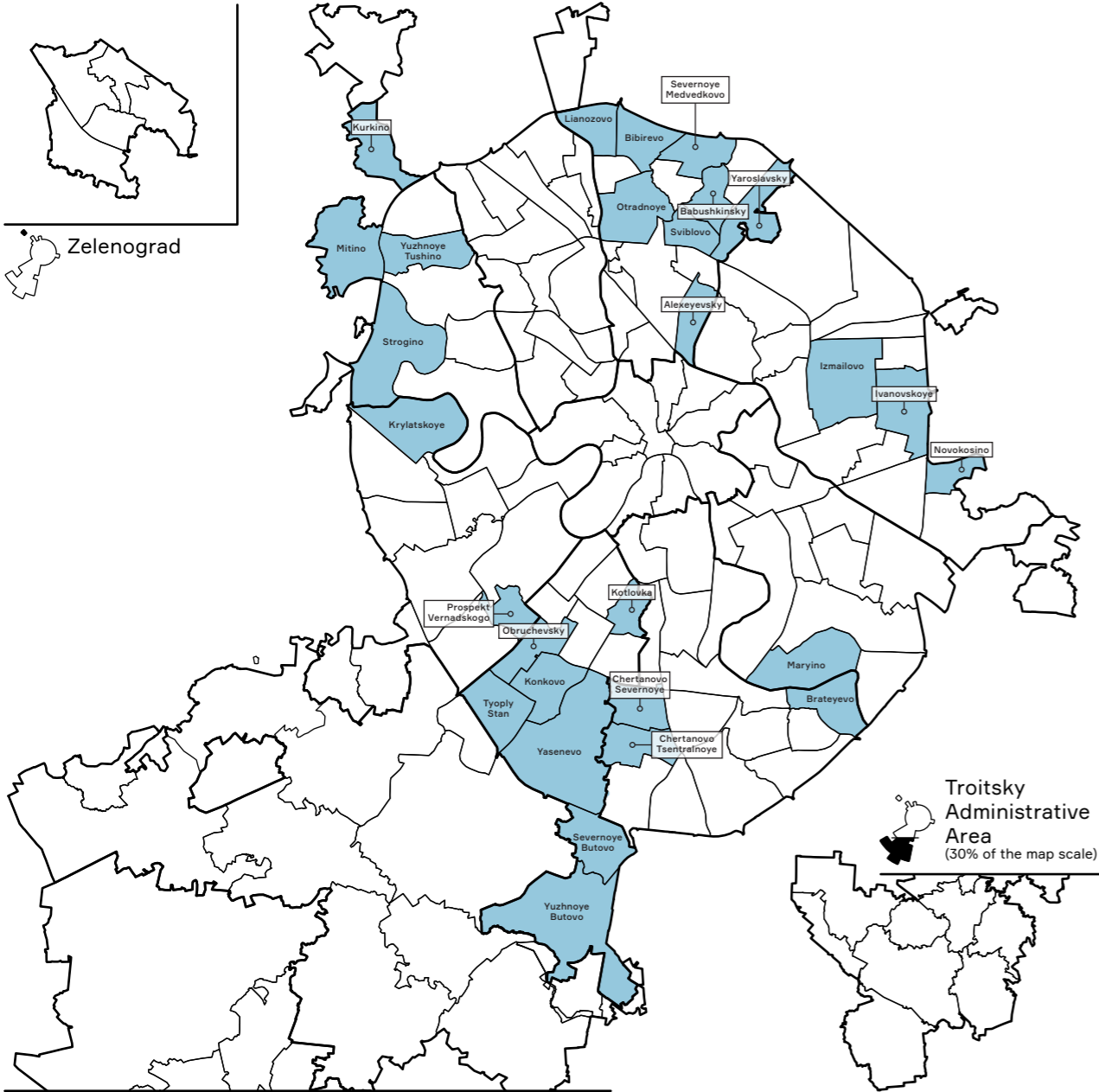
Number of districts in type	17	Share of all city districts	11.6%
Total area of districts (km²)	132	Share of the city's total area	5.4%
Total population of districts	1323976	Share of total population	11.3%
Average density of population (per./km²)	9998	Deviation from the average for the city	110.7%



This group includes areas that have two main advantages: their infrastructure and amenities are well developed and they are conveniently connected with other districts by transport networks. In terms of infrastructure and amenities, these areas are only slightly behind the “Business-Tourism” areas, but the use of cultural and entertainment amenities, as well as outdoor leisure spaces is much lower because the districts of “Comfortable Moscow” are not as attractive to tourists as the center is. These districts are comfortable for everyday living and also offer easy access to neighbouring districts thanks to the convenient transport network. As a result, the residents of this group of districts are the most mobile in the city; they tend to travel to other districts easily not only for work but for leisure as well. This also explains the main concerns of people living in “Comfortable Moscow” areas: they are primarily interested in the quality of the offered services, be it culture, education, or public health, rather than the proximity to their homes. So even with a good infrastructure and amenities, these areas only demonstrate average satisfaction levels with the quality of public health and education, and a strong demand for better leisure opportunities closer to home.

