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PROBLEMS IN GEODEMOGRAPHIC RESEARCH IN POST-SOVIET RUSSIA (AT THE EXAMPLE OF KURSK CITY)

Kazakov S. G., Charczenko A. O., Czernyszew A. A. **Problemy badań geodemograficznych w poradzieckiej Rosji (na przykładzie Kurska)**. Omówiono różne znaczenia pojęcia „geodemografia”, funkcjonujące zarówno w nauce rosyjskiej, jak i anglojęzycznej. Zaproponowano metodykę analizy geodemograficznej na przykładzie Kurska – typowego miasta europejskiej części Rosji. Wykazano, że w realiach poradzieckich jest praktycznie niemożliwe powtórzenie prób stworzenia klasyfikacji systemów geodemograficznych klasyfikacji konsumentów, opracowanych w innych państwach. Omówiono przykład za-stosowania regionalizacji wernakularnej w badaniach geodemograficznych.

Казаков С. Г., Харченко А. О., Чернышев А. А. **Проблемы геодемографических исследований в пост-советской России (на примере г. Курска)**. В работе рассматриваются различные подходы к пониманию термина „геодемография”, сложившиеся в российской и англоязычной науке. На примере типичного города Европейской России – Курска, предлагается методика геодемографического анализа. Доказывается, что в пост-советских реалиях практически невозможно повторить опыт создания геодемографических систем классификации потребителей, накопленный в зарубежных государствах. Рассматривается вариант использования вернакулярного районирования в геодемографических исследованиях.

Key words: geodemographics, vernacular district, GIS, systems of consumer classification, Kursk

Słowa kluczowe: geodemografia, regiony wernakularne, GIS, systemy klasyfikacji konsumentów, Kursk

Ключевые слова: геодемография, вернакулярные районы, ГИС, системы классификации потребителей, Курск

Abstract

The paper covers various approaches to understanding of the term *geodemography*, adopted in both Russian and English-speaking scientific societies. A specific technique of geodemographic analysis is suggested at the example of a typical city in European Russia named Kursk. The authors prove it to be almost impossible to apply the experience of creating geodemographic systems of consumer classification gained in foreign countries to the post-Soviet reality. The option of using vernacular zoning in geodemographic research is considered.

INTRODUCTION

Unfortunately, domestic and foreign scientific traditions have developed different approaches to understanding of the term *geodemography* that sometimes causes confusion when dealing with non-native sources and materials. When it comes to Russia, G. M. Fedorov has been the leading researcher in the

field of geodemography for several decades. In one of his latest works, he gives the following definition: “Geodemography is a scientific discipline ... [which] provides a comprehensive study of the regional characteristics of demographic processes conditioned by both internal (demographic) and external (economic, population distribution, social, ethnic, environmental, political) factors” (FEDOROV, 2014, transl. by S. G. Kazakov). Virtually the same understanding of this branch of knowledge is shown by other Russian geographers and economists (KUZNETSOVA, 2008; KUNITSA, 2009; GABDRAKHMANOV, 2012).

However, A. Igonin in his works has proposed to replace the term *geodemography* with a more, in our opinion, correct one – *demogeography* (IGONIN, 2011). Such an option, first, does not conflict with the concept which is already common in the world of science, and secondly, better defines the place of this branch in the sciences, because intuitively *geodemography* is understood as part of the demographics, while *demogeography* is a branch of social geography.

In English scientific literature *geodemography* or *geodemographics* is defined as one of the areas of geomarketing, which studies the relationship between people's living within a compact geographical area and the presence in them of similar demographic characteristics that distinguish them from those living in other places. Often this research area is referred to using a more awkward synonymous phrase *neighbourhood analysis* (HARRIS, SLEIGHT, WEBBER, 2005).

Geodemography is based on a highly arguable (even for America) assumption that the district of one's habitation can more or less accurately determine one's social status, lifestyle, habits and consumer preferences (SLEIGHT, 2004).

METHODS

There is naturally a wide variety of research methodologies that distinguish and describe social clusters (such as "white wealthy conservative managers, retired, having grown-up children and living in townhouses"), which, according to expert geodemographers, prevail in a particular urban or rural area. For the convenience of data collection and processing each district is distinguished based on the postal code (in the US – zip code) or, rarely, on the census area.

It is believed that geodemography emerged in the UK more than a hundred years ago, with Charles Booth as the ancestor, who at the beginning of the 20th century conducted a study on the distribution of the poor in London. Based on the data of the British census of 1891, Booth held the first classification of districts or neighborhoods, identified and mapped the areas of residence of 9 different social classes within the city.

The first experience of practical geodemographic research dates back to the 1970s, when the United States Navy was faced with recruitment problems. Naval analysts used the data of the US census to detect the areas of high concentration of young males. Having specified their place of residence by states, cities and regions, the US Navy staff conducted a campaign in these regions.

In the UK geodemography was introduced in 1979 with the advent of ACORN classification (classification of the population by districts) which was a geodemographic system based on census data. The system considered 54 types of population within 17 specific groups. The basis for that was the assumption that people who live in the same areas, in connection with their place of residence and background, may have similar behavioral and consumer characteristics as well as lifestyle in general. Thus manufac-

turing companies and service providers got an opportunity to focus on customers who live in similar regions (VICKERS, REES, BIRKIN, 2005).

