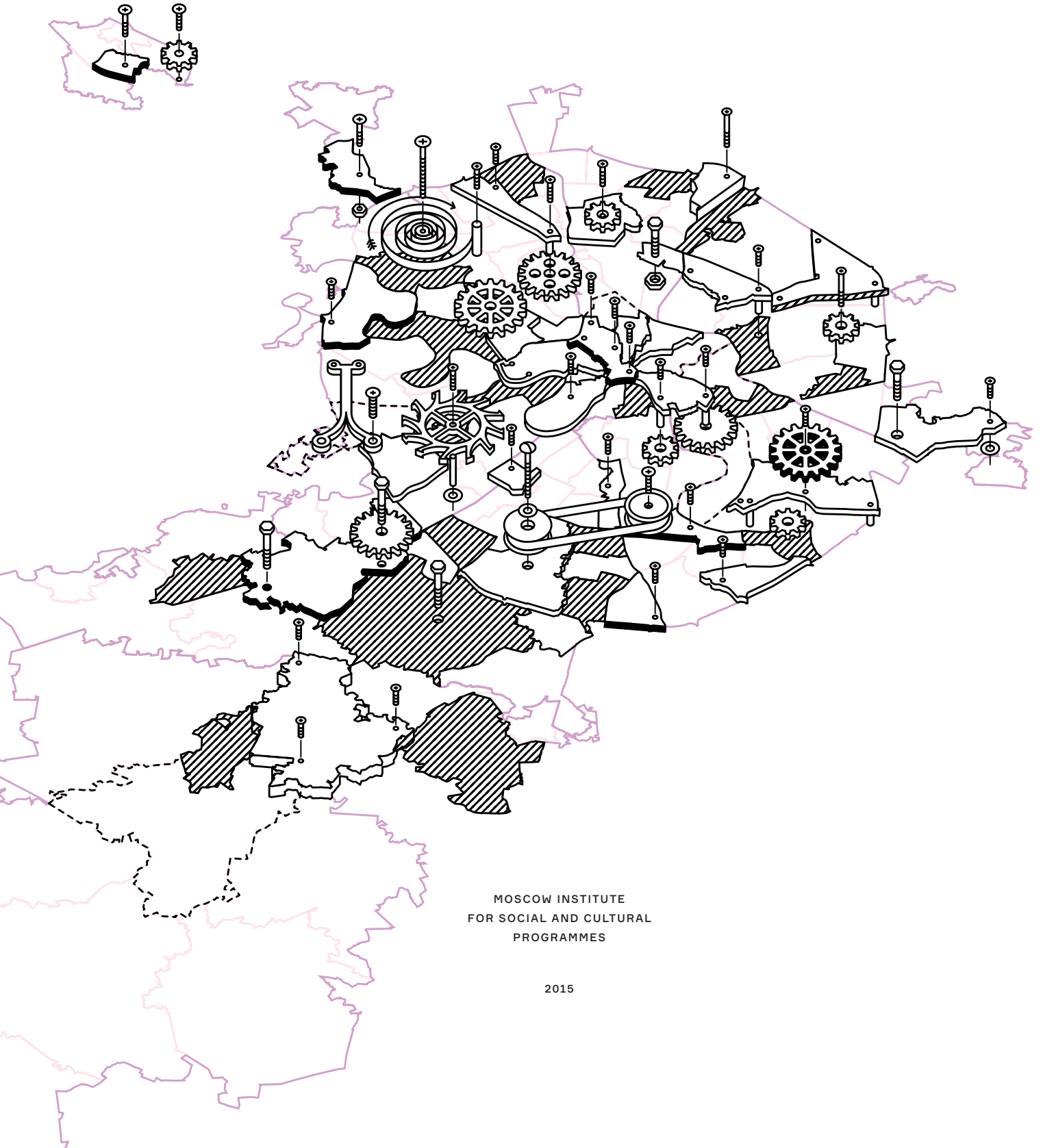


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THE MECHANICS OF MOSCOW

RESEARCH INTO AN URBAN ENVIRONMENT



MOSCOW INSTITUTE
FOR SOCIAL AND CULTURAL
PROGRAMMES

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The Mechanics of Moscow. Research into an Urban Environment

Authors	<p>Kirill Puzanov</p> <p><i>PhD in geography from Moscow State University (“Intra-city self organization of a society”), MA in sociology from the University of Manchester.</i></p> <p><i>A lecturer at the geographical department at the Moscow State University, Chief research fellow at the MISCP.</i></p> <p>Pavel Stepantsov</p> <p><i>MA in sociology from the National Research University Higher School of Economics, MA in sociology from the University of Manchester, Head lecturer at the Philosophy and Sociology department at The Russian Presidential Academy of National Economy and Public Administration, Senior research fellow at the MISCP.</i></p>
Methodology Consultant	<p>Victor Vakhshstein</p> <p><i>PhD and professorship in sociology from The Moscow School of Social and Economic Sciences, Head of the sociological research center and Dean of the Philosophy and Sociology department at The Russian Presidential Academy of National Economy and Public Administration.</i></p>
Project Originator	<p>Ruslan Khestanov</p> <p><i>PhD from Universite de Fribourg, Professor at the sub-department of Culture Sciences, Chair of the Cultural projects sub-department of the Culturology department at the National Research University Higher School of Economics.</i></p>
Editors	<p>Ivan Napreyenko, Olga Kosova</p>
Translators, Copy Editors	<p>Dan Vesty, Asija Mudrov-Vesty</p>
Designer	<p>Aleksey Kritsouk</p>
Illustrator	<p>Illarion Gordon</p>
Project Director	<p>Alina Bogatkova</p>
Website	<p>data.miscp.ru</p>

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.

K. Puzanov, P. Stepantsov
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INTRODUCTION

A RETURN TO THE ENVIRONMENTAL VIEW

Ever since the beginning of the 20th century sociologists have been occupied in intensive research into the urban environment and city life. Actually, research into urban life has been carried out in multiple disciplines and from various angles but it is fair to say that the most salient input in this area has been that from the sociological sphere. The key contributors to the field of urban studies have been followers of the Chicago school of Sociology – Robert Park, Ernest Burgess, Louis Wirth and others.

Researchers into city life focus on the interaction between people’s behavior and the living environment, i.e. how people are affected by their surroundings, the availability of resources and their distribution, access to transport and other factors. These questions all lie at the crossroads of sociology and social ecology and are the main shapers of contemporary urban analysis

However, it is worth pointing out that sociological and ecological methods of research into urban life do start from very different premises and frameworks, so there are some significant differences in the methodologies they employ to analyze the urban environment. Sociology is mainly concerned with looking at social solidarity – the formation and development of urban communities; whereas the ecological perspective is more concerned with competition and conflict over environmental resources.

Over time, the ecological approach has been progressively abandoned in favor of the sociological. Beginning with the second half of the 20th century, the main focus of urban research has been on community development (H. Wertz) and the perceptions of a city and its image (K. Lynch). Problems connected with people’s living habitat, that were previously studied from an ecological viewpoint have slowly been excluded from the sociologists’ agenda.

This situation has led to some serious complications and limitations of urban research:

- The city has become the basic unit of study, with sociological, cultural and economic tendencies analyzed at the level of the city as a whole. This in turn has made it increasingly difficult to identify and study individual

regions of a city as units of study in their own right, or to analyze their interaction, correlation and general influence on the urban environment.

- Studying the impact of the living environment and urban surroundings on the every day life of citizens is no longer of interest to researchers.
- Cities are often reduced to basic components – for instance urban communities, infrastructure etc., which are studied individually and separately – thus losing sight of the complexity of the holistic view.

“The Mechanics of Moscow” project represents an attempt to overcome these limitations. Our study is structured in a way that allows for a comprehensive, in-depth analysis of the influence of peoples’ living environment on their behaviors, their use of urban spaces and their interactions with one another.

Our research is based on sociological data analysis accumulated by two telephone surveys of Moscow residents carried out in 2013 and 2015. The volume of the representative sample was more than 12 thousand respondents. Sociological data was then enhanced by data from open sources, official publications and geodata services. The unit of representation in this case is not the city as a whole and not an administrative area, but an individual municipal district. In other words, this sampling provides reliable information about the citizens of each city district, including districts within Troizkiy and Novomoskovskiy areas, which were only absorbed into the city of Moscow in 2012. This makes “The Mechanics of Moscow” project a unique piece of research for Russia.

THE URBAN ENVIRONMENT AND CITIZENS’ BEHAVIORS – A MUTUAL INTERACTION

To trace the link between the behavior of citizens and the city itself, sociologists need to turn their attention back to the living environment. This relationship is impossible to evaluate in purely ecological terms – as has already been demonstrated by Robert Park. A contemporary city differs greatly from the human natural habitat, and the strategic behaviors of humans cannot be explained solely by competition for natural resources, which is characteristic of the animal kingdom. And so the key focus when studying a city isn’t the interaction between people and their living

environment but the interaction between different people themselves under the influence of the living environment .

In other words, the object of the research becomes the behaviors of the citizens, living in varied heterogeneous urban areas. The connection between behavior patterns and living environment isn't linear: for instance, the infrastructure provision of a district doesn't always directly reflect the demands or needs of the citizens. Let's elaborate on this with examples gathered throughout "The Mechanics of Moscow" project research.

First, we'll look at the central districts from the perspective of infrastructure and amenities. The central administrative area of Moscow is certainly much more developed than other Moscow areas. There are twice as many shopping areas in this area then on average in the rest of Moscow, more than four times the quantity of restaurants and cafes, and 25-30% more cultural establishments than in other parts of the city.

Interestingly however, there seems to be a paradoxical effect at play here, in that although the centre of Moscow is the most developed area in terms of infrastructure, making access to the public and cultural life of the city very easy for central residents, research has shown that the residents themselves are significantly less likely to participate in the public cultural life of Moscow, than those who live in the outskirts. Only 27% of central Moscow residents participate in the city's cultural life, compared to 55% of residents in the Northern Administrative Area, 42% in the Eastern Administrative Area and the average for Moscow as a whole of 35%. The same pattern is visible with regards to cultural establishments and communal spaces: residents of central Moscow report 20% less accessibility in cultural provision than residents of other districts in the city, despite the fact that objectively speaking they actually have access to the most highly developed cultural provision in the whole city.

This paradox can be explained by the large number of tourists and visitors flooding the central districts, who then take full advantage of the developed infrastructure. Furthermore, there is a large concentration of business and office spaces in the centre and working commuters during weekdays exceed the local residents several times – and tend to take over streets and public areas. As a result of these factors the local residents tend to spend their free time at home avoiding the hustle and bustle of crowds and the urban corridor effect.

Another great example of a non-linear connection between use of the living environment and the city itself is parental choice in extra-

curricular education for children. The choice of doing extracurricular activities or not is something that is left up to the child in only 1/3 of cases. Twice as often that decision is made by relatives: parents (around 60%), grandparents (slightly over 5%), with the main criteria of choice being the quality of education (67% of families cite this factor as key in making the decision.) .

However, after the subjective criteria of quality, the choice is most often influenced by geographical accessibility. The quicker and easier parents can get to the central or other districts, the greater the chance that they will give their children extracurricular education outside of their home district. A good local transport system increases the chances of a child being involved in extracurricular activities by 15%.

It's important to note that the non-linear connection between the urban environment and residents' behaviors often create a stereotypical image of the city. That image – quite often, false – dictates citizens' behavior. For instance, when it comes to the frequency of crime per 1 000 people, objectively and statistically speaking, the most remote districts of Moscow (Mitino, South Butovo, Severniy etc.) are the safest ones. However, Moscovites often think of them as the most dangerous, even though statistics clearly demonstrate that this is not the case. The centre of Moscow is seen as being safer, and consequently parents allow their children out alone 2.5 times more often.

The stereotypes attached to particular districts are primarily connected to social factors. Familiarity with neighbors for instance, is an important factor: people who know their neighbors by sight report high levels of feeling safe in their environment. The level of fear felt by residents rises in line with the extent to which a particular resident hasn't 'explored' their local territory, or hasn't interacted with the people who live there. Respondents that use their district's infrastructure regularly and know people who live there, on the whole feel much safer. This is the reason why the centre is perceived as safe: Muscovites use it very frequently and know it very well.

The respondents that are most concerned about safety are those who don't know any of their neighbors at all. Precisely for that reason, senior citizens feel much safer in their districts – they know their neighbors 30% more frequently than other age groups, which allows them to develop a sense of security in their local communities. Young people 18 to 25 are much more likely to be concerned that they will be the victims of crime or violence.

DEVELOPMENT OF THE URBAN ENVIRONMENT

Moscow districts differ from one another in terms of the development of various aspects of the urban environment. Some of them are safer, others have more developed amenities, and some have a very varied local cultural and leisure infrastructure, etc.

To understand the specific character of an urban space, it's necessary to compare the city's areas on the basis of a number of different aspects. With that aim in mind, a mathematical analysis of data was used and distinctive parameters of Moscow's urban development that describe the characteristics of each district were chosen.

This search for patterns and processes that determine the life of a megalopolis, as mentioned above, forced the research to step away from studying the greater Administrative Areas and localize to a finer level of sociological and statistical data collection. As a result "The Mechanics of Moscow" project presents a comparison of individual municipal districts and not Administrative Areas, offering a highly detailed and rich system for evaluating the development of the urban territory. The research also allows for the identification of the unique characteristics of various Moscow areas and their main developmental difficulties.

The aim of our work is to give the wider public an analytical tool that will let them compare Moscow's districts using various parameters and see the development trends of the urban environment.

We present two tools to make this material more comprehensive. One is the parameter maps of district development. Parameters are aggregated sociological and/or statistical indicators, that show particular characteristics of Moscow districts. Parameter maps presenting a very graphic distinction between the development levels of urban territories are presented in the first part of the research.

The second tool – is the map of types of urban environment. Types of urban environment are a collection of homogenous characteristics of district development. The map illustrates the distribution of these types across Moscow. Districts that are of one type are prone to the same difficulties in development, similarity in the usage of public spaces and satisfaction with the quality of the environment. Types of urban environment are depicted in the second part of the research.

The map displays the Republic of Zelenograd, divided into ten administrative areas. An inset map in the top left corner shows the location of Zelenograd within a larger geographical context. The administrative areas are labeled as follows:

- NAA: Northern Administrative Area
- NEAA: Northeastern Administrative Area
- EAA: Eastern Administrative Area
- SEAA: Southeastern Administrative Area
- SAA: Southern Administrative Area
- SWAA: Southwestern Administrative Area
- WAA: Western Administrative Area
- NWAA: Northwestern Administrative Area
- NAA: Novomoskovsky Administrative Area
- TAA: Troitsky Administrative Area

RESEARCH DESIGN

“The Mechanics of Moscow: Research into an Urban Environment”, is dedicated to understanding the quality of the city environment. The quality of urban living is a multi-layered concept, and many re-searchers have come to the conclusion that discussion of this subject can only be meaningful when the environment is seen through the subjective perception of its inhabitants—i.e. people, living in the city and using it’s space, infrastructure, opportunities, etc. (A. Visokoskiy “Seven city scenes”//City as a self-organizing system.—Obninsk, 1997. T.M.Dridze “Human and urban environment in a prognosis of social projection//Social studies and the pres-ent.—1994.—No 1.—Pages 131-138. B. Hiller Cultural environment of a historic city: method-ology of study and manifestation//Culturological magazine.—URL: http://www.crjournal.ru/files/file/09_2011_23_20_57_1316632857.pdf. T.M. Dridze Urbanism and city politics in light of ecoanthropocentric sociology//Urbanization in the formation of sociological space.—M.: Science.—1999.—Page 273).

For this reason we have combined our statistical and sociological data. The former enables us to objectively evaluate the level of infra-structure capabilities in a district, the latter looks at the use of this infrastructure by the local residents, and evaluates their subjective levels of satisfaction with it.

In designing the research for this project, we turned to internation-al works on the subject of quality of life research (“Cities of Opportunity”; “Global Power City Index”; The Global City: New York, London, Tokyo (Princeton: Princeton University Press, 1991) 1st ed. ISBN 0-691-07063-6).

Many of them include multiple parameters that are organized around 7 key elements of urban life:



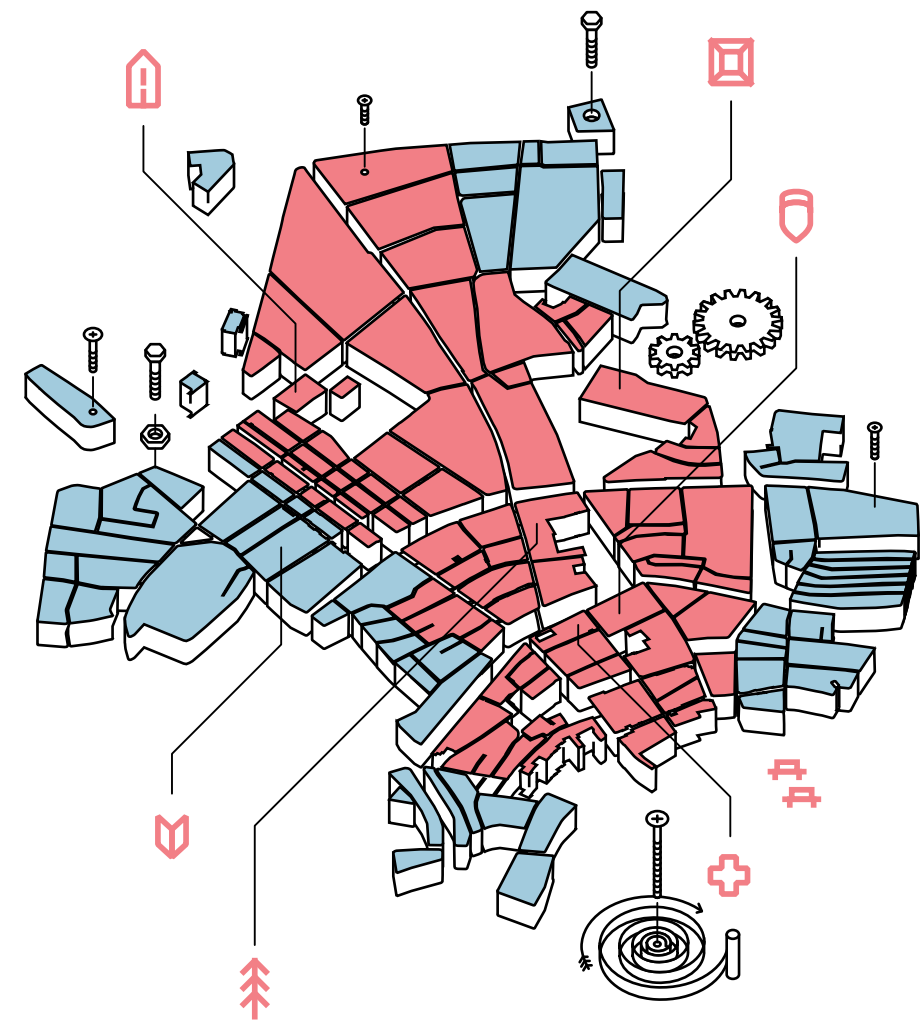
To successfully evaluate the key elements of urban life it was necessary to select the most appropriate operants—indicators that can be used to measure the level of development of a dis-trict. For this project we initiated a system of sociological and statistical indicators, which describe each of the 7 key elements. We used the works of various Russian and international re-searchers on the quality of urban life. For example, the OECD Better Life Index (<http://www.oecdbetterlifeindex.org/ru/topics/life-satisfaction-ru/>), Liveability Index (A Summary of the Liveability Ranking and Overview August 2012.) and Urban Index Russia 2011 (“A special Urban Index forum research, 2011, Russia”).

Valid empirical indicators were chosen from these works to be used in the evaluation of the quality of the urban environment not just at a city level, but on a district level.

These indicators were tested in two ways: based on the statistical data collected from each district, and a citizen survey of people living in each district, including the New Moscow area (Troitsky and Novomoskovsky Administrative Areas).

THE MECHANICS OF MOSCOW
RESEARCH INTO AN URBAN ENVIRONMENT

PARAMETERS OF URBAN ENVIRONMENT DEVELOPMENT



GUIDE TO USE OF PARAMETER MAPS

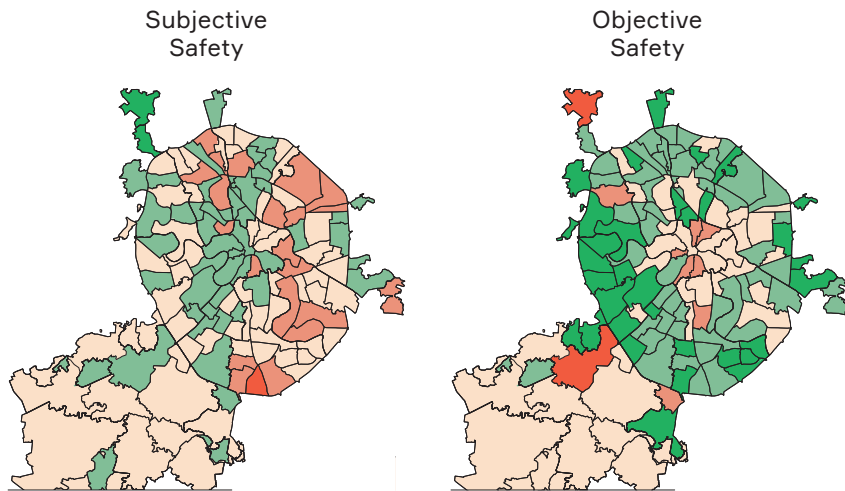
In this section we have provided several examples of data analysis of information that can be found in this document. On a city-wide level of analysis, comparison of various parameters can be used for each district. This approach allows us to detect tendencies and processes that are significant for Moscow as a whole and explain them. While undergoing this analysis, these maps give us an opportunity to see the unique characteristics of individual districts. This permits us to compare districts to each other, as well as determining their characteristics.

The maps are illustrated with the same spectrum of five colors—from a strong red for districts where the parameter is at the lowest value, to a deep green for the districts that display the highest value of a certain parameter.



1. PERCEPTION OF SAFETY ASPECTS IN THE URBAN ENVIRONMENT

Subjective parameters of safety (general confidence and subjective assessment of safety) are not directly related to the objectively measured level of safety in a district. Furthermore, in the case of subjective assessment of safety, exactly the opposite correlation with the actual level of crime is true. In other words, districts with less crime are perceived by the residents to be more unsafe and vice versa.

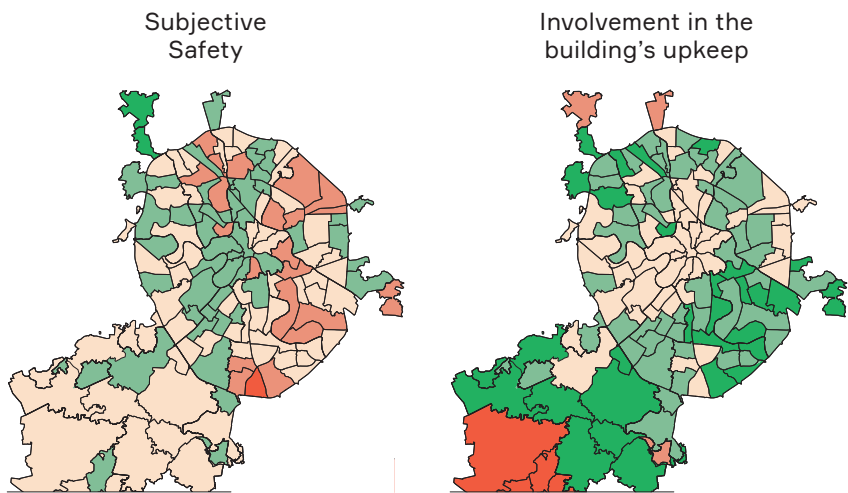


At the same time it is the subjective parameters of safety that are more important to the citizens when evaluating the quality of the urban environment of their district. For example, 20% of people want to leave districts where they are afraid to walk outside at night or during the day.

The most vivid examples of such districts would be districts inside the Garden Ring Road—Yakimanka, Tagansky, Arbat. This is because a subjective stereotype of the central districts has been formed where these districts are considered to be safe because they are a) tourist attractions b) under significantly more police surveillance than the suburban districts c) filled with people at all times of day.

At the same time the districts that are low in crime according to statistical information are considered to be unsafe according to local inhabitants—Mosrentgen, Teply Stan, Orekhovo-Borisovo Yuzhnoye, Orekhovo-Borisovo Severnoye. Unfortunately, they are

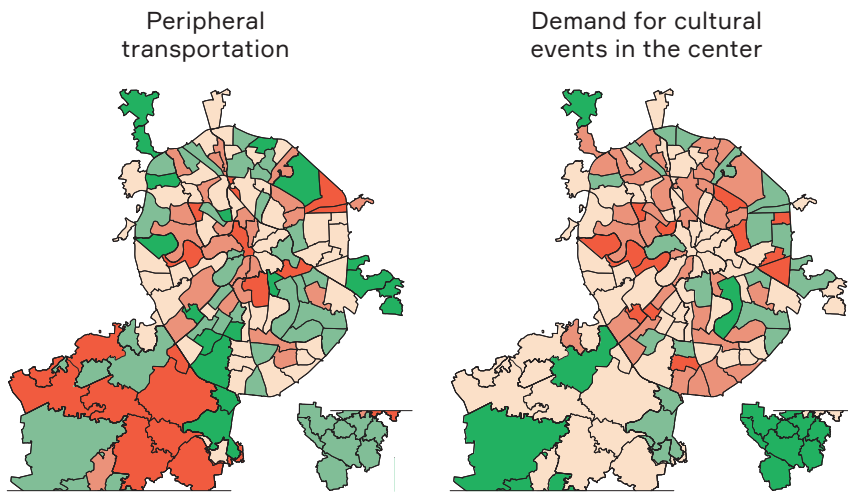
victims of their own negative stereotyping. A close proximity to the MKAD circular motorway and various transport junctions appears to have created the sense of a dangerous peripheral zone where one shouldn't be walking around alone at night, despite the lack of statistical evidence that this is the case.



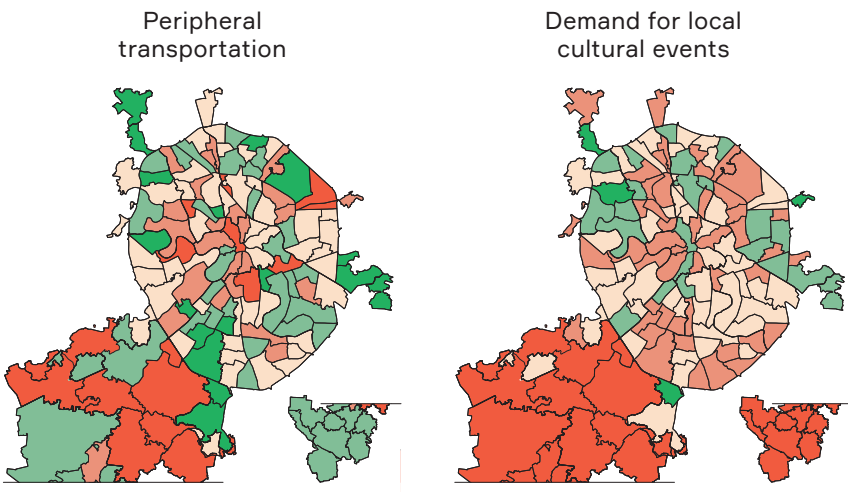
At the same time many non-central districts are considered to be safe. One of the factors that influences this assumption is participation in making specific decisions with neighbors about external communal areas, building entrances and hallways . In the districts where people are involved in the building's management and know their neighbors well, the level of subjective safety is higher by 60–65%.

2.
CULTURAL ACTIVITY AND POPULATION MOBILITY

A large number of Muscovites prefer to spend their leisure time in the center of the city. Poorly organized transport connections



to districts remote from the center create a strong barrier to visiting and participating in central cultural events and celebrations. The easier it is to get from a remote district to the center with fewer delays the more requirement there is for cultural events in the center of Moscow.



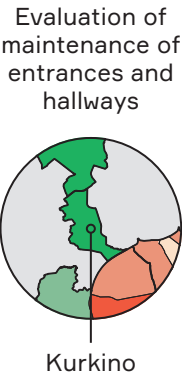
At the same time a poor transport network increases the interest of inhabitants in their own district's local cultural life and events. As a result, the following city wide tendency can be observed: the lower the level of transport provision to the center, the higher the level of interest in local district cultural events.

We can also note that access to good transport links in a district is valued differently by different social groups. The group for which it is a matter of paramount importance is younger people (18-25 years of age) who mostly use public transport for their journeys. On average, this allows them to save 20-30 minutes moving outside of their district, unlike middle aged people (35-45 years of age) who use personal transport for journeys around the city more than any other group. The groups most vulnerable to transport problems are the less mobile groups—pensioners and families with children. Their journeys involve more difficulty and they are willing to leave their districts only if transport accessibility allows them to get to the center quickly and hassle-free.

3.
KURKINO DISTRICT—OBSTACLES TO THE DEVELOPMENT
OF NEW TERRITORIES

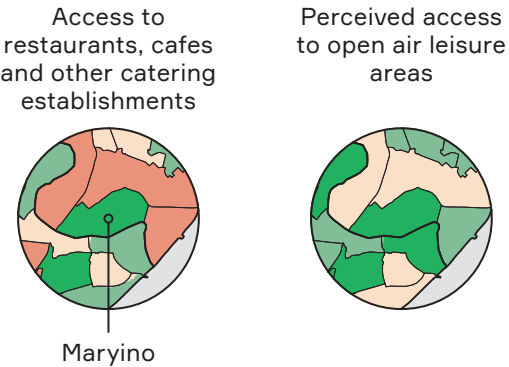
The data shows that this district is successful on a number of indicators: the inhabitants are satisfied with the quality of the infrastructure, the maintenance of entrances and hallways, safety perception etc. The district is located near the MKAD orbital motorway, so the transport access is good and at the same time it's free from the “old” Moscow problems in other similar districts with traffic jams and limited parking.

The concerns of those living in Kurkino are mostly concentrated on the lack of cultural events and outlets in their district. The rate of new building development currently exceeds the speed of cultural and entertainment infrastructure growth. The inhabitants of Kurkino currently show a high demand for cultural outlets, entertainment, restaurants, museums, parks and public access areas and child-friendly locations. A similar problem with new building rates outstripping the provision of cultural events and outlets can be observed in a number of “new” Moscow districts, and if this doesn't change it could turn into quite a significant social problem for the city.



4.
MARYINO DISTRICT—LOCAL CENTER OF DEVELOPMENT

The attention that this district attracts is not accidental. This is the largest suburban district in Moscow. “Archeology of suburbia” (Archeology of suburbia, research for the Moscow Urban Forum, MEGANOM project, “Strelka” Insititute, 2013) describes it as a local center for nearby districts and for the whole of the South-Eastern Area of Moscow. “The Mechanics of Moscow”’s parameter maps support this assertion and allow for an analysis of the advantages of this district as a local leader as well as looking at the negative sides of that status. The main advantage would be the higher level of cultural and social infrastructure development. The negative aspects are that with the building rate of new housing in the neighboring districts staying at the same high level, Maryino is going to face a reduction in the subjective sense of safety, transport problems and an over-burdening of the existing cultural and leisure infrastructure.



INFRASTRUCTURE & AMENITIES

The parameters that are included in this element are related to the development of the districts. Utilities fees, the condition of shared spaces and building grounds—all these factors directly influence the level of overall satisfaction with life in the city.