FAMILY AREAS

Number of districts in type	28	Share of all city districts	19.2%
Total area of districts (km²)	258	Share of the city's total area	10.4%
Total population of districts	3225619	Share of total population	27.5%
Average density of population (per./km²)	12496	Deviation from the average for the city	163.3%

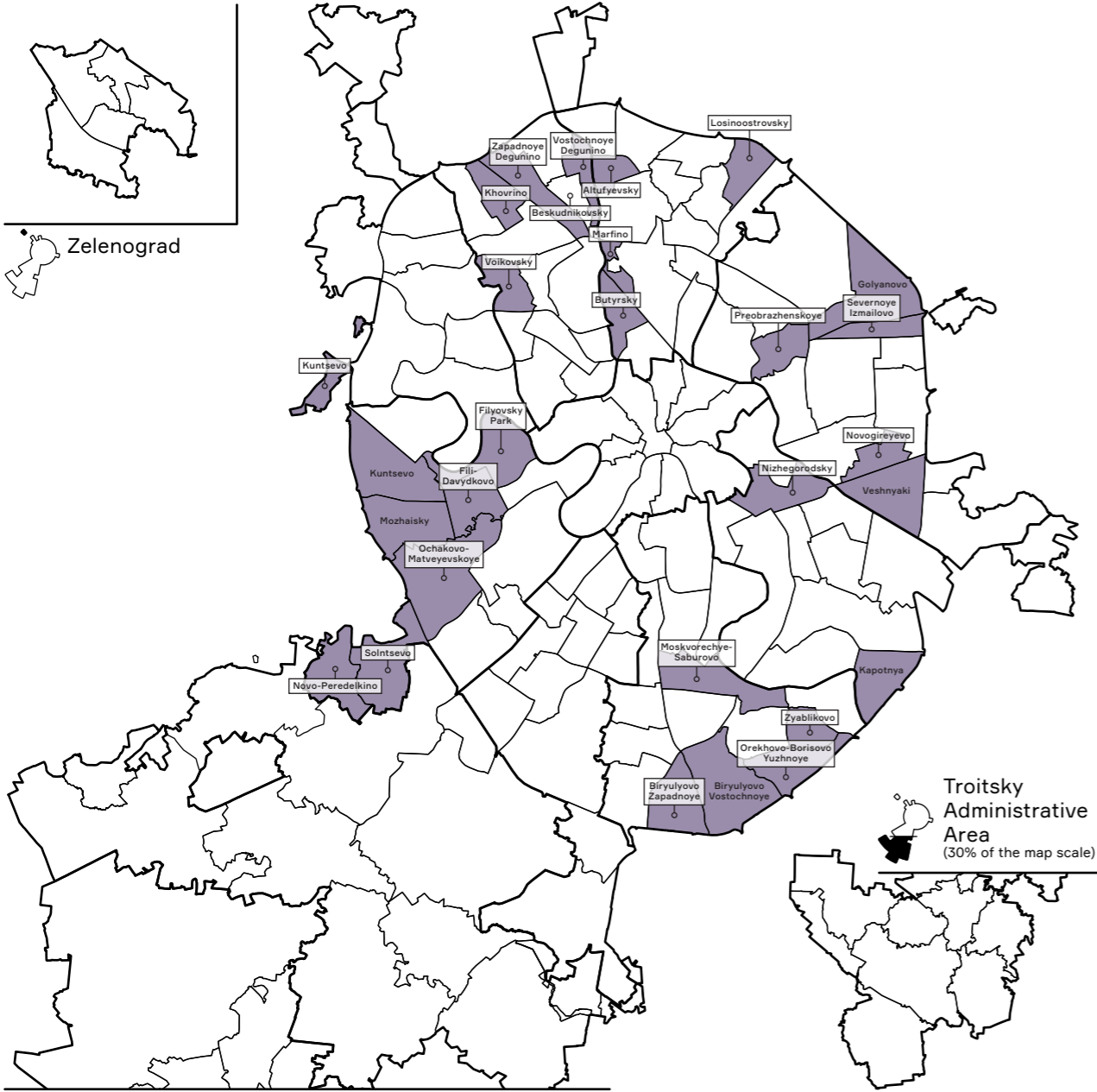


This group includes inner suburban districts. They are well developed in terms of infrastructure and amenities as well as in transport and public health provision. Districts of this type offer a wide variety of opportunities for leisure, mainly because of the good quality of public leisure zones and amenities (cafes, bars, restaurants and shopping malls). These features of the district's life are in high demand by its residents. Although there are a large number of families with children living in these areas, the demand for extra curricular education is not high. This is explained by the fact that when choosing extra curricular education for their children, people put quality ahead of proximity to home, and are prepared to go outside the district. Raising the quality bar for local extra curricular education, hiring good teachers and so on, will significantly increase the demand locally.