Studies by sociologists of Chicago school reinforced the idea of existence of "natural areas" within cities with homogeneous socioeconomic and cultural characteristics. An increase in the quality of census results as well as the emergence of technical capabilities of using data to identify regularities in the distribution of people significantly raised the interest in geodemography. An important stage in the development of geodemography is the introduction of cluster analysis to identify and group similar areas or neighborhoods on the principle "similar to similar."

With the widespread introduction of geographic information systems (GIS) geodemographic research turned into an effective tool for geomarketing analysis. Based on GIS, there emerged a new class of information systems – geodemographic consumer segmentation systems. These systems are based on the principle which claims that "people are determined by the place where they live." Nowadays, almost all the countries in Europe and North America, parts of China, Japan, and Australia are covered by one or more of these geodemographic systems.

Appearing in the early 1980s, consumer segmentation systems divided consumers into 8–10 classes with simple geodemographic characteristics. Today, some systems segment consumers into more than 60 categories and offer not only fundamental information about the segment (average age, income, family composition, etc.), but also detailed information about the behavioral characteristics and consumer preferences (frequency of trips to the amusement park, preferable car brand, the number of hours spent watching television, etc.). Certainly, in addition to this the data providers offer detailed information on where these segments reside at the level of postal codes. Conversely, having a zip code, one can find out about dominating segments.

The greatest success in organization and promotion of one's own consumer segmentation system has been ESRI company, the market leader in geographic information technologies. Its "Community Tapestry" customer classification provides data on consumer preferences and behavior of a certain segment on 35 categories (nutrition, clothing choices, travel, cars, etc.), each of them having an indexed set of relations of the segment to any product or service. These relations are shown in comparison with the national average, having an index of 100. For example, the index of 120 means that this segment is 20% more inclined to do, to buy, or own something, than the average American.

RESULTS AND DISCUSSION

Today consumer segmentation systems based on GIS are actively developed in many countries, especially in the US, Canada, Western Europe and Australia. Unfortunately, in Russia the methods of geodemography are still very poorly understood and have hardly any wide practical application.

In our opinion, this can be explained by several reasons.

The first and perhaps most important reason is poor segregation of the population by economic (income level) and social (education level, lifestyle, etc.) indicators.

In large cities (and especially in Moscow) in the last two post-Soviet decades there have clearly formed some typical "Western" features of segregated distribution of population, a good example of which are the suburban cottage villages of the so-called "new Russians"¹. However, even in Russian cities with a population of one million or more the features of the Soviet egalitarianism still dominate in urban development and district planning.

Let us consider the causes and consequences of such urban planning decisions at the example of Kursk – a typical regional center in the European part of Russia with a population of about 420,000 people, located 500 kilometers south of Moscow.

Although Kursk was founded in the pre-Mongol period² of Russian history, its development began in the early 16th century, due to the strengthening of the southern borders of Muscovy. Around the citadel, built on a hill, settlements ("slobodas") of servicemen were established – Cossacks, musketeers, gunners, who, as a reward for their service in this border town, got a small plot of land. Perhaps, in the normal course of Russian history, the tax burden would have made it impossible to actually exist in the city center (within walking distance of the historic hill) leading a village lifestyle in private houses with gardens and domestic animals. However, the socialist revolution of 1917, paradoxically, preserved such a plan of Kursk (fig. 1).

Soviet interpretation of the Marxist theory of value has led to the fact that in the economies of the socialist type all the lands (and other natural resources) were provided to the users essentially for free. The

consequences of such an interpretation of Marxism were quite predictable. Handling the earth as a free commodity stroke a blow against its rational use. Expensive (by market standards) land in the city center was used for individual housing construction by people of all social strata considering the fact that there was little difference in income levels of wealthy and poor citizens under socialism.

After World War II, when a period of rapid industrial construction started, it was cheaper to reallocate neighbouring agricultural lands for new urban districts and industrial enterprises than to demolish farmstead estate adjacent to the center of Kursk. As a result, during the 1950–1970s the area of the city increased significantly. Next to the former settlements of Cossacks and musketeers there appeared a vast zone of so-called "Khrushchevkas"³ – cheap panel five-storey buildings with tiny apartments and no elevators (photo 1). However, no fundamental differences in consumer preferences among residents of Kursk could be observed, as there was no population redistribution. Khrushchevkas were inhabited by villagers as a result of a strong urbanization wave associated with the Soviet agrarian reform. Former villagers who had moved to apartment buildings hardly differed from autochthonous citizens of Kursk living in the city center in a private house with a garden 5 of acres, accustomed to keep chickens, goats, and often pigs. Citizens in the first generation stocked food supplies for winter in the form of home preservation; almost all of them cultivated potatoes on their land allotments in the countryside, considering it a guarantee of food security for the family in the conditions of the Soviet economy deficit.

The first significant differences in consumer behavior that could be observed with the help of geodemographic methods began to emerge in the late Soviet period, when behind blocks of Khrushchevkas quite a few quarters of more comfortable 9-storey apartment houses were constructed (photo 2).

Some of them were built on cooperative principles and included apartments of private ownership, rather than municipal ownership, which suggested people's having a large sum of money to be able to buy them. Thus, groups of population with higher levels of income began to secede geographically. The remoteness of these districts from the city center and, as a consequence, from the greater part of the social infrastructure, as well as insufficient level of motorization did not allow these areas to obtain the sta-

¹ The term "new Russian" came into use in the 1990s to refer to people who quickly got wealthy, most often using criminal economic transactions.

