

## TYPOLOGY OF CITIES ON THE BASIS OF INDICATORS OF A CONDITION OF A HOUSING-AND-MUNICIPAL COMPLEX OF CITY

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**Key words:** management system, systematic approach, situational approach, housing and municipal complex, systematic and structural analysis, forecasting, modeling.

The success of structural economic reforms of modern Russia will consist in increase of a role of organizational - administrative factors of development of branches of a municipal (city) facilities. In a housing-and-municipal complex of Russia, a problem of reforming of control systems have especially sharp character, in connection with change of model of development, transition to market attitudes. Therefore exclusive value has use of the system and situational approach in development of effective models of management HMC. In this connection, great value the problem of formation of model indicative planning of development of a housing-and-municipal complex, its methodological, methodical and a supply with information which basis is the system - structural analysis has, forecasting and dynamic situational modelling. It is necessary to note, that in global practice the majority of theoretical and methodical positions indicative planning remain debatable and insufficiently developed.

Typology of cities (city municipal facilities) is based on the mix of possible variants of 3 main groups of indicators and regulators of housing conditions of housing-and-municipal complex of the city. There are indicators of the direct administration, what characterize current conditions of housing-and-municipal complex of the city; indicators of the indirect administration, what characterize social and economic situation in the city; natural and climatic regulators, what define the basic level of influence on indicators.

**The indicators of the direct administration.** According to this group of indicators it is a reasonable to consider cities from the position of housing-and-municipal complex conditions starting from the average russian level.

1. Housing complex. The typology of the cities on indicators of housing complex conditions is made with the following combination of data: estimation of current conditions of the housing services market and the deterioration of housing resources (Table 1).

According to the typology, cities (on current conditions of the housing complex) are divided into:

◆ wealthy cities characterized by developed housing services market and technical conditions of the housing fund;

◆ depressed cities characterized by average russian rates of indicators with a potential in some fields;

◆ critical cities where the indicators of conditions point at alarm condition in a housing complex.

If we perform this typology graphically so it becomes possible to estimate the efficiency of the functioning of the housing complex of the cities (pic. 1)

This efficiency can be considered as nine categories of efficiency from the best effective (I category) to the less effective (IX category).

In the dependence of the category it become possible to define into city types the subtypes of the city what characterize how deep the problems are in a housing complex of city.

Above mentioned graphic also let to define a potential of the housing services market. In wealthy cities the housing services market is restricted with the amount of the planned reconstruction works and its development becomes possible only with the growth of the quantitative factors (putting of housing, number of population).

First of all in critical cities it is necessary to stimulate the housing self-government and also have a governmental budgeting support.

2. Municipal economy. The typology of cities on indicators of municipal economy conditions is based on comparison of the technical situation level of main funds and analysis of dynamics of the tariffs on municipal services. (Table 2).

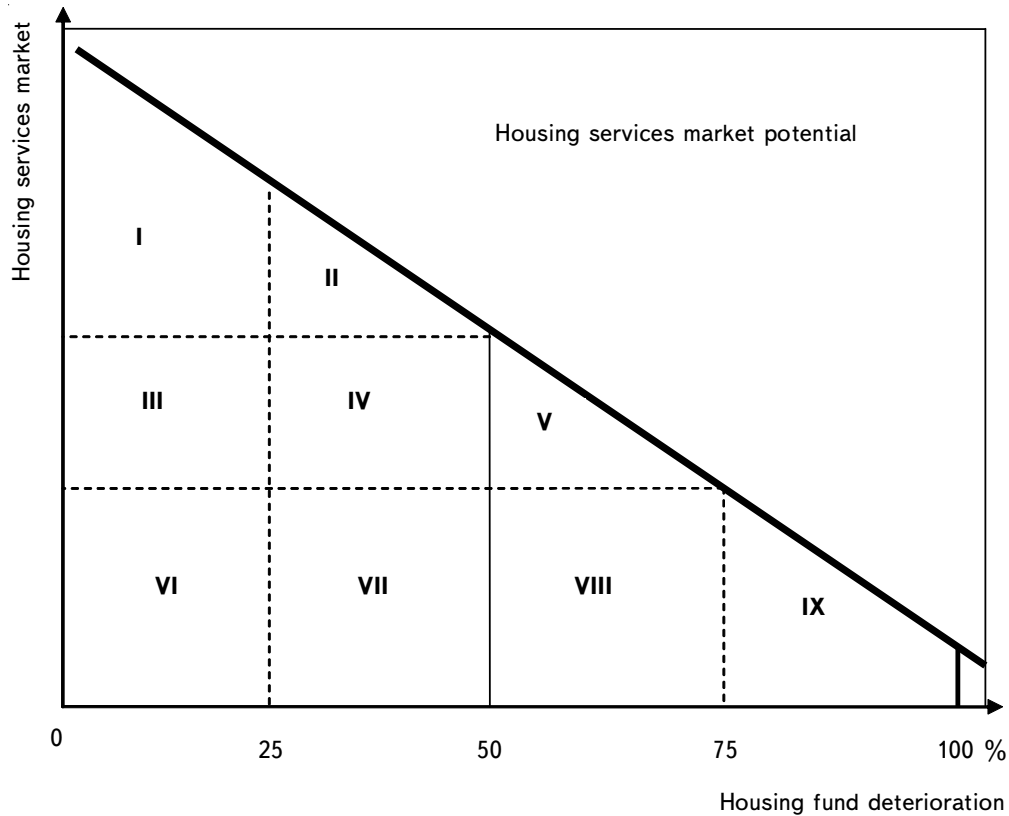
That is why wealthy cities are in what the growth of municipal services tariffs less than