Distinctive features of this type can be very clearly observed when compared to “Comfortable Moscow”: in the case of the latter, its “comfort” is achieved by the direct connection with the convenience of the transport system whereas in the case of “Family Areas” this comfort is achieved by the inner diversity of infrastructure and amenities. The positive effect of this is that “Family Areas” are self-contained. Residents of these districts can spend most of their time within the district, without the feeling that they need to go to other districts for the services they require. One potential disadvantage of this could be a lack of flexibility—if there is a future decline in the quantity and quality of amenities, residents of these districts will, at that point, have difficulty accessing substitutes due to the low transport connectivity of the district.

OUTER SUBURBIA

Number of districts in type	27	Share of all city districts	18.5%
Total area of districts (km²)	221	Share of the city's total area	8.9%
Total population of districts	2567370	Share of total population	21.9%
Average density of population (per./km²)	11611	Deviation from the average for the city	144.7%



Districts that are included in this group have characteristics that are predominantly associated with problematic peripheral outer suburban districts. These districts include a number of undeveloped industrial zones, uncultivated forests and so on, all of which have negative effects on the safety of the residents: this group of areas is leading in the number of crimes per 1000 residents.

This type is characterized by problems in the social-leisure sphere: poor access to and quality of education. Likewise, these areas are marked out by low levels of provision of cultural and leisure establishments, and outdoor leisure spaces, despite the fact that the demand for cultural establishments etc is higher in these areas than on average in Moscow. All the districts in this group have low indicators of transport connectivity. This means that making journeys out of these districts is difficult and time consuming.

Summing up, the “Outer Suburbia” type includes districts that do not supply their residents with quality urban environments: leisure and educational opportunities, a satisfactory level of safety and security or developed and maintained public areas. Also, their location between major railway lines and/or motorways as well as industrial zones or woods limits movement around the city.

YOUNG MOSCOW

Number of districts in type	9	Share of all city districts	6.2%
Total area of districts (km²)	78	Share of the city's total area	3.2%
Total population of districts	347164	Share of total population	3.0%
Average density of population (per./km²)	4428	Deviation from the average for the city	-6.7%