² The first recorded mention of the city relates to 1032, but in the 13th century the city was destroyed by the Mongols and the surrounding area for nearly two centuries was called "Wild Field" because of its extremely weak economic development.

³ The type of housing named after Soviet leader Nikita Khrushchev, who initiated the company for the construction of mass low-cost housing.

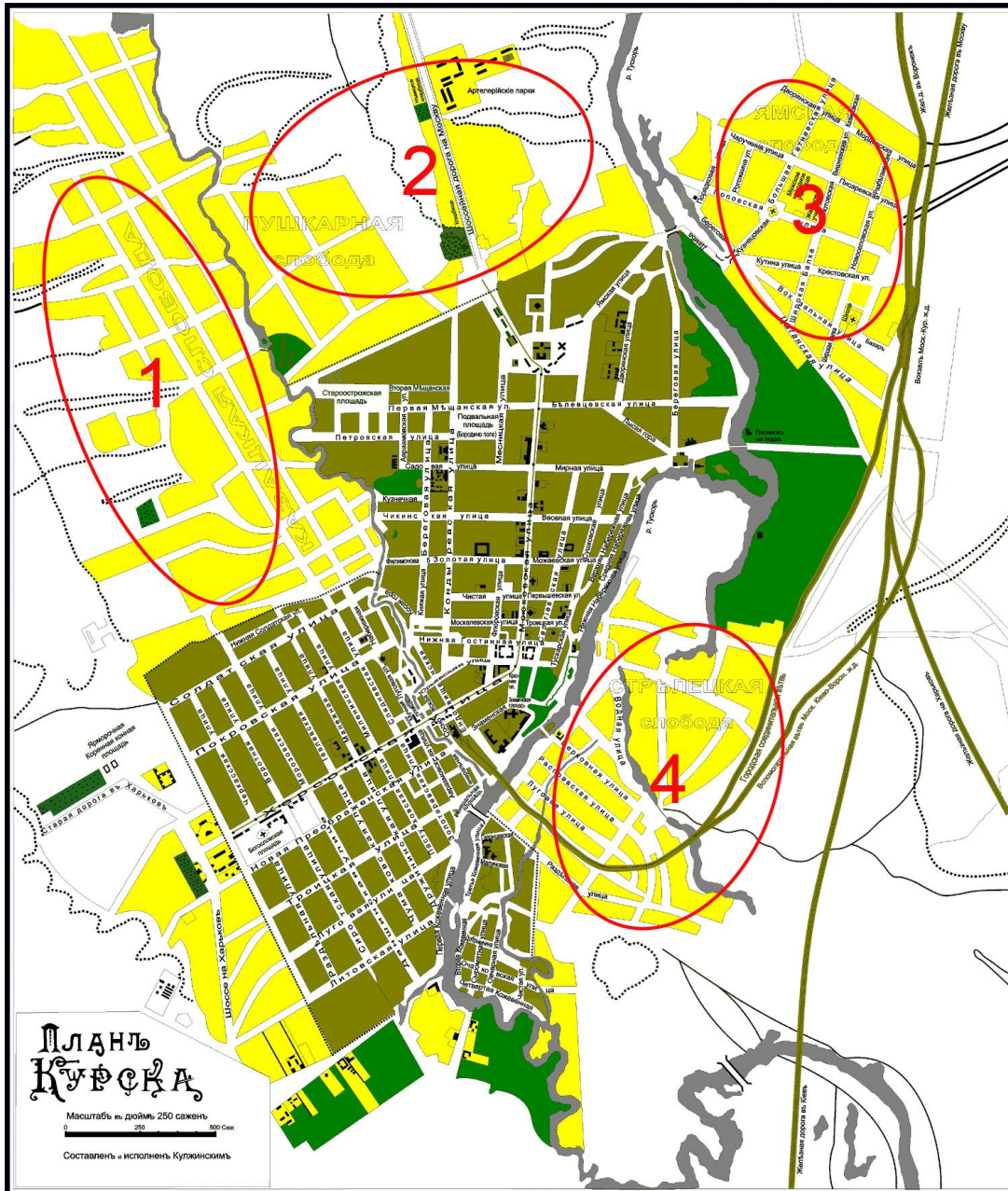


Fig.1. Plan of Kursk (the second half of the XIX century). Kursk slobodas are around of the town center:
 1 – Kazatskaya Sloboda, 2 – Pushkarnaya Sloboda, 3 – Yamskaya Sloboda, 4 – Streletskaia Sloboda
 Rys. 1. Plan Kurska (druga połowa XIX wieku). Kurskie slobody wokół centralnej części miasta:
 1 – Kazackaja, 2 – Puszkarnejaja, 3 – Jamskaja, 4 – Strieleckaja