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EVALUATION OF DISTRICT INFRASTRUCTURE AND AMENITIES

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EVALUATION OF BUILDING ENTRANCES AND HALLWAYS

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EVALUATION OF BUILDING AMENITIES

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INVOLVEMENT IN THE BUILDING'S MANAGEMENT

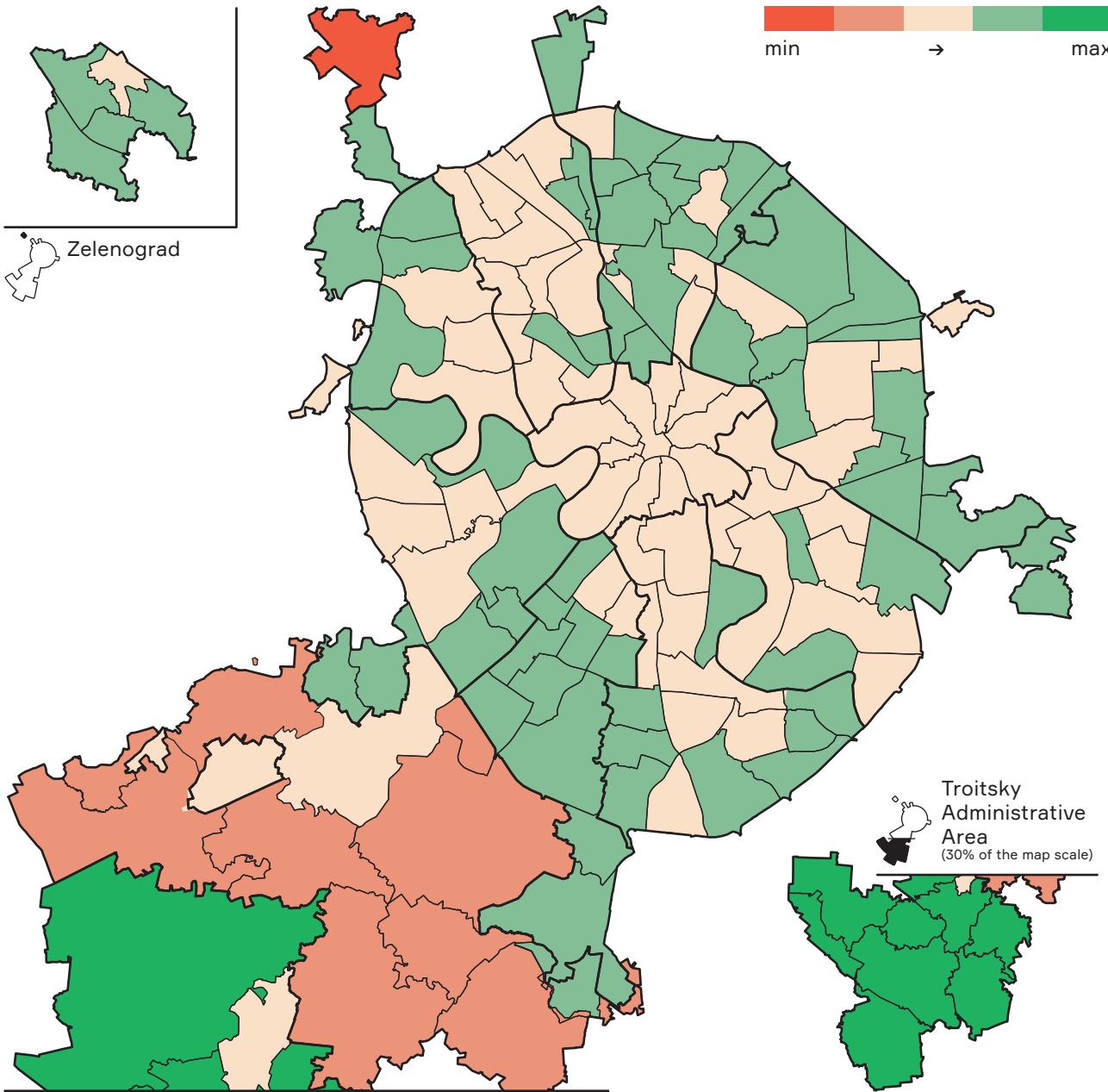
PAGE 39
SATISFACTION WITH THE QUALITY OF UTILITIES

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EVALUATION OF THE TRANSPARENCY OF GOVERNMENT ORGANIZATIONS

EVALUATION OF DISTRICT INFRASTRUCTURE AND AMENITIES

This parameter shows the extent to which residents are satisfied with the district in general. It includes problems that are typical on a district level—insufficient produce stores in walking distance, low quality of offered utilities and so on. Low values in this parameter are typical for the

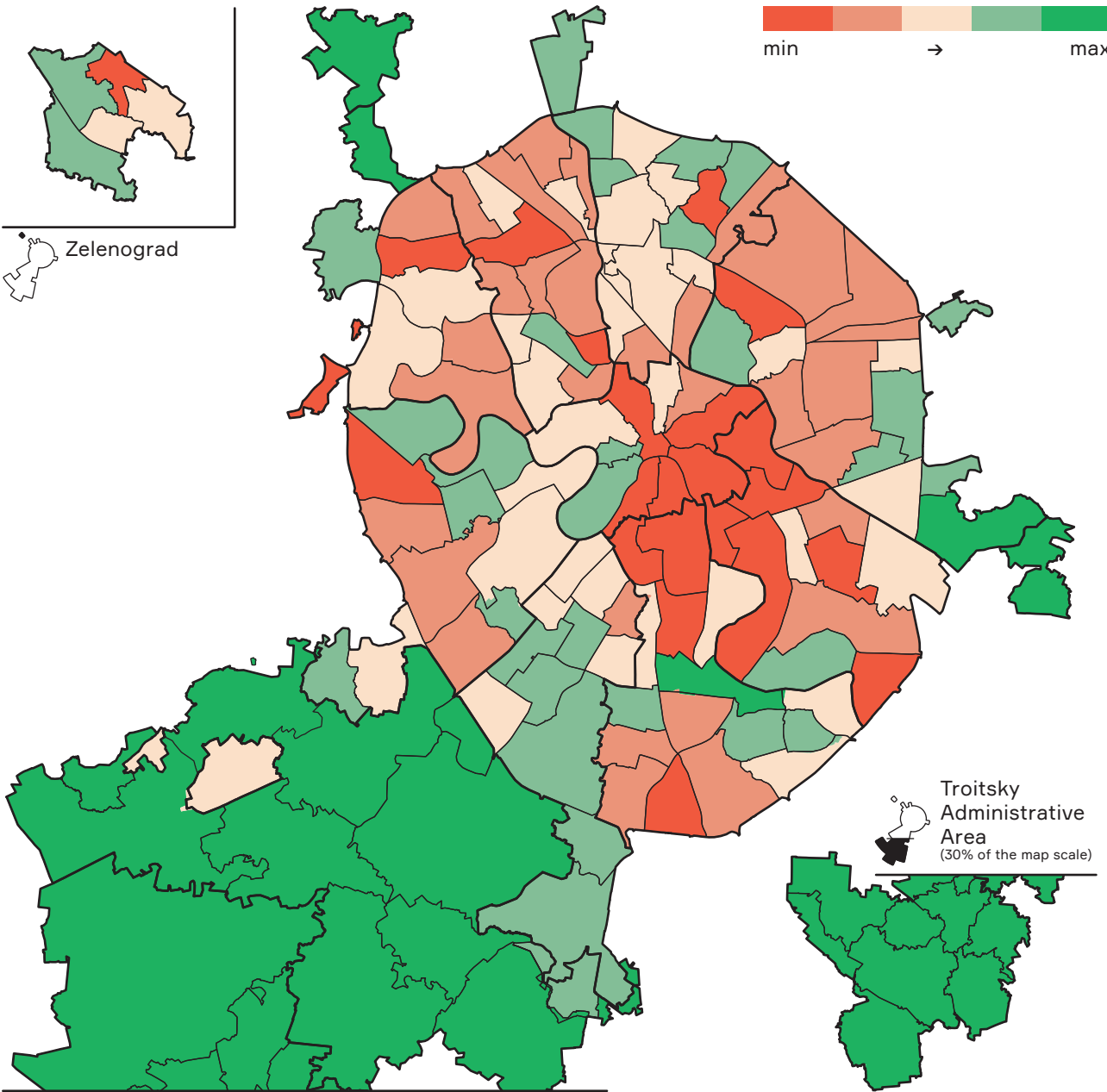
“new” Moscow districts and the central districts. In the first case a comfortable urban life style hasn’t yet had time to form, and in the case of the city center small local stores have been pushed out of business by big chain supermarkets.



EVALUATION OF BUILDING ENTRANCES AND HALLWAYS

This parameter reflects how Muscovites see their entrance halls and public spaces in the building and whether they feel they are safe to be in and comfortable. The biggest concern was revealed to be the presence of various marginal groups in the building—illegal migrants, homeless people, etc. People feel they create a negative social atmosphere. Districts in the Troitsky Administrative Area and Novomoskovsky Administrative Area are doing well in this parameter whereas Eastern Administrative Area and South-Eastern Adminis-

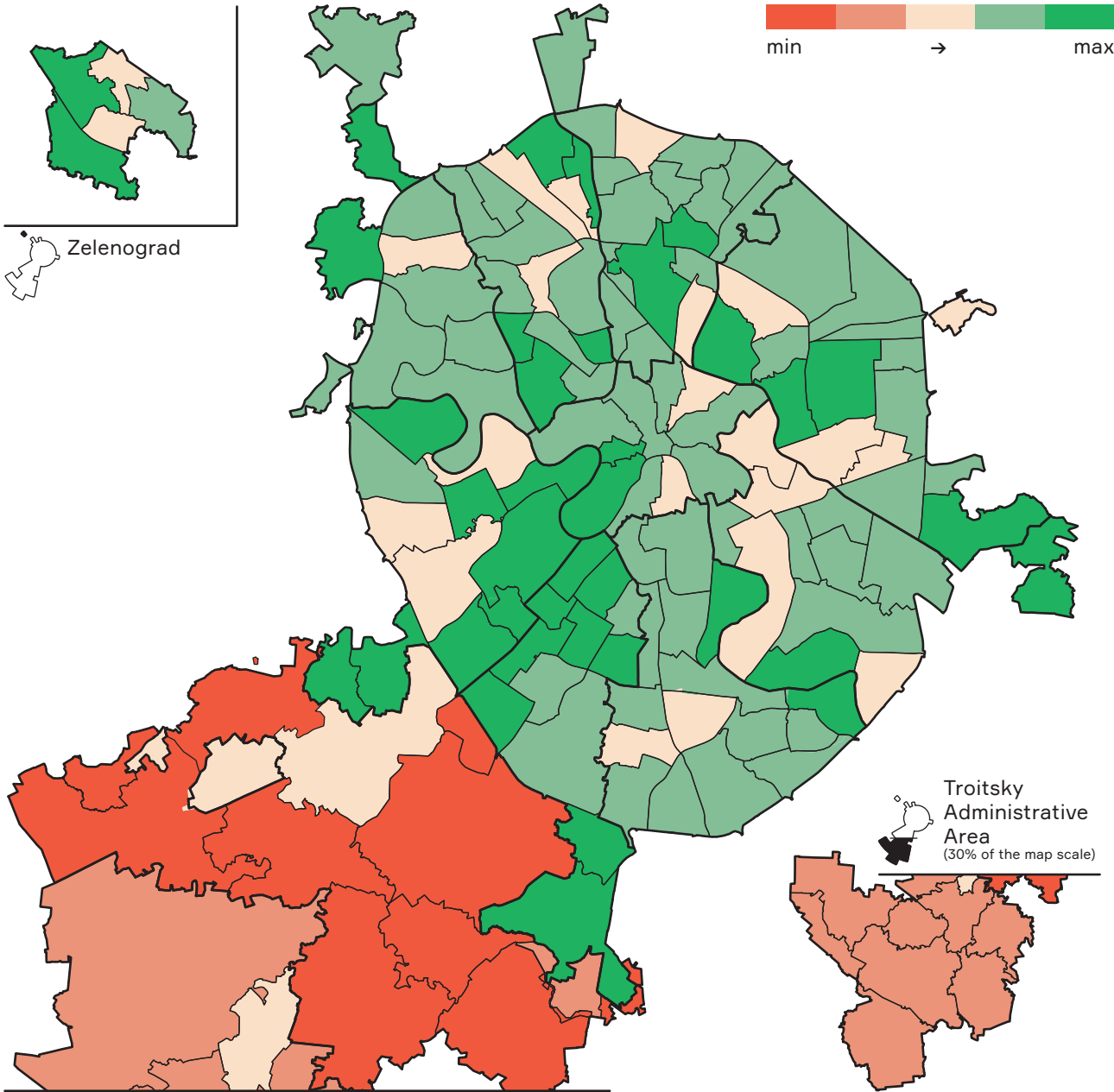
trative Area display low values here. The reason for this is the large quantity of railway lines and stations, street markets, industrial zones etc. in these districts. Aside from the presence of marginal groups, the population of these districts are concerned with insects and rodents in the building. The center of the city is also partially low in this parameter. We can speculate that this is because of the poor condition of many buildings and also the close proximity to railway line terminals: Tverskoy District, Zamoskvorechye.



EVALUATION OF BUILDING AMENITIES

This parameter demonstrates how satisfied the residents are with the condition of their apartment buildings. Low values in this parameter are typical for the smaller residential districts of Troitsky and Novomoskovsky Administrative Areas—because of the worn out heating, lighting and electricity systems. A similar situation can be found in the “old Moscow” districts with

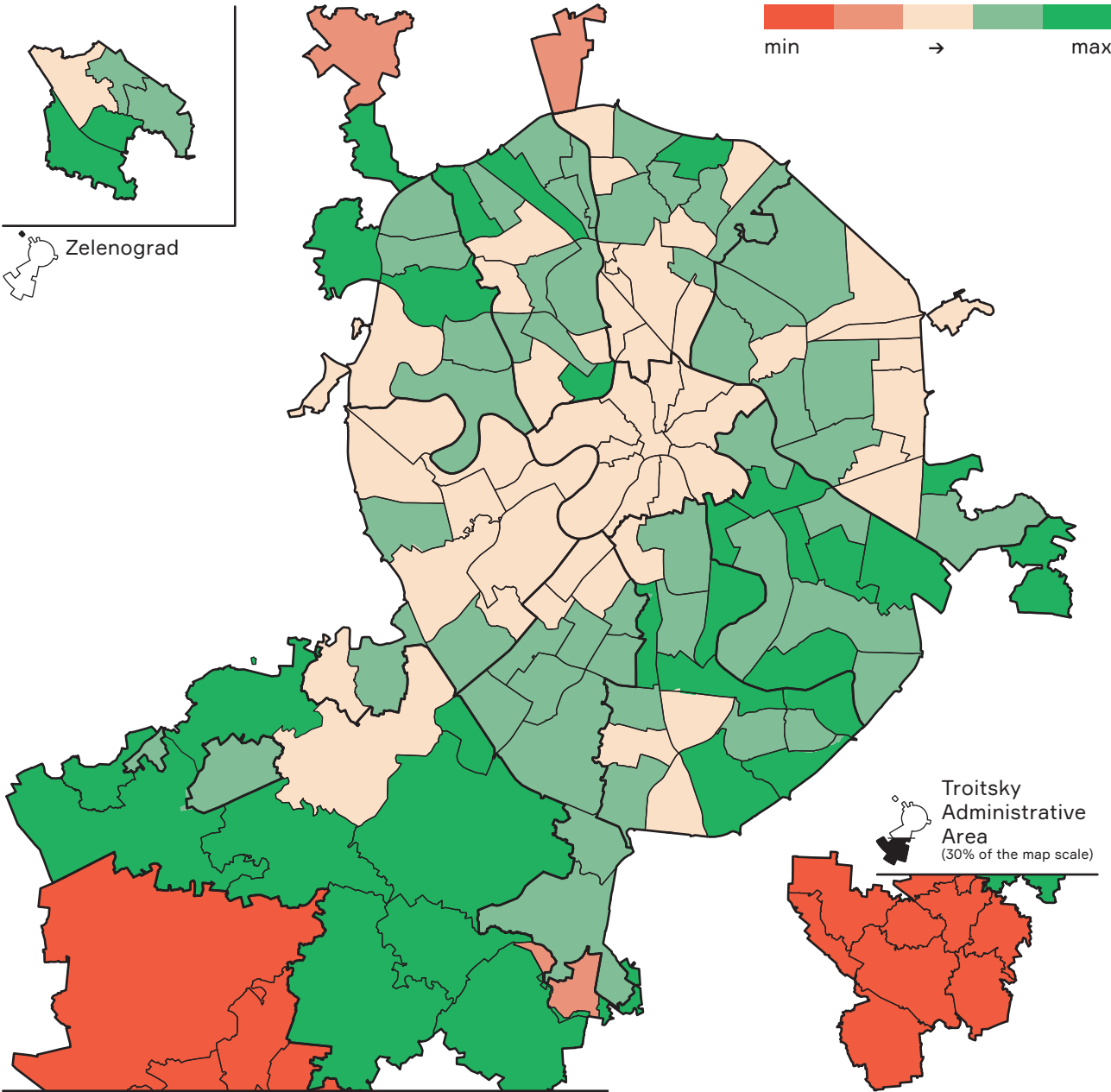
industrial zones and railway lines. The age of the building plays a big part in determining the value of this parameter. For instance, the residents of the Maryino district are more satisfied with their building than the residents of neighboring districts (Pechatniki, Lyublino, Kapotnya, Moskvorechye-Saburovo, and Brateyevo) that were built earlier.



INVOLVEMENT IN THE BUILDING'S UPKEEP

This parameter reflects the extent to which the residents are involved in the development of their building and its upkeep. High values for this parameter are typical of districts in the SAA and SEAA, for smaller residential districts of NAA and some districts in NAA and NWAA. Districts in these regions contain residents who are more likely to help with cleaning the shared spaces of their buildings, participate in spring cleaning of the external communal areas etc.

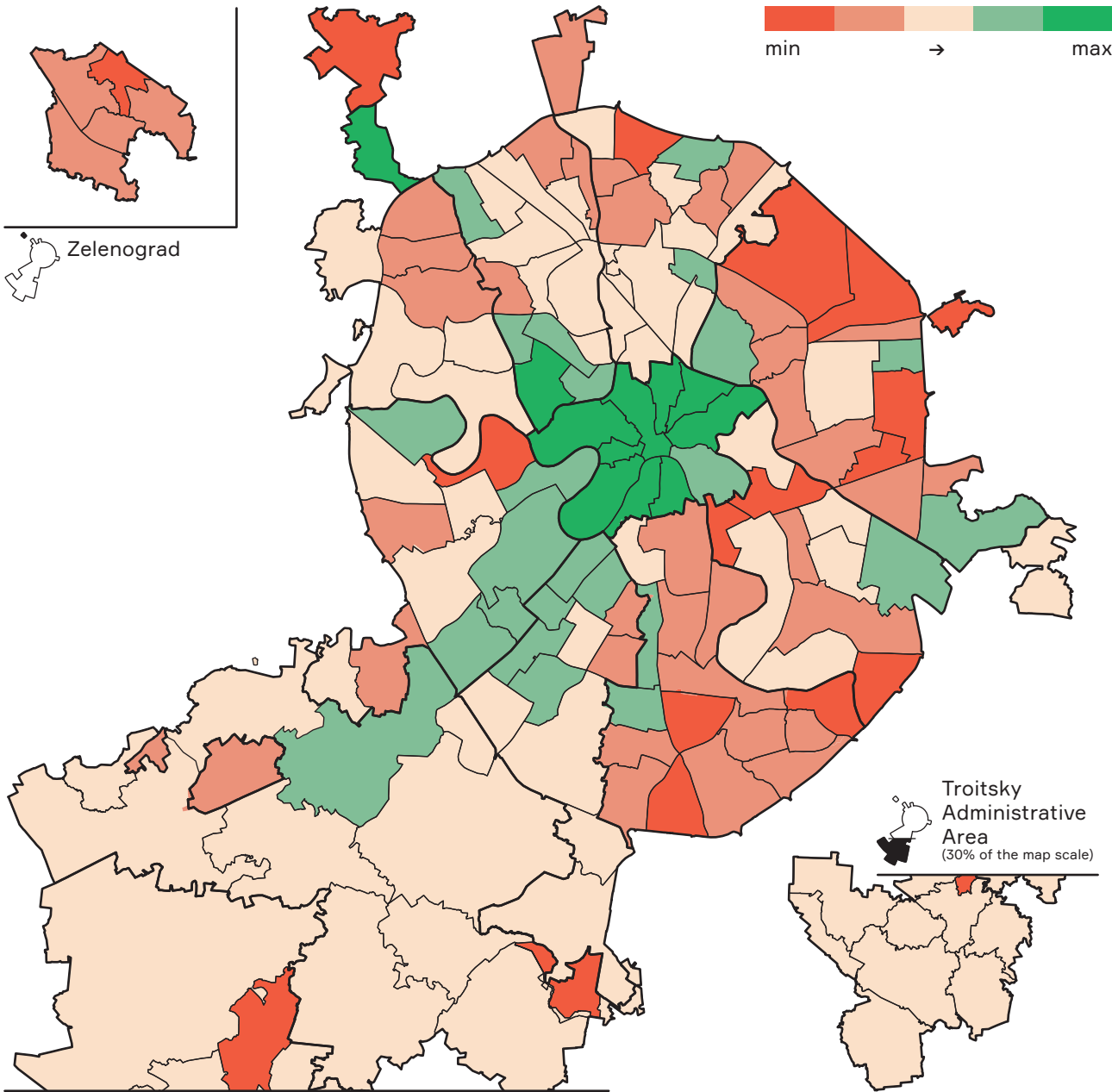
This is partly because of their relatively lower levels of income. Where residents are keen on saving money they are also more willing to carry out maintenance work themselves. The high values for this parameter in these districts also reflect the vote of no confidence in the companies that maintain the buildings. Residents of these districts often cite corruption as a major problem with such companies, and for this reason prefer to take matters into their own hands.



INVOLVEMENT IN THE BUILDING’S MANAGEMENT

This parameter reflects how active residents are in the financial and organizational management of their buildings, including the introduction of various financial schemes to improve the quality of amenities, official meetings with the building’s owners and so on. This is typical for districts which already have good infrastructure

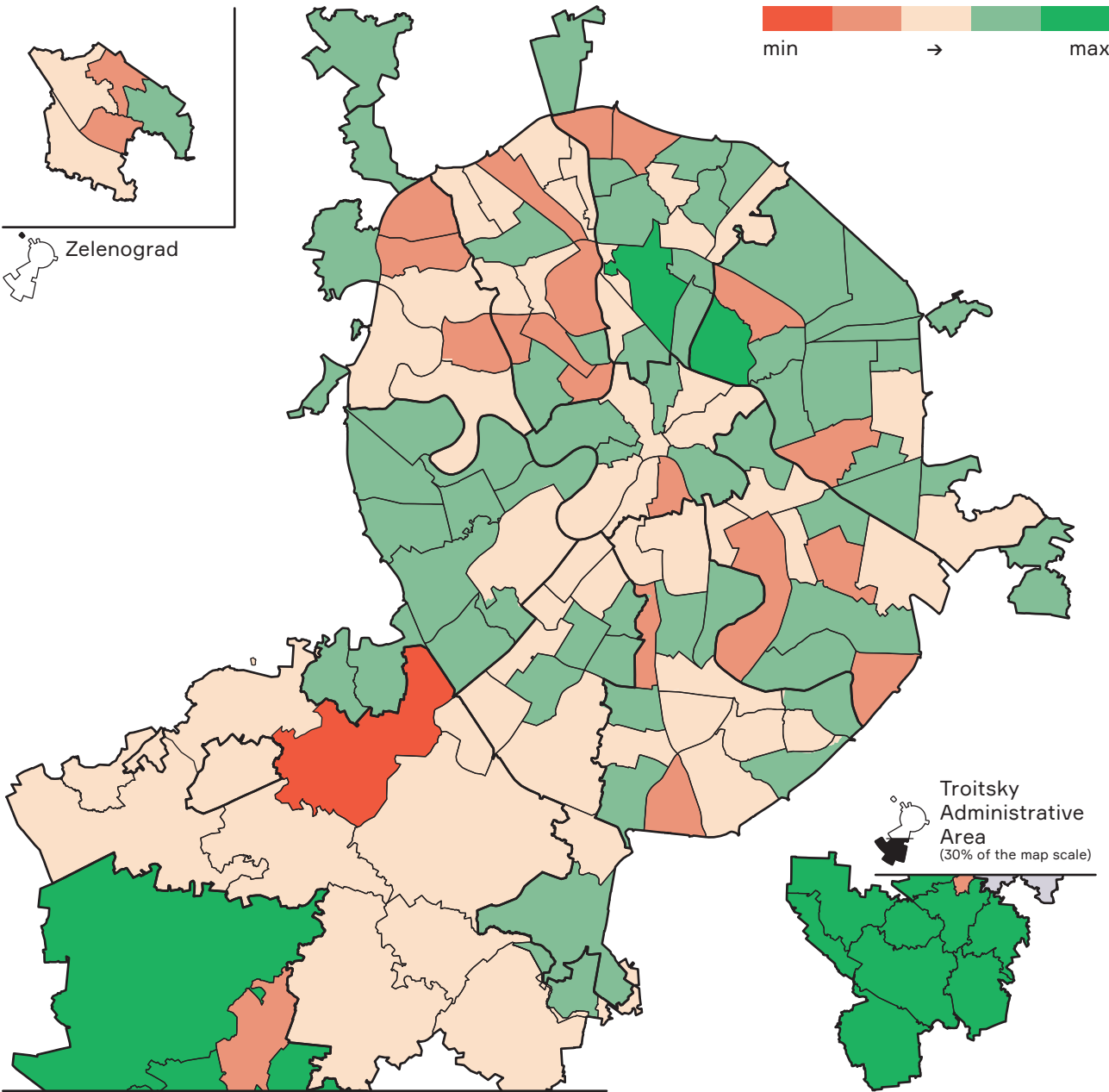
and amenities, such as the South-Western Administrative Area, Eastern and Central Administrative Areas. Low values characterize remote districts (Metrogorodok, Golyanovo, Biryulyovo Vostochnoye etc.) where residents are not ready to finance the upkeep of entrances, hallways and external communal areas.



SATISFACTION WITH THE QUALITY OF UTILITIES

This parameter shows whether residents are satisfied with the quality of the communal utilities. This reflects aspects of utilities provision that residents cannot influence themselves (water pressure, garbage chute condition etc.). The districts, which suffer from the greatest problems in this param-

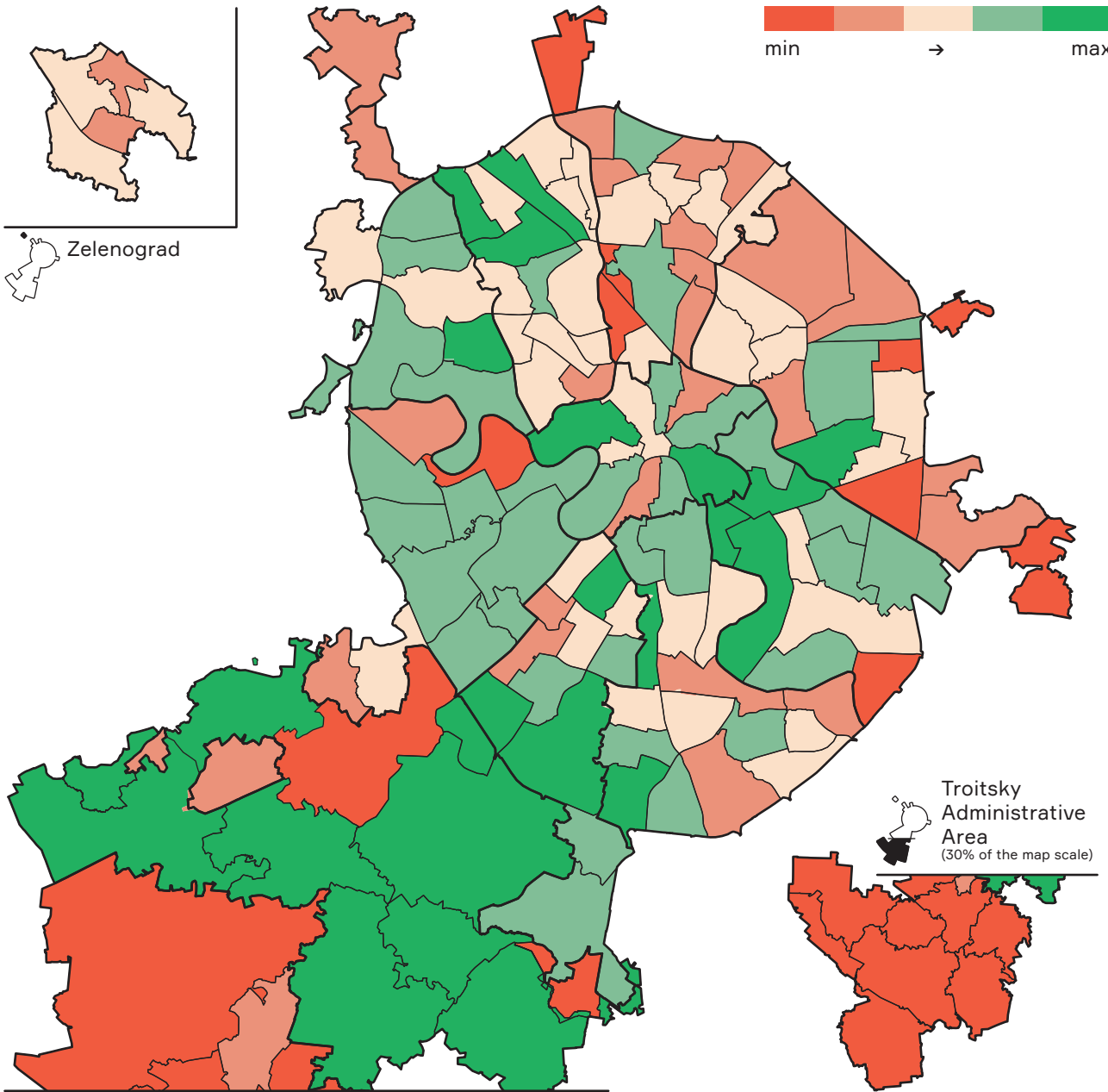
eter are the ex-rural districts, that have seen a boom in residential building over the last ten years without a concomitant improvement in the provision and maintenance of basic utilities. This problem particularly affects the Troitsk and Moskovsky residential areas.



EVALUATION OF THE TRANSPARENCY OF GOVERNMENT ORGANIZATIONS

This parameter reflects the residents’ concerns over corruption in local government authorities, utility management authorities and educational institutions. A negative assessment of this parameter is found in areas where there aren’t many multifunctional centers of government

services for the public: we can assume that multifunctional centers increase the transparency of local government organizations. The highest values for this parameter are in the districts of Novomoskovsky Administrative Area (excluding Shcherbinka and Moskovsky).



SAFETY

This element includes parameters of district safety. Residents spend more of their time in places where they feel safe and those are the districts where there’s a higher demand for urban infrastructure. However, the subjective feeling of safety does not always match the objective level of crime.

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OBJECTIVE SAFETY

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SUBJECTIVE SAFETY

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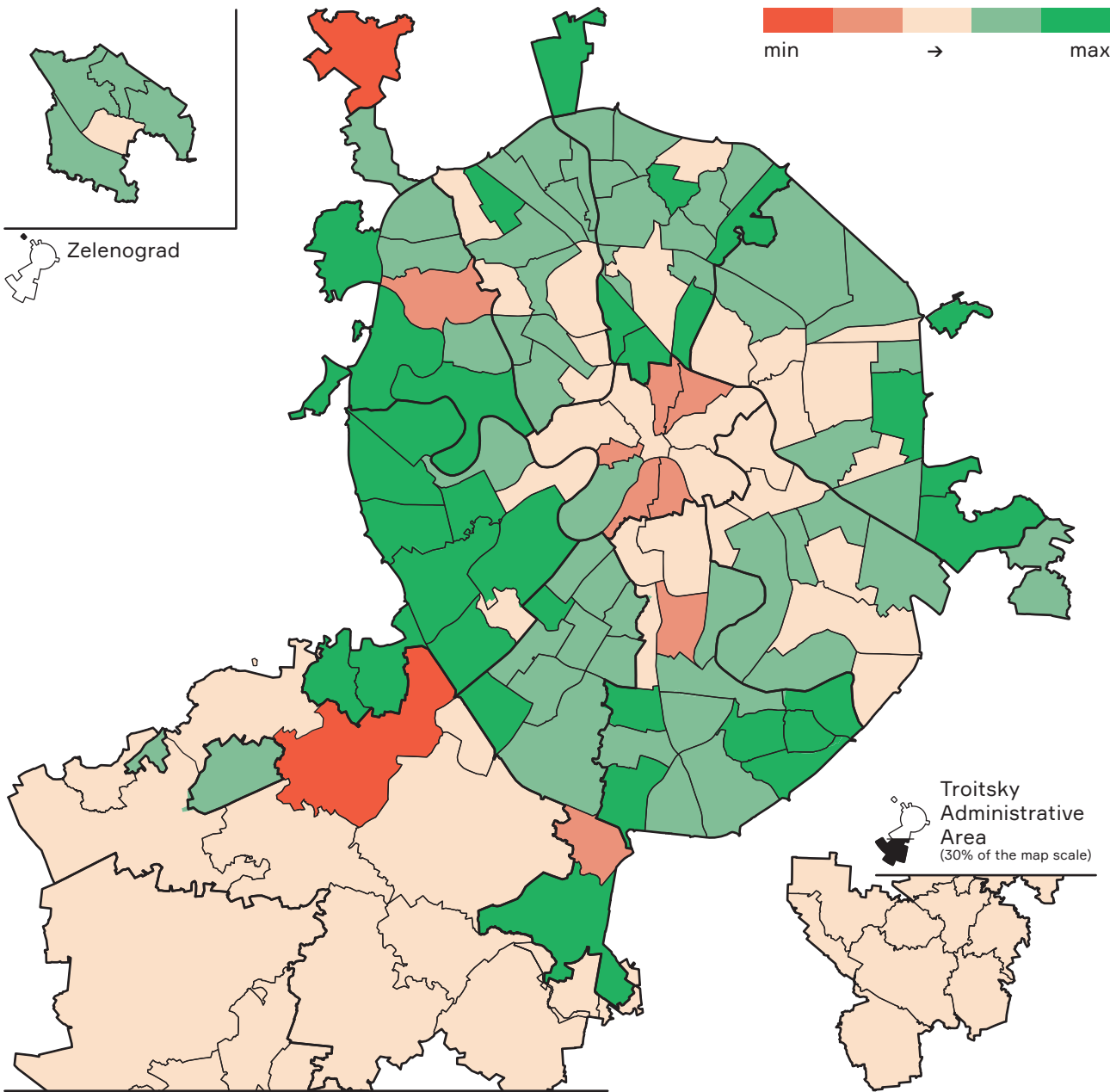
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NECESSITY FOR BASIC PERSONAL AND PROPERTY SAFETY MEASURES

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OBJECTIVE SAFETY

This parameter reflects recorded crimes per 1000 residents. The higher the parameter value, the safer the district. Objective safety does not directly influence people’s behavior. For example, when deciding to go for a walk, people operate on their own perception of the district’s safety at various times of day. The districts

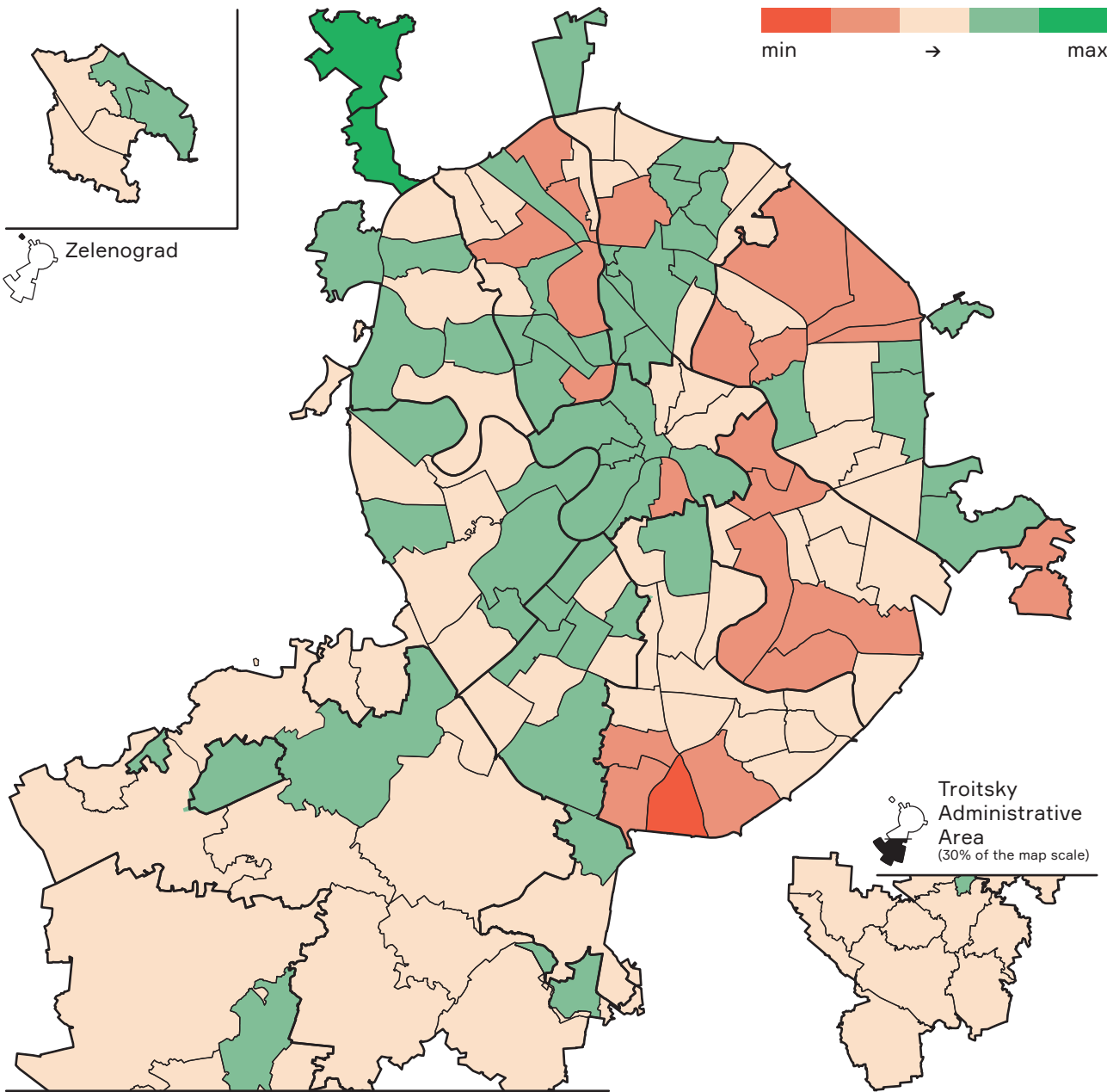
that currently have the highest crime levels are those that are located outside of the MKAD (Moskovsky and Molzhaninovsky districts) orbital motorway, closely followed by the central districts of the city (Meshchansky, Krasnoselsky, Zamoskvorechye and others).