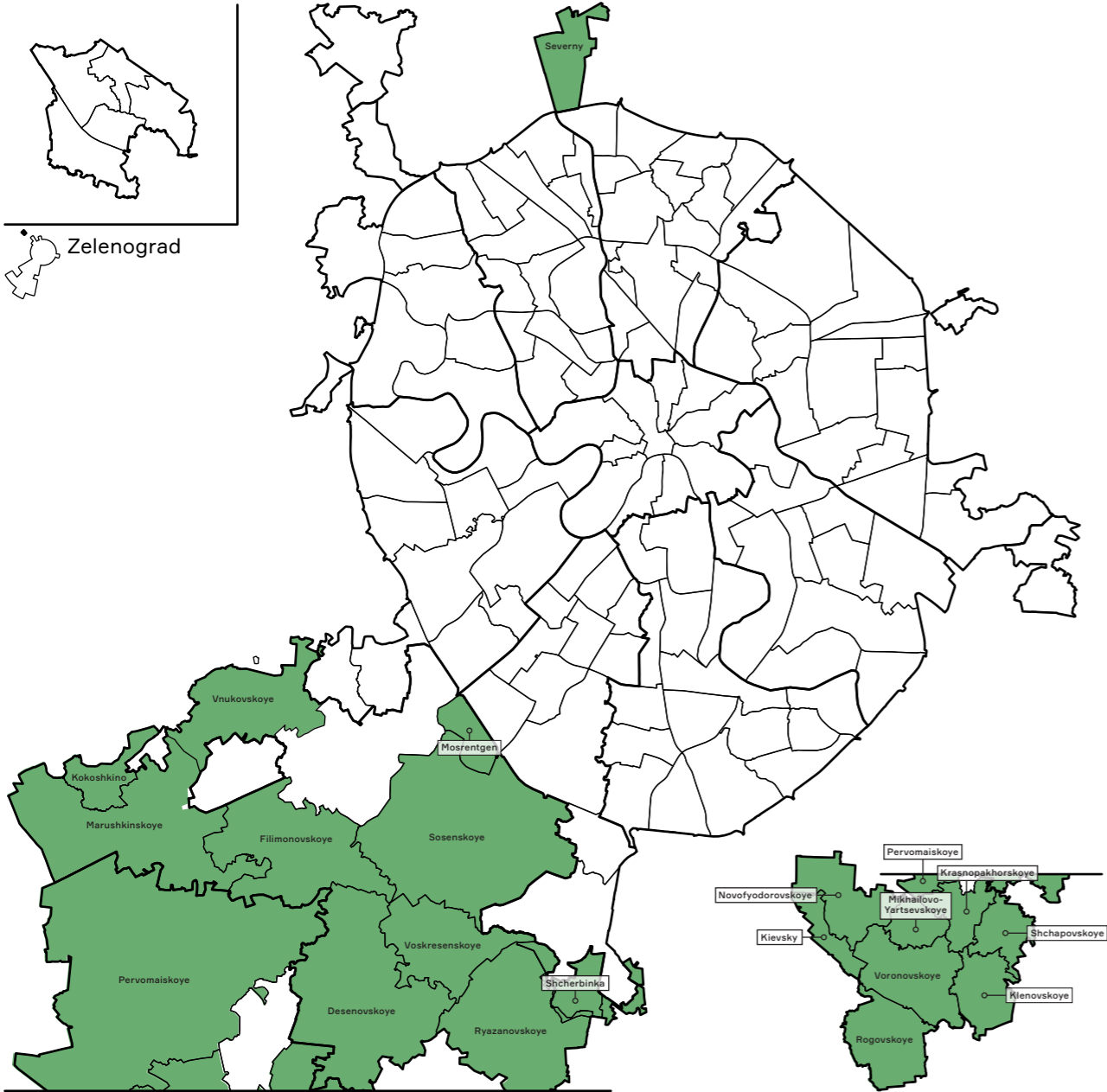
This group includes districts that are relatively new with a developed infrastructure and amenities that satisfy the basic needs of its residents. These areas are well provided with high-quality educational and public health establishments.

The key problem in this area is the lack of leisure opportunities with a high demand for these amenities. The remoteness and poor transport connectivity of these districts make it difficult for residents to take journeys into the city center where a significantly wider range of cultural events and activities take place. The development of local culture initiatives in this type of areas has significant potential for success. However, at the same time, it's important to not only create new formats of leisure, but take into account area characteristics and satisfy the demand in line with the formation of the district's identity.

A potential problem for this group could be the fact that residential housing is built so quickly that the creation of social and culture amenities can not keep. In these conditions, the residents' involvement in the cultural life of the city can drastically decrease. As the MISCP research shows, involvement in cultural life is an activity and habit that needs to be developed over time.

NEIGHBORING AREAS

Number of districts in type	20	Share of all city districts	13.7%
Total area of districts (km²)	1341	Share of the city's total area	54.2%
Total population of districts	202264	Share of total population	1.7%
Average density of population (per./km²)	151	Deviation from the average for the city	-96.8%



Areas in this group include those that have recently been absorbed by Moscow. The level of urban development is fairly low. These are previously non-urbanized areas that have been recently included in the urban conglomeration. As a result, they are lacking in the provision of education, public health, culture etc., as well as having a level of maintenance of existing infrastructure that is far behind that of other districts. The upside of this type of area is the preservation of high levels of social ties: people are united by strong bonds of trust. Surprisingly, considering the very low level provision of various benefits, dissatisfaction is also minimal. Lack of infrastructure for the residents of these districts isn't a 'problem'—it is the norm. The reason for this is that an urban life style has not yet established itself there—as things currently stand, nothing changed for the regional housing organizations ( 'Garden Partnerships', 'Garden Non-commercial Partnerships', 'Dacha Non-commercial Partnerships' and 'Independent Residential Building') when they were absorbed into Moscow city.

ABSORBED SATELLITE TOWNS

Number of districts in type	2	Share of all city districts	1.4%
Total area of districts (km²)	57	Share of the city's total area	2.3%
Total population of districts	60774	Share of total population	0.5%
Average density of population (per./km²)	1068	Deviation from the average for the city	-77.5%



This cluster includes areas that prior to being absorbed by Moscow, were independent municipal territories. At the moment they are still to a large extent autonomous territories capable of supplying their residents with everything they need: public health services, education and leisure opportunities. However, in comparison with the “old” Moscow, these areas’ cultural and entertainment provision is greatly underdeveloped. The level of demand for these amenities is also one of the lowest in the city, even lower than the nearest “Neighboring Areas” (see above). This can be explained by the conservative views of the local citizens: Moscow (as a lifestyle or culture) “hasn’t reached” them yet, and they haven’t yet discovered the possibility of demanding more from their urban environment. On the other hand, in the Soviet era, these areas already had a well established cultural infrastructure (Cultural Community Centers, libraries, movie theaters etc.) To overcome the current situation, the integration of these districts into the cultural life of Moscow needs to be intensified.