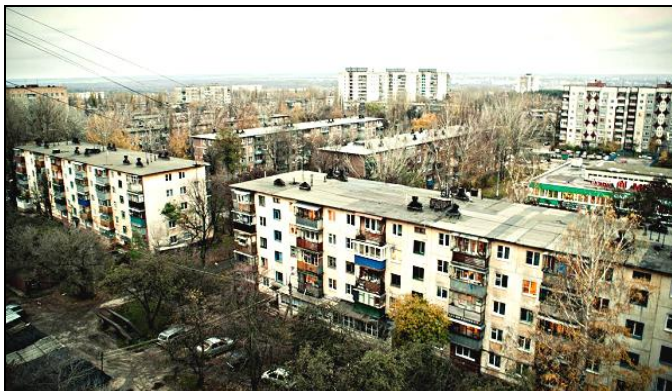


Photo 1. Workers margin of Kursk. In the foreground are five-storey "Khrushchevkas", in the background are the late Soviet 9-storey building (phot. by A. A. Chernyshev)
 Fot. 1. Robotnicze dzielnice Kurska. Na pierwszym planie 4-piętrowe „chruszczowki”, na drugim - poradzkie 8-piętrowe bloki mieszkalne (fot. A. A. Czernyszew)

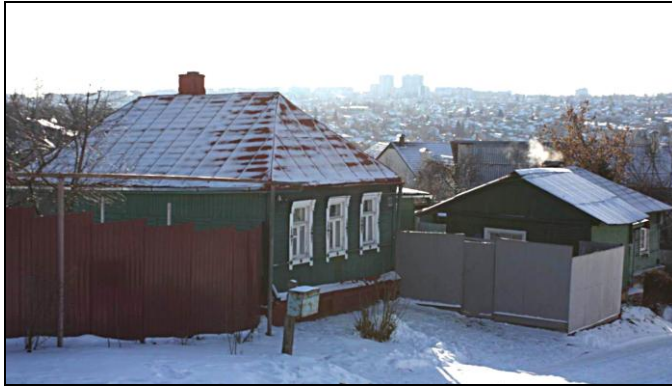


Photo. 2. Zone of apartment buildings has been built over the former sloboda (phot. by A. A. Chernyshev)

Fot. 2. Dzielnica wielopiętrowych bloków zbudowanych za dawną slobodą (fot. A. A. Czernyszew)

tus of prestige habitat. The 1990s radical economic reforms resulted in the fact that most active young residents moved to new suburban detached house

settlements, or to prestigious penthouses in the city center which were built by violation of town planning rules (fig. 2).

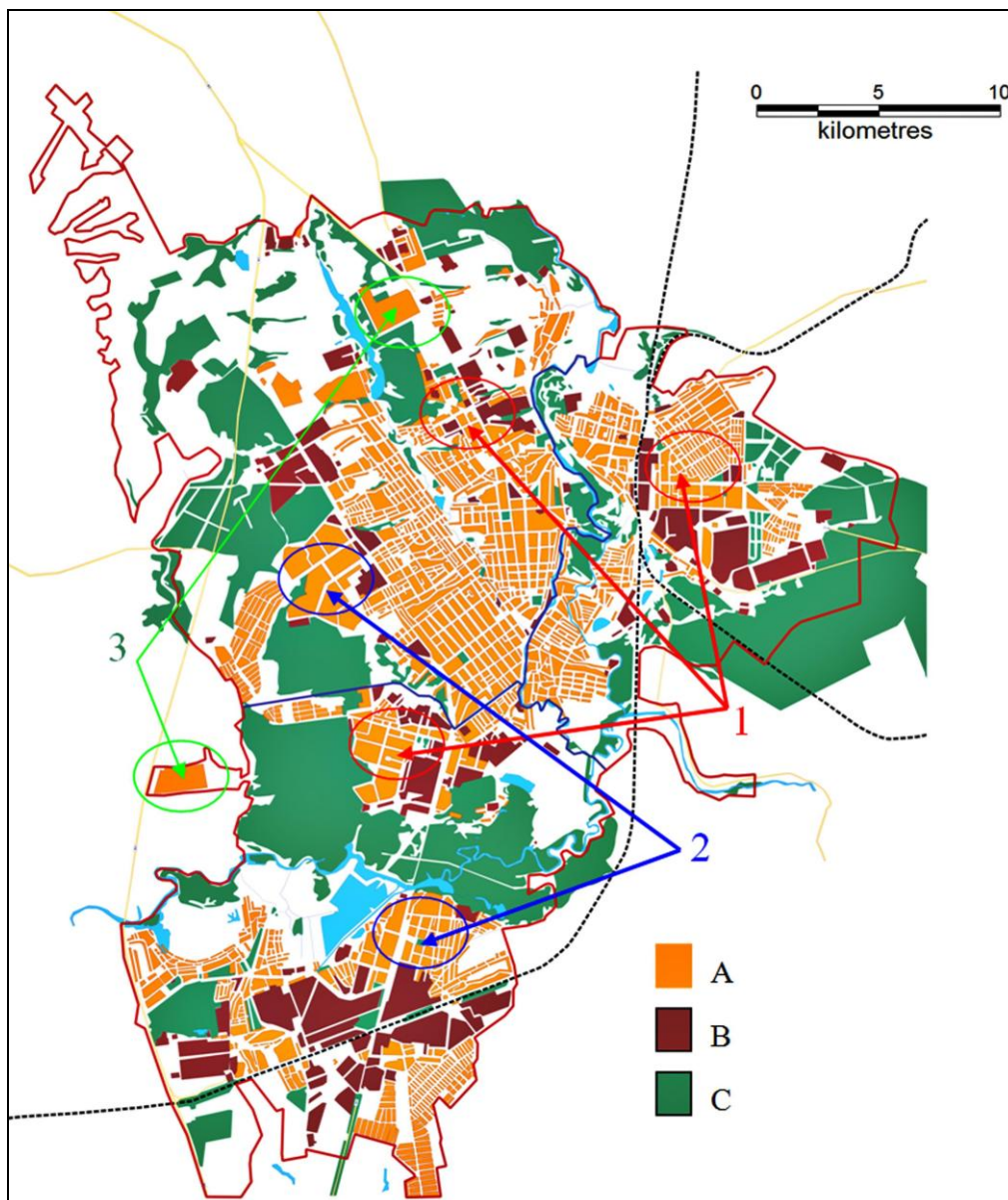


Fig. 2. Architectural differentiation of Kursk areas:

1 – areas of "Khrushchevkas" (the construction of 1950–1970s),

2 – areas of late Soviet period 9-storey buildings (1980th.), 3 – the post-Soviet elite cottage villages;

A – residential areas, B – industrial zones, C – greenbelt

Rys. 2. Zróżnicowanie architektoniczne Kurska:

1 – tereny zajęte przez „chruszczowki” (okres budowy: lata 1950–1970.), 2 –

dzielnice radzieckich bloków 8-piętrowych (lata 1980.), 3 – luksusowe poradzickie osiedla willowe;

A – dzielnice mieszkaniowe, B – strefy przemysłowe, C – strefy leśno-parkowe

It should be noted that in post-Soviet Russia, paradoxically, suburbanization and gentrification took place simultaneously, because at the time when these processes consistently occurred in Western countries they were impossible in Russia for ideological reasons. So residents of 9-storey apartment houses built in the late Soviet period were highly skilled workers close to retirement age.

In recent time, changes have touched upon the social composition of residents of the former *slobodas*⁴ – professional settlements of Kursk. Among the owners of small and medium-sized businesses who cannot afford to build a giant mansion in the elite suburban neighborhoods where major regional and city officials live, it has become fashionable to buy a stead of land with a cottage built in the post-war period and remake it into a two-storey house. But these buildings continue to coexist with dilapidated housing of indigenous settlers, representing a very mixed architectural pattern that prevents clear identification of the geodemographic consumer type (photo 3).



Photo 3. New cottages continue to coexist with dilapidated housing, representing a very mixed architectural pattern (phot. by A. A. Chernyshev)

Fot. 3. Nowe wille sąsiadują ze starymi domami, tworząc bardzo zróżnicowany (pstrokaty) obraz architektoniczny (fot. A. A. Czernyszew)

The logic of geodemographic analysis requires and characteristics of residence, which within the city means first of all the dichotomy "apartment in a building vs. private house."

It should be noted that Russian statistics does not take into account the micro-geography of the city. Finding information on the number and quality

⁴ Sloboda used to be a kind of settlement in the history of Russia. The name is derived from the early Slavic word for "freedom" and may be vaguely translated as "free settlement". The population of slobodas consisted of people of nearly the same profession (for example, musketeers) who got land from the state for their service and didn't have to pay taxes. Handicrafts, trade and public service ensured prosperity of slobodas.

of the population in small territorial units such as neighborhood or district is impossible for many official sources. Using official data in the context of the three administrative districts of Kursk for the geodemographic analysis does not make sense due to the inadequacy of such information for handling large-scale studies.

To differentiate intra-urban living conditions, we used a grid of polling stations. The biggest drawback of this information is the lack of data on children under the age of 18, but for our purposes it was, first of all, not really significant, and secondly, it could be easily corrected by means of extrapolation with an allowable error.

Minor significance of the above-mentioned kind of data is determined by the fact that we are interested not as much in the exact number of people living at a specific site, as in understanding the features of the area in terms of architecture. The point is that polling stations are allocated so that each of them has about 3,000 voters. Accordingly, the construction of intra-city population density maps in the context of the polling stations at once shows:

- a) small areas with a high population density (there are only a few high-rise buildings, which are home to the necessary 3,000 voters);
- b) sufficiently vast areas of low population density, which are streets with private households (fig. 3).

As already mentioned above, in terms of relative homogeneity of the population of the city in social and ethnic composition there was an opportunity to conduct extrapolation, where with the help of GIS technologies we could add 17% (that is the average percentage of children under 18 in the city) to the number of electors in each area and get the approximate number of inhabitants of territories under study. An exception should be made only for specialized polling station types like hospitals, military units, detention centers, etc., but they are virtually indistinguishable on the map because of their small area.

Such architectural differentiation which specifies the location of potential customers may be of interest to decision making in geomarketing, for example, for location of retail enterprises of different sizes (POPKOVA, KAZAKOV, GOLOBOVA, 2014), as D. HUFF (1963) proved that the attractiveness of a supermarket is directly proportional to the square of the sales area and inversely proportional to the distance which the buyer has to cover to get there.

However, to specify the consumer type and to create a Russian analogue of consumer segmentation systems such differentiation seems overly fractional. Trying to use postal codes to create a consumer segmentation grid, which is common practice in the US,

did not give the desired result. As you can see in fig. 4, the borders of postal districts in Kursk often do not take into account the features of modern site development, because, unlike the electoral districts

which are changing their boundaries almost before every federal election, they have remained stable for decades and they have to cover not only residential zones but also industrial sites.