SUBJECTIVE SAFETY

This parameter reflects how safe a given district is perceived to be by its residents. The higher values are for districts where people aren’t afraid of being victims of crime. These higher values are typical of the districts in the Central Administrative Area (Presnensky, Arbat, Khamovniki), Western Administrative Area (Ramenki, Krylatskoye), and also for districts beyond the MKAD orbital motorway in the North-Western and Northern Administrative Areas (Kurkino,

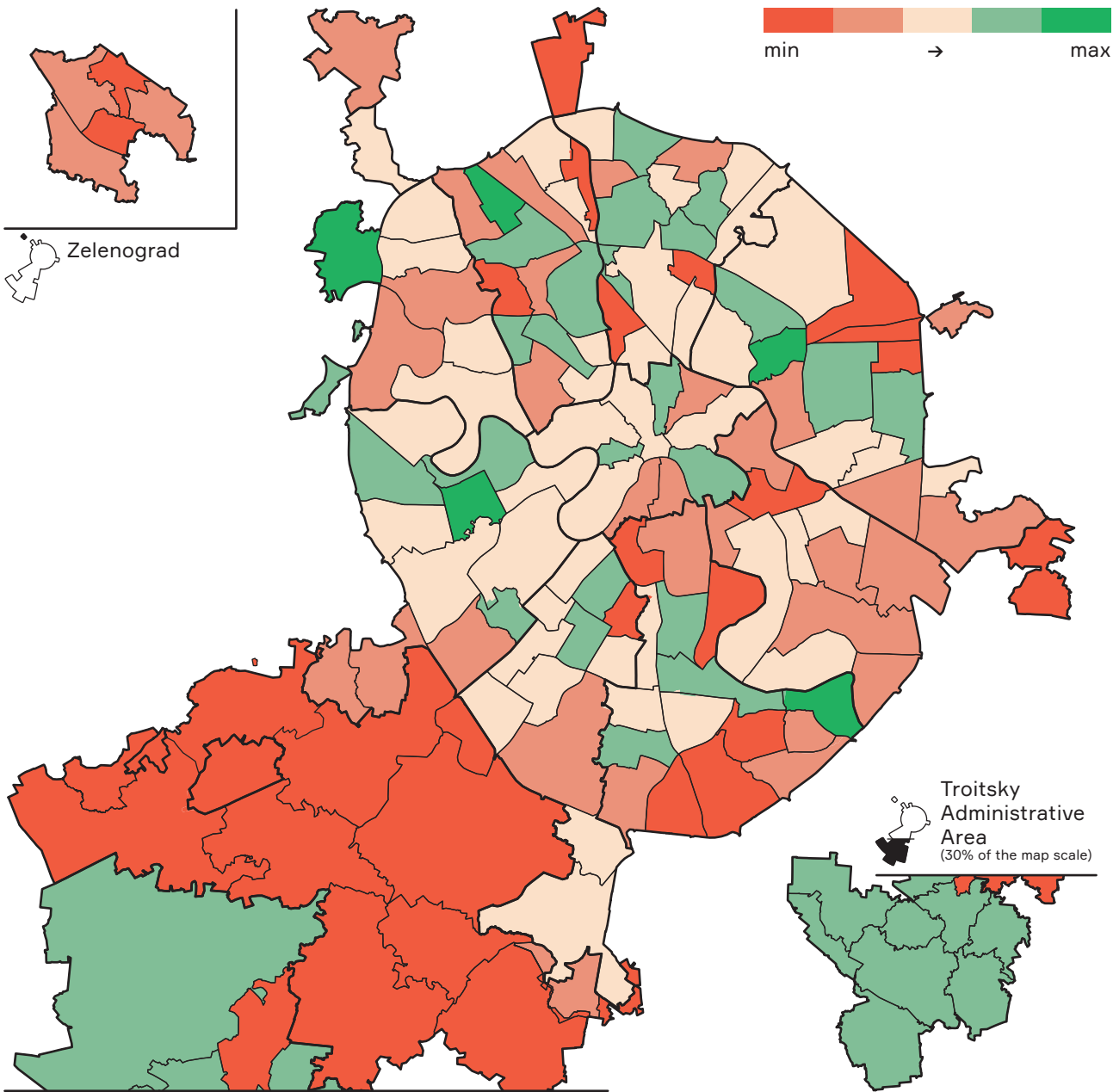
Molzhaninovsky). Similar levels of perceived safety are found in the large residential districts of Troitsky and Novomoskovsky Administrative Areas (Shcherbinka, Troitsk, Moskovsky) and the Savjolki district located in Zelenogradsky Administrative Area. It is worth noting however, that the subjective perception of safety in a district does not correlate to objective statistical measurements of crime.



CULTIVATION OF LOCAL DISTRICT

This parameter shows the degree to which residents rely on the facilities and amenities of their local district for everyday purposes and needs. The higher the indicator, the more residents use their district facilities. Districts with industrial

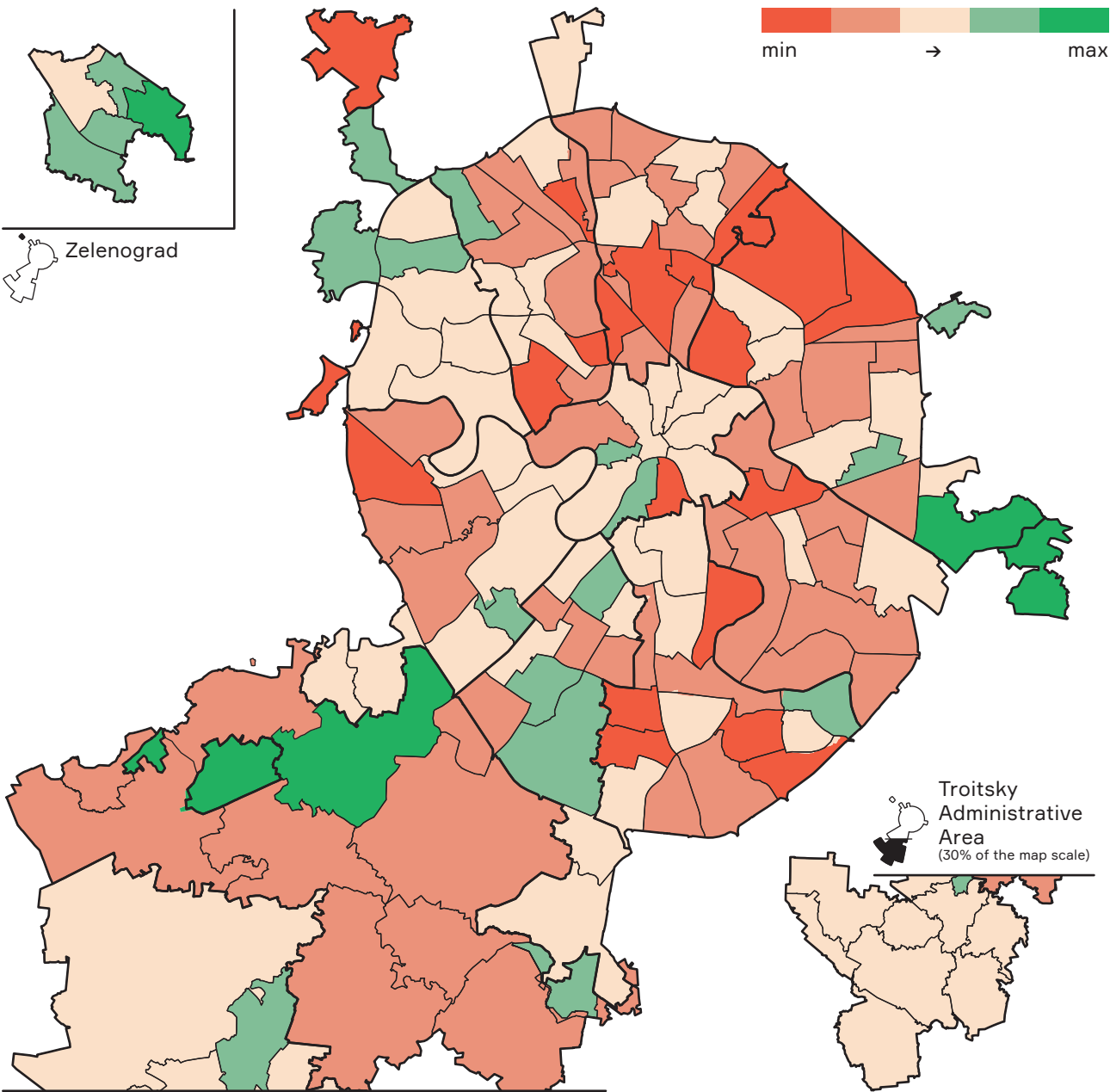
zones, untended green spaces or major railroad junctions are used less by the people living there. This parameter is also influenced by the residents' familiarity with their neighbors and fear of being attacked by illegal migrants.



GENERAL CONFIDENCE

This parameter illustrates the degree to which residents are concerned with non-immediate dangers. These types of dangers include damage to private property and generalized fears for the safety of others, especially loved ones and children. Unlike the parameter of subjective safety, which is connected to the perception of an immediate personal threat in the social environment, general confidence describes a stereotypical view of the general population of a district, reflecting attitudes of trust or distrust

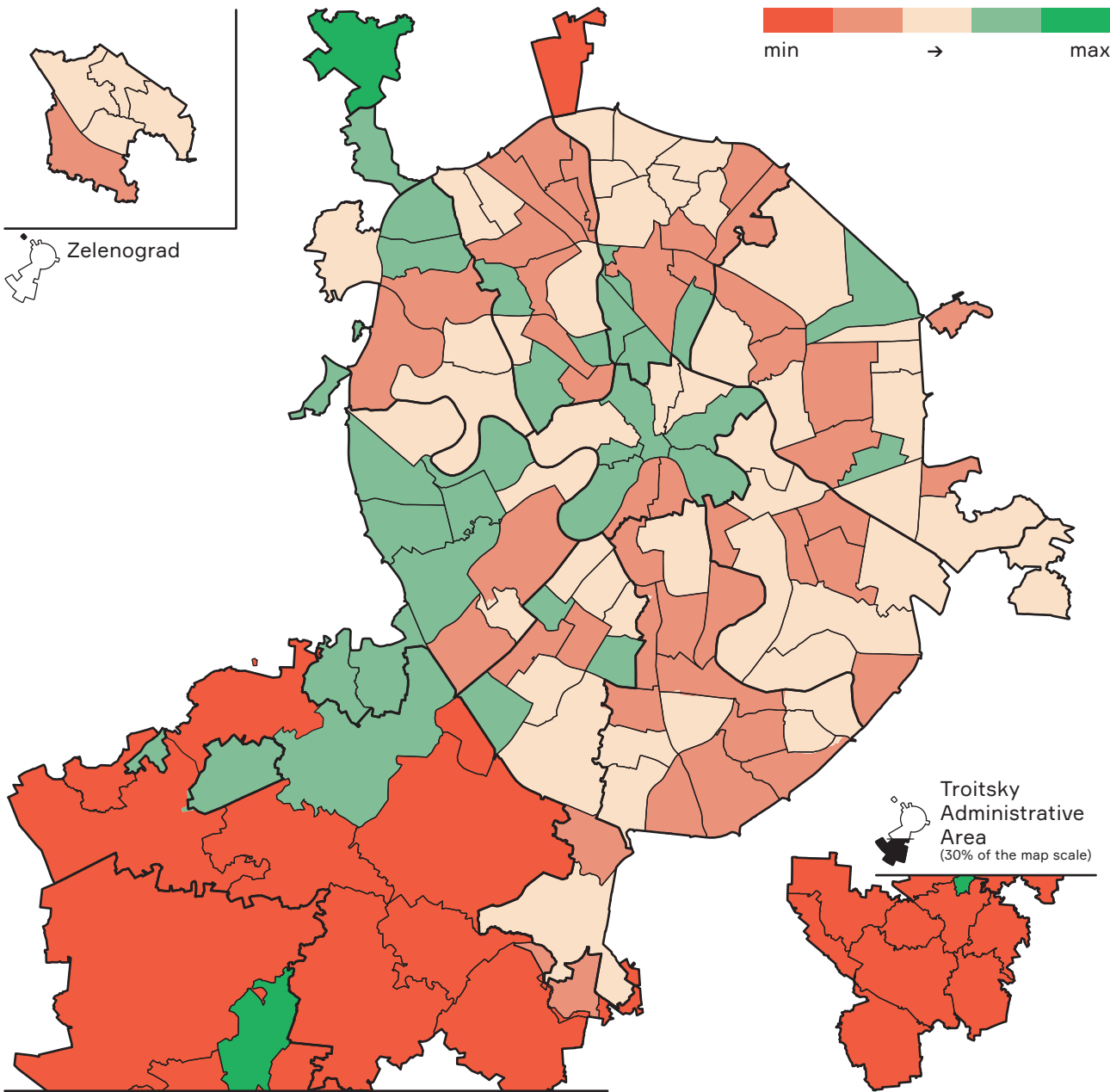
of one's neighbors, rather than strong fear of a specific group of people. The higher the indicator of general confidence, the safer and more trouble-free the district is considered to be by its residents and the more willing they are to spend time in it. In cases where people don't have confidence in their district, they mainly cross its territory purely for moving from home to the transport station and back, and prefer to spend their leisure time elsewhere.



DEMAND FOR DISTRICT-WIDE SAFETY MEASURES

This parameter demonstrates the demand for local safety measures by a district's inhabitants. These measures are activities that cannot be organized by the residents themselves, such as police patrols. High values for this parameter

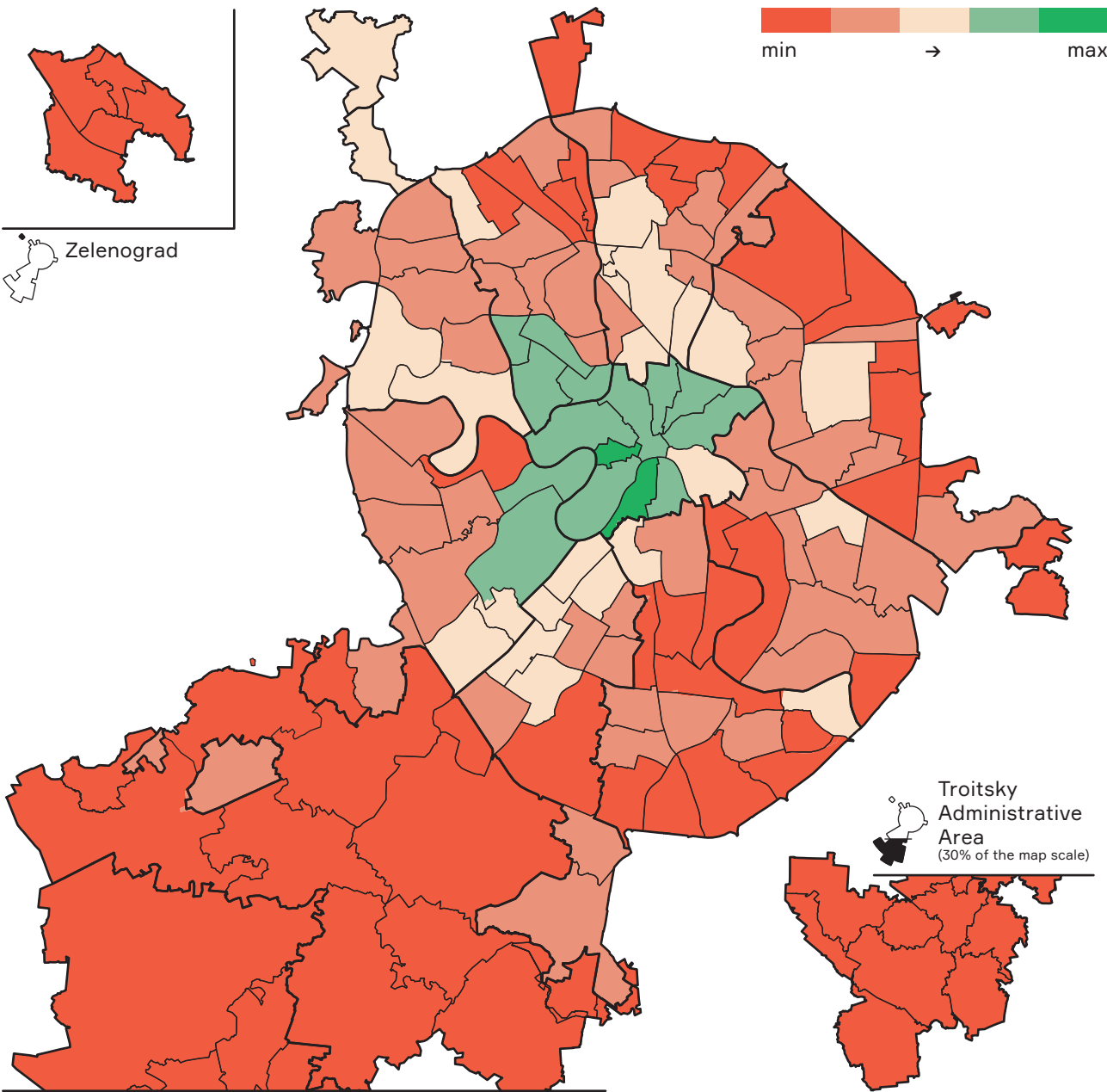
are typical for districts where residents demonstrate high levels of concern over the presence of immigrants. In the districts where such measures have been implemented the level of serious crime, especially murder, has decreased.



PARTICIPATION IN ENSURING SAFETY OF EXTERNAL COMMUNAL AREAS

This parameter illustrates the level of residents' involvement in keeping the external communal areas surrounding their apartment buildings safe. These precautions involve putting in a control barrier at the entrance to the external communal areas, hiring a security firm etc. Interestingly, the districts with the highest values for this parameter have residents who have close connections with their neighbors. This is typical of the Central Administrative Area, and also districts nearby in the Western Adminis-

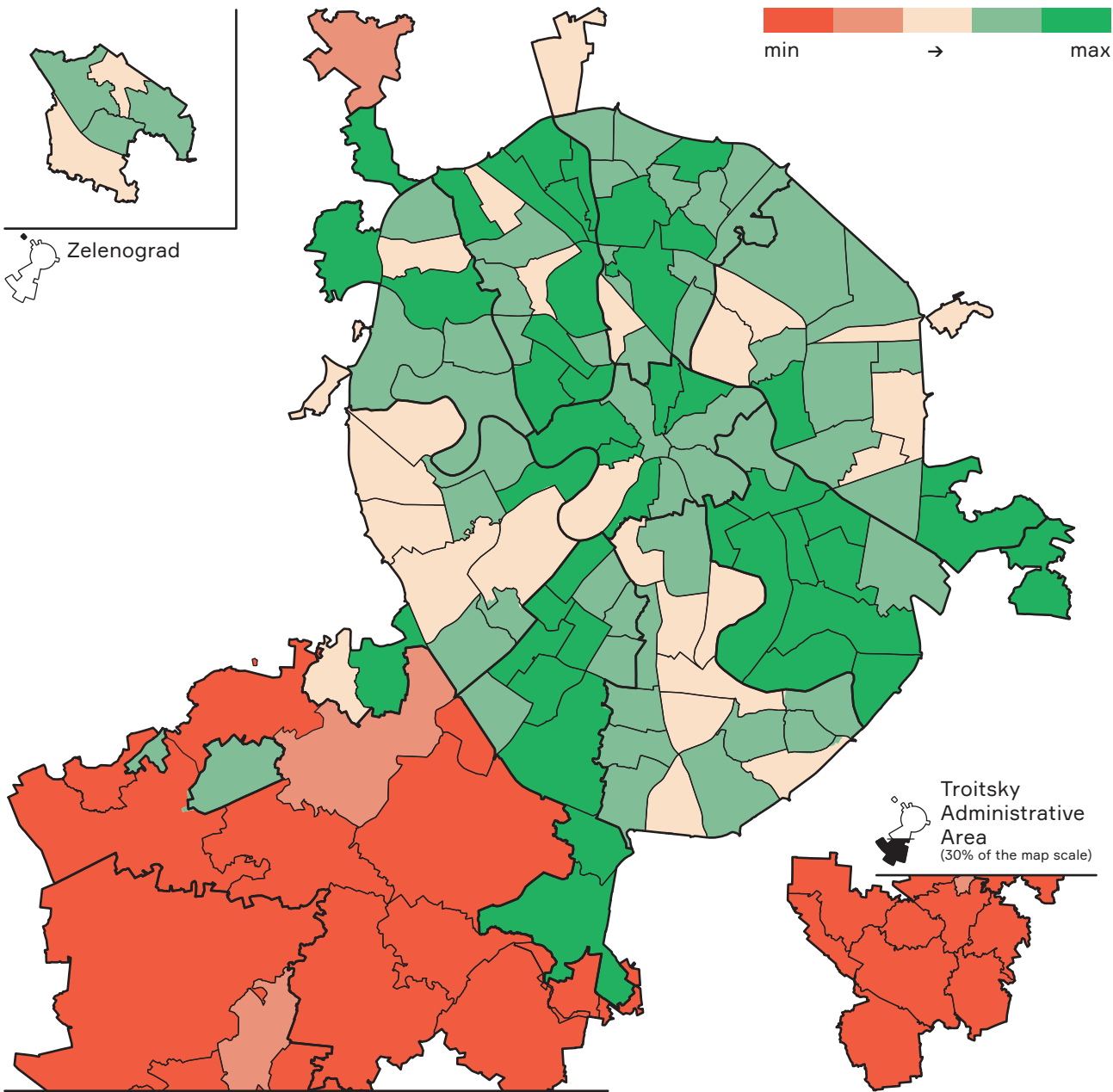
trative Area (districts along the Vernadsky and Michurinsky prospects). Our assumption is that the taking of an active role in ensuring the safety of the neighborhood is a result of the fact that these districts often have very different populations in the daytime and night time, as they are placed along the path of the daily commute from the remote districts into the center. This daily 'invasion' encourages the local residents to fight for parking, or spaces for their children to play in local parks, etc.



NECESSITY FOR BASIC PERSONAL AND PROPERTY SAFETY MEASURES

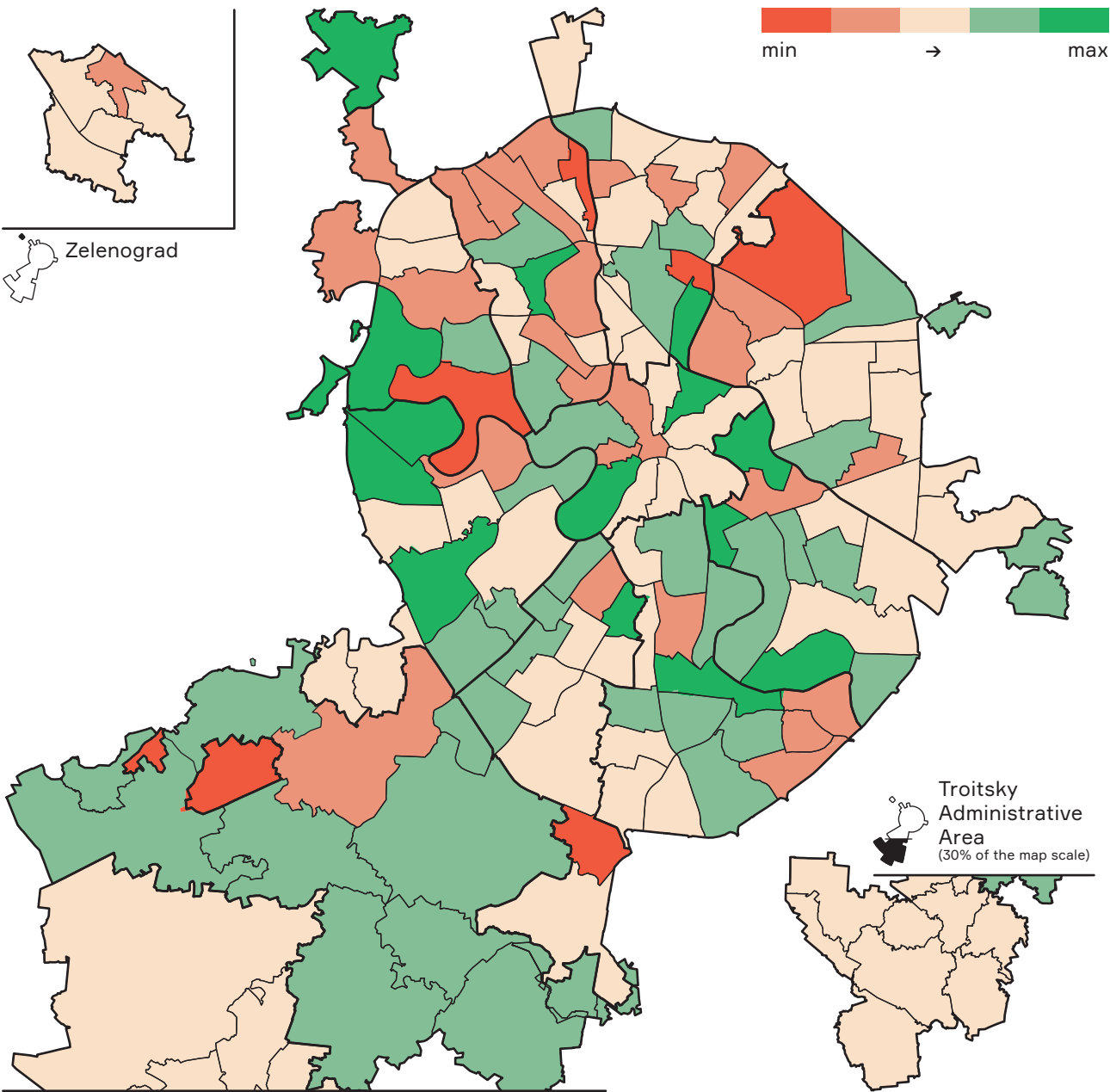
This parameter depicts how often residents turn to the most basic means of protection—metal doors, intercoms, etc. Low indicators are typical for districts far from the center: Troitsk, Molzhaninovo, Moskovsky.

These districts are relatively safe according to the subjective safety parameter. It is assumed that this is due to the closeness of ties among neighbours in the remote districts where, on the whole, there are fewer outsiders.



LOCAL SOLIDARITY POTENTIAL

This parameter illustrates the ability and willingness of residents to unite for common interests. The higher the value of the parameter, the more people in the district know each other well. This shows the so-called “casual acquaintance connections” between residents. This parameter also indirectly demonstrates the potential for residential social mobilization. “Casual acquaintances connections” are the basic resource that people use in solving communal problems. In other words, high values for this parameter exhibit an extensive potential for solidarity and the future development of local partnerships.



CULTURE

This element includes parameters in the cultural and entertainment spheres. The comfort of an urban environment depends heavily on the provision and extent of leisure facilities. Districts with a developed cultural infrastructure are seen by the residents as more attractive.

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GENERAL DEMAND FOR CULTURE AND ENTERTAINMENT

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PERCEIVED ACCESS TO OPEN AIR LEISURE AREAS

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DEMAND FOR LOCAL CULTURE ESTABLISHMENTS

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DEMAND FOR SELF-IMPROVEMENT

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DEMAND FOR CULTURAL EVENTS IN THE CENTER

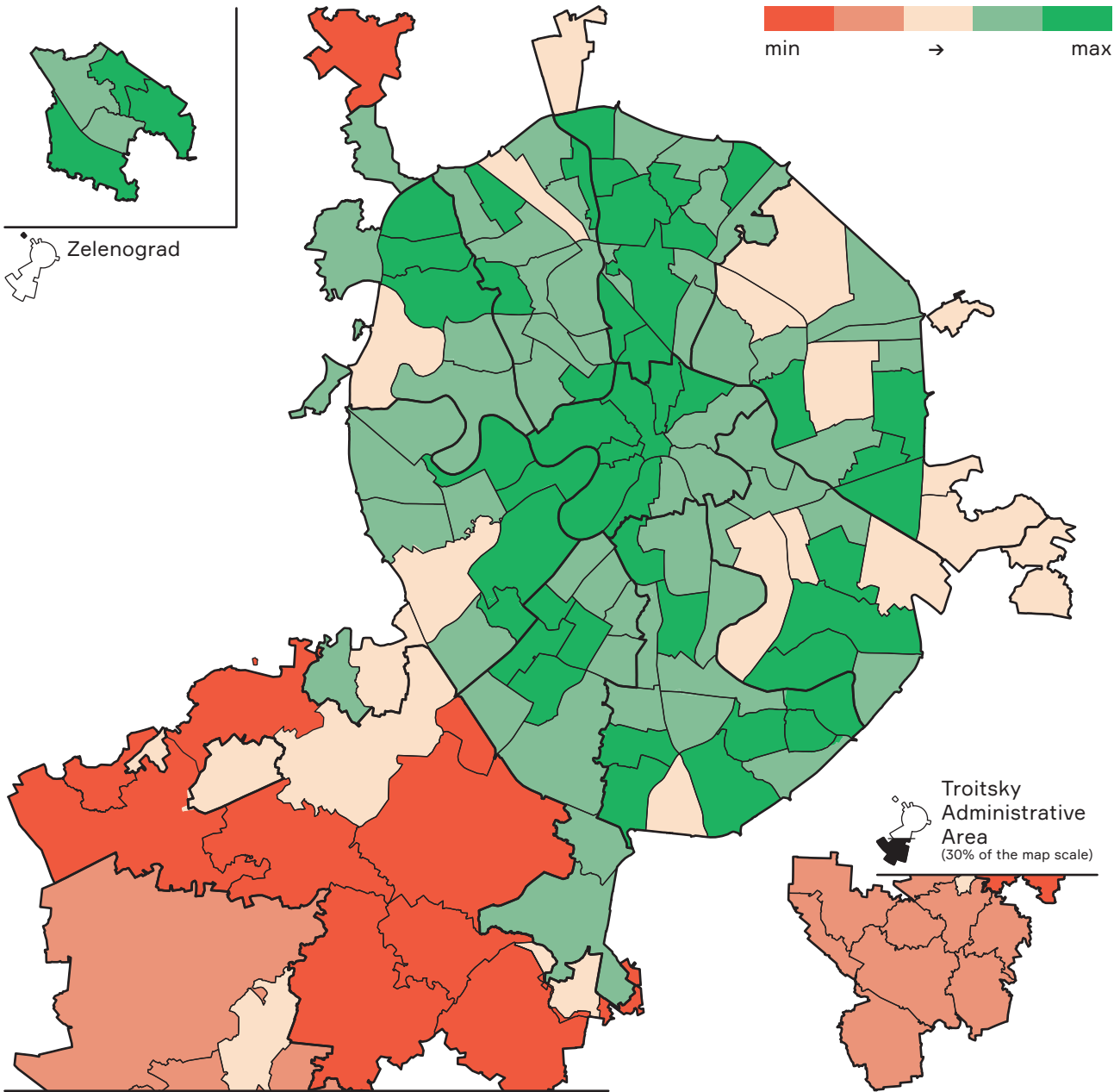
PAGE 62
ATTENTION TO THE CONTENT OF CULTURAL EVENTS

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ACCESS TO RESTAURANTS, CAFES AND OTHER CATERING ESTABLISHMENTS

GENERAL DEMAND FOR CULTURE AND ENTERTAINMENT

This parameter demonstrates the level of residents’ interest in cultural establishments and institutions, entertainment and socializing. This demand for culture and entertainment is driven by the need to spend free time outside of the home. Most Muscovites don’t differentiate between cultural institutions and entertainment establishments (cafés, bars, restaurants,

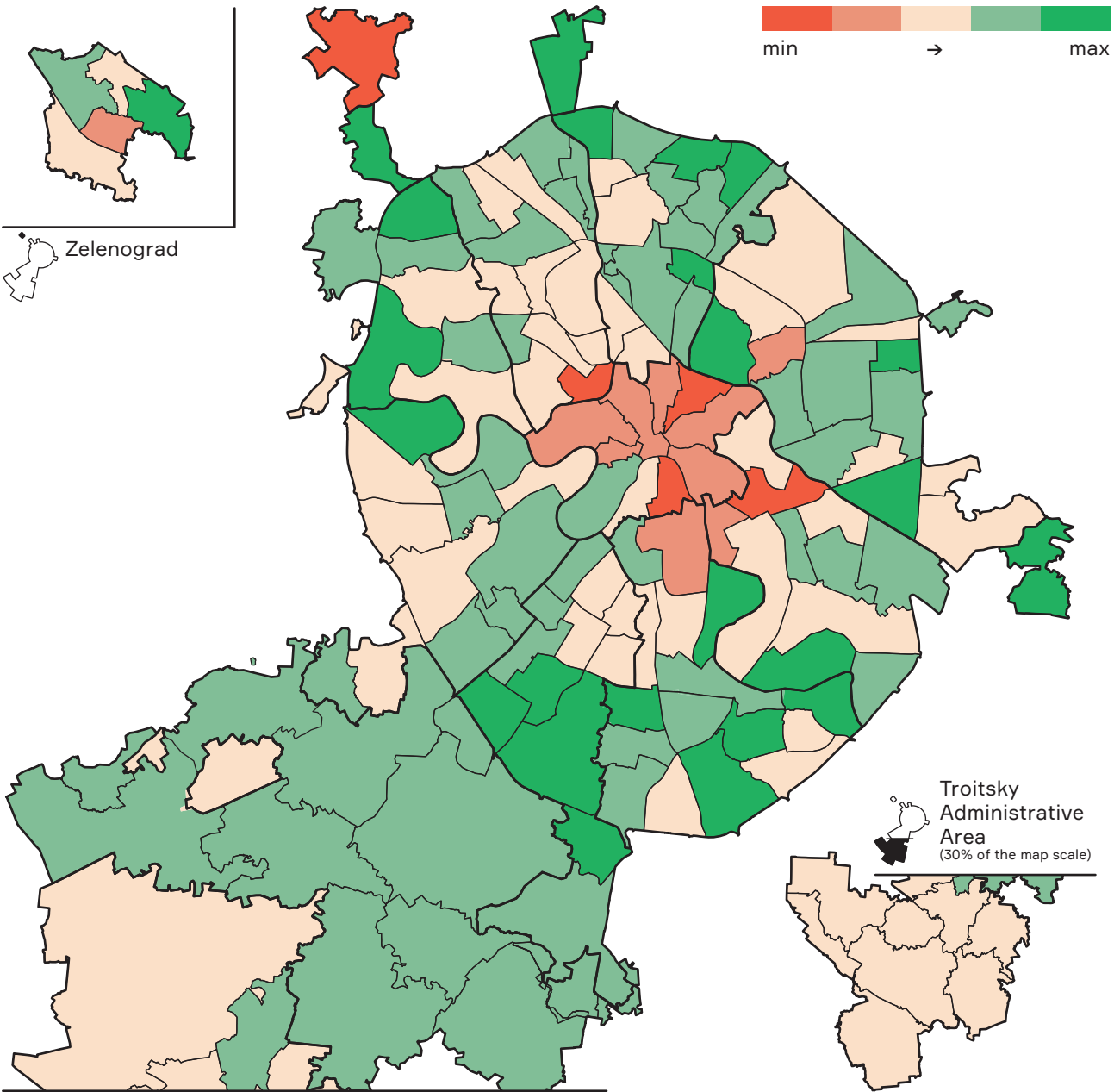
shopping malls)—both are seen as places where they can spend free time. The most problematic districts with regards to this parameter are those in the Troitsky and Novomoskovsky Administrative Areas and Molzhaninovskiy district in Northern Administrative Area: local residents display very little interest in the cultural life of their district or the city as a whole.