As well as those nearest to the MKAD motorway districts of Novomoskovsky administrative Area, it is the larger residential districts that serve as a basis for the expansion of the Moscow life style into the newly absorbed territories. Districts such as Troitsk and Moskovsky are rapidly developing, creating new infrastructure in addition to what had been inherited from the Soviet era. It’s possible to assume that in the near future these districts will be as well developed as the districts of “Young Moscow”, as the volume of new infrastructure will exceed the current state. At the moment however, the districts of this type need to deal with a different type of problem—the threat that the building of new residential quarters will far outstrip the cultural infrastructure provision. However, this discussion will only be able to be based on facts and not assumptions in 3-4 years’ time.

EXCLUDED AREAS

Number of districts in type	1	Share of all city districts	0.7%
Total area of districts (km²)	26	Share of the city's total area	1.1%
Total population of districts	3521	Share of total population	0.0%
Average density of population (per./km²)	134	Deviation from the average for the city	-97.2%

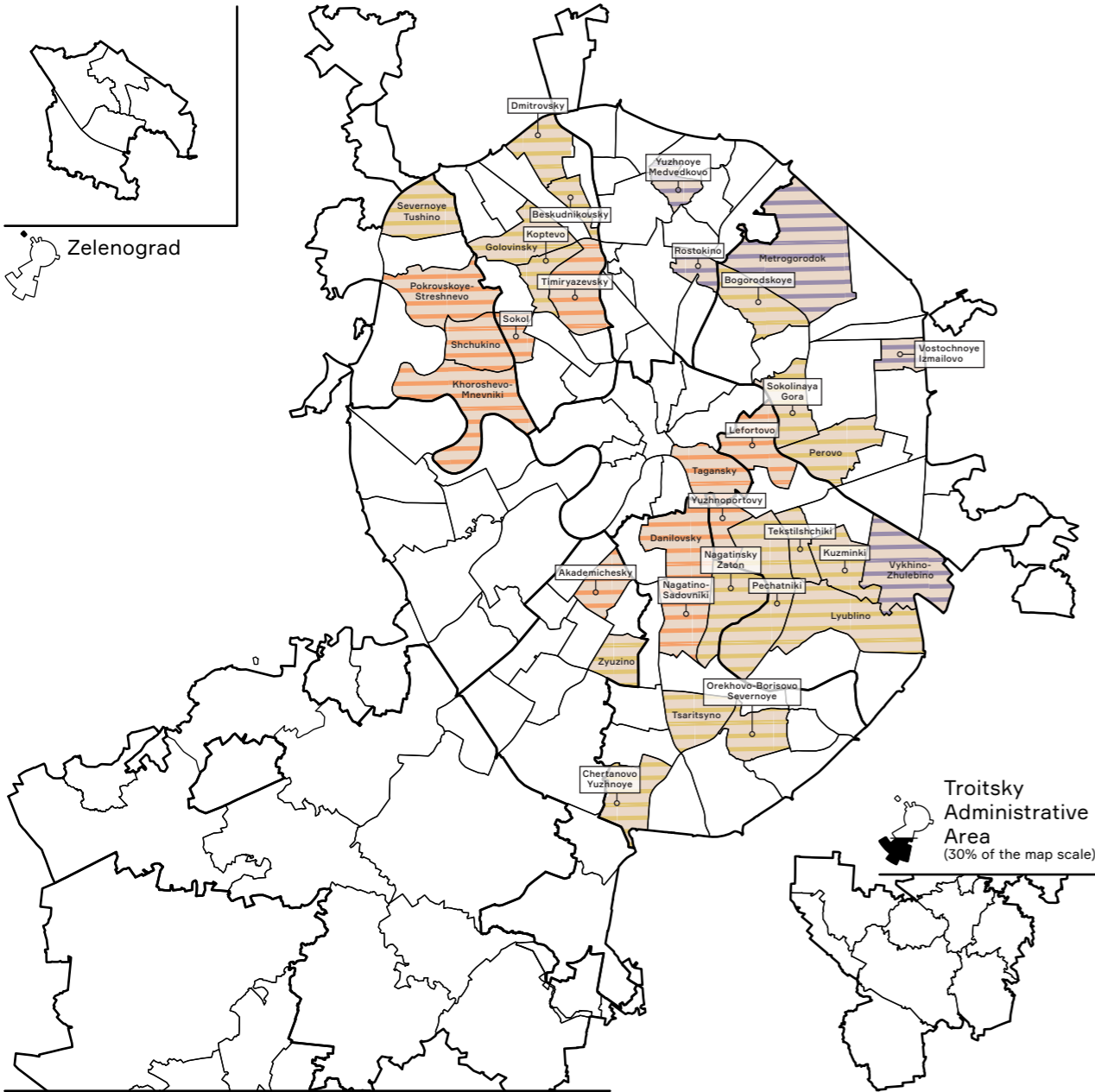


There is just one district in this group—Molzhaninovskiy. In terms of urban environment development, it is one of the most undeveloped and poorly maintained districts in the city. It falls behind in availability and quality of public health, education infrastructure, overall development of areas and cultural-entertainment possibilities. Residents of this district express low demand for any cultural and leisure activity, with the exception of extra curricular education for their children. This aspect is what differentiates Molzhaninovskiy district from the districts in the “Outer Suburbia” cluster—residents of the latter have a significantly higher interest in the development of the leisure and social infrastructure.