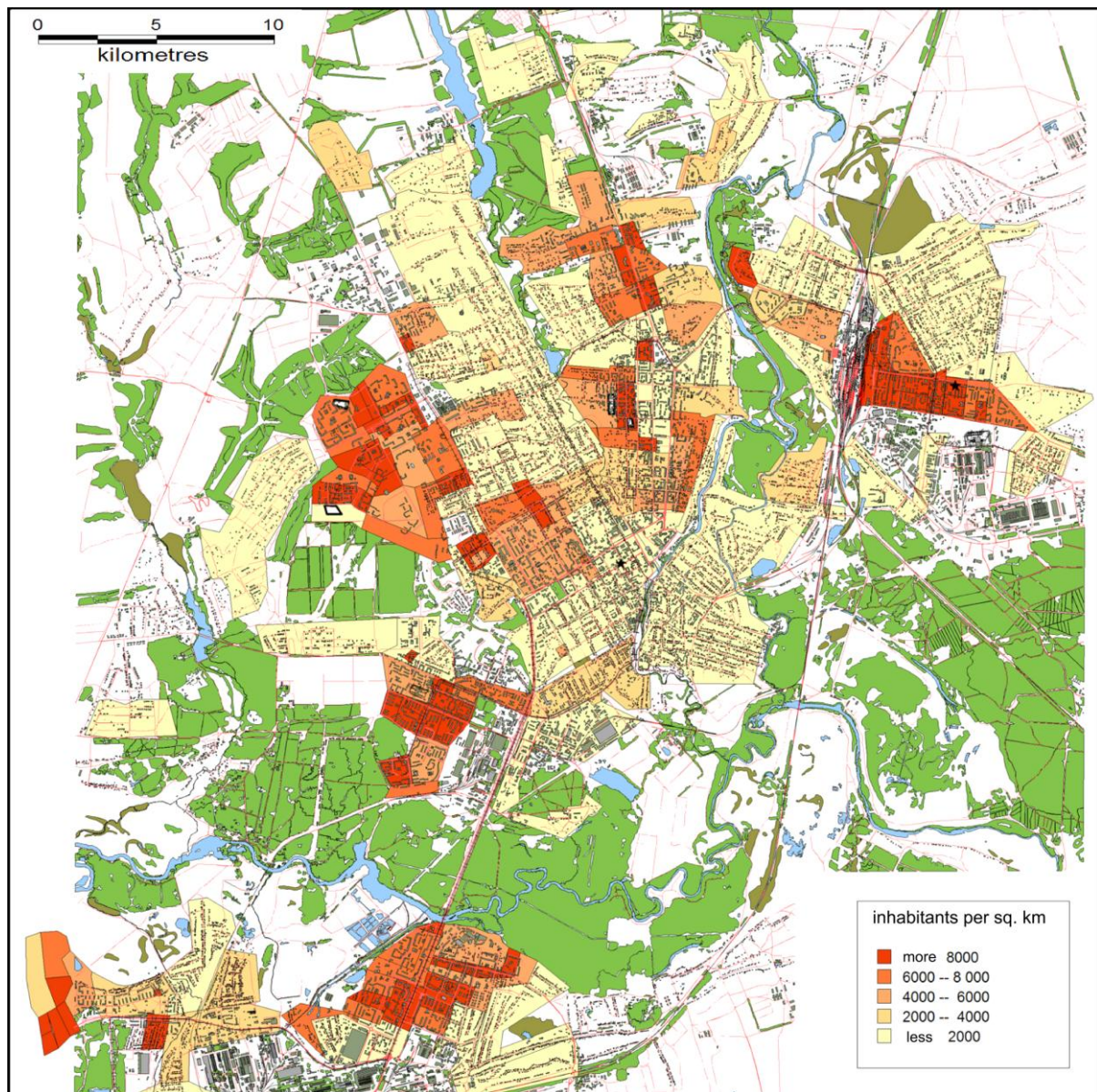


Fig. 3. Map of population density in the context of the Kursk polling stations
 Rys. 3. Gęstość zaludnienia na obszarze Kurska wg okręgów wyborczych

CONCLUSIONS AND RECOMMENDATIONS

As an intermediate conclusion, we put forward the following thesis: in the realities of a typical Russian middle-sized city with poorly developed property segregation, ethnic homogeneity and lack of sufficient statistical information database it is almost impossible to adopt the practice of creating customer segmentation systems common for many other countries.

To solve all the above-stated problems, we propose to use vernacular zoning as a customer segmentation grid in Russia.

Vernacular zoning is understood as perception of urban space by the citizens, so that the focus of consideration are not the characteristics of the territory or people living in a given area (reality), but the perception of these characteristics by the city residents (perception of reality).