PERCEIVED ACCESS TO OPEN AIR LEISURE AREAS

This parameter shows how the residents evaluate the district’s infrastructure capabilities for open-air leisure areas such as parks and sports fields. It is not an indicator of the actual level of use of these facilities, but is an indicator of the perceived availability of such facilities, as seen by the residents. Districts where the leisure infrastructure is geared towards the needs of local people have the highest values for this pa-

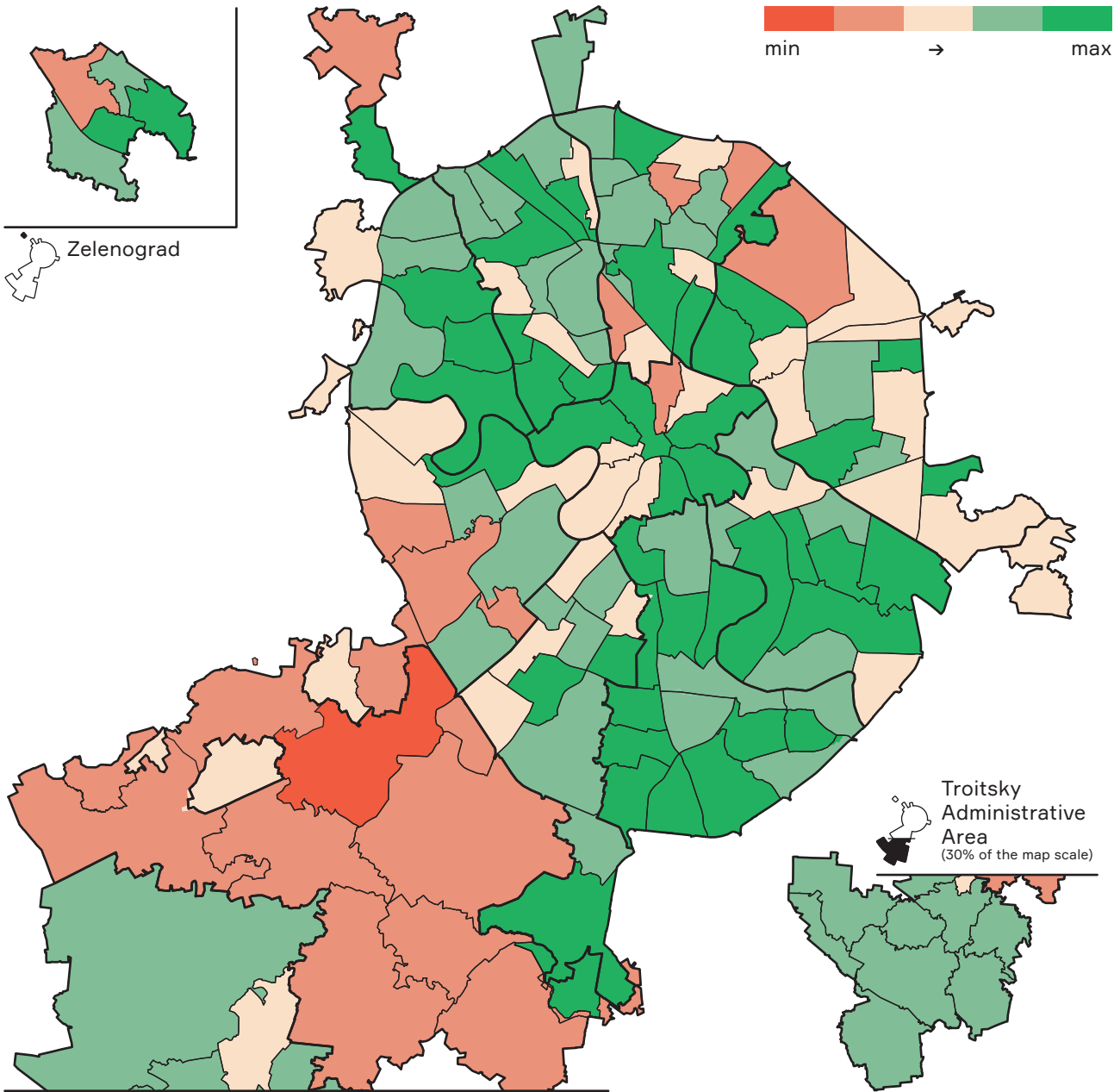
rameter (Maryino, Brateyevo, Strogino and Krylatskoye). Many of the city’s biggest and most developed open air leisure areas (Gorky park, Presnensky park, boulevards and squares along the Boulevard ring road) are, on the contrary, geared towards accommodating visitors from the whole of Moscow, making them significantly less attractive to local people.



DEMAND FOR PARKS AND LEISURE ZONES

This parameter represents residential interest in parks and leisure zones. This parameter's indicators are not related to the amount of open air 'green' space available, but to the level of development and attractiveness of the amenities in these locations. Therefore, the values for this parameter are low in Metrogorodok and the districts of Novomoskovsky Administrative Area (excluding

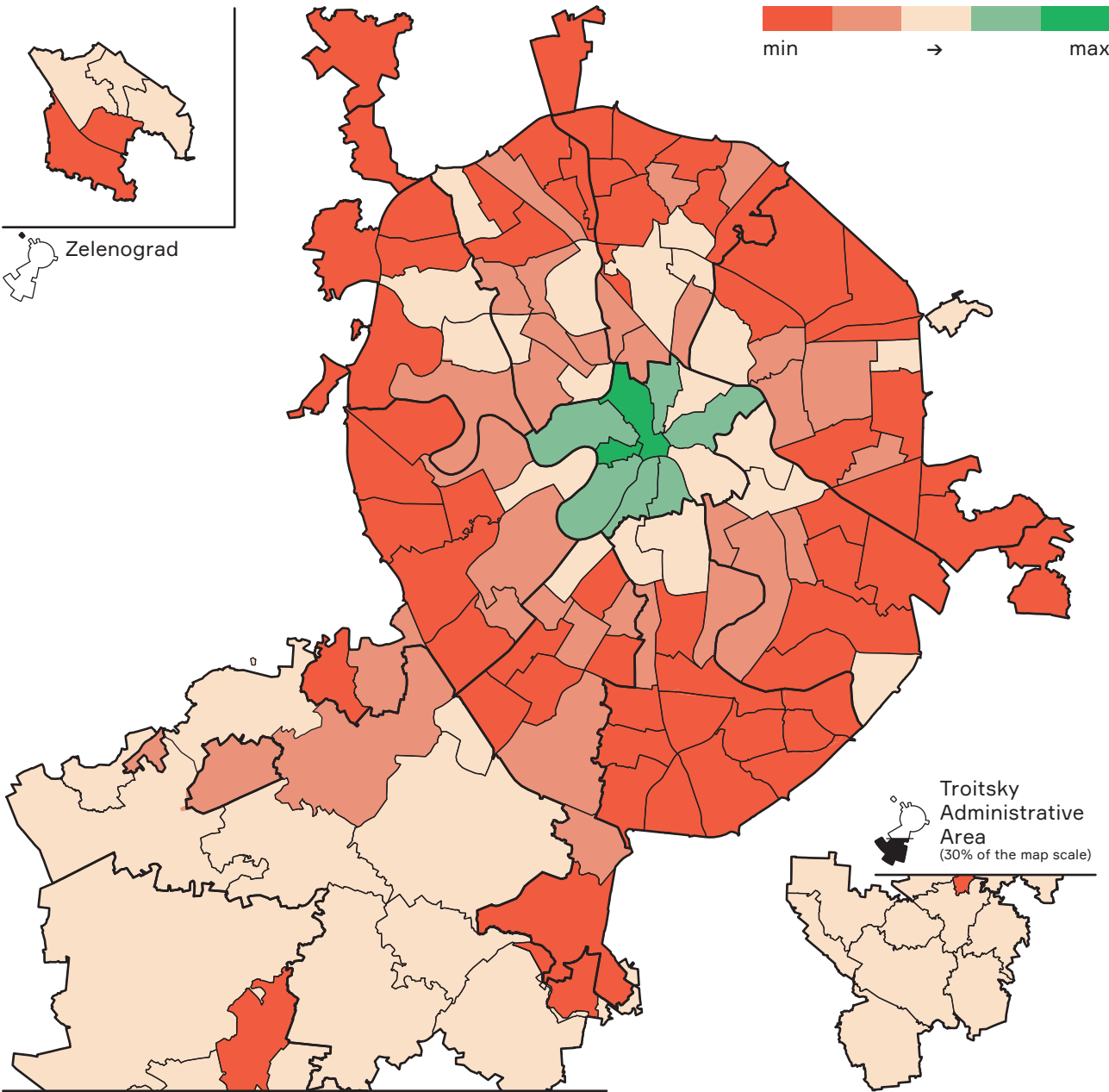
Shcherbinka) even though they are actually some of the 'greenest' territories in the city. Another reason for low values for this parameter is connected with the saturation of a district with visitors who may overload the facilities. For instance, the Boulevard ring road, even though very comfortable and nicely kept, is not subject to high demand from local people as it mostly accommodates visitors from other districts.



PROVISION OF LEISURE AND CULTURE ESTABLISHMENTS

This parameter reflects the extent to which a district is equipped with leisure and cultural establishments. This parameter is based on the actual saturation of cultural establishments within a district—cinemas, museums, theaters, culture centers etc. Parameter values show both the diversity of such establishments on offer and the level of competition between establishments..

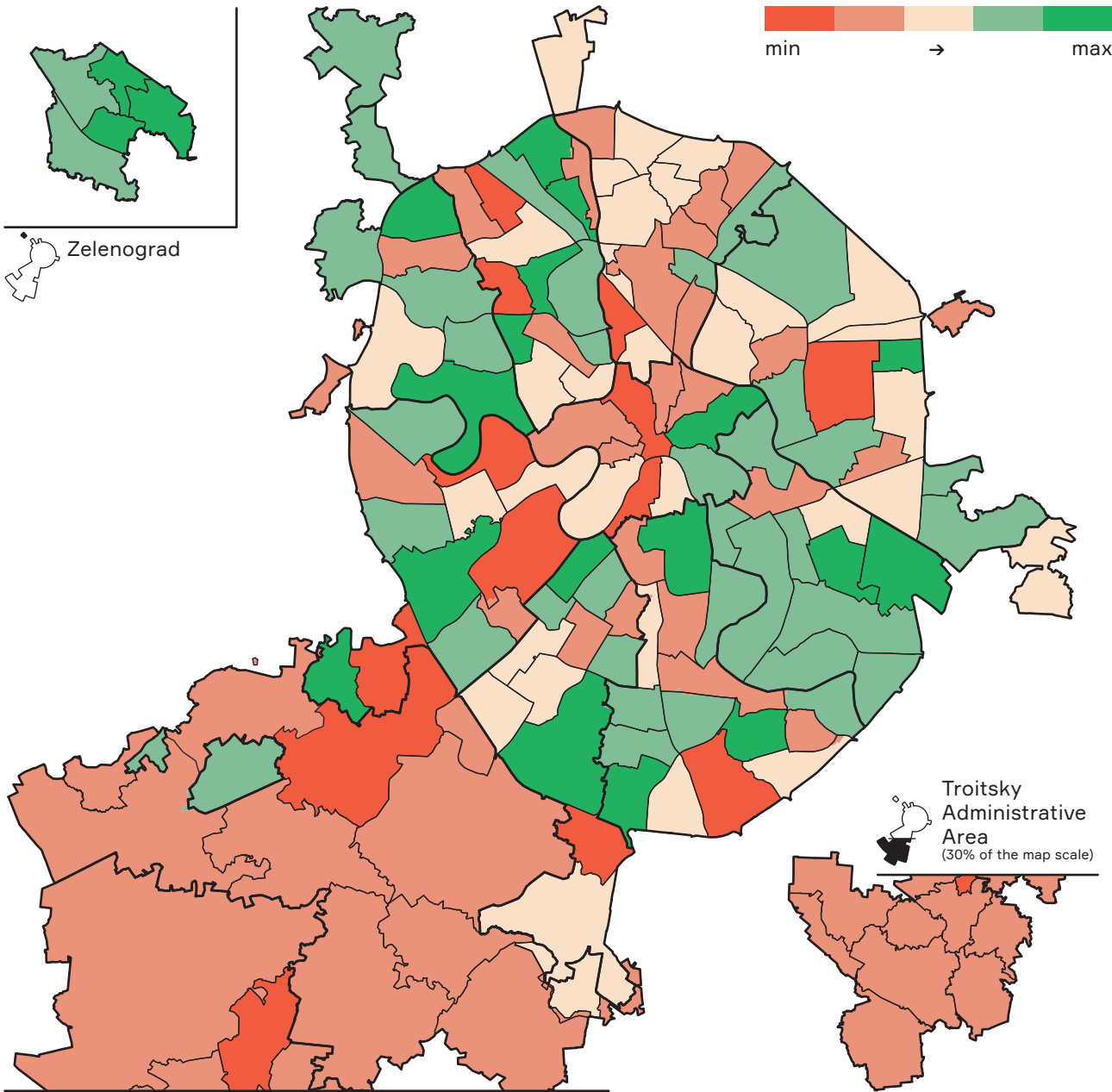
The highest values are typically found in the Central Administrative Area districts, the lowest are in the remote districts of "old" Moscow (Kurkino, Molzhaninovskiy, Biryulyovo Vostochnoye, Liazonovo and others), and large residential districts Shcherbinka and Troitsk, which were formally non-urbanized districts in the Moscow region.



DEMAND FOR LOCAL CULTURE ESTABLISHMENTS

This parameter reflects the extent to which the residents are interested in local Culture Centers and libraries. These establishments are more important for families with children. This is also

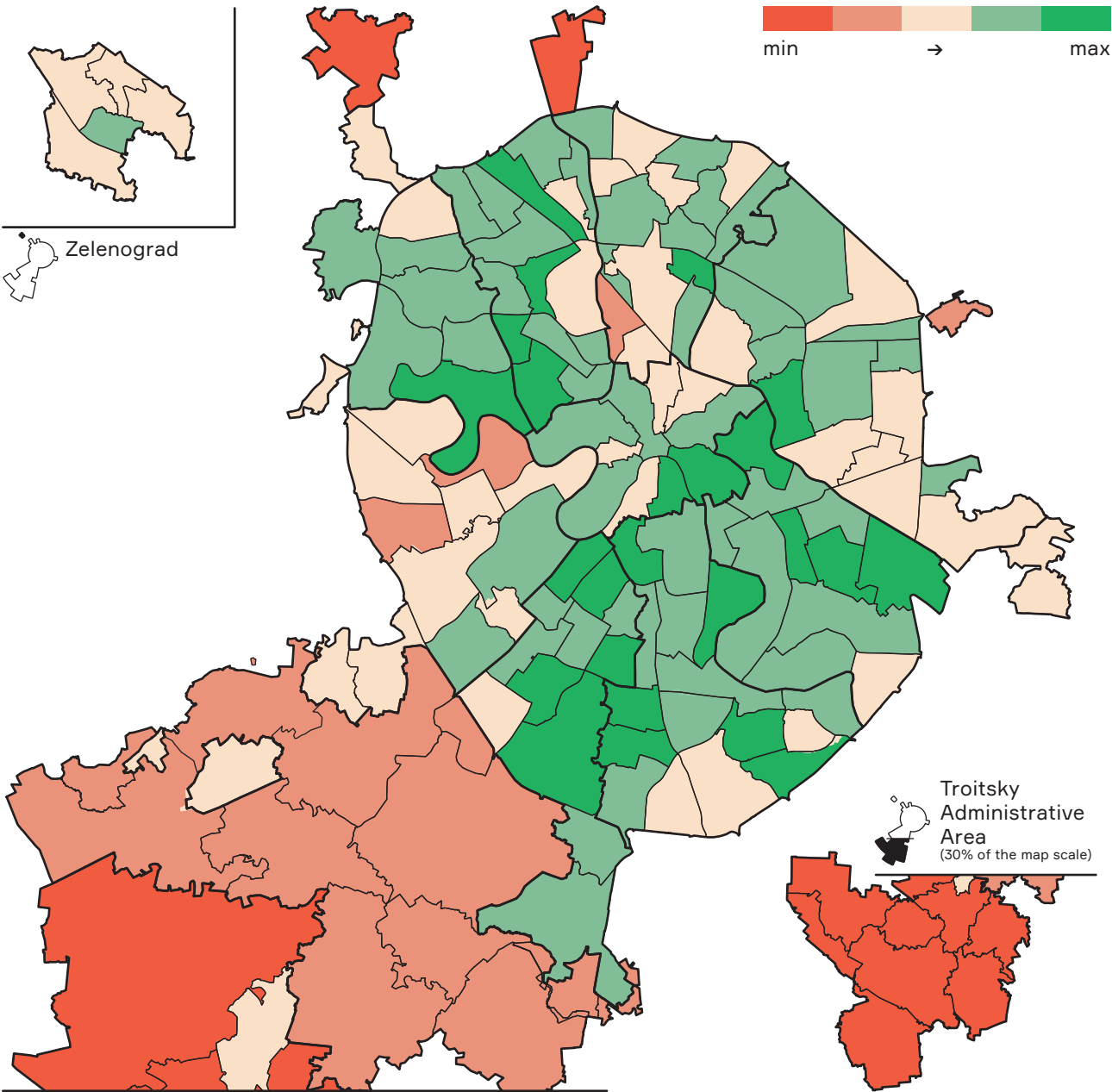
confirmed by the significant correlation with the demand for circuses and zoos that target the younger generation. As well as children, elderly residents are also frequent users of libraries.



DEMAND FOR SELF-IMPROVEMENT

This parameter reflects the extent to which residents are interested in self-improvement activities—sports, self-education etc. Only the

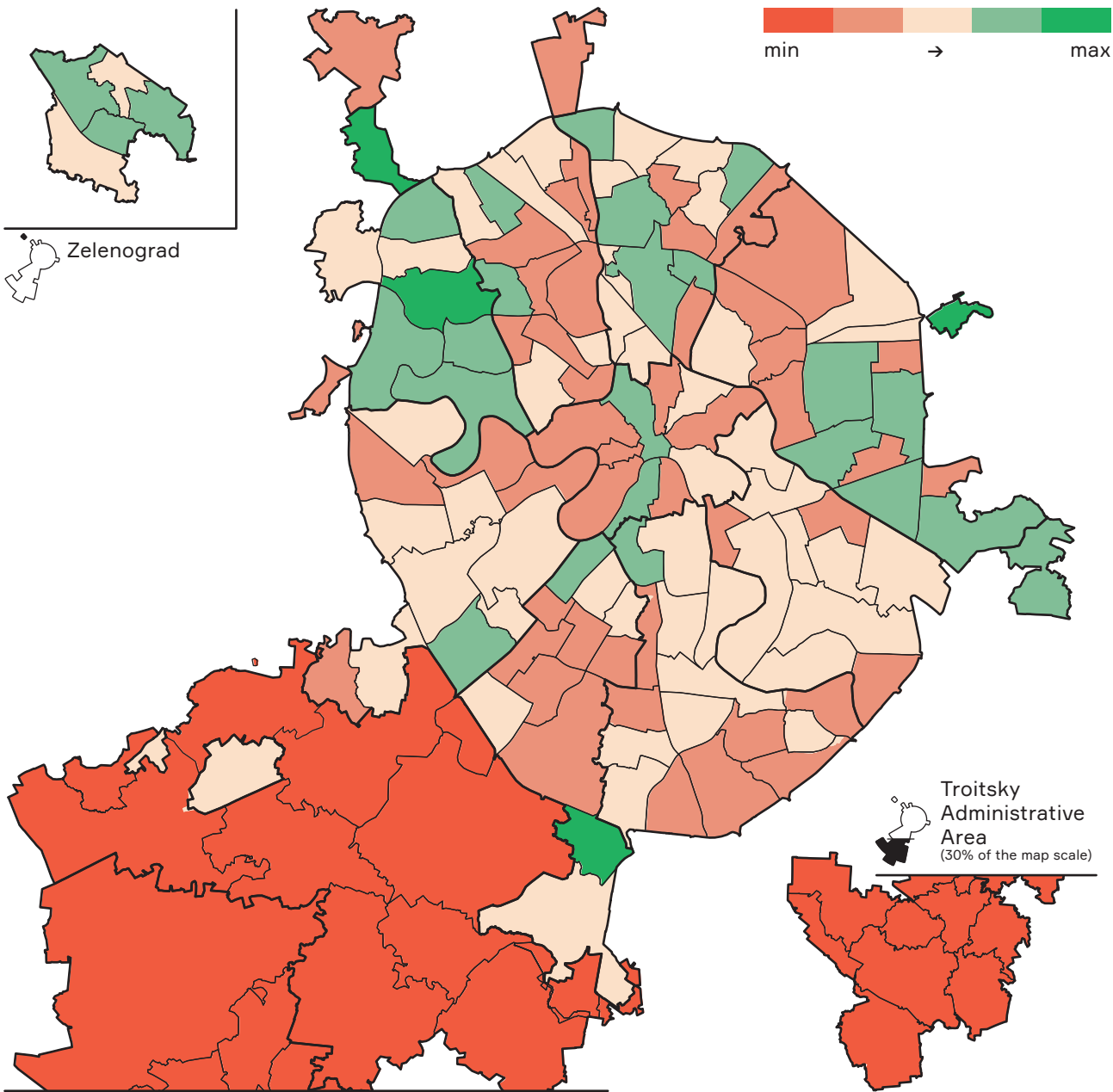
districts of Troitsky and Novomoskovsky Administrative Areas indicate low values for this parameter.



DEMAND FOR LOCAL CULTURAL EVENTS

This parameter demonstrates the extent to which residents actively participate in local cultural events. High parameter values correlate with extensive participation in the cultural life of the district in general. This participation could be forced, if the district is located in a remote

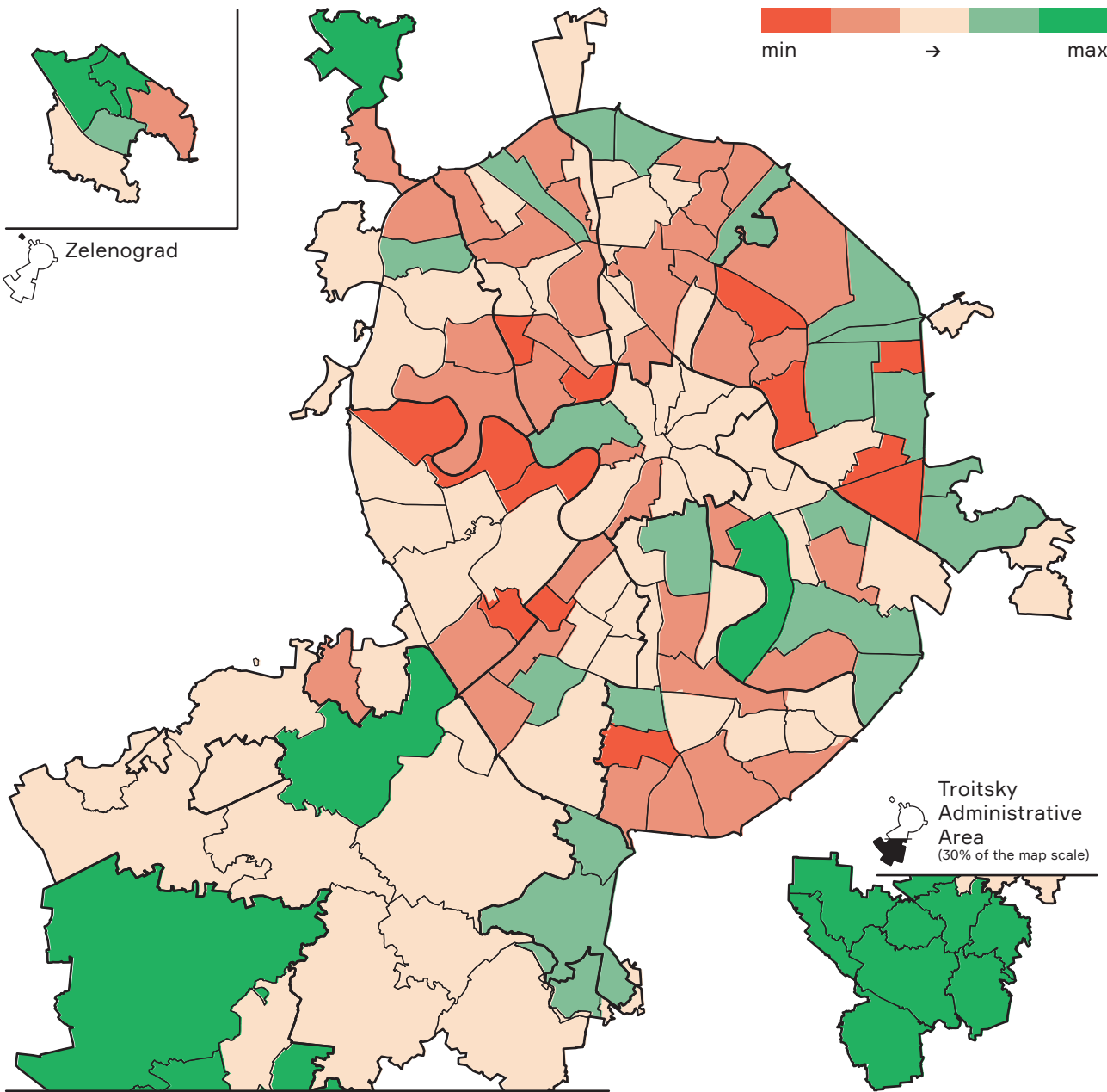
distance from the center and it's difficult for residents to attend functions in the center or other districts. The highest values for this parameter are found in the Kurkino and Severnoye Butovo districts.



DEMAND FOR CULTURAL EVENTS IN THE CENTER

This parameter illustrates the extent to which residents are interested in cultural events in the center of the city. High values for this parameter are typical for remote eastern and south-eastern districts and some districts outside of the MKAD orbital motorway (Zelenogradsky Administrative Area, Troitsky and Novomoskovsky Administrative

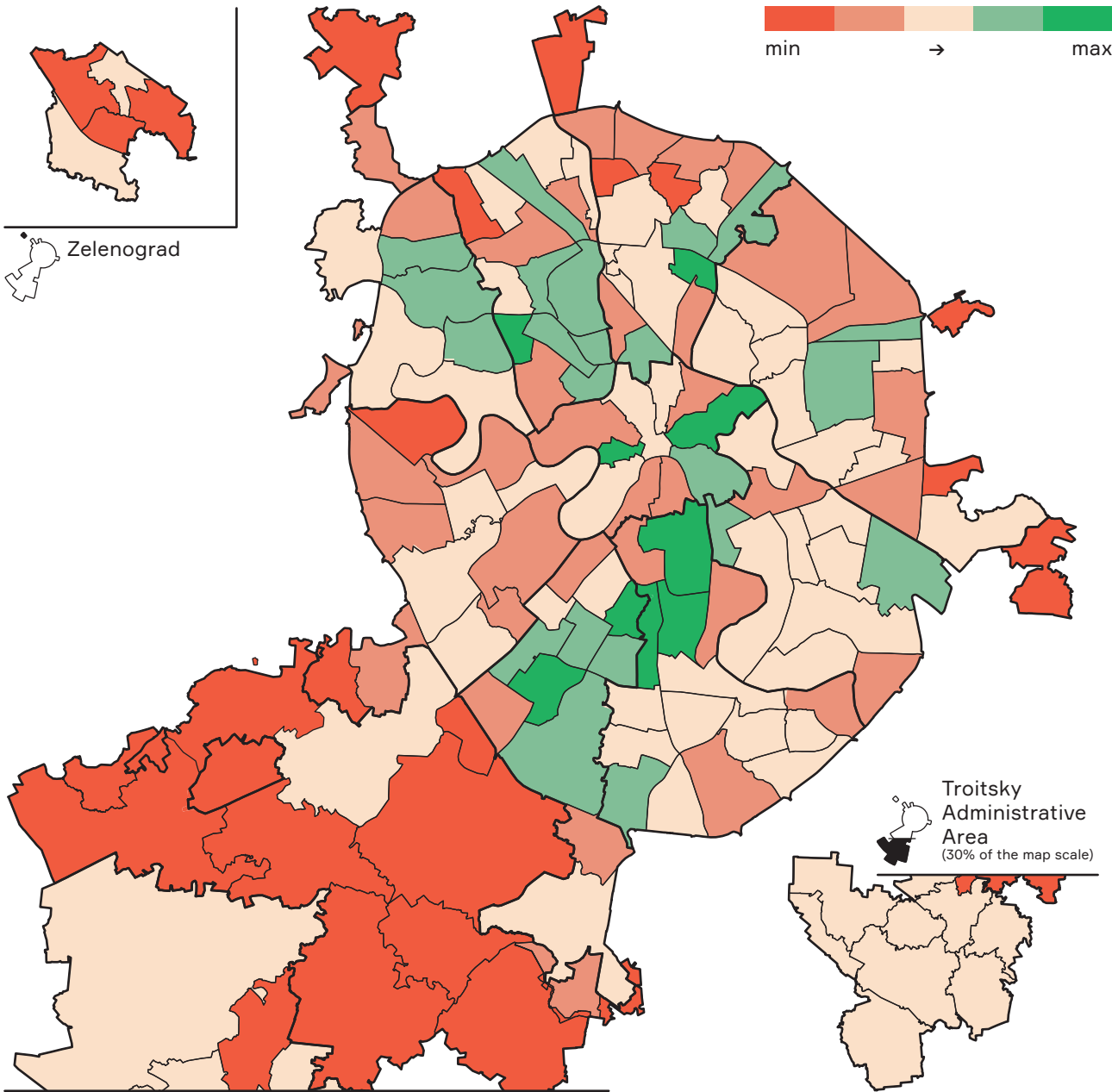
Areas and Molzhaninovskyy). These high values for this parameter indicate a low level of satisfaction with local district cultural events among residents. As a result, they prefer to travel to the center where they are guaranteed to have a good time, or stay at home if the transport costs are too high.



ATTENTION TO THE CONTENT OF CULTURAL EVENTS

This parameter depicts the importance of the cultural content and its quality to the residents. High values in this parameter indicate that the quality of the cultural event is more important to the residents than convenient location or other factors. This approach is typical in dis-

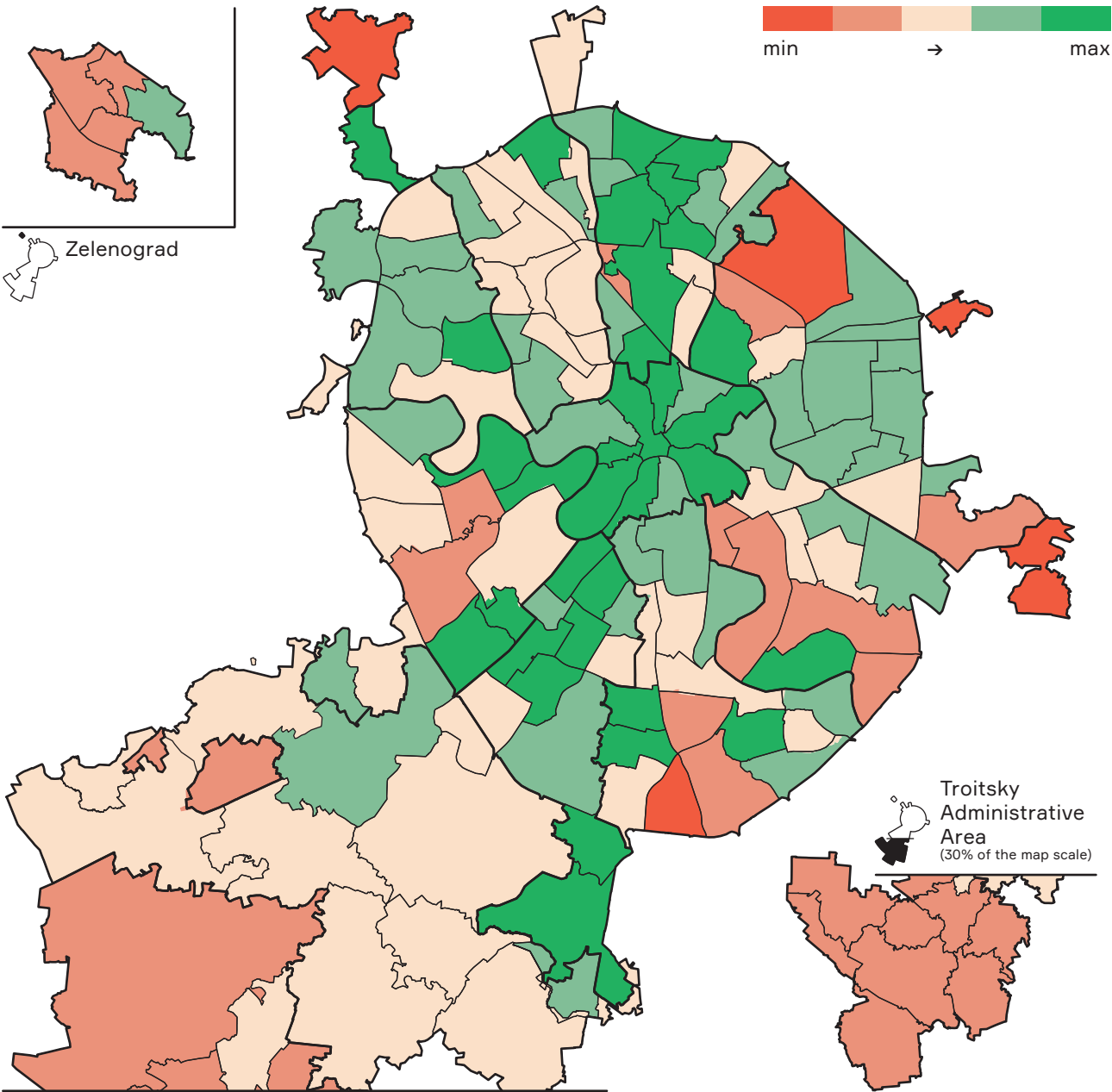
tricts where residents are actively involved in cultural life in general, and also areas with a developed transport network and connections—where residents can travel through the city easily and comfortably.