The location of the district adds to its problems as well—not only is it split in two by a major motorway (Leningradskoye shosse) and a railway line, but it is also separated from the nearest neighboring district by the Khimki cemetery. All in all, Molzhani-novskiy district is a sort of exclave, which significantly limits the residents’ access to quality infrastructure, but at the same time prevents them from leaving easily due to poor transport connectivity with other districts. Amelioration of this situation can only be achieved through a large suite of development projects.

# HIGH DEVELOPMENT POTENTIAL AREAS

Number of districts in type	33	Share of all city districts	22.6%
Total area of districts (km²)	306	Share of the city's total area	12.4%
Total population of districts	3443861	Share of total population	29.3%
Average density of population (per./km²)	11249	Deviation from the average for the city	5.1%



This group includes areas of the city that have the highest potential for change and development in the future. The residents of these districts are highly involved in their district's life: in the upkeep of external communal areas as well as cultural involvement, which in these areas is 5-10% higher than the average in Moscow. At the same time, residents of these districts are devoted to improving the neighborhoods where they live—specifically in the culture and leisure spheres. The demand for district culture establishments (centers and libraries), public access zones, cultural events and self-education greatly exceeds the provision level of these amenities. There are strong grounds for assuming that measures that are being taken to improve the development of cultural and recreational opportunities in these districts will be met by the residents with significant support and high demand.

A very important characteristic for this type is their marginal condition and state of constant change which are driven by the changing nature of Moscow as a whole. The development of these areas in the next ten years will in many ways determine the evolution vector of the whole city.

High development potential areas can be broken down into three sub-types, with each having characteristics similar to those from the other urban environment types identified in this document:

SUB-TYPE 1 (Closer to the 'Comfortable Moscow' type)