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Table 1

City typology on conditions of the housing complex and infrastructure

Housing services market	Housing fund deterioration		
	Below Average Russian level	Average Russian level	Below Average Russian level
Upper Average Russian level	Wealthy city	Wealthy city	Depressed city
Average Russian level	Wealthy city	Depressed city	Critical city
Below Average Russian level	Depressed city	Critical city	Critical city



Pic. 1. Effectiveness of functioning of housing complex

Table 2

City typology on conditions of the housing complex and infrastructure

Dynamics of tariffs	Housing fund deterioration		
	Below Average Russian level	Average Russian level	Upper Average Russian level
Upper Average Russian level	Wealthy city	Wealthy city	Depressed city
Average Russian level	Wealthy city	Depressed city	Critical city
Below Average Russian level	Depressed city	Critical city	Critical city

average growth all over the Russia. In this case we can say about high investment activity and efficiency of the municipal services production.

In critical cities where high temps of tariffs growth connect with high level of main funds deterioration we can speak about crises of the system in municipal economy administration and high level of social tensity.

In depressed cities the situation in municipal economy is characterized by average Russian means of indicators.

As we mentioned above the specific of municipal production is the amount of municipal services consumption is equal to the volume of output minus transportation losses. That is why the parameters of the municipal services market depend on such quantitative characteristics as number of population and amount of the housing fund (number of users).

There is a traditional division of cities with number of population and number of users into:

- ◆ The biggest - more over 1000 thousand people;
- ◆ big - from 500 to 1000 thousand people;
- ◆ large - from 100 to 500 thousand people;
- ◆ average - from 50 to 100 thousand people;
- ◆ small - less then 50 thousand people;
- ◆ The typology on situation in housing-and-municipal complex opens an opportunity for integral typology of cities (Table 3).

The cities what belong to type I have high-balanced social and economic level and are characterized by developed infrastructure and effective municipal administration.

The cities of type II have low-balanced social and economic level with undeveloped infrastructure and ineffective municipal administration.

The cities what belong to type III have high social level of city development with high rates of social infrastructure.

Table 3

Integral typology on housing-and-municipal complex

Housing complex	Municipal complex		
	Wealthy city	Depressed city	Critical city
Wealthy city	Wealthy city (I A)	Wealthy city (I B)	Depressed city (II A)
Depressed city	Wealthy city (I B)	Depressed city (II B)	Critical city (III A)
Critical city	Depressed city (II B)	Critical city (III B)	Critical city (III B)

**Indicators of the indirect administration.** The cities are divided on social and economical indicators of the indirect administration. so it is possible to define types of the cities on level of social and economic development (Table 4).

The cities of type IV have high economic level of city development with high rates of economic infrastructure situation.