ACCESS TO RESTAURANTS, CAFES AND OTHER CATERING ESTABLISHMENTS

This parameter reflects the level of satisfaction with the provision of cafes, restaurants etc. High values for this parameter are typical of districts with a large number of small businesses in the food industry (those on the axis of the

South-Western Administrative and Northern Administrative Areas) and districts which have large shopping malls (Kurkino, Severnoye Butovo).



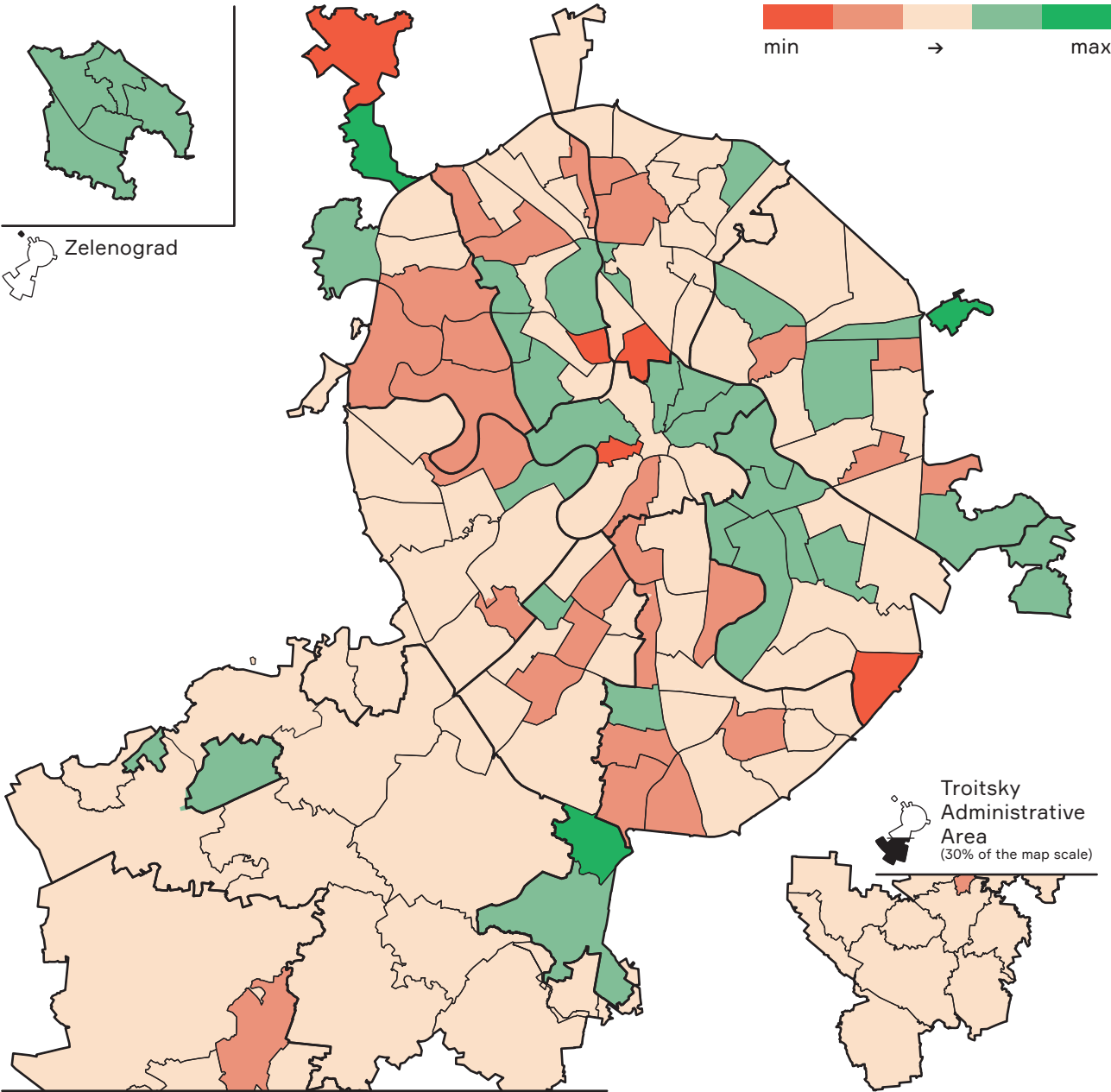
EDUCATION

This element includes parameters that are connected with the development of the education system. The quality of schools and kindergarten facilities is very important for families with children and is often the reason for relocation to a different district.

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AVAILABILITY OF SCHOOLS AND PRE-SCHOOLS	
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DEMAND FOR FURTHER ADULT EDUCATION	

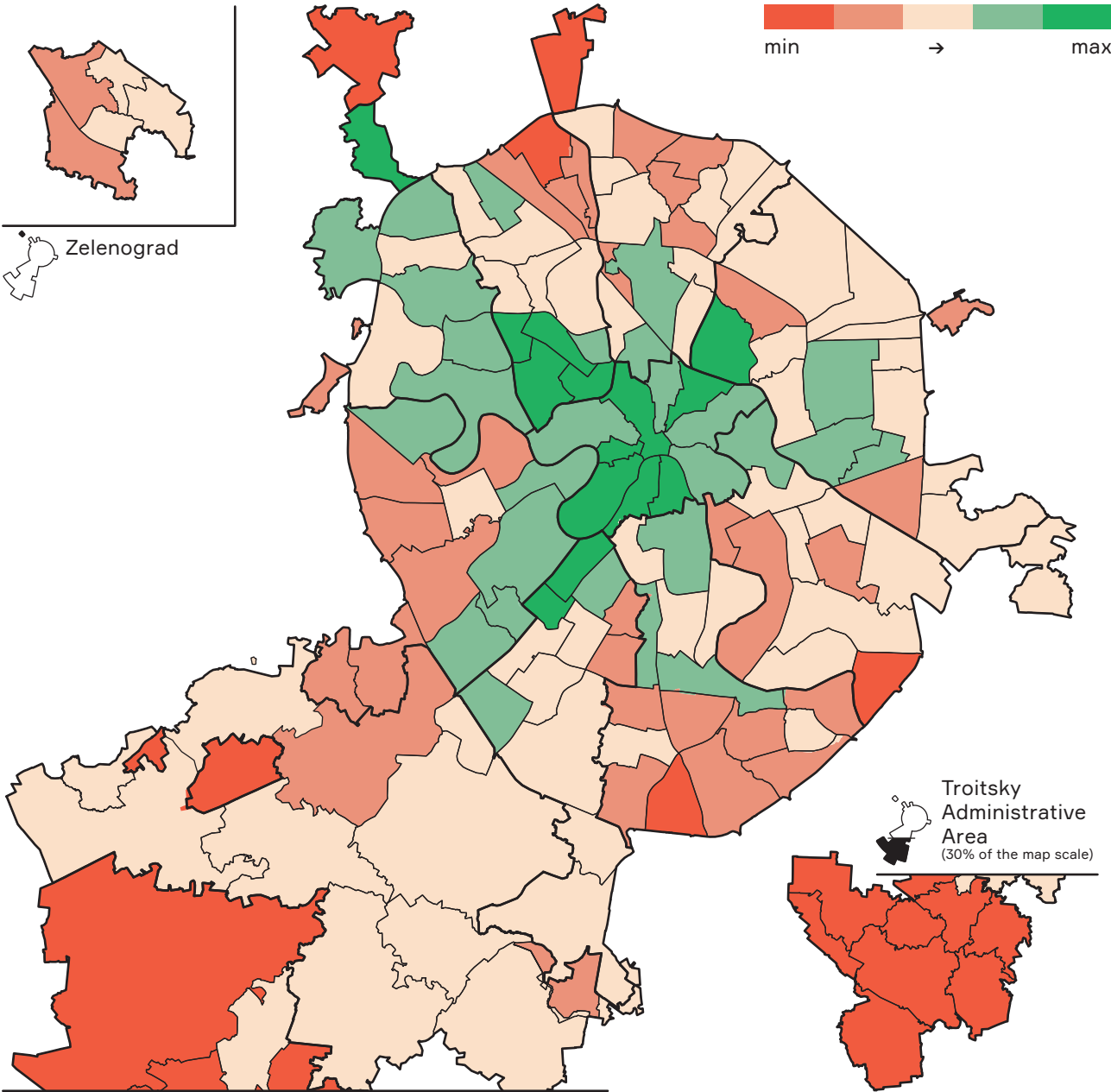
AVAILABILITY OF SCHOOLS AND PRE-SCHOOLS

This parameter reflects district-wide provision of educational establishments for children and teenagers, i.e. pre-schools and schools. The values for this parameter only illustrate the availability of educational establishments and do not give information about levels of satisfaction or otherwise have to do with the quality of education provided.



THE QUALITY OF EDUCATION

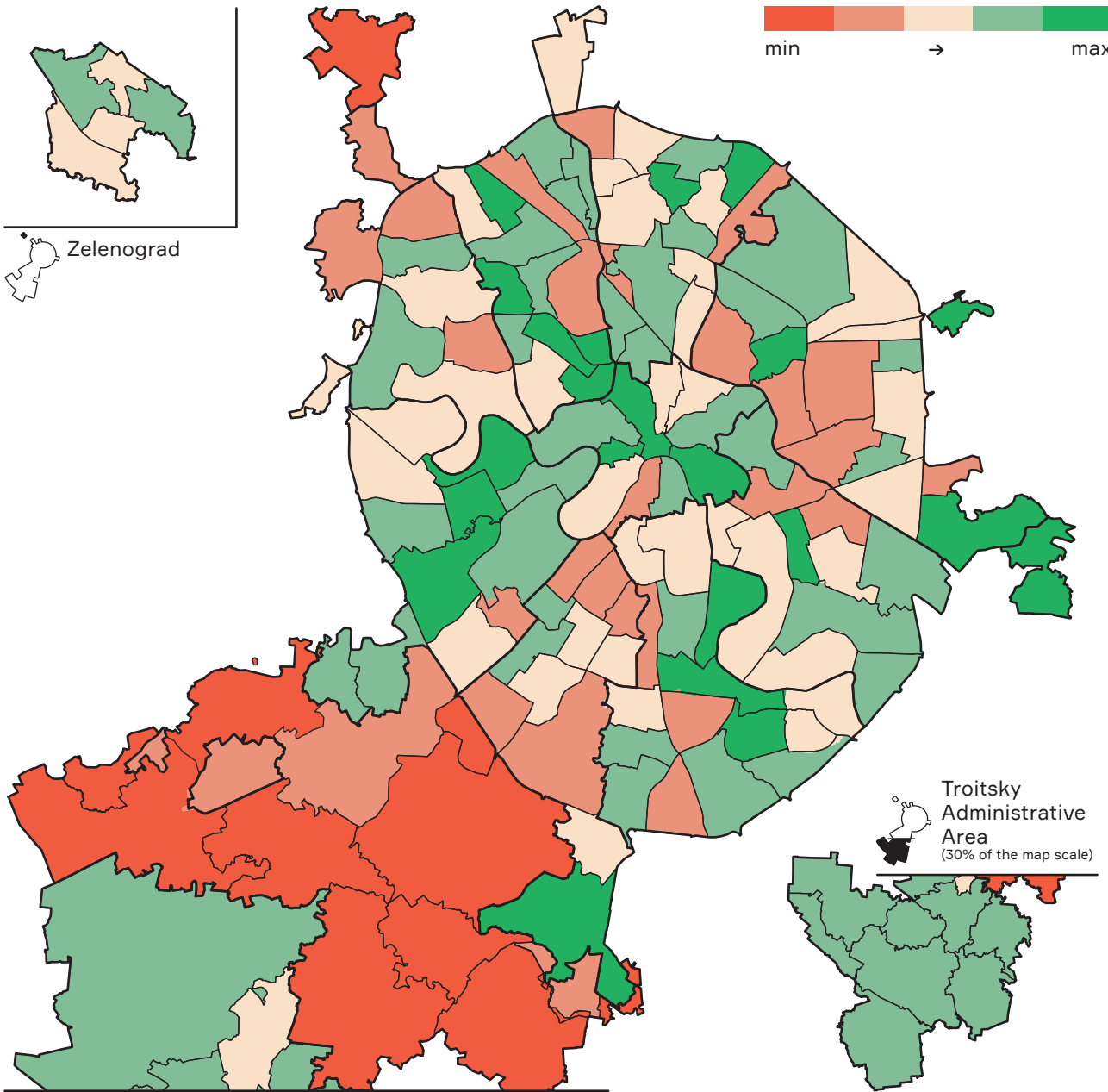
This parameter reflects the level of development of the education system. High values are typical for districts where a large number of high school graduates have undertake the EGE (high school final exam) examination in three subjects and have received a total score of 220 points or higher. These districts also have more gymnasiums, lycees, colleges and other educational facilities, which allow for specialized study of specific subjects. This situation is typical of the center of the city, South-Western Area (Gagarinsky, Lomonosovsky districts) and North-Western Area (Sokol, Aeroport) where the population that made up these districts in the 20th century was predominantly from the creative and intelligentsia classes. It is worth bearing in mind that the objectively measured quality of the education is not directly correlated with parents' satisfaction levels.



SATISFACTION WITH CHILDREN'S EDUCATION

This parameter illustrates residents' satisfaction with the quality of the education received by their children. High values for this parameter indicate that parents are positive in their assessments of the education curriculum. Interestingly, in districts where values for this parameter are lower, school children actually receive better grades in final examinations. This is explained by the fact that their parents are

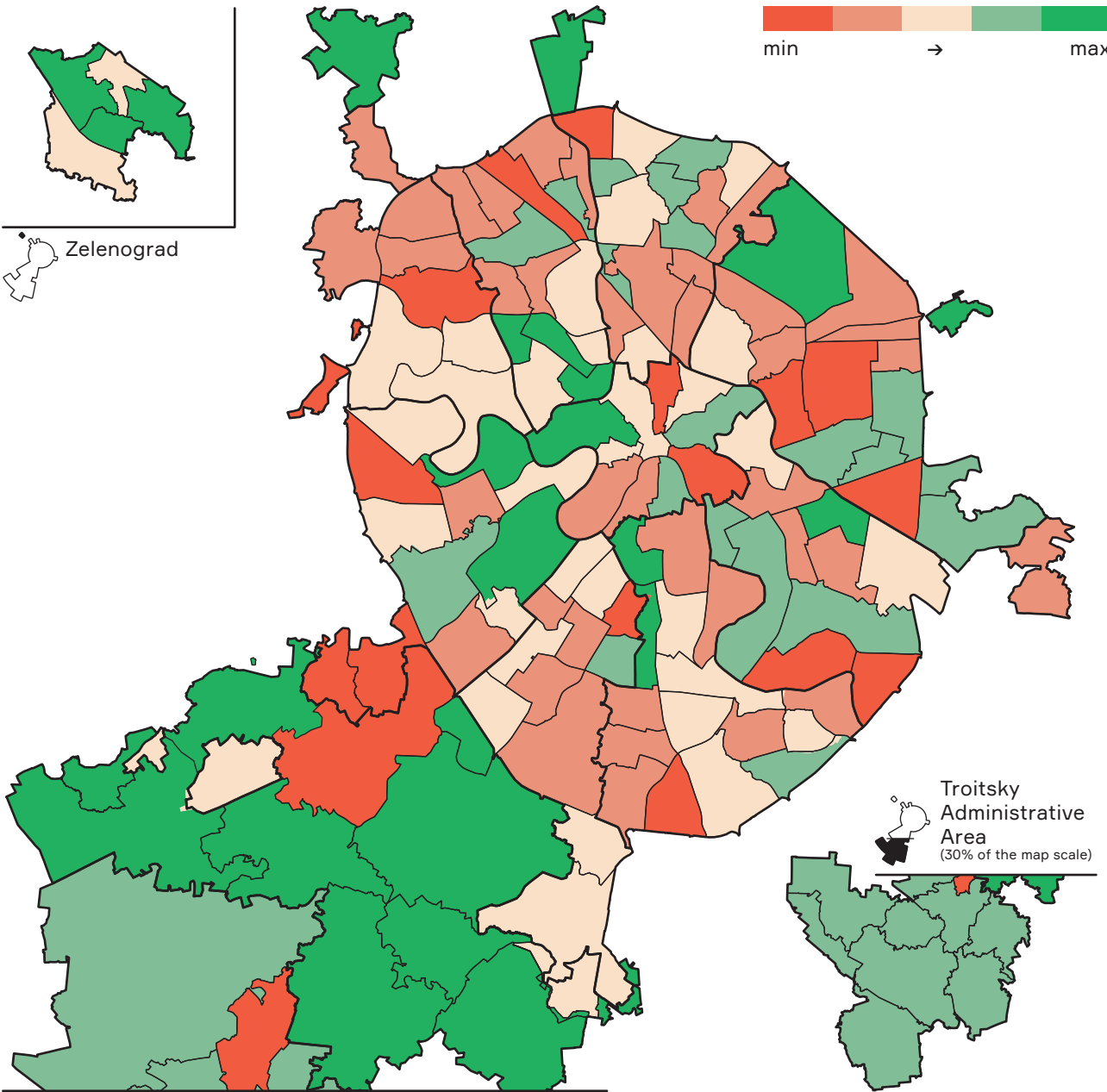
much more strict in demanding a higher quality of education, and therefore more likely to express dissatisfaction with the quality of education actually received. In addition, parents who negatively assess the quality of standard educational provision are more likely to send their children to extra curricular classes, increasing the demand for additional education services in these districts.



DEMAND FOR EXTRA CURRICULAR EDUCATION FOR CHILDREN

This parameter reflects the residents' demand for extra curricular education for their children. High values for this parameter reveal that in choosing an educational establishment, parents normally disregard the proximity to their place

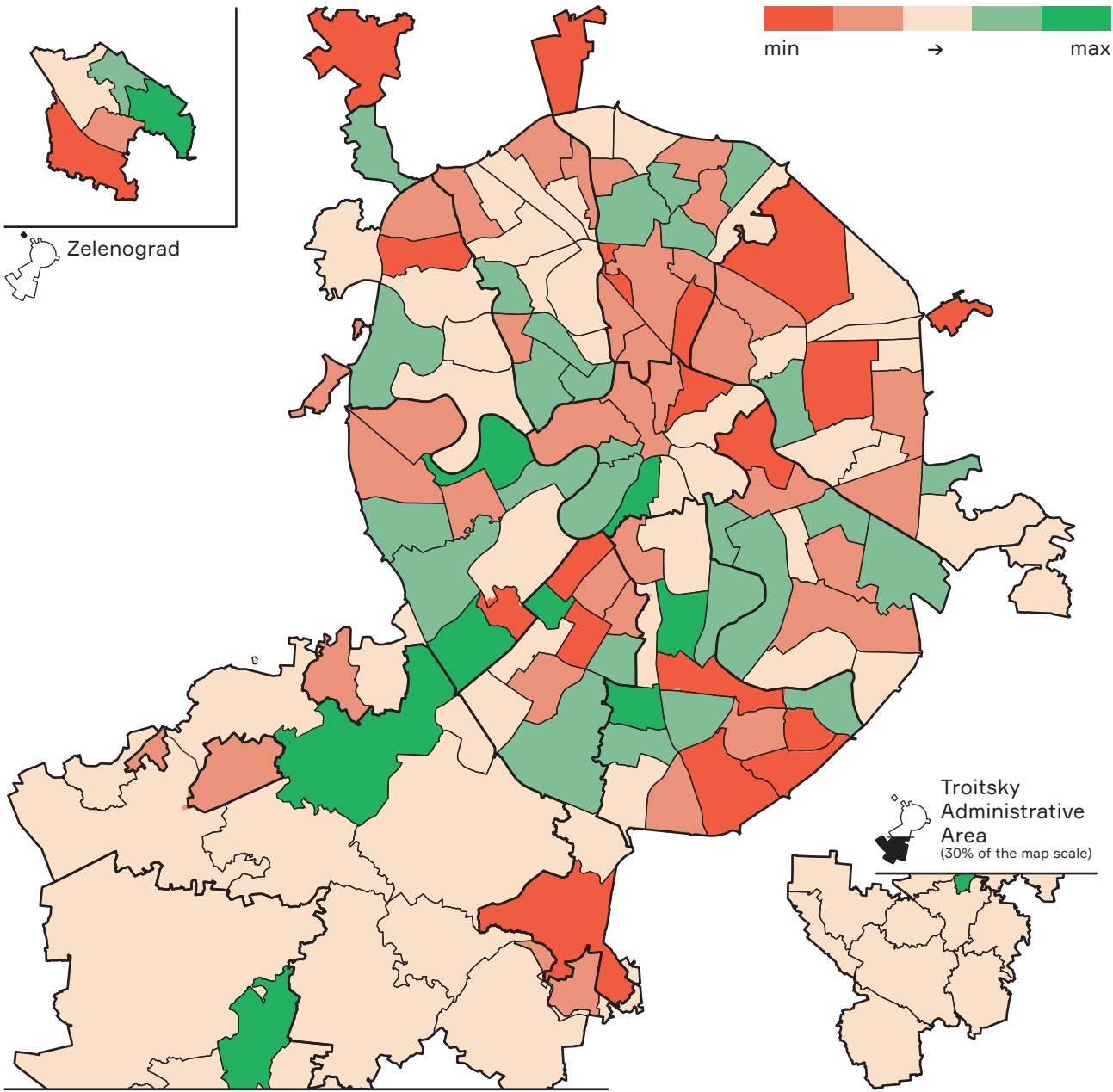
of home/work and focus mainly on the quality of the school. Muscovites are willing to take their children to a school in a different district if it means that they will get a better quality of extra curricular classes.



DEMAND FOR FURTHER ADULT EDUCATION

This parameter illustrates the extent of residents' requirements for further adult education (mainly in art and music). Contrary to the situation with children's education, where the quality of the educational provision is the determining factor in school

choice, for adult education a much higher value is placed on provision that is located close to the home. Our assumption is that adult Muscovites see additional education as an interesting and challenging pastime.



PUBLIC HEALTH

This element includes parameters that are connected with the development of the public health system. This includes quality and availability of medical services, trust in the public health system and preferences for private or state provided clinics.

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POLYCLINIC PROVISION

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ASSESSMENT OF POLYCLINIC QUALITY

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PROVISION OF MEDICAL STAFF

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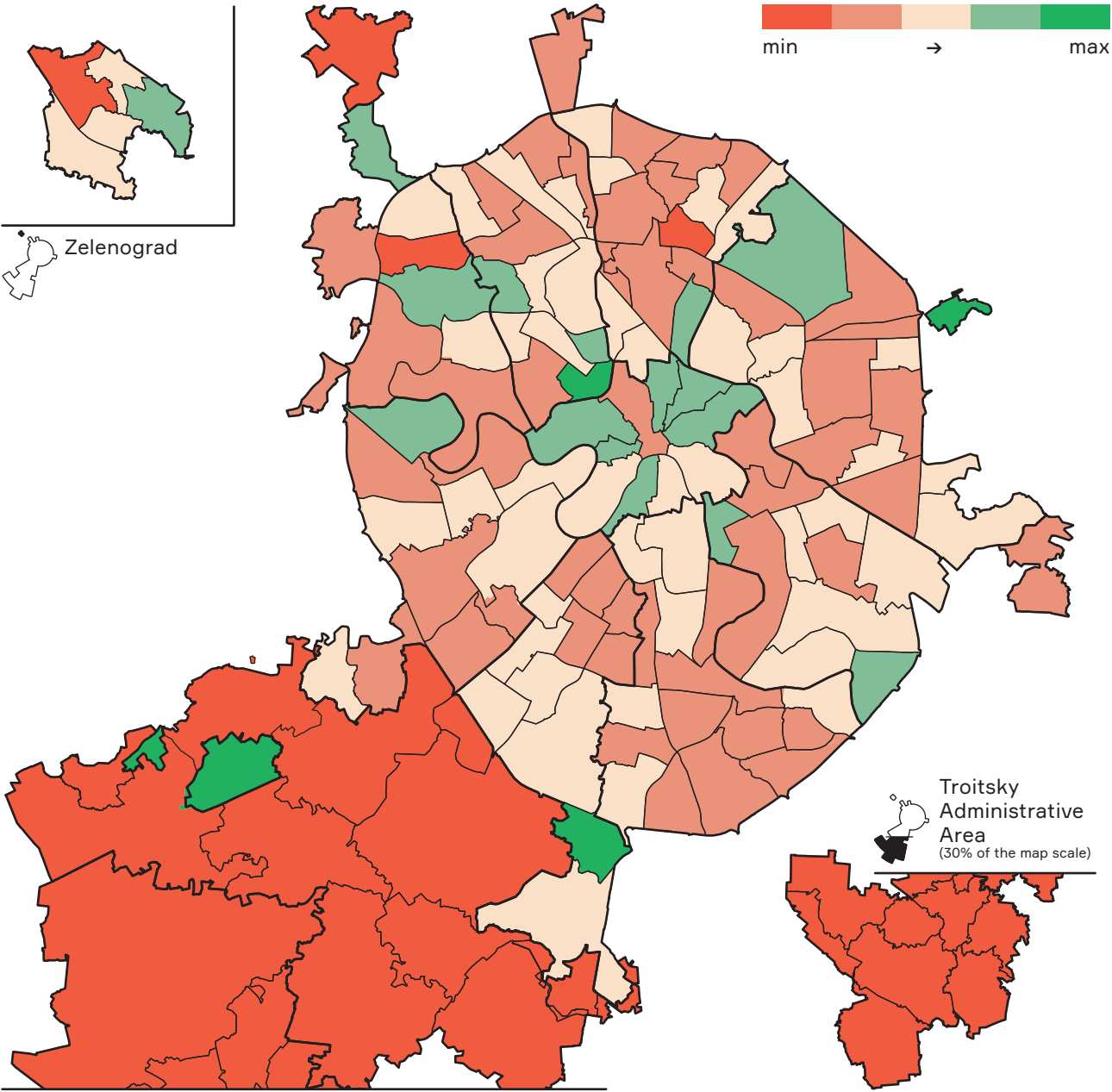
DEMAND FOR STATE-PROVIDED HEALTH ESTABLISHMENTS IN A DISTRICT

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DEMAND FOR PRIVATE HEALTHCARE

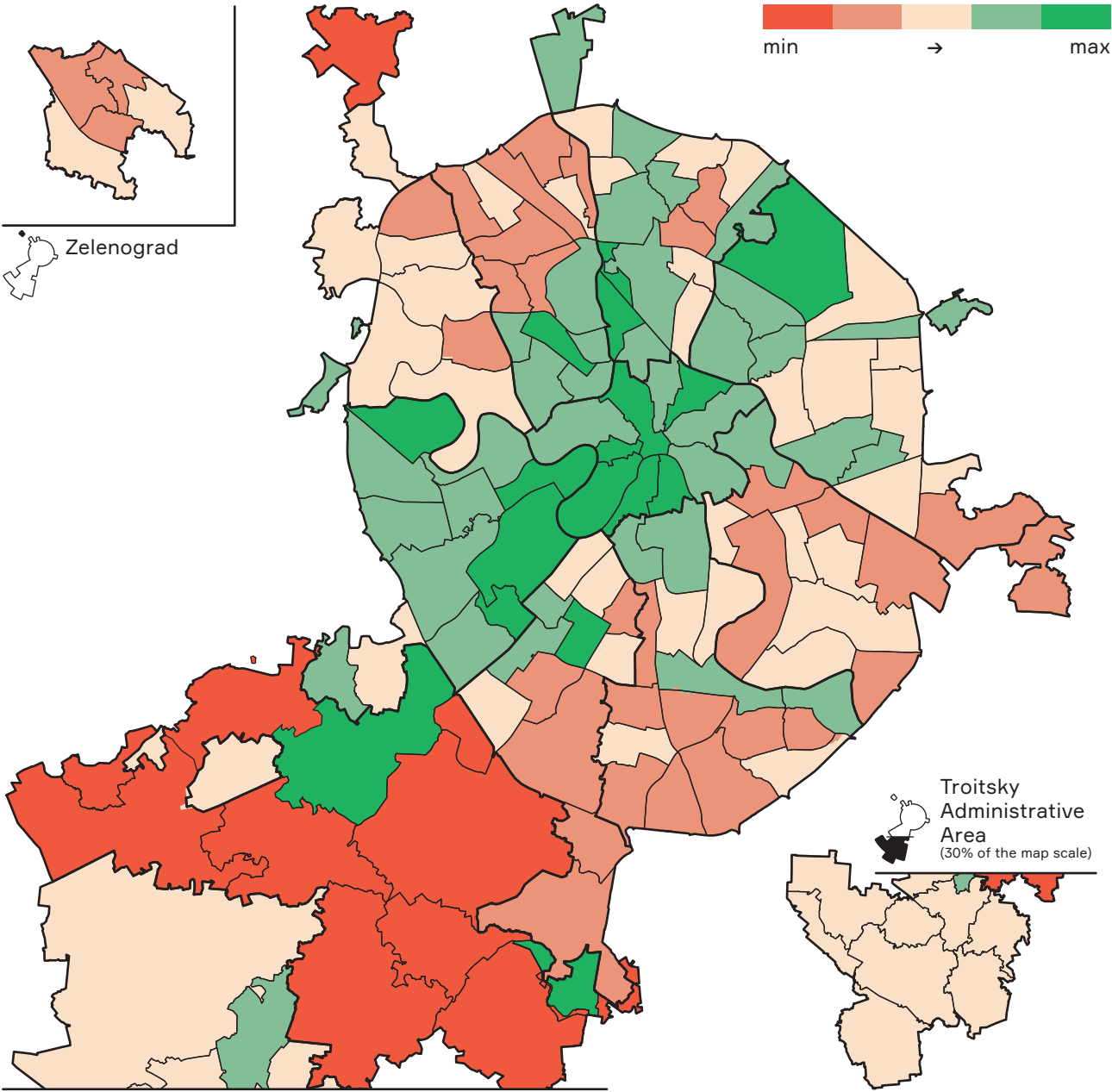
POLYCLINIC PROVISION

This parameter illustrates the level of provision of medical establishments per 1 000 residents. Aside from the central districts, the highest levels of polyclinic provision are in Severnoye Butovo and Vnukovo.



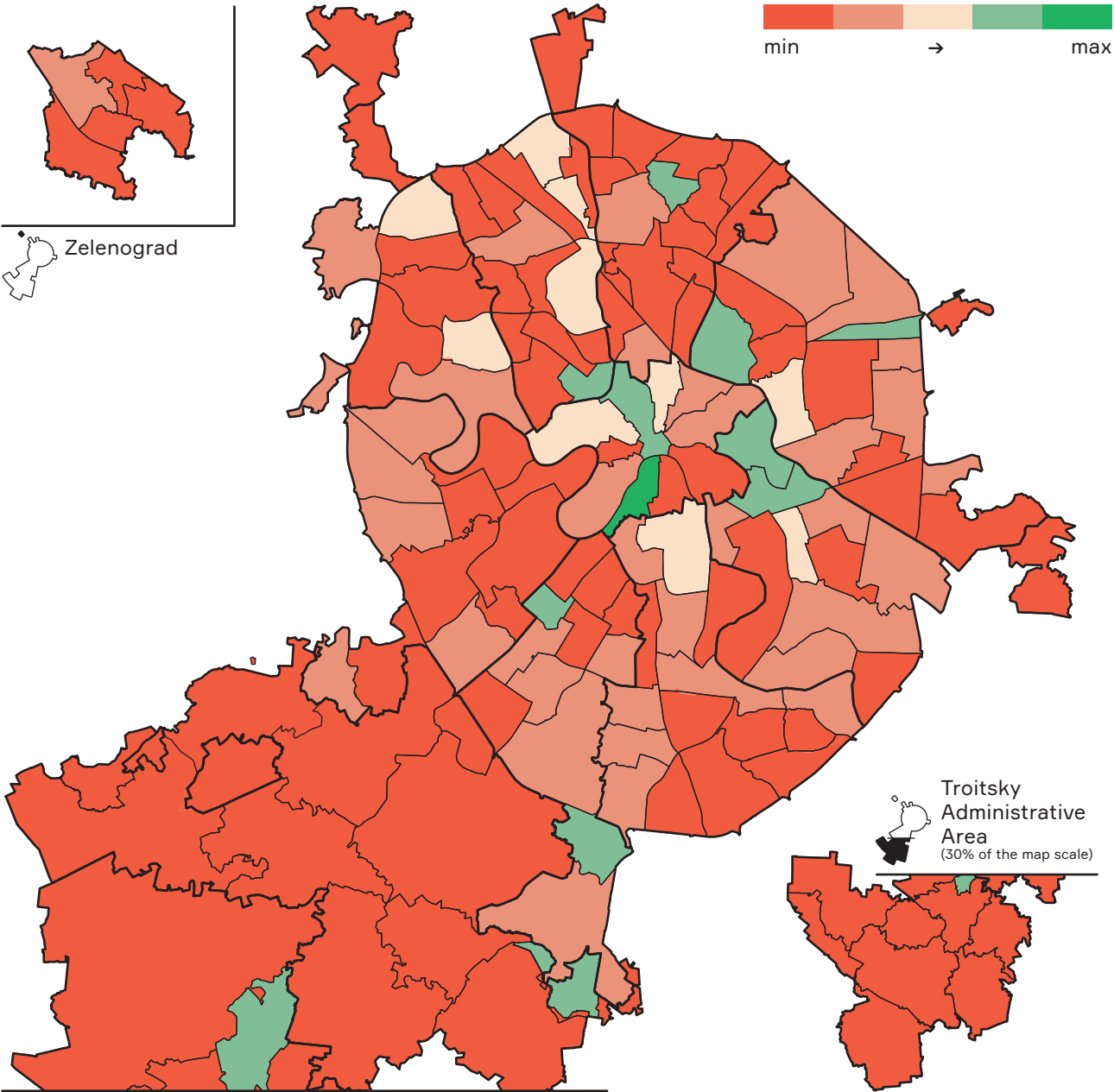
ASSESSMENT OF POLYCLINIC QUALITY

This parameter reflects the residents' satisfaction with medical establishments in their district. The lowest values can be found in smaller residential districts in Novomoskovsky Administrative Area (excluding Moskovsky and Shcherbinka districts). In "old" Moscow a complicated situation seems to be found in the remote districts (Molzhaninovskiy, Kapotnya, Vostochnoye Degunino, Golovinskiy). The less Muscovites trust local medical institutions the more they are likely to rely on self-medication.