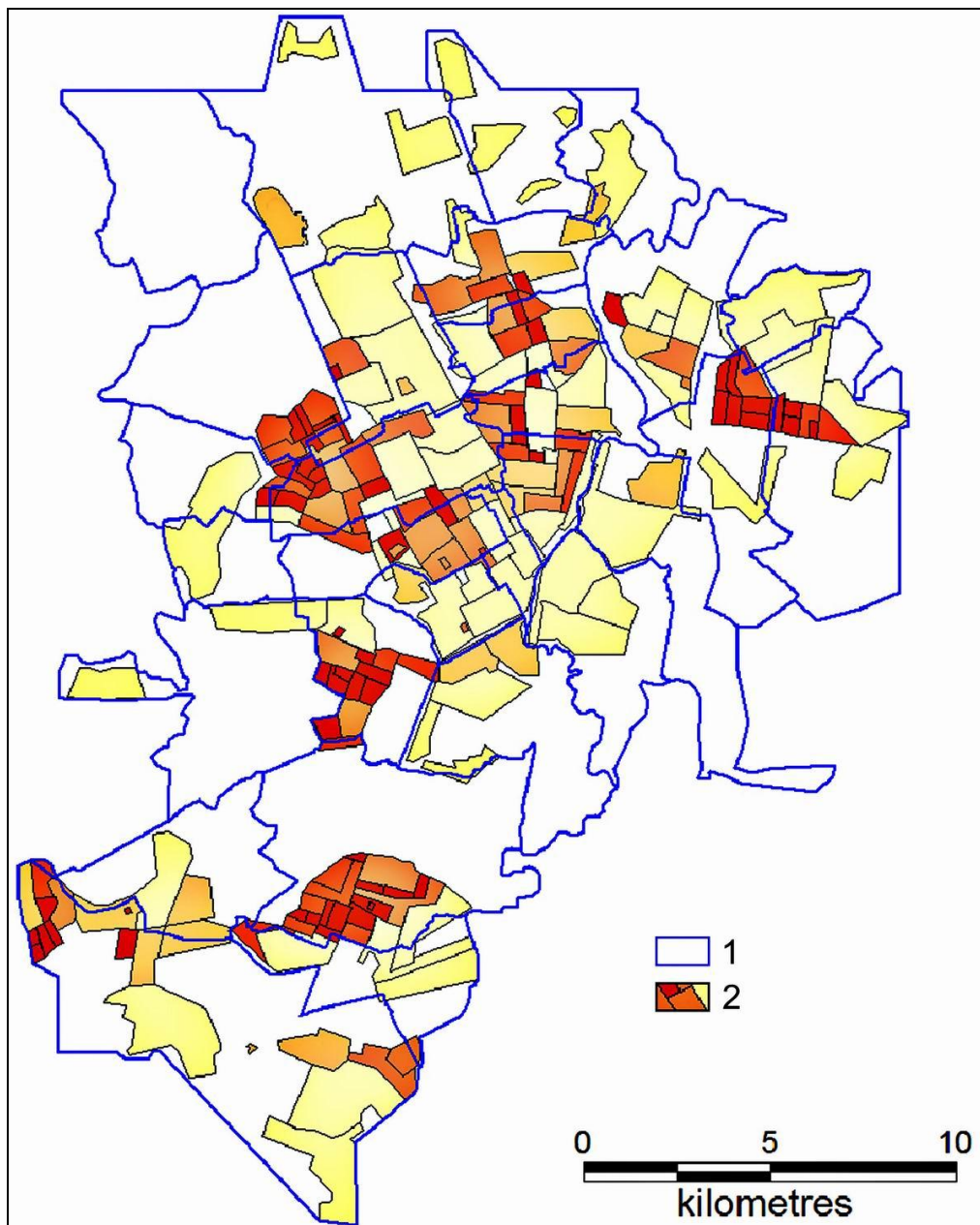


Fig. 4. The borders of postal districts in Kursk do not take into account the features of modern site development: 1 – borders of postal districts, 2 – polling stations (see legend in fig. 3).
 Rys. 4. Granice oddziałów pocztowych w Kursku nie uwzględniają cech współczesnej zabudowy: 1 – granice oddziałów pocztowych, 2 – okręgi wyborcze (por. legendy na rys. 3)

Vernacular zones are areas distinguished by the inhabitants of the area. These areas are objectively existent in the minds of citizens and affect their behavior (preferences for living, self-identity, etc.) (PAVLYUK, 2006). This takes into account almost all the factors necessary for geodemographic analysis.

Vernacular zones are objective; they develop in the minds of a group of people, a community. There often are natural, historical, functional, social, economic and other reasons for their appearance and existence.

To identify vernacular zones of Kursk we conducted a survey of the population (KAZAKOV, 2009). Its objective was to show intra-city structure in the perception of Kursk citizens. This is the data which

should be primarily considered by researchers and city authorities.

The questionnaires contained two sets of questions. The first part concerned the identification of vernacular zones and their boundaries. It consisted of three questions:

- What is this area of the city called informally?
- What other informal areas of the city do you know?
- Can you indicate the approximate boundaries of the area where you live?

The second part of questions aimed to explore the vision of the city and its internal structure by its citizens. The answers to some questions ("Do you like / dislike this area?", "Why do you like / dislike this area?") were initially, when planning the study, classi-

fied as "mediated by subjective personal qualities of the respondent". They were extremely important, but required verification based on the "feedback loops" method ("Which area of town would you like to live in?"). Very often the respondents replied that they liked the area (for a lot of reasons: they grew up here, got used to it, etc.), but, nevertheless, they would prefer to live in another area. Thus we analyzed the level of preferences and the degree of prestige of this or that vernacular zone.

Having processed the questionnaires, we were able to distinguish more than 20 areas of the city that objectively exist in the minds of the citizens, but are neither reflected in official documents nor captured by statistics.

Kursk citizens know a lot of vernacular names, usually of their own and the adjacent areas of residence, as well as the areas which are the most important for the functioning of the city.