**The natural and climatologic regulators have a crucial meaning for the typology.**

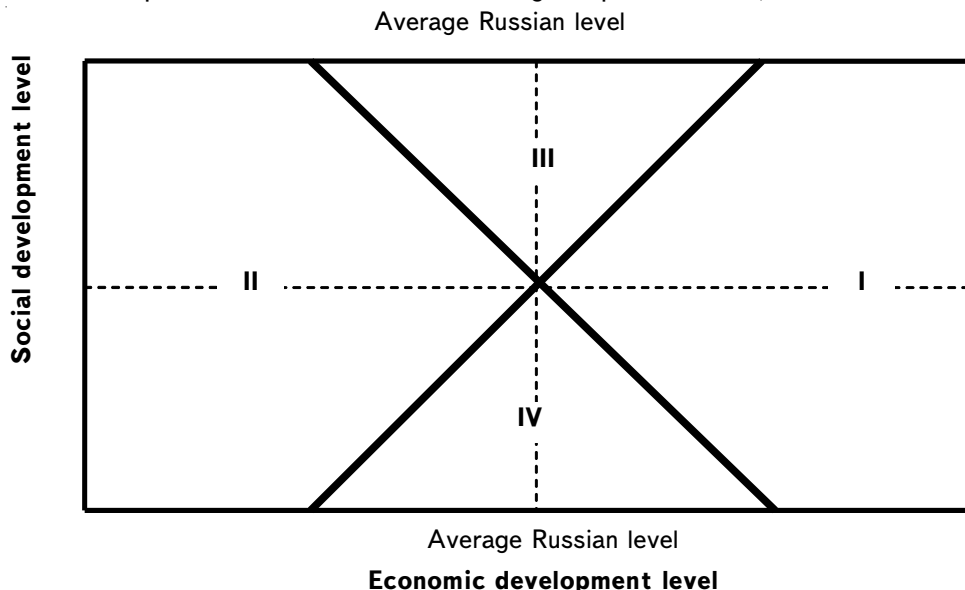
Table 4

City typology on social and economic development

Social indicators	Индикаторы экономического состояния		
	Upper Average Russian level	Average Russian level	Below Average Russian level
Upper Average Russian level	Wealthy city	Wealthy city	Depressed city
Average Russian level	Wealthy city	Depressed city	Critical city
Below Average Russian level	Depressed city	Critical city	Critical city

Picture 2 presents a variety of city types in dependence of combinations of the social and economic development.

1. Temperature conditions. Climate has a great influence on technical condition, technological peculiarities, content and structure of



Pic. 2. Balance of social and economic development of cities

Table 5

## Division into climatic districts

Принадлежность городов к климатическим типам (районам, подрайонам)		Average temperature	
		January , °C	July, °C
Climatic districts	Climatic subdistricts		
I North districts	I A	Below -32	+4 to +19
	I Б	Below -28	0 to +13
	I B	-14 to -32	+10 to +20
II Moderate districts (Asia)	II A	-14 to -23	+21 to +25
	II Б	-14 to -23	+12 to +21
	II B	-14 to -23	0 to +14
III Moderate districts (Europe)	III A	-4 to -14	+8 to +12
	III Б	-4 to -9	+12 to +21
	III B	-9 to -14	+12 to +21
IV South districts	IV A	0 to +6	+21 to +25
	IV Б	-7 to -1	+21 to +25
	IV B	-7 to -1	+15 to +20

Table 6

## City typology on situation in ZKH

Social and economic development	Situation in ZKH							
	wealthy				depressive			
I type								
II type								
III type								
IV type								
Climatic districts	I KR	II KR	III KR	IV KR	I KR	II KR	III KR	IV KR
								Number of people
								50 thousand people
								50 -100 thousand people
								100 - 500 thousand people.
								500 - 1000 thousand people
								over 1000 thousand people

Table 6

housing cost, housing-and-municipal services and also on level of housing-and-municipal payments. That is why the division into climatic districts appeared. It was developed on a basis of the average month temperature in January and July (Table 5).

2. Natural resources. There are considered in a complex with the other indicators during the estimation of the potential of the city. It is connected with development of the strategy of territory growth.

So the combination above-mentioned indicators and regulators defined 16 city sub-types for each city type (Table 6).

<sup>1</sup> See.: *Orekhovskiy P.P.* Analysis and social and economic forecasting of city development // Municipal administration. 1997. № 9; *Chernyshev L.N.* Reforma ZKH: Theory and practice, new approaches. M., 2003. issue. 11; *Forrester J.* Dynamics if the city development M., 1974; *Rumyantseva E.* Some indicators of the development of ZKH in Russia // Problems of the theory and administration practice. 2003. № 4. P.45-51.