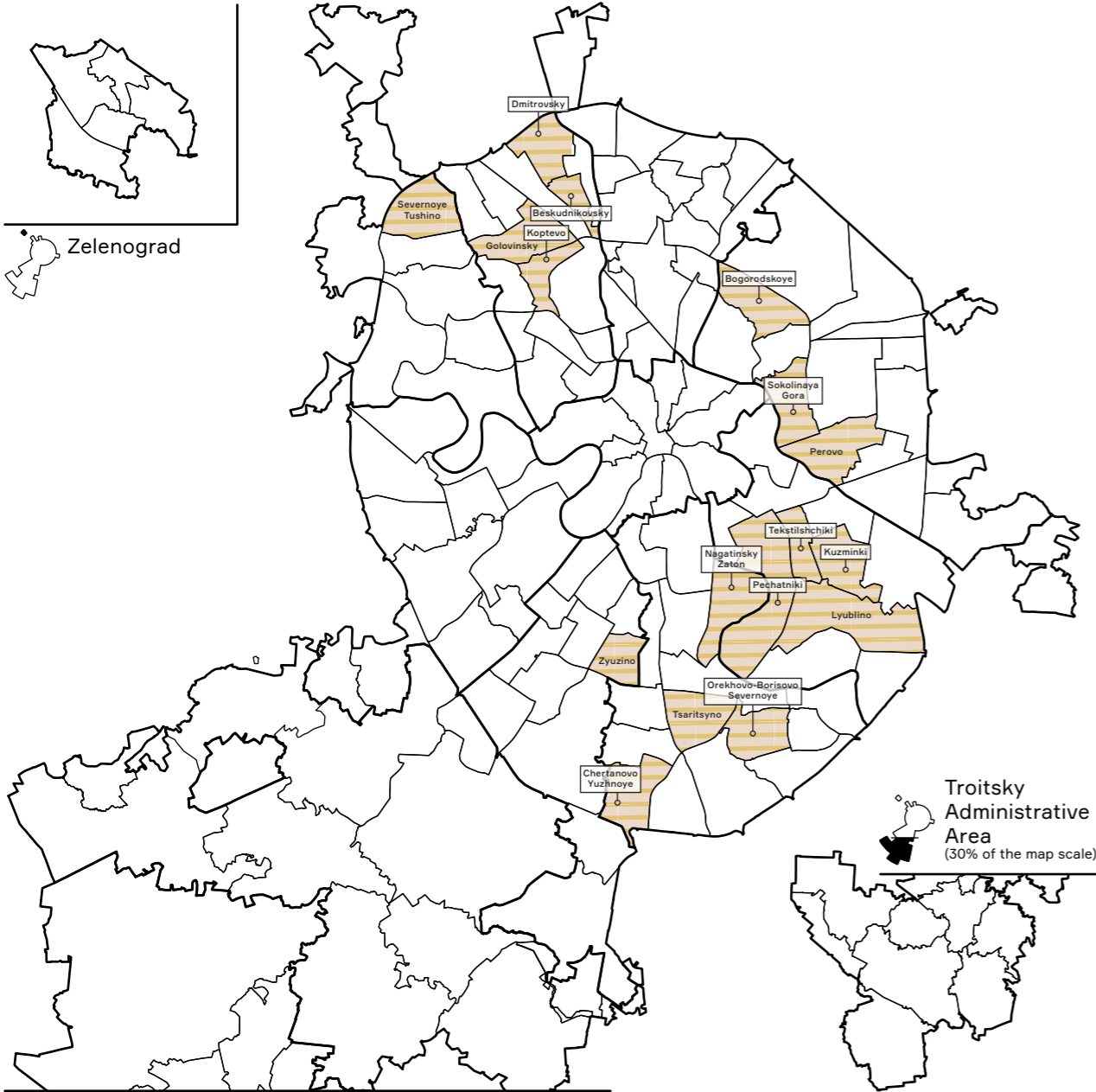
Number of districts in type	11	Share of all city districts	7.5%
Total area of districts (km²)	100	Share of the city's total area	4.0%
Total population of districts	1017648	Share of total population	8.7%
Average density of population (per./km²)	10164	Deviation from the average for the city	-5.0%



These districts of the city are well supplied with infrastructure and relatively developed areas. In terms of culture and leisure infrastructure, they are as developed as the rest (with the exception of “Business-Tourism” areas). However, the demand for further opportunities in the cultural sphere already exceeds the supply. At the same time, residents of these districts are concerned with environmental problems. Development of these areas is possible through the creation of new recreational opportunities and also by the planting of greenery in public zones, so that people can enjoy their leisure time in the comfort of their own districts and perceive them as environmentally-friendly.

SUB-TYPE 2 (Closer to ‘Young Moscow’ type)