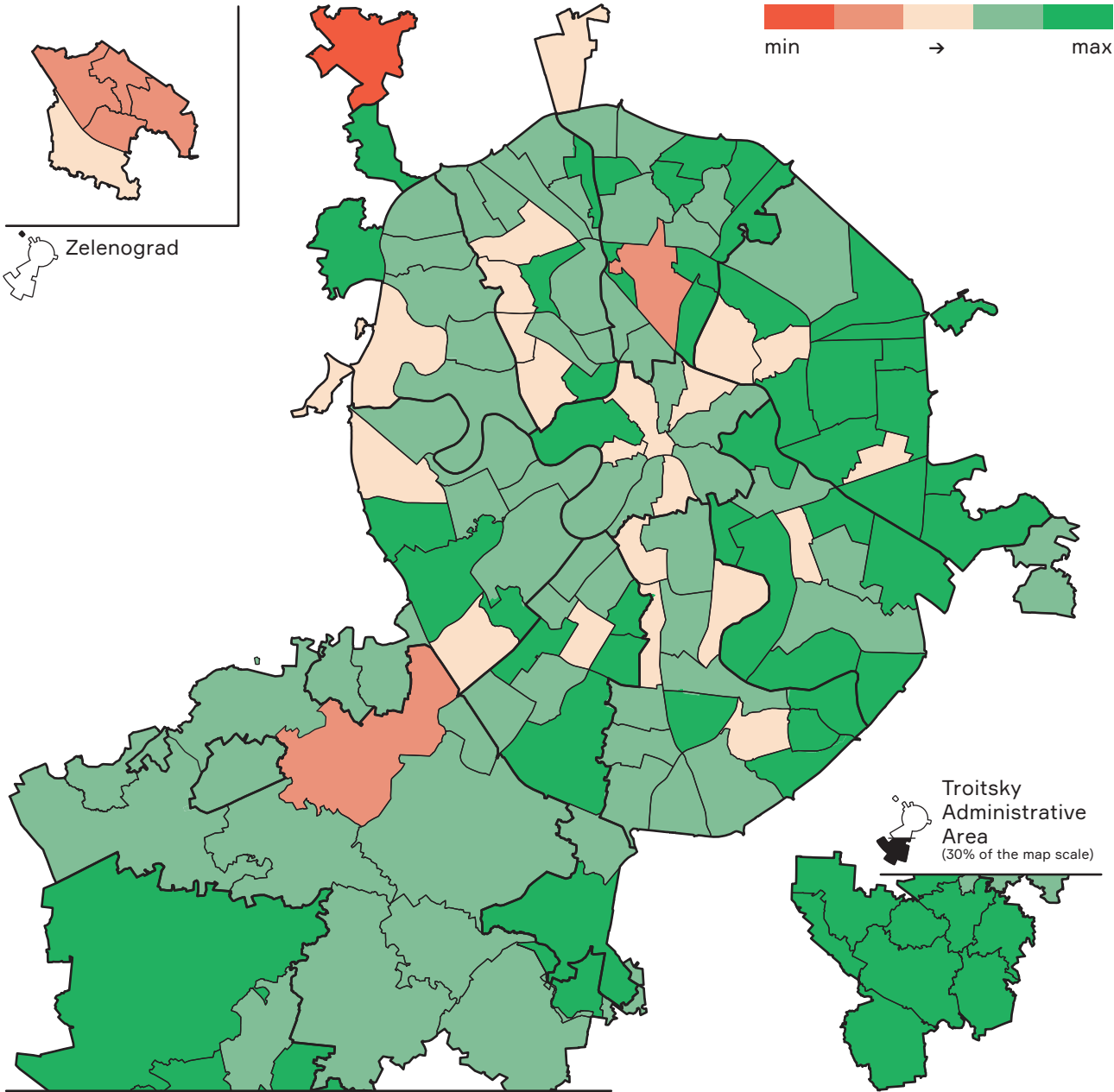
PROVISION OF MEDICAL STAFF

This parameter reflects the provision of medical staff per 1000 residents. Unsurprisingly, the highest value for this indicator is found in the Yakimanka district, where City clinical hospital #1 is located.



DEMAND FOR STATE-PROVIDED HEALTH ESTABLISHMENTS IN A DISTRICT

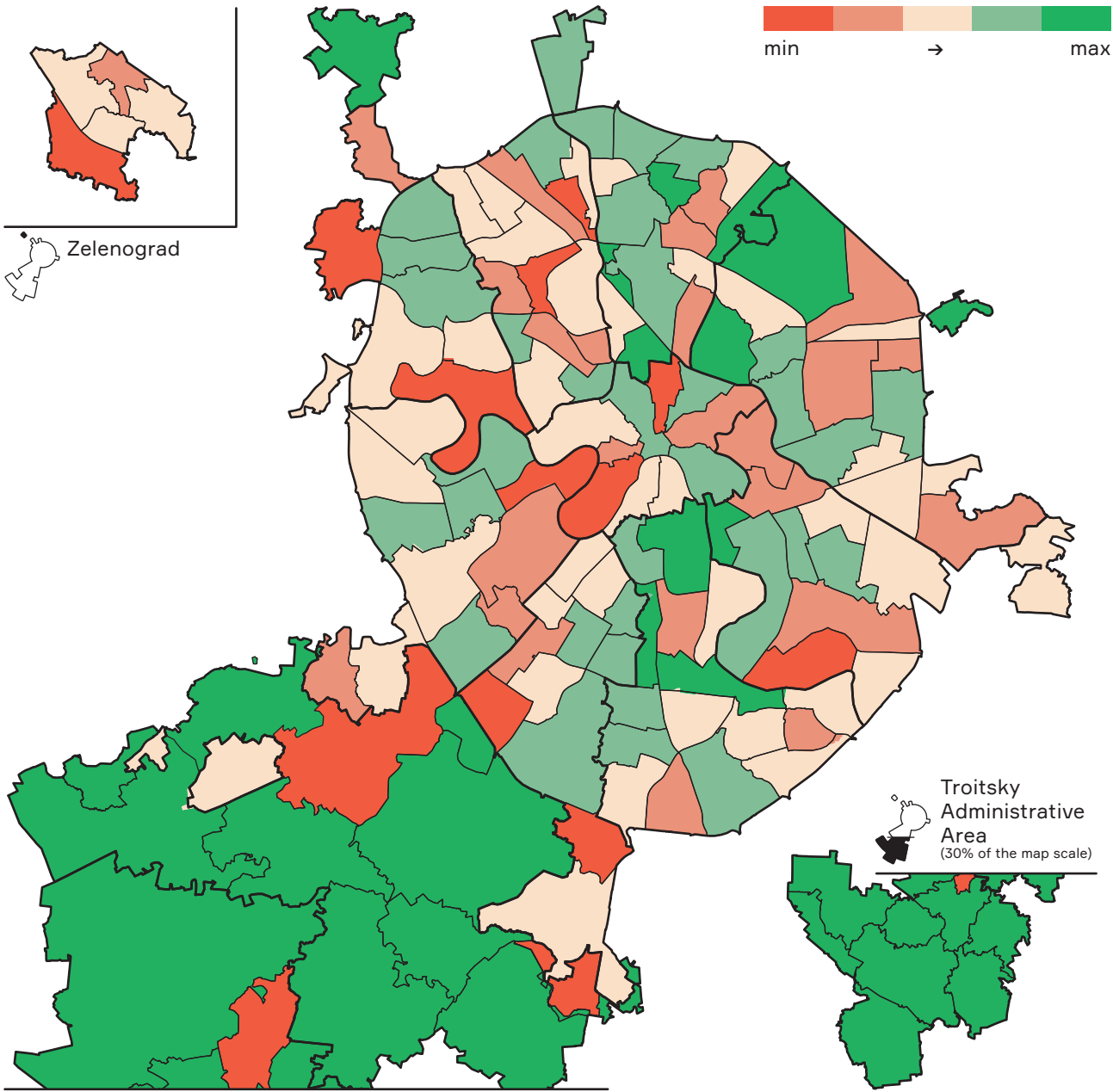
This parameter illustrates the demand for state-provided district medical establishments. High values are typical for districts where residents rely almost exclusively on their local provision. There are two main reasons for this. First, a good local medical system reduces the need to visit clinics in other districts. Secondly, in the case of remote districts, residents' mobility is limited by time and transportation cost issues, and as a result they are more likely to choose local polyclinics (Kosino-Ukhtomsky, Orekhovo-Borisovo Yuzhnoye and others).



DEMAND FOR PRIVATE HEALTHCARE

This parameter illustrates the residents' demand for private medical polyclinics in the city in general. High values are typical for districts with residents who distrust the local medical system and

prefer to attend polyclinics in other districts. The smaller residential districts in Troitsky and Novomoskovsky Administrative Areas and Molzhaninovsky district demonstrate high values for this parameter.



ECOLOGY

This element includes parameters of residents’ attitudes to-wards the environment and the actual state of the natural en-vironment in the district. Clean air, quiet spaces with low noise pollution and streets free from rubbish are limited resources in a megalopolis. It is these criteria that Muscovites take into ac-count when choosing a place to live.

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ASSESSMENT OF THE ECOLOGICAL SITUATION IN THE DISTRICT

PAGE 83
ECOLOGICAL ANXIETY

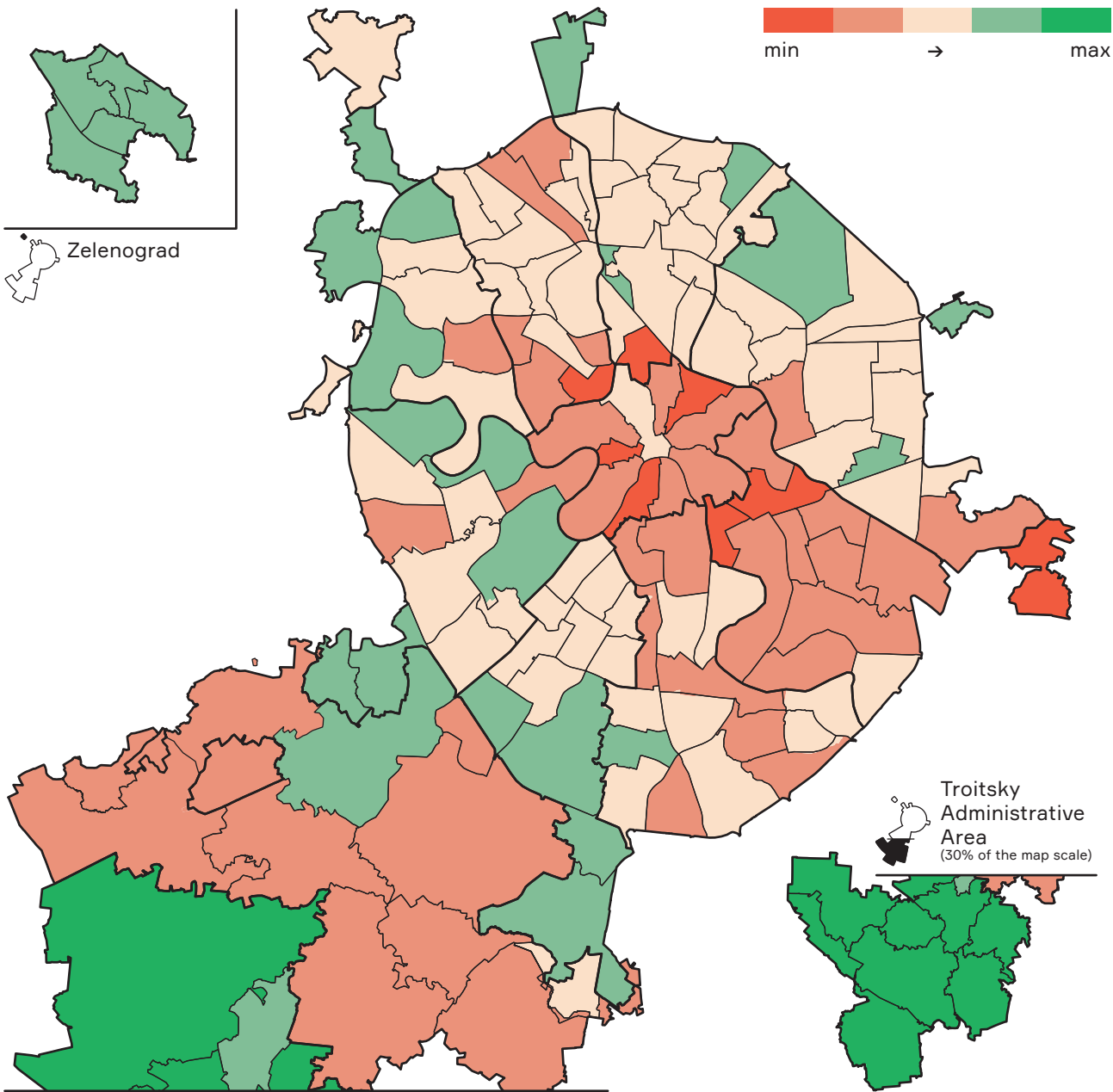
PAGE 84
PARTICIPATION IN ENVIRONMENTALLY FRIENDLY PRACTICES

PAGE 85
DOMESTIC ECOLOGY

ASSESSMENT OF THE ECOLOGICAL SITUATION IN THE DISTRICT

This parameter depicts the residents' concerns about the natural environment in their district. The main concerns are with noise pollution, air pollution and similar factors. The lower the

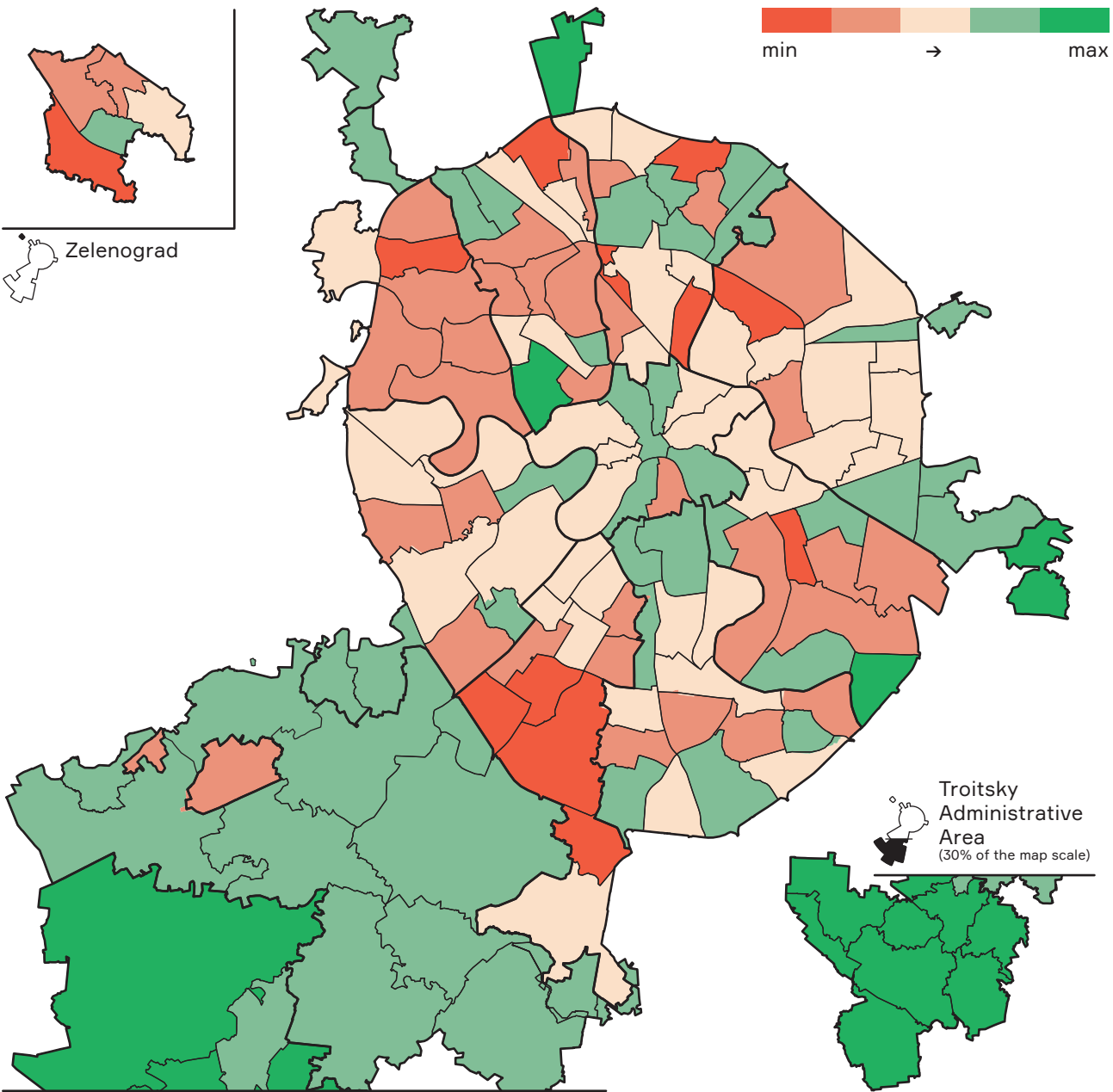
value, the higher the citizens' concern. Low values are frequent in central and South-Eastern districts, presumably as a result of high traffic levels and dense housing.



ECOLOGICAL ANXIETY

This parameter describes the extent to which residents are concerned with ecological dangers on a global scale, such as climate change. The lower the value for this parameter, the high-

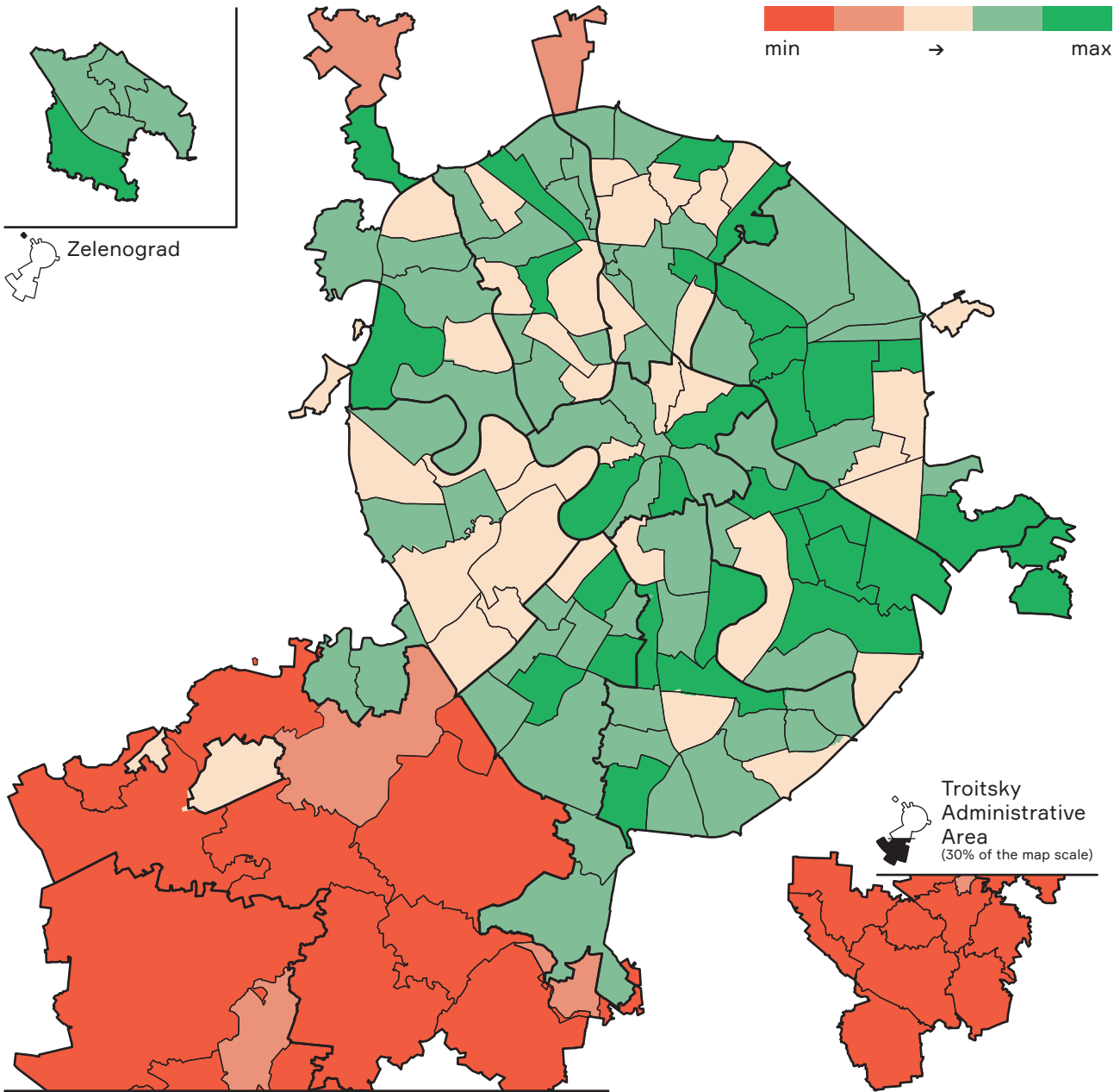
er the level of anxiety and concern. The value is also influenced by the level of concern and anxiety about local factors such as the level of radiation and the quality of tap water etc.



PARTICIPATION IN ENVIRONMENTALLY FRIENDLY PRACTICES

This parameter reflects the active role residents take in protecting the environment, through recycling of household waste etc. Districts with large numbers of new-built apartments and

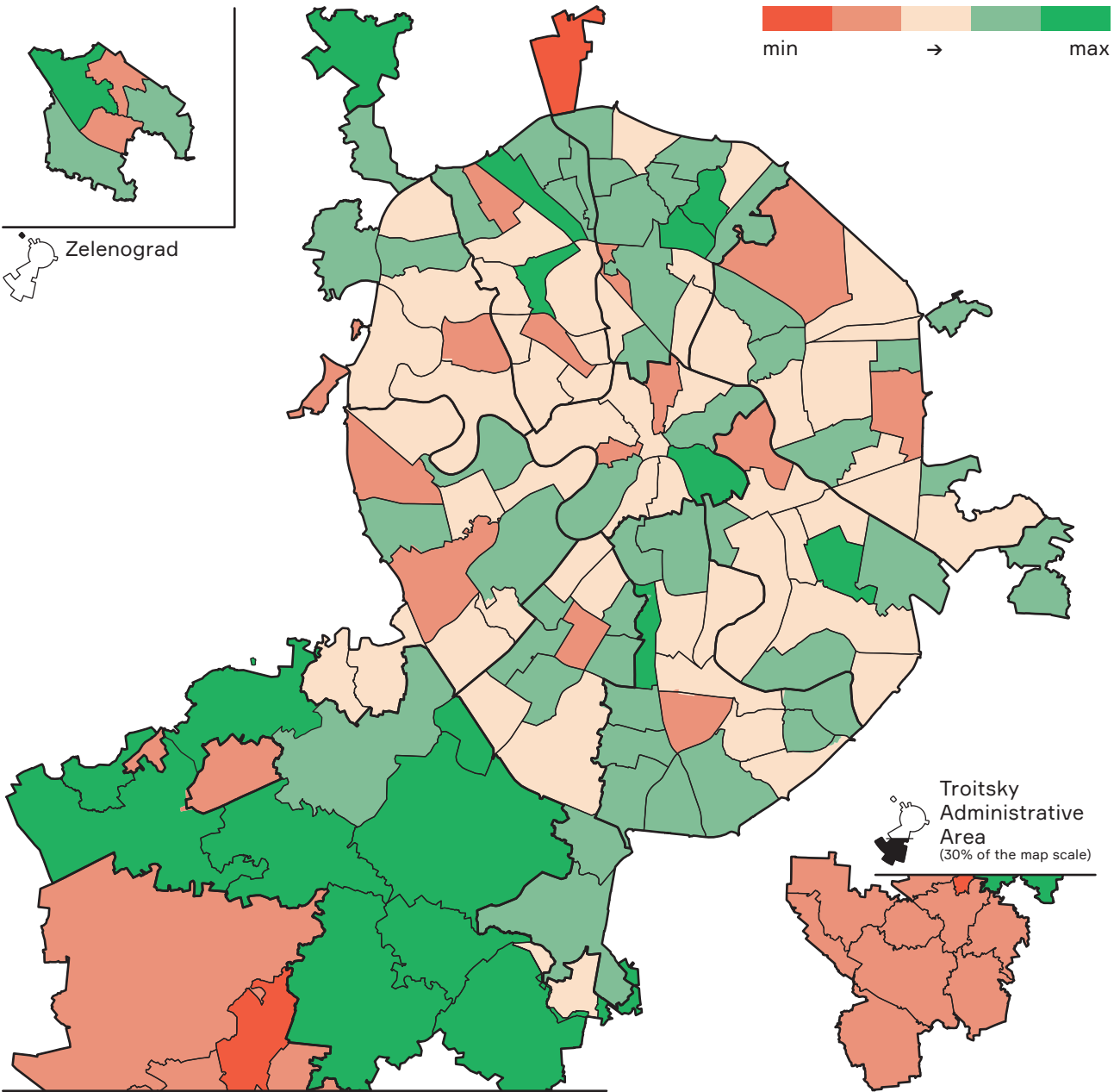
districts located near large parks demonstrate high values for this parameter. This indicates that such districts are equipped with the necessary infrastructure for such practices.



DOMESTIC ECOLOGY

This parameter shows how active Muscovites are in electrical energy and tap water saving. High values are typical for districts where residents do not participate in other ecological

practices. This indicates that domestic ecology is not a result of concern for the environment, but a means of saving money on utility bills.



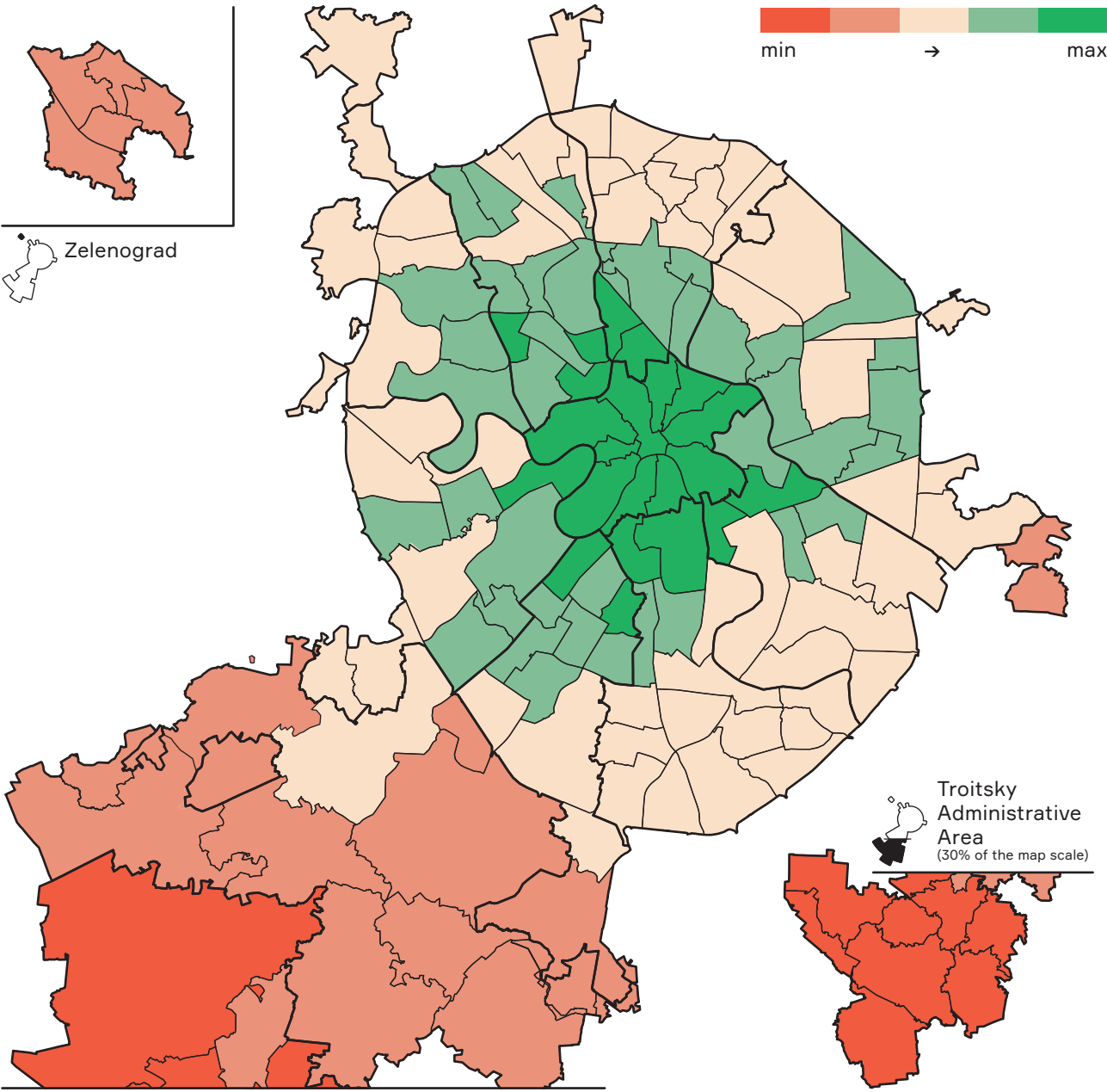
TRANSPORT

This element consists of parameters outlining the development of the transport system. Traffic congestion, public transport and parking are factors that all influence the rhythm of everyday life. In every situation involving journeys into the city—from leisure time to education—Muscovites take the transport system into account.

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THE LEVEL OF TRANSPORT CONNECTIVITY	
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THE SPREAD OF ALTERNATIVE TRANSPORT STRATEGIES	

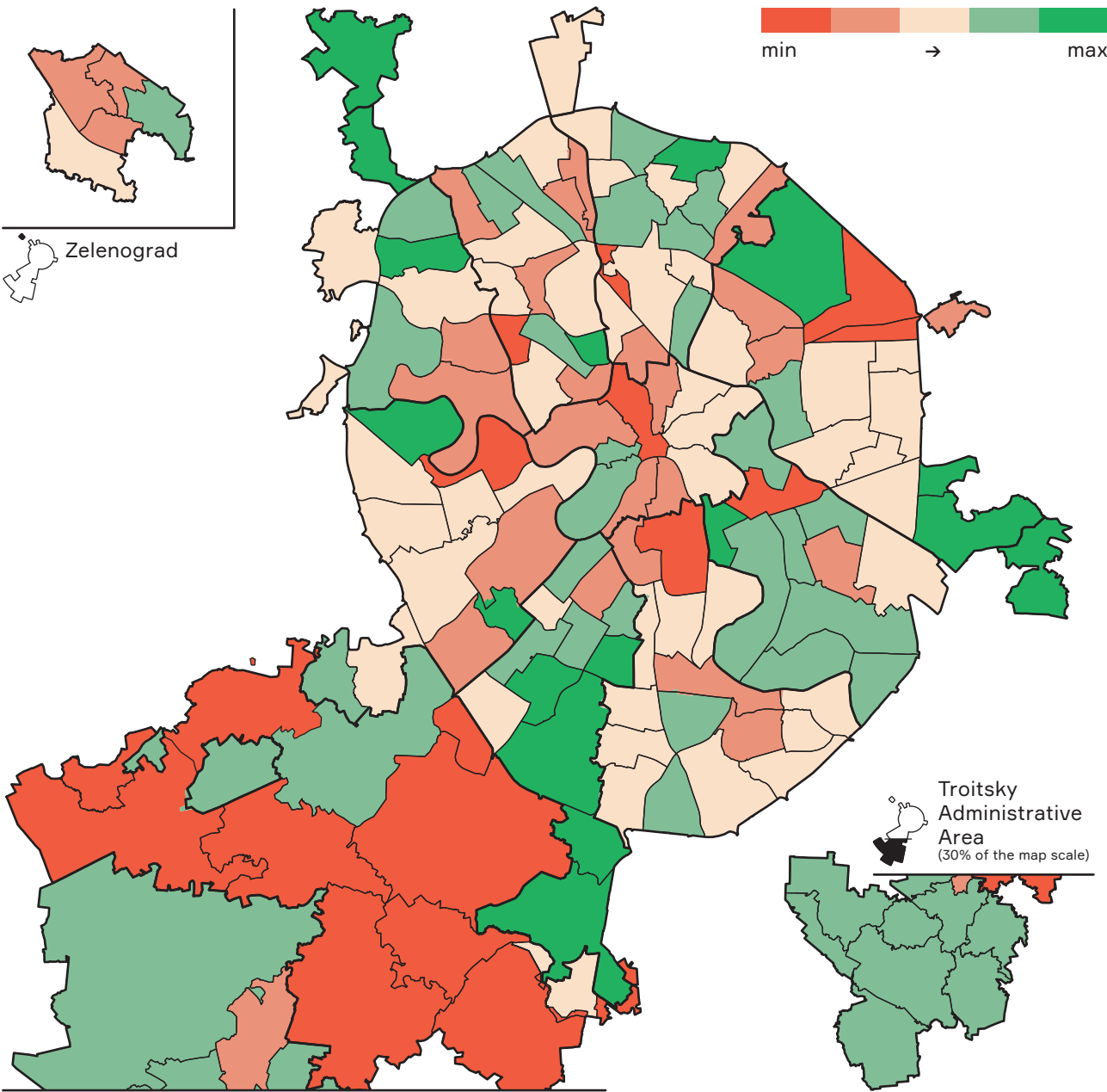
THE LEVEL OF TRANSPORT CONNECTIVITY

This parameter shows how easily residents can move around in their own district and around the city in general. Values are lower in remote districts, as the road network becomes less dense.



PERIPHERAL TRANSPORTATION

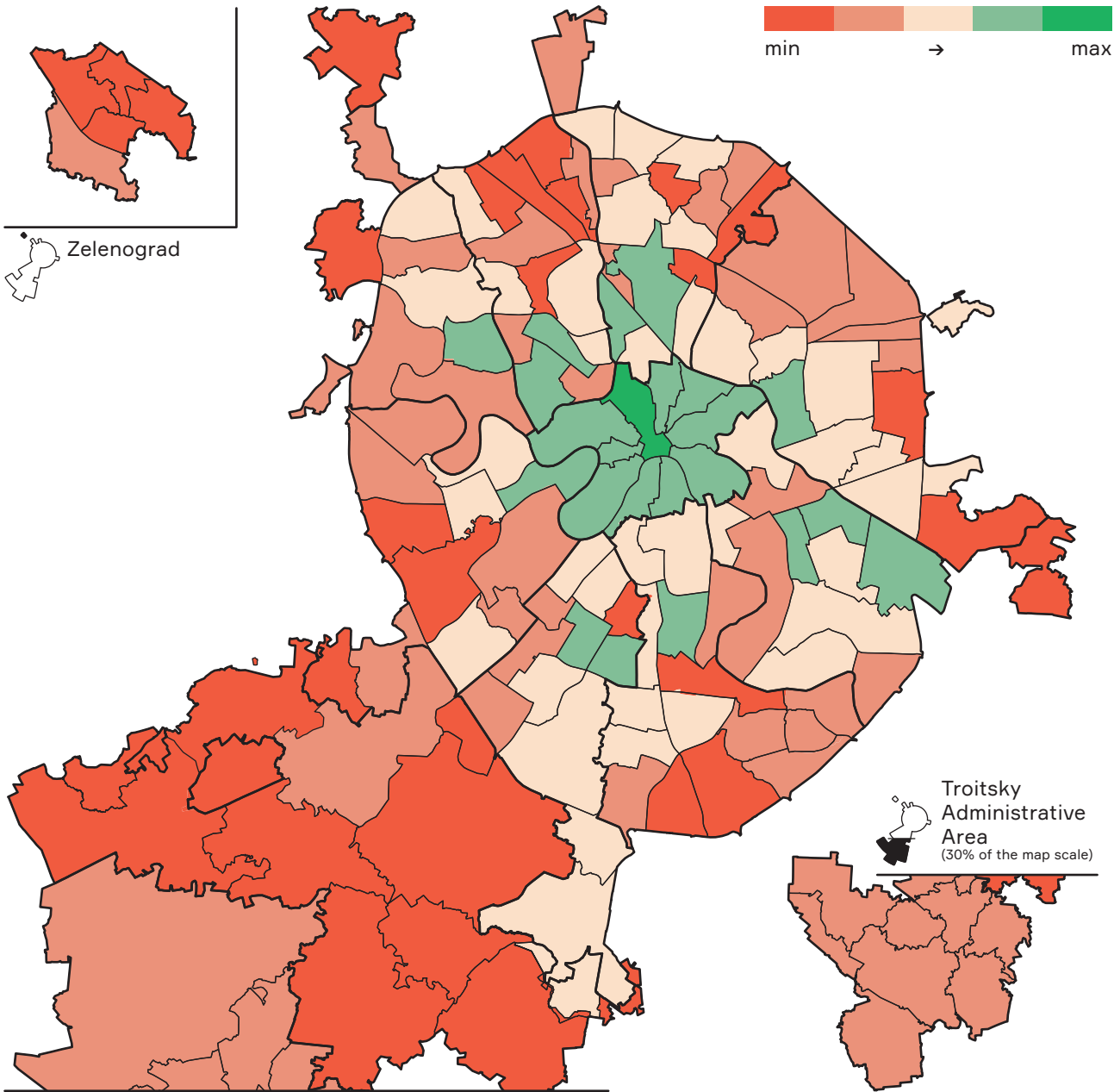
This parameter reflects the relative traffic volumes on roads with poor surfaces. High values are representative of districts in locations remote from the main arteries of the city: it is in these districts that the traffic is low and the roads are in poor condition (Kurkino, Kosino-Ukhtomsky and Yuzhnoye Butovo).