Toponyms have different origins: a purely geographical one, according to the cardinal points and the position on the map of the city (North-West, New South-West), a historical one (Streletskaya, Kazatskaya, Pushkarnaya, Yamskaya⁵ – by names of professional settlements which surrounded the Kursk citadel), or based on earlier place names, names of villages, which were taken over by the city, as well as on infrastructure, industrial, social and other landmarks.

The revealed vernacular differentiation of space does not cover the whole Kursk city with a solid grid of areas. There are areas that can be included in the transitional, peripheral or "controversial" areas (the respondents' opinions about the inclusion of some city blocks into one or another area sometimes do not coincide); probably more research is needed in such areas. Approximately 6% of residential areas of the city were not related to any vernacular zone. Most often these include occasional "village-style" groups of households in the Central District.

Let us analyze vernacular units of the city with relatively clear spatial localization and individuality which can be used for geomarketing purposes.

Center

Only a small central part of the city is associated with the concept of "city" in the residents' minds – it roughly corresponds to the historic hill on which Kursk arose. Often residents of Streletskaya Sloboda

or Kazatskaya Sloboda which are administratively part of the Central District use in their speech such phrases as: "I'm going to the city," "I have been to the city." Here, in addition to historical reasons and characteristics of Kursk, we can observe the influence of topography clearly distinguishing different vernacular areas. Apparently, the same "barrier" function is played by the railroad and the river Seym which separate people from different vernacular zones, although the latter belong to the same administrative district.

Old dormitory areas

These are the areas built in 1960–1970s for the employees of the largest industrial enterprises in Kursk. The architectural plan is dominated by five-storey "Khrushchevkas". Recently, on their outskirts the processes of suburbanization have become apparent and settlements of expensive luxury homes have appeared. Polls showed no fixation of such territorial and architectural segregation in people's minds – many citizens of Kursk do not even know the names of streets in these new prestigious townships.

Slobodas

The most often mentioned ones are Streletskaya and Kazatskaya. These are very quiet and peaceful residential areas. Here the private sector dominates with a large number of new mansions (often built in place of the old huts redeemed). The analysis of the survey results showed that some vernacular areas relating to slobodas are gradually forced out of the "mental map" of the city. They are occasionally mentioned only by the elderly. This occurs probably due to the development of these sites which has replaced the familiar neighbourhood of "one-story private sector allotments" with high-rise buildings.

New dormitory areas

The main toponym most often mentioned by the inhabitants of Kursk when it comes to new residential areas sounds very simple: "North-West". Such a district name is quite logical: this part of the city lacks any strong vernacularising factors that can "build" a whole area around themselves, as the former professional settlements – slobodas – used to do. The North-West District was created almost from scratch and did not have any historical foundation. In such circumstances, it could possibly get the name of its main street or an adjacent factory, but in both cases

⁵ Streletskaya Sloboda was named after the Streltsy (Russian musketeers) who lived there; Kazatskaya – after the Cossacks; Pushkarnaya – after gunners called "pushkars" in Medieval Russia; Yamskaya – after coachmen called "yamshiks".

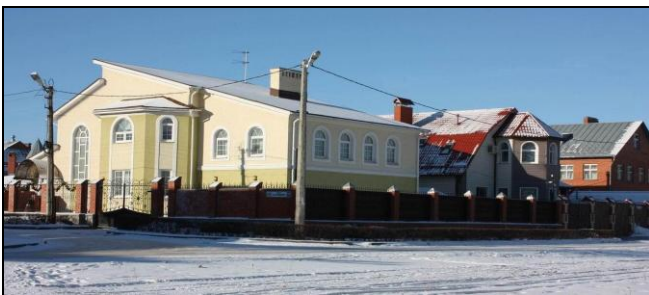
these possibilities were hindered by the size of the area which is too large, and now it is home to more than 40% of the total population of the city.

At the same time the area under consideration is internally homogeneous (Soviet-type dormitory area built in late 1980s, with minor variations in socio-economic conditions) and also spatially separated from the central part of the city by the one-story Kazatskaya Sloboda.

To the same category of vernacular areas one can attribute the entirely new, just emerging "South-West" and "Arka"⁶. The first of these has taken shape only recently, and its boundaries in the public consciousness are still controversial. The "Arka" district has already clearly divided into two sub-areas distinguished by the type of buildings – high-rise modern "Prospect Pobedy" (Victory Avenue) and an elite cottage area called "Tropinka" (Path) (photos 4a and 4b).



a



b

Photos 4. Elite cottage area "Tropinka" (Path) (phot. by A. A. Chernyshev)

Fot. 4. Luksusowe osiedle podmiejskie "Tropinka" (Ścieżka) (fot. A. A. Czernyszew)

Thus, most of the urban space of Kursk is differentiated by the residents into vernacular units of different scales. For Kursk (probably like most cities in Russia) it is characteristic that the central part of the city has a high level of individuality due to its historic trading and centralization functions. Mean-

while internal differentiation is quite poorly developed or even abolished. At the same time, the marginal parts of the city form numerous, quite closed vernacular units with relatively clear boundaries and nuclei. Marginal vernaculars aren't affected by strong "leveling" influence of the Center. Being somewhat isolated, they accumulate individual characteristics and peculiarities, resulting in a quite firmly fixed concept in public consciousness and, thus, are considered important elements of integrated urban space zoning.

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⁶ "Arka" stands for "arch" in the Russian language. The area is called this way after its most significant sight – the Triumphal Arch of Kursk, which vaguely resembles the corresponding sights of Paris and Moscow.