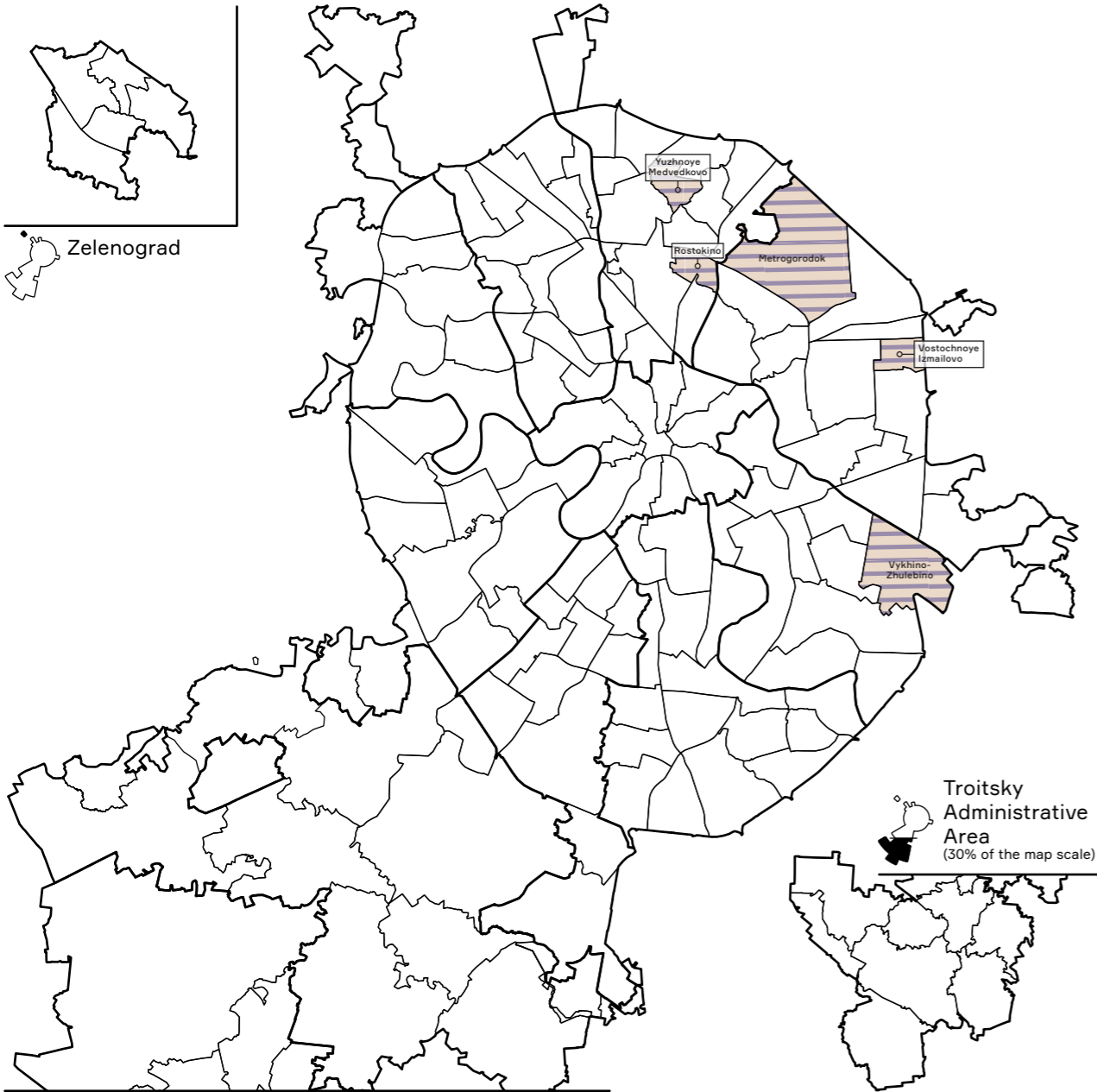
Number of districts in type	17	Share of all city districts	11.6%
Total area of districts (km²)	152	Share of the city’s total area	6.2%
Total population of districts	1974630	Share of total population	16.8%
Average density of population (per./km²)	12973	Deviation from the average for the city	21.2%



This sub-type includes districts with ‘newly built’ residential quarters, where the infrastructure development is outstripped by the building of new homes. Due to the rapid development and populating of these districts, they are lacking in developed microsocial environments: trusting and friendly contacts between neighbors have not yet been established. With that in mind, the local residents, however, take great initiatives in the development of external communal areas, whereas the residents of “Young Moscow” do not. The development of cultural, recreational and social infrastructure is also likely to be greeted with support by the residents.

SUB-TYPE 3 (Closer to ‘Outer Suburbia’ type)

Number of districts in type	5	Share of all city districts	3.4%
Total area of districts (km²)	54	Share of the city’s total area	2.2%
Total population of districts	451583	Share of total population	3.8%
Average density of population (per./km²)	8392	Deviation from the average for the city	76.9%



The building and occupation of these areas mainly occurred during the 1980s, so the ties between neighbors are stronger than in the second sub-type: residents know and trust their neighbors well and perceive their districts to be safe. The negative side of these districts’ development is the condition of the communal utilities and educational infrastructure, which do not meet the residential demand. Poor transport connectivity with the rest of the city also creates difficulties for residents’ mobility. It can be assumed that due to poor transport connectivity, which creates low mobility and complicates journeys into other districts, but at the same time a favorable social environment, residents would willingly take part in the development of leisure, entertainment, educational opportunities and resolution of problems with utility maintenance.

Moscow Institute for Social and Cultural Programmes is a government non commercial scientific-research organization. The sponsor of the Institute is the Moscow Department of Culture. The Institute's main activity is carrying out scientific-research, methodological and educational procedures in order to develop the sociocultural spheres of Moscow city.

The Institute conducts applied research in sociology, culturology, socio-economic geography, communications and design as well as developing recommendations based on the research and organizing conferences, round tables and seminars.

“The Mechanics of Moscow. Research into an Urban Environment” project was created by the Institute in 2013. This research was designed to help decentralize the cultural life of the city, which is under the oversight of Moscow's Department of Culture. Due to the complex and detailed approach to data involved in this research, it can also be used to analyze other spheres of the urban environment.

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2015

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