DEMAND FOR THE METRO SYSTEM

This parameter reflects the volume of travellers on the Moscow Metro system. High values are typical of the central districts. The residents of

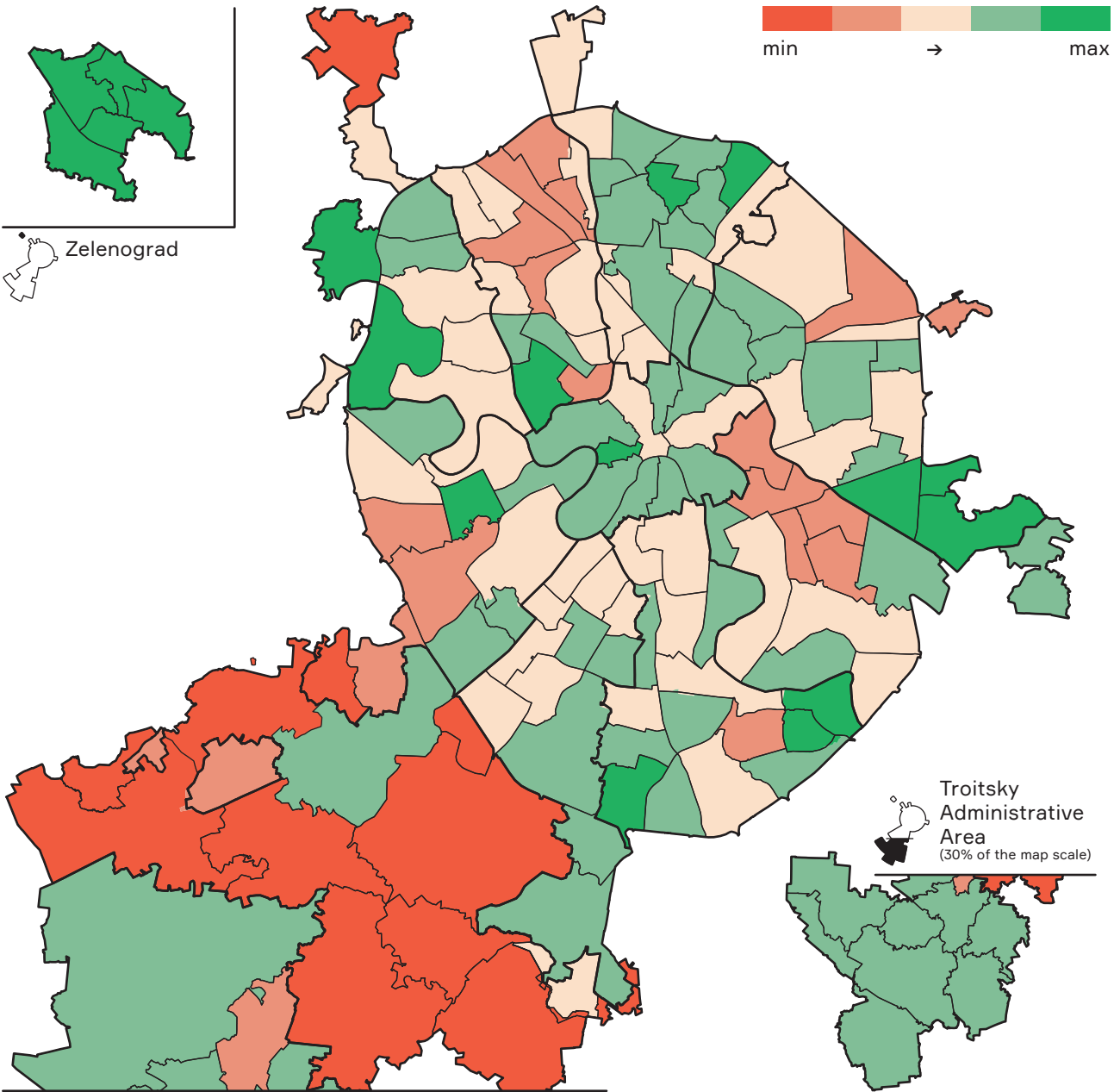
these districts rarely use private transport preferring to use the subway or walk.



RESIDENTS' EVALUATION OF PUBLIC TRANSPORT

This parameter illustrates residents' opinions about using public transport. This parameter is influenced by measures of punctuality, convenience of routes etc. High values are found in

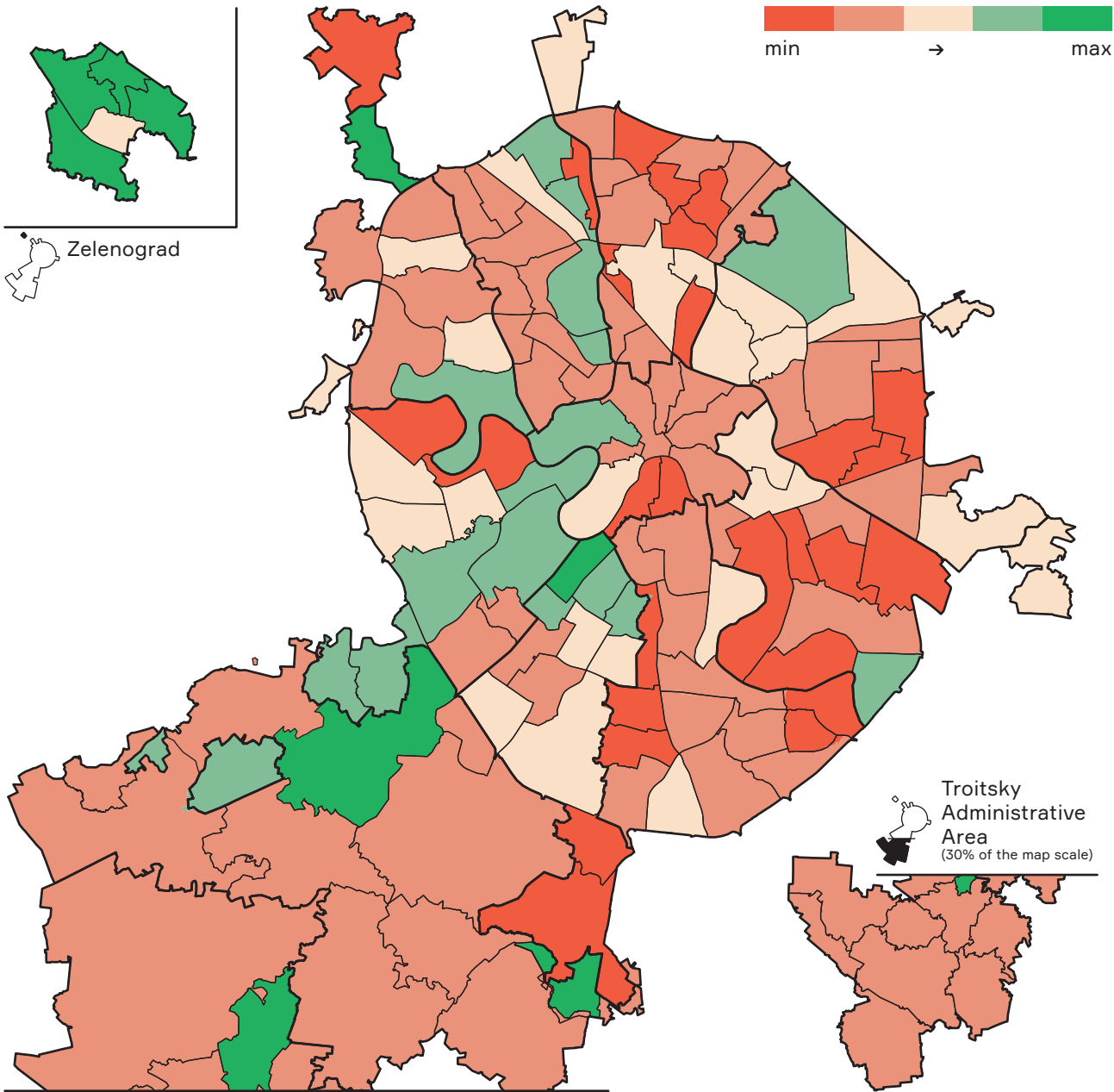
districts which lack heavily congested roads (Mitino, Zyablikovo, Kosino-Ukhtomsky and others).



USE OF PRIVATE TRANSPORT

This parameter reflects the level of active use of private transport. High values are typical for districts with major roads, but without subway stations (Vnukovo, Moskovsky, Troitsk, the Zelenogradsky Administrative Area districts). Muscovites

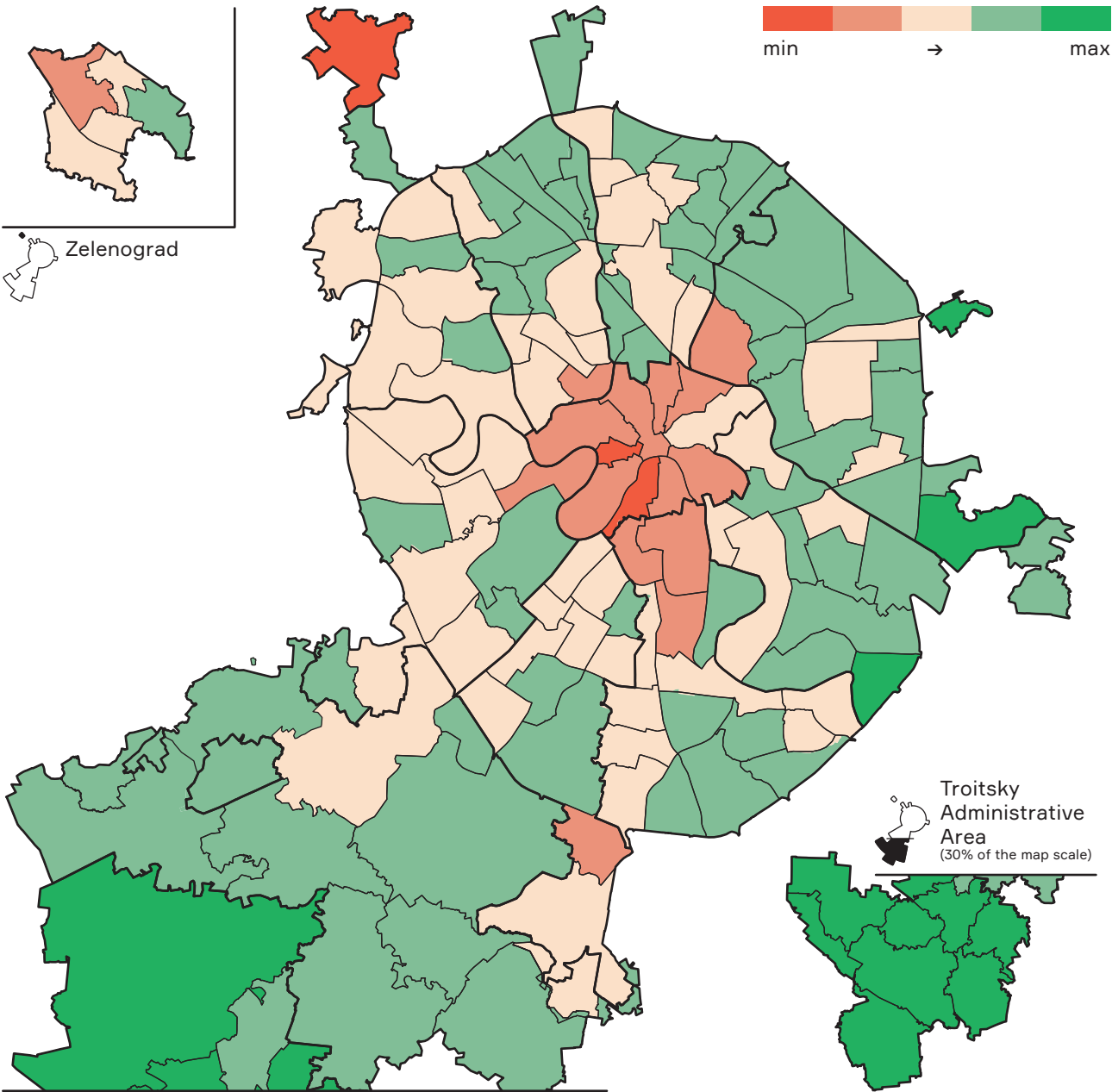
who use private cars very rarely use the subway. This demonstrates that 'park and ride' parking zones are not working to their full potential.



RESIDENTS' EVALUATION OF PARKING AVAILABILITY

This parameter illustrates the level of resident satisfaction with the quantity of parking in their district. Low values are found in the Central Administrative Area districts (this is because an enforcement of paid parking has recently been introduced), and also along the routes of major road arteries: Varshavskoye shosse (Chertanovo

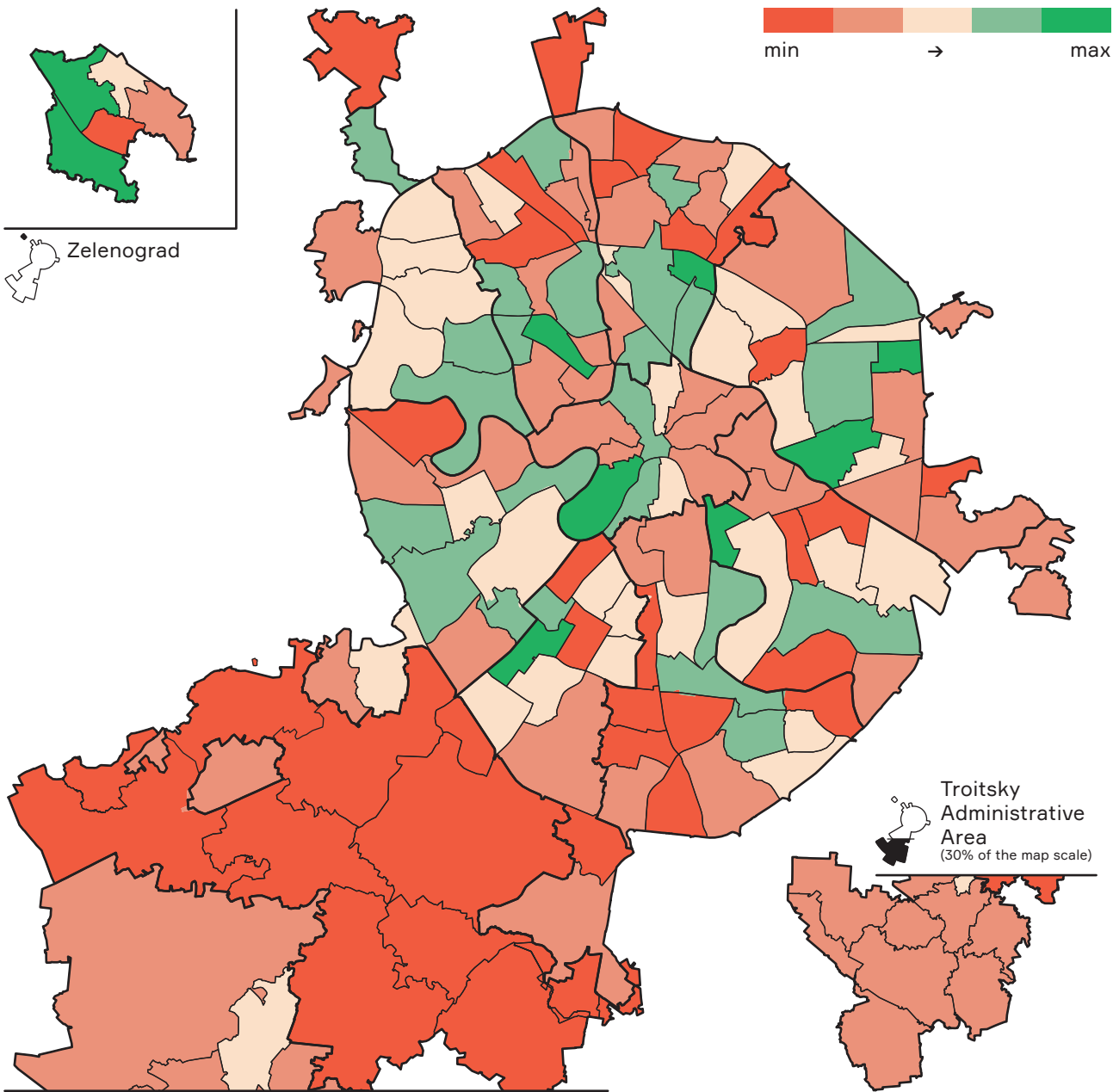
Severnoye, Tsentralnoye and Yuzhnoye Chertanovo districts), Rublyovskoye shosse (Kuntsevo, Krylatskoye districts) and Leningradskoye shosse (Levoberezhny, Molzhaninovskiy districts). The development of public transport here is high, but its use is limited by congestion on the roads.



THE SPREAD OF ALTERNATIVE TRANSPORT STRATEGIES

This parameter outlines the extent to which Muscovites use alternative means of transportation—taxis, bicycles, scooters etc. High values are typical for central districts located near parks (Aeroport, Khamovniki), as well as

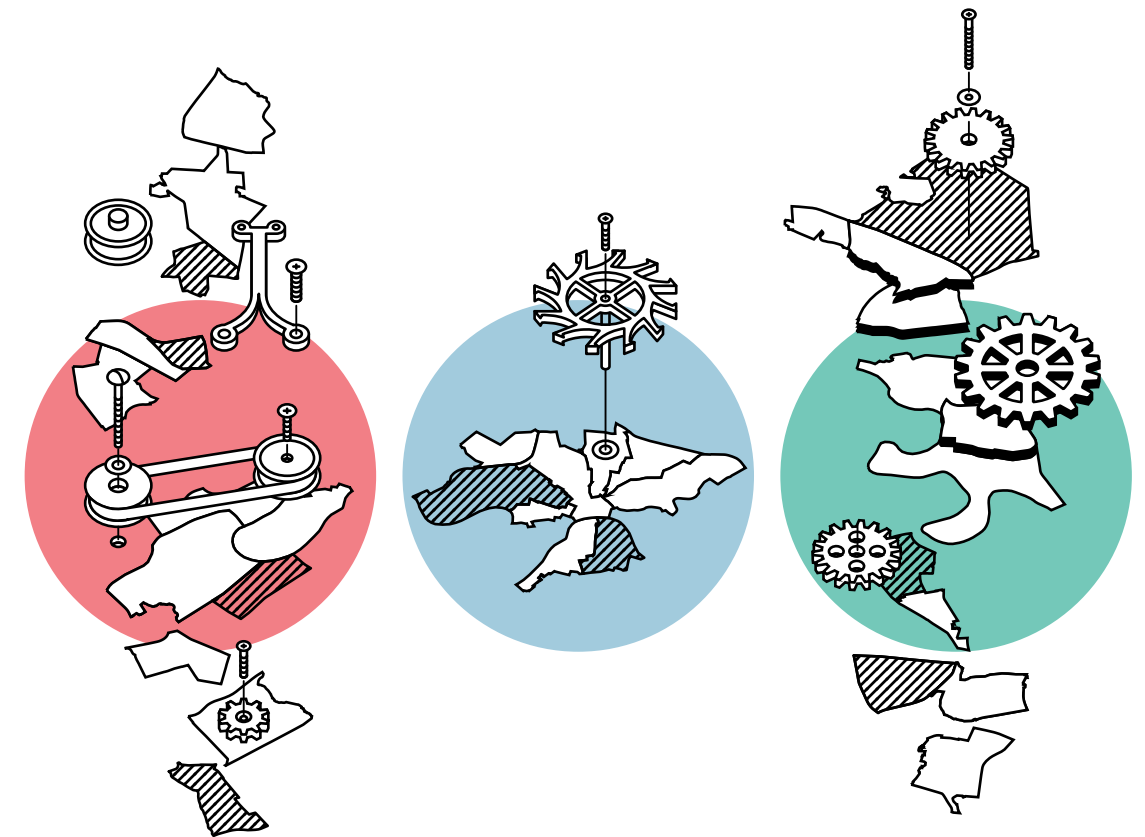
remote districts (Silino, Kryukovo, Vostochnoye Izmailovo). Nearby parks increase the attraction of using bicycles and scooters, whereas a close proximity to the center allows for the use of taxis at relatively low cost.



THE MECHANICS OF MOSCOW
RESEARCH INTO AN URBAN ENVIRONMENT

TYPES OF URBAN ENVIRONMENT

1



STRUCTURE OF THE MEGALOPOLIS

“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.

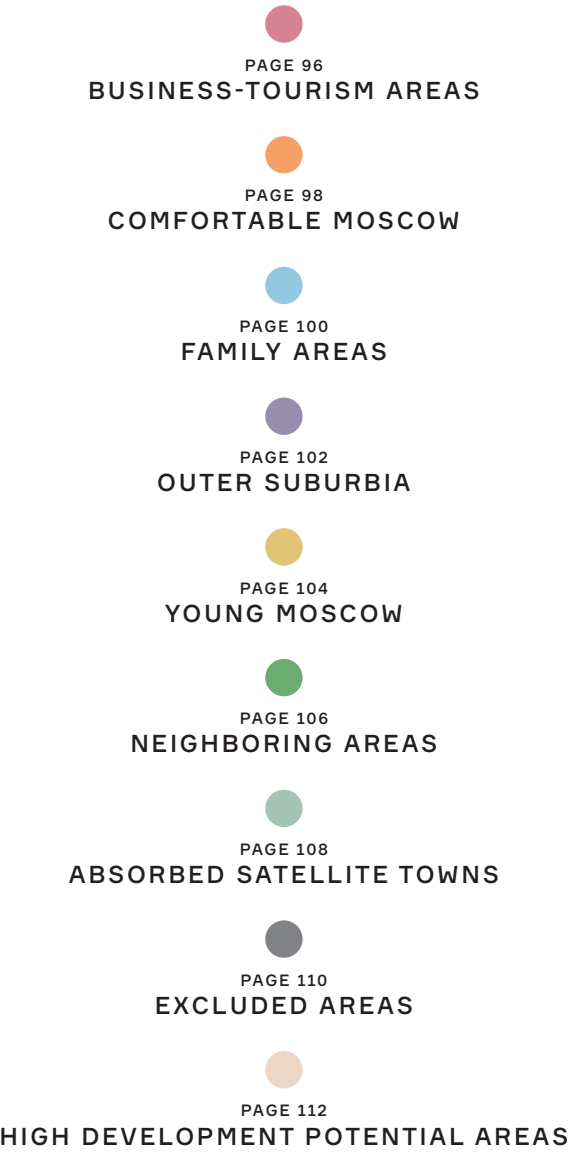
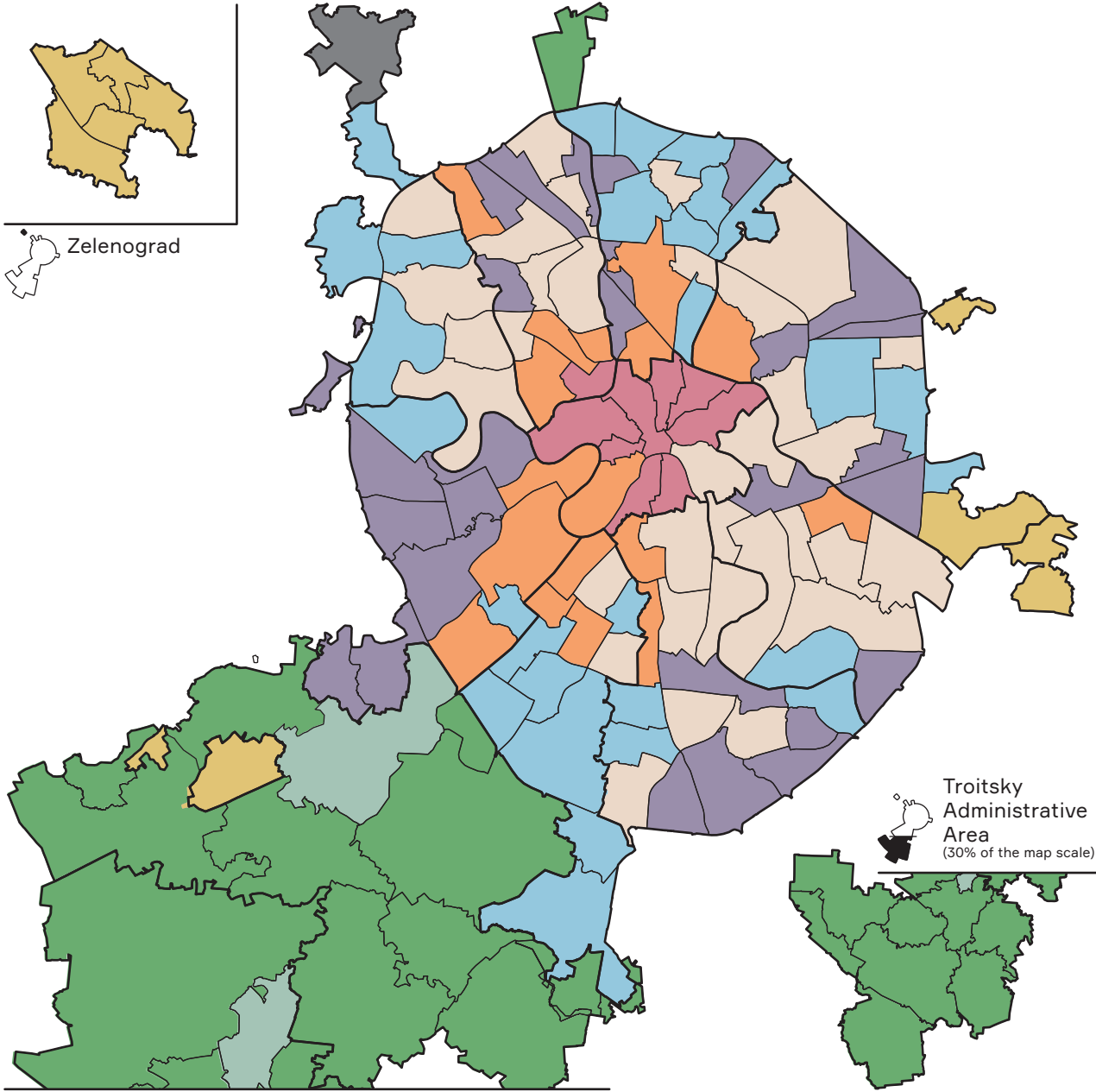
Secondly, the collected data can help evaluate the success of various city reforms: understanding the specific differences between districts will enable the evaluation of the effectiveness of reform measures depending on which type of urban environment the district belongs to—which in turn will help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

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%

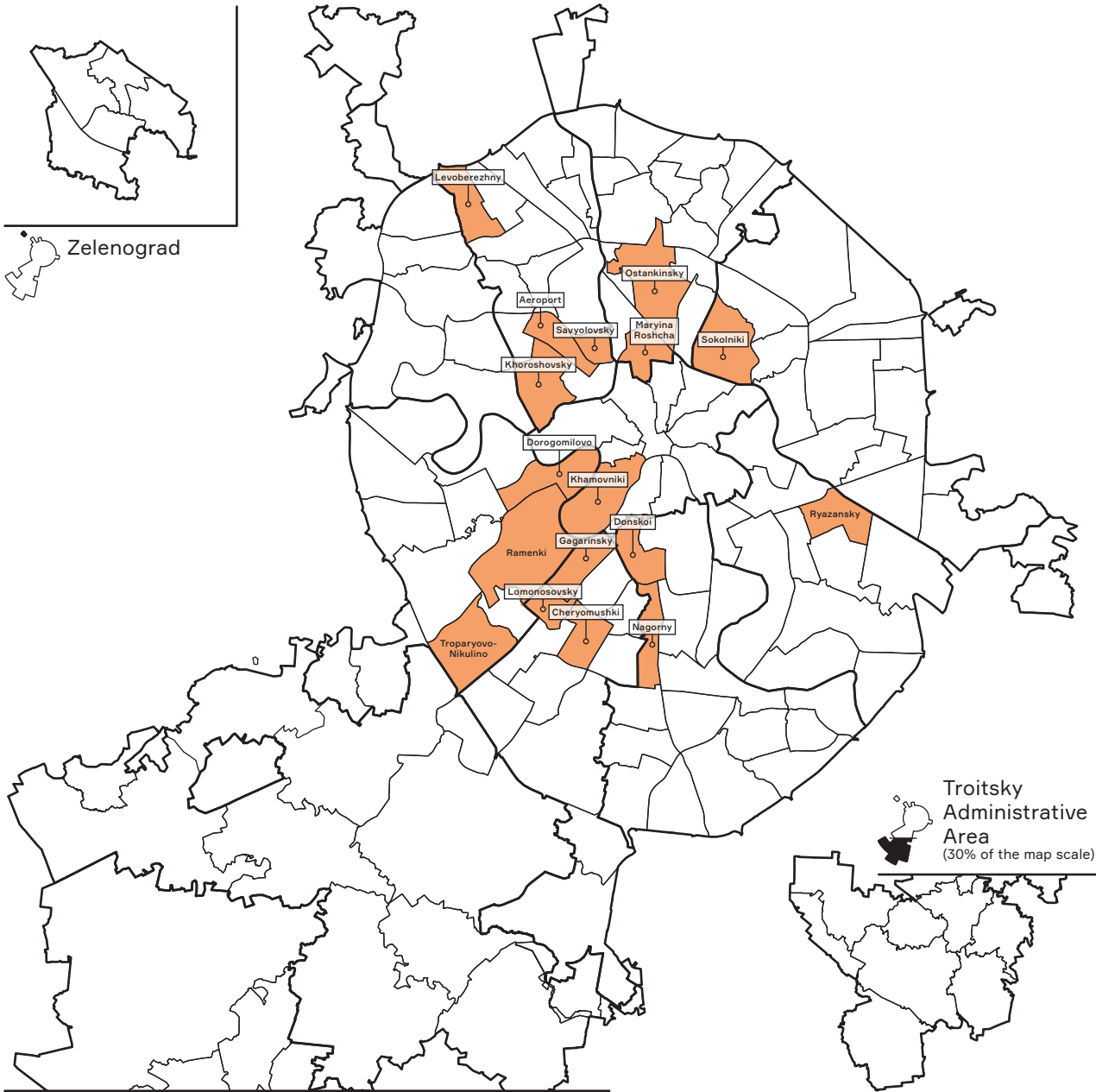


This group includes districts with the most developed infrastructure and highest number of amenities. Most of them are located in the center of Moscow, inside the Garden Ring Road. These areas are leaders in terms of access to education, public health, cultural and entertainment options. However, even 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

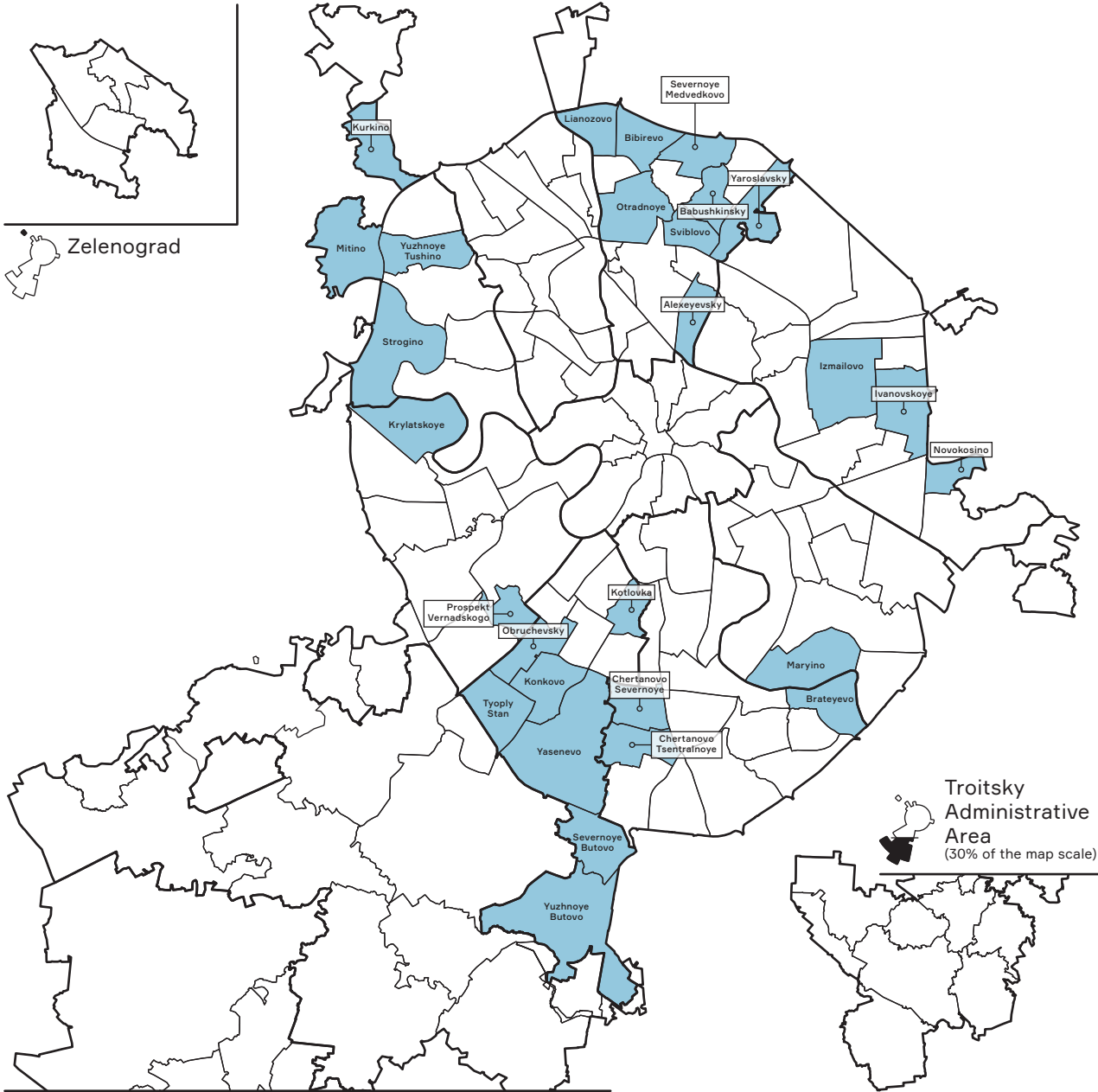
Number of districts in type	17	Share of all city districts	11.6%
Total area of districts (km²)	132	Share of the city's total area	5.4%
Total population of districts	1323976	Share of total population	11.3%
Average density of population (per./km²)	9998	Deviation from the average for the city	110.7%



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%

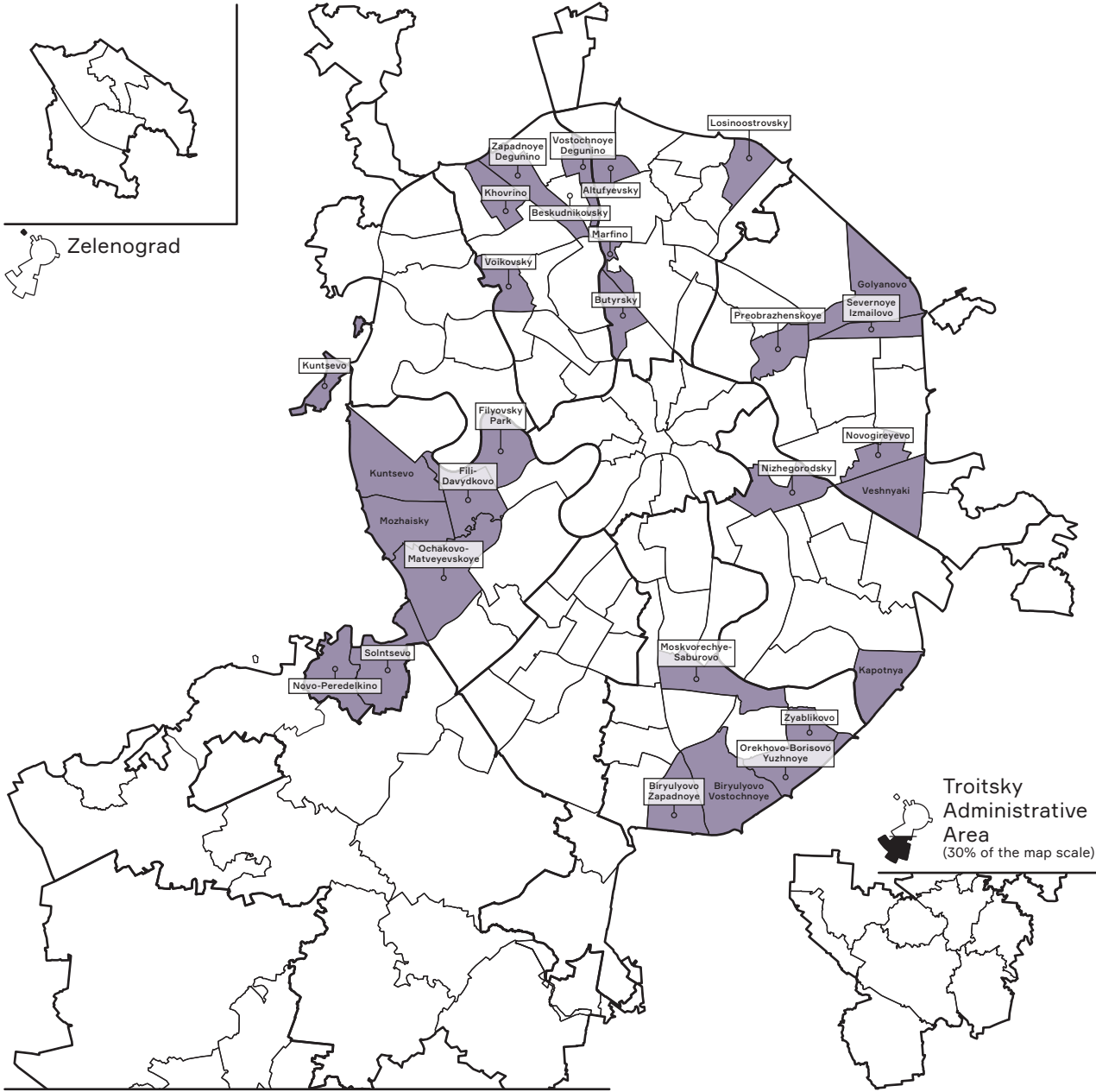


This group includes inner suburban districts. They are well developed in terms of infrastructure and amenities as well as in transport and public health provision. Districts of this type offer a wide variety of opportunities for leisure, mainly because of the good quality of public leisure zones and 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%



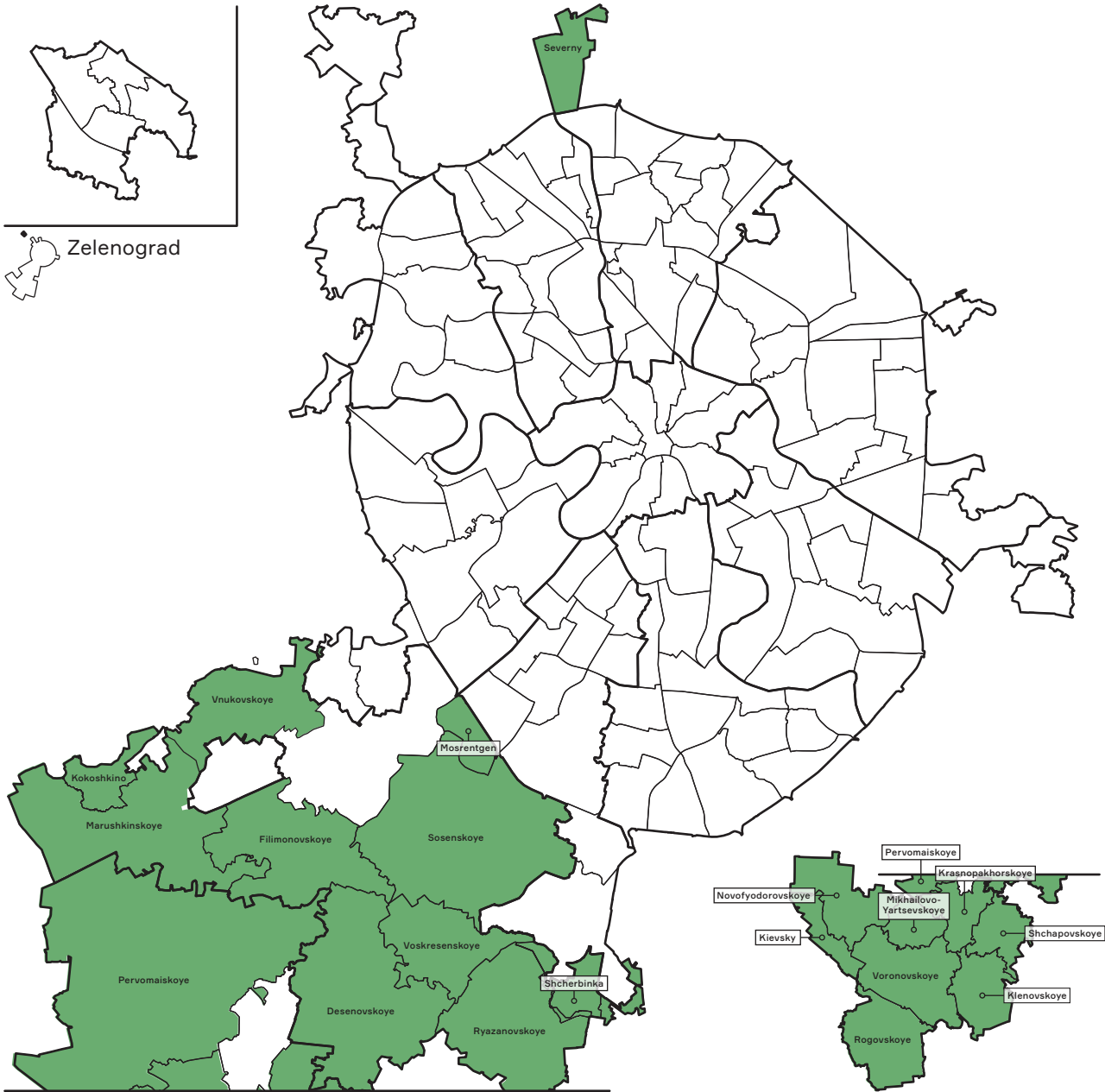
This group includes districts that are relatively new with a developed infrastructure and amenities that satisfy the basic needs of its residents. These areas are well provided with high-quality educational and public health establishments.

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%

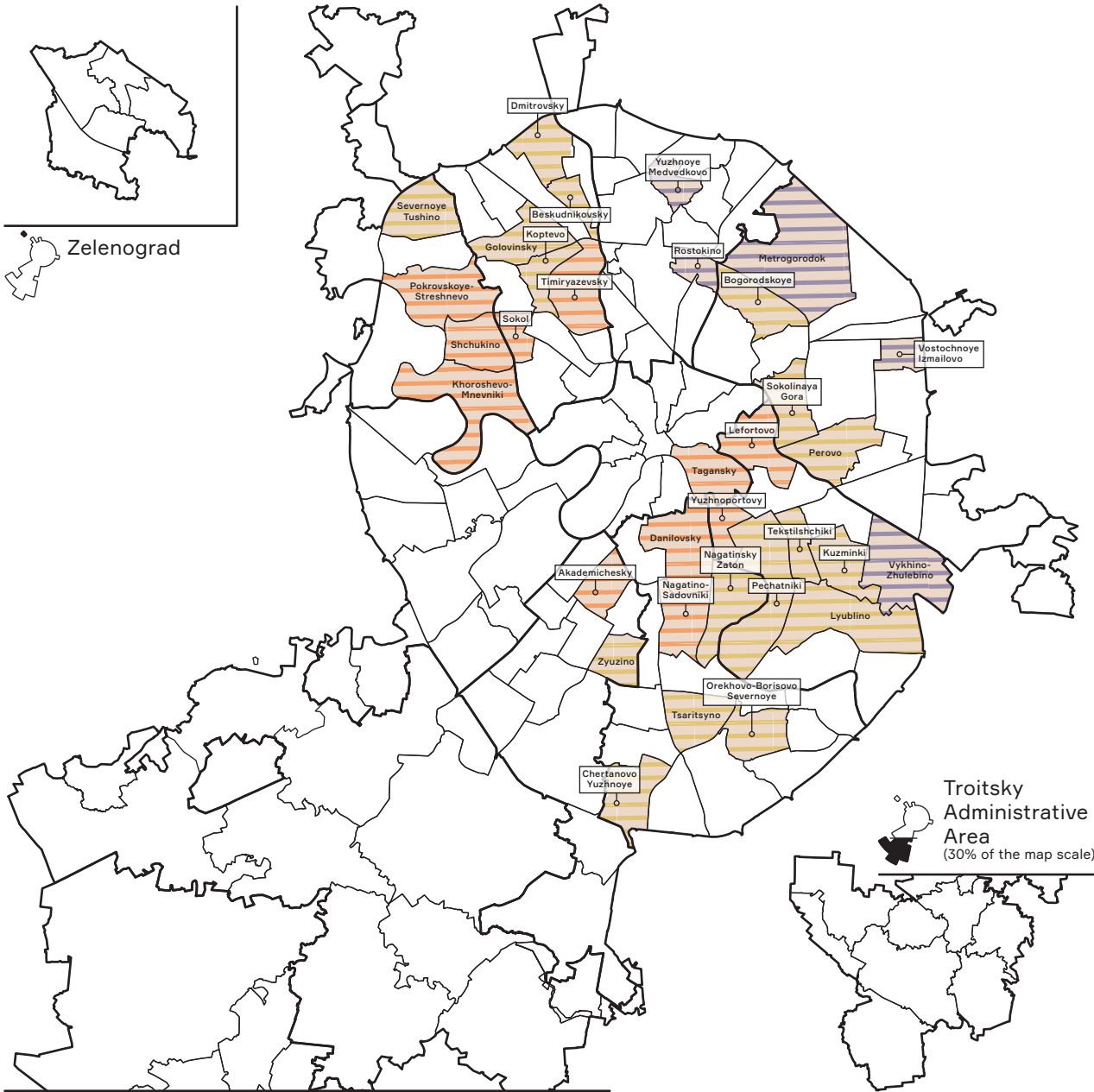


There is just one district in this group—Molzhaninovskiy. In terms of urban environment development, it is one of the most undeveloped and poorly maintained districts in the city. It falls behind in availability and quality of public health, education infrastructure, overall development of areas and 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)

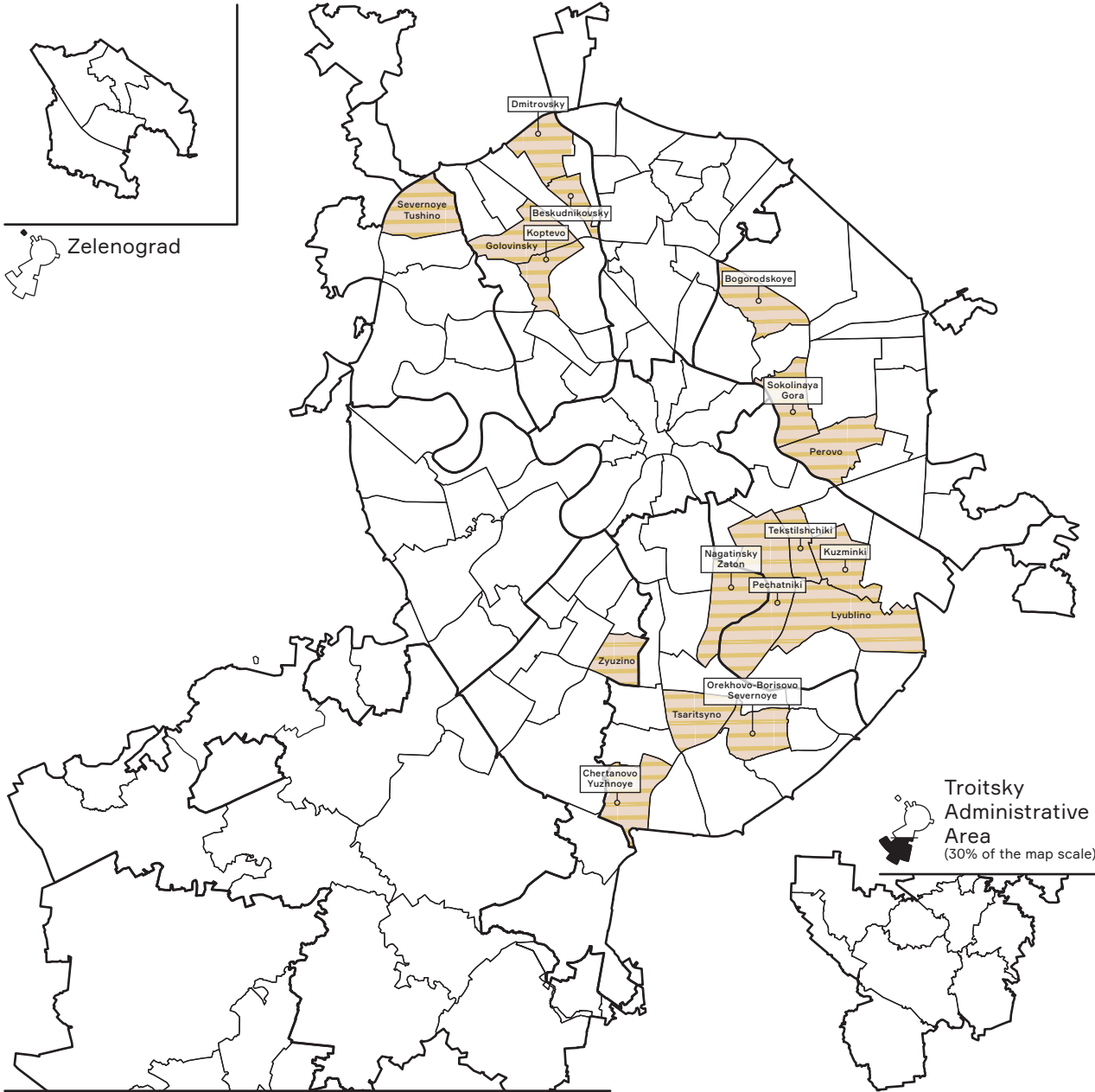
Number of districts in type	11	Share of all city districts	7.5%
Total area of districts (km²)	100	Share of the city's total area	4.0%
Total population of districts	1017648	Share of total population	8.7%
Average density of population (per./km²)	10164	Deviation from the average for the city	-5.0%



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)

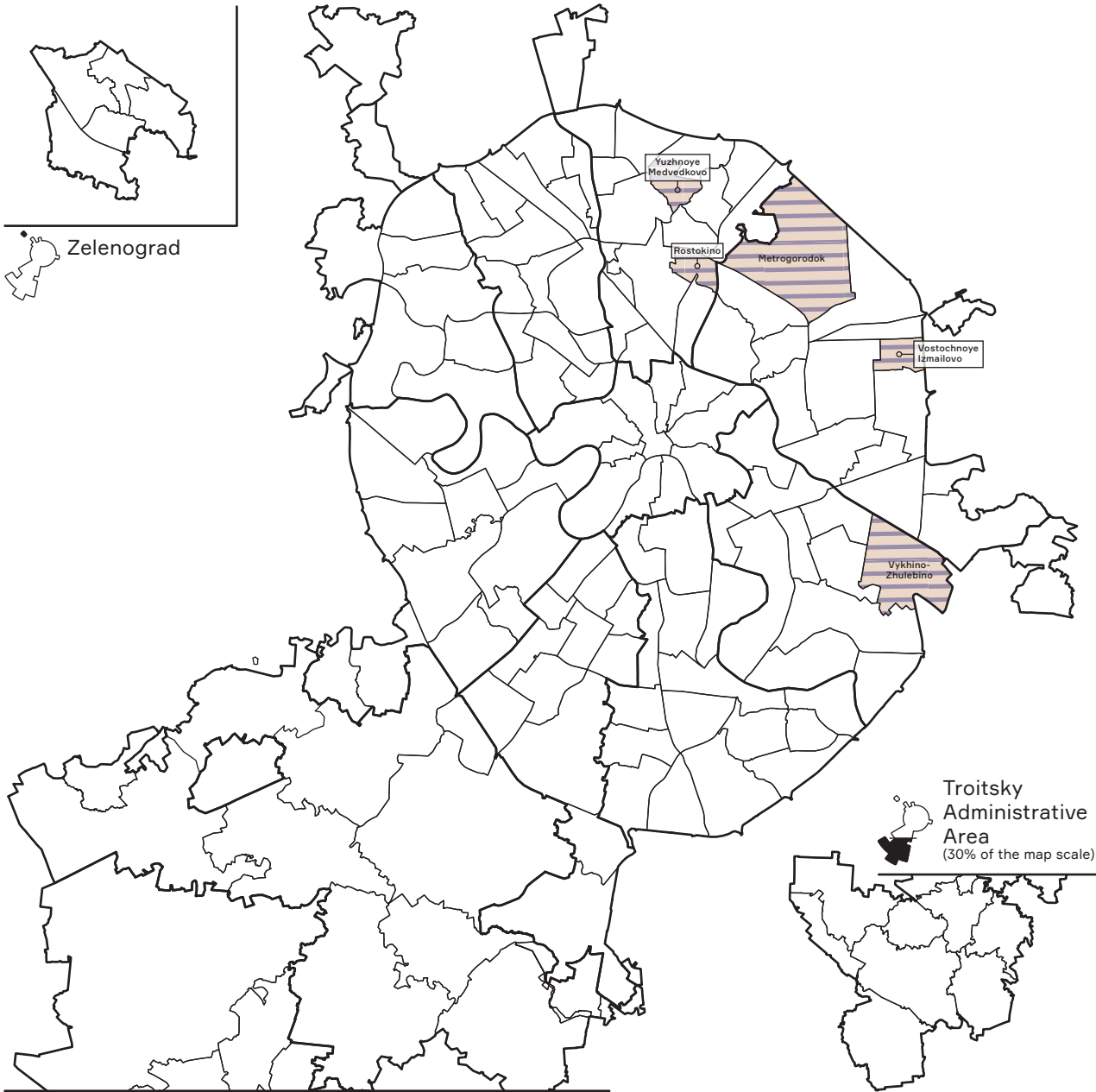
Number of districts in type	17	Share of all city districts	11.6%
Total area of districts (km²)	152	Share of the city’s total area	6.2%
Total population of districts	1974630	Share of total population	16.8%
Average density of population (per./km²)	12973	Deviation from the average for the city	21.2%



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)

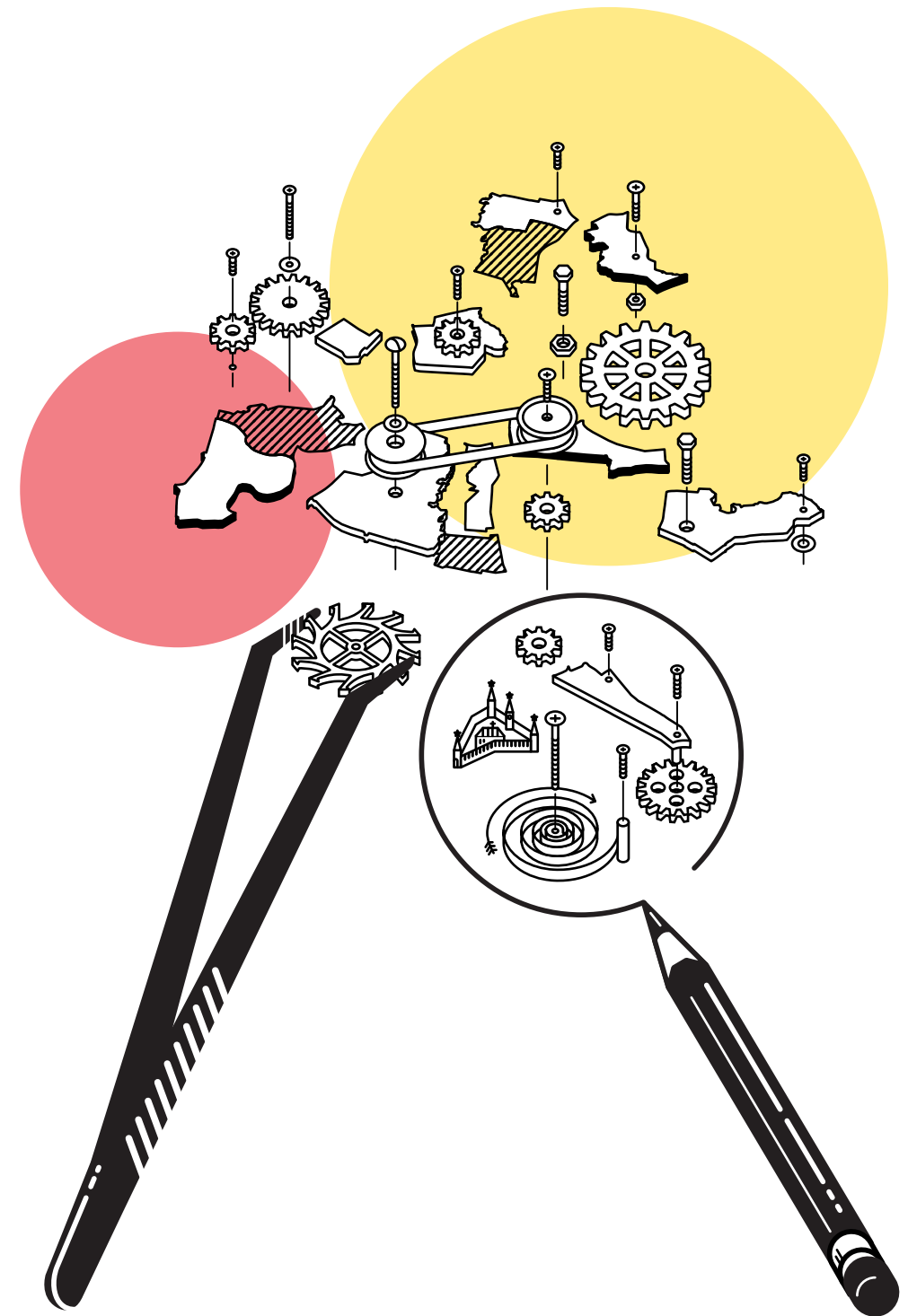
Number of districts in type	5	Share of all city districts	3.4%
Total area of districts (km²)	54	Share of the city’s total area	2.2%
Total population of districts	451583	Share of total population	3.8%
Average density of population (per./km²)	8392	Deviation from the average for the city	76.9%



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.

THE MECHANICS OF MOSCOW
RESEARCH INTO AN URBAN ENVIRONMENT

METHODOLOGY



SOCIOLOGICAL DATA

The survey data is required to reflect the differences between the different Moscow districts in terms of quality of living. To this end, the unit of representation in this case is neither the city as a whole nor an administrative area, but an individual district. In other words, the sample selection of the research provides accurate information regarding the inhabitants of each individual district (including districts within the Troitsky and Novomoskovsky Administrative Areas.)

The general bulk of the research was carried out among adults older than 18 years of age, resident in the city. The type of sampling that was used is a combined multi-staged stratified sampling, that represented the population of each district based on age and gender. The Russian National census was used to evaluate allocation by gender and age in each individual district.

During this stage of sociological information collection, two phases of telephone surveys were conducted: one in 2013 and one in 2015. The total sample size for each phase was 12 000 respondents. This allowed for a survey of approximately 80–120 people in every district depending on its size and population level. With samples of this size and the geographical distribution of the surveyed indicators, the standard margin of error for the average of the measured indicators for each district does not exceed 6%.

The survey was taken using the CATI (Computer Assisted Telephone Interview)—a telephone interview using specialized computer applications. The method of selecting telephone numbers (a detailed account of telephone number selection can be found in Appendix 1 “Telephone number selection for interviews”) mirrors the method for sampling households for the in-person interviews conducted at the residents’ apartments. The last stage of selection for the sample was the inclusion of a direct quota of respondents per household. The quotas of age and gender were calculated based on the Russian National census.

In conclusion, the sample of each district’s representation was generated using a sequence of steps for respondent selection. On the one hand telephone numbers for each district were generated on a random basis—which is an analogy of random selection from general complex elements—the standard model of selection. On the other hand, depending on the availability of certain respondent groups, age and gender quotas were introduced. This is because middle-aged men, for instance, are significantly less inclined to reply to surveys than elderly women, which in turn can skew the general picture we are developing. This can be avoided by using quotas, which limit representation of certain demographic groups in proportion to the whole sample.

STATISTICAL DATA

In addition to the sociological data that was collected by “The Mechanics of Moscow”, objective statistical data were also accumulated. Three sources were used for this:

1.
OFFICIAL PUBLICLY AVAILABLE
STATISTICAL INFORMATION

The essential source of information for this was data from the National Government Statistics Office.

- The demographic characteristics of each municipal district of Moscow were taken from “The Russian National census 2010.”
- Data about municipal areas, education and public health in municipal organizations was also used, all of which are available on the website of the Moscow Territorial Authority of the Federal Office of National Statistics—data.mos.ru.

2.
DATA PRESENTED BY THE NATIONAL AUTHORITIES

Main sources of this information:

- Chief Administration of Internal Affairs
- Moscow Department of Education
- Moscow Department of Culture

These first two sources presented a wide range of data on Moscow’s districts. The research document included data on crime with figures such as the total number of offences, total number of serious crimes and total number of crimes committed by minors, per 1000 people; as well as educational statistics such as the proportion of school graduates that received more than 220 points on their final exams or the proportion of graduates that only took the 3 mandatory exams.

3.
GEOGRAPHICAL POSITIONING STATISTICS

This research used Yandex.Maps and OpenStreetMap services to collect information.

- The Yandex.Maps service was mostly used for evaluation of traffic congestion and the overall transport situation in the district—i.e.: how long it takes to get to the center of the city when there are major traffic problems.
- OpenStreetMap was used for information about the district’s zones and their functionality, density of roads, existing commercial infrastructure, industrial zones, railway lines etc.

FACTOR ANALYSIS OF DATA

All of the collected sociological and statistical data were combined in a general mass of information, that included all values for the relevant variable in every district. Out of 800 statistical variables just under 700 were dismissed due to their non-informative nature.

In this single mass of assessment all variables were rationalized on a scale from 0 to 100, where 0 is the lowest value and 100 is the highest. This was done to ensure the comparability of variables taken at different levels (a more detailed description of nominating variables can be found in Appendix 3 “Standardization of values”).

The resulting data base contains about 150 variables, that measure the quality of the urban environment. However, each variable separately does not reflect the district’s development as a whole. So it was necessary to combine them into parameters, in order to evaluate the development of our 7 key elements of urban life in each individual district. This not only allowed us to aggregate information about the district’s development, but also simplifies comparison of districts to one another by reducing the amount of elements looked at.

There are several traditional methods of aggregating data used in sociological sciences. Often these indicators are combined and given a certain weighting. In actual research practice this weighting is assigned to the indicators by the researcher him/herself, based on the magnitude of the characteristic.

However this method is not appropriate for “The Mechanics of Moscow” project for a number of reasons. For instance: there is no way of saying what influences the element of safety in a district—is it the actual crime level, or a subjective view of danger or the quantity of industrial zones in the district? Therefore, it is critically important to first understand which aspects of the quality of urban living are related to each other thus creating stable correlations, only after that can the multiple variables be aggregated into parameters.

In other words, factor analysis reduces several variables to one. It also allows us to mathematically define the value of each variable in an assessment of aggregate figures (parameters) (More details on the assessment of the final parameters can be found in Appendix 4 “Factor Analysis”)

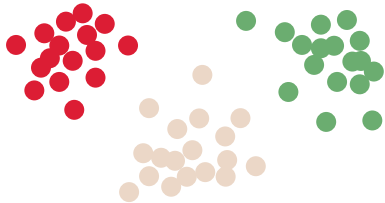
CLUSTER ANALYSIS

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.

APPENDICES

1.
TELEPHONE NUMBER SELECTION FOR INTERVIEWS

The selection of the telephone exchanges was carried out in the following way:

- 1. A sampling of 1000 telephone numbers (for each district) was made from the administrative areas telephone database, with a link to specific districts.
- 2. Telephone exchange area codes were then selected out of the bulk of telephone numbers that was received (for each district) and the number of telephone numbers relating to each exchange in the sample was then calculated.
- 3. Telephone exchanges with the most telephone numbers were then chosen for the survey.

After that, a random selection of land line telephone numbers that were connected to the sampled telephone exchanges was made.

Each of the random telephone numbers was generated according the following algorithm:

$$T = 8 \cdot CCC \cdot SSS \cdot (N_{min} + RND \times (N_{max} - N_{min}))$$

where: T — 11 digit random telephone number in the ABC—notation;

CCC — Three digit area code for Moscow—495 or 499;

SSS — three digit telephone exchange code;

N_{min}, N_{max} — minimal and maximal 4 digit telephone number out of the exchange sample SSS;

RND — operator for generating an even distribution of a random number from 0-1;

· — operator of concatenation ('linking' of symbols).

Each group of telephone exchanges generated 10 000 random telephone numbers, distributed amongst the various telephone exchanges included in the sample.

2.
THE METHOD FOR SAMPLING RESPONDENTS FOR
IN-PERSON APARTMENT BASED INTERVIEWS

In the districts of Molzhaninovsky, Northern, Eastern, Moskovsky, Kokoshkino, Shcherbinka, Kiyevsky and Troitsk the survey was conducted through in-person interviews in residents' homes. The reason for this was the limited access to telephone networks in these districts.

To bring the sampling of in-person interviews as close to the telephone sampling as possible, we used the following procedures:

- Quota of residents created on the same principal as the telephone survey.
- Randomizing the respondent selection in each quota by creating route lists.

The volume of sampling for in person surveys: 601 people.

In person interviews were held in line with a stratified multistep territorial cluster sampling of households. The assigned quotas for two factors (gender and age) were formulated based on the statistical census data of Moscow districts.

Household selection for the survey was undertaken using the route method for a specific sampled district that each interviewer took responsibility for, while taking into account the storey-height of the building. One person in each selected household was interviewed.

These route lists included:

- the sampling step of households;
- starting point of route;
- starting point of route.

	Quotas (people)	Quantity of people per interviewer
Men	14	} 30
Women	16	
18-34 y.o.	10	} 30
35-54 y.o.	11	
55 and older	9	

Sampling step of households	
1-3 story buildings	1 (visiting every apartment)
4-5 story buildings	3 (visiting every third apartment)
higher than 5 stories	5 (visiting every fifth apartment)

3.
STANDARDIZATION OF VALUES

Standardization of values is called for to even out the difference between measurement units of different values. This operation was carried out the following way: maximum and minimum values were calculated for each district, 100 and 0, accordingly. Minimal values were then subtracted from the total values and the result was divided by the difference between minimal and maximum values and multiplied by 100. This calculation was done based on the following formula:

$$P_{\text{end}} = (P - P_{\text{min}}) / (P_{\text{max}} - P_{\text{min}}) \times 100$$

where P — initial value of the variable

P_{min} — minimal value of the variable in the total

P_{max} — maximum value of the variable in the total

P_{end} — resulting value of the standardized variable

4.
FACTOR ANALYSIS

The methodology of statistical analysis follows a procedure for reducing the size of n-measurement space (where n is the number of initial indicators) by analyzing the main components.

Factor analysis can be obtained with a number of statistical software packages, such as SPSS. It is used to simplify the complex information contained in the multiple observed variables by systematically reducing them down to a lower number of latent, unobserved variables called factors.

Defining the number of factors was based on the Kaiser criterion where the individual value of the factor matrix has to equal 1. Furthermore, an additional condition needed to be met: the volume of the described distribution of initial values is required to be no lower than 55%.

The interpretation of variables was done based on the indicated correlations between factors and initial values. The higher the value of the correlation coefficient module, the stronger the link between initial values and the designated factor. Conversely, if the value of the correlation coefficient is close to zero, then there is no link between the value and the factor. The correlation coefficient character shows the extent to which values and factors are directly proportional or inversely proportional to each other.

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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Director	Maria Privalova
Deputy Director	Alina Bogatkova
Address	107031, Moscow, Petrovka, 23/10 bldg. 5, 2nd floor +7 (495) 628–02–27 info@miscp.ru miscp.ru

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