Assessment of land plots for the needs of regional transportation network development

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Abstract. This article highlights some issues related to the assessment of land plots for state and municipal needs, taking into account transport costs in the city of Tyumen, in terms of assessing the losses of the owner. It is timely and relevant to study the applied aspect of assessing the market value of a land plot in order to justify a compensation payment when withdrawing a land allotment for public needs. The significance of the work lies in obtaining and using results, formulated conclusions and proposals in the practice of calculating the compensation payment.

1. Introduction

The city authorities of Tyumen have currently begun implementing programs and concepts for development of the territory in the city of Tyumen. Significant changes are planned in terms of street reconstruction, construction of new interchanges, pedestrian bridges. As a result situations arise when the municipality decides to seize land plots from the population. Along the way, the question arises about calculating the size of the compensation payment for a land plot with all the improvements.

The purpose of the research is to study the applied aspect of assessing the market value of a land plot in order to justify the compensation payment when withdrawing a land allotment for public needs.

In the process of work, normative and legislative acts, methodological documents on municipal administration, real estate and land plots, official data of federal, regional and local authorities, statistical data, materials of the regional socio-economic development program, as well as Internet resources are mandatory studied [1-3].

Federal valuation standard No. 7 "Real estate valuation" and the practice of an appraiser of land involves the use of methods and their variants of three classical approaches: costly, profitable and comparative approach. In the literature, you can also find other methods of calculation, such as development costs, infrastructure, as well as the method of a standard investment agreement.

2. Methods

There are situations when the state decides to withdraw the land plot, and along the way the question arises about calculating the amount of the compensation payment for the land plot with all the improvements [4,5].

Compensation may include cash equivalents:

- for any outbuildings located on this land, including a residential building;
- lost profits;
- any improvements that are not contrary to the law and located on this land.
To determine the size of the compensation payment, an assessment of the land plot is carried out for state withdrawal. After determining the market price, the cadastral value of this land will be set at the same level.

According to Article 56.8 of the Labor Code of Russian Federation: “when determining the amount of compensation, the market value of land plots is included in it .. .. if, simultaneously with the seizure of land for state or municipal needs, seizure of real estate objects located on such land plots and belonging to the owners of such land plots property, the reimbursement rate includes the market value of these real estate objects ....”.

Assessment of the market value of the land plot for the seizure is made in relation to the seized land plot, which currently belongs to a citizen of the Russian Federation. In addition, any other rights to this land plot may be valued. The appraiser relies on the rules of law No. 135 “On appraisal activities in the Russian Federation”, excluding the features specified in the land legislation.

3. Results

Various methods and techniques that are currently used in the assessment of land plots are effective. The uniqueness of each individual land plot can significantly affect its value, and therefore, the order, approaches and assessment methodology can be constantly changed and improved.

In accordance with clause 11 of the Federal Assessment Standard No. 1: “when choosing the approaches used in the assessment, one should take into account not only the possibility of applying each of the approaches, but also the goals and objectives of the assessment, the intended use of the assessment results, assumptions, completeness and reliability of the source information. Based on the analysis of these factors, the choice of approaches used by the appraiser is substantiated.”

When determining the “redemption value of a land plot”, using two of the three existing approaches, profitable and comparative, is incorrect. Using the methods of the income approach in assessing the obligation seems to be incorrect because the obligation is the monetary equivalent of compensation for the seized property and, by definition, does not involve any income. The use of the methods of the comparative approach in the assessment of the valuation object is not always possible due to the lack of sufficient reliable information about the parameters of transactions with objects from one market segment with the valued. Land and land plots rarely have direct analogues for comparison [6-9].

Carrying out calculations within the framework of the cost approach does not meet restrictions. It is determined that the “redemption value associated with the withdrawal of a land plot for municipal needs” includes: the market value of this land plot, improvements to this land plot (residential building with outbuildings, long-term plantings) and compensation for losses associated with the acquisition, registration of the property equivalent to seized one.

Assessment of the redemption value in the framework of the cost approach can be carried out element-wise, followed by the summation of each element (formula 1).

\[ V = MV_{lp}^{seized} + MV_{b}^{seized} + MV_{o}^{seized} + MV_{p}^{seized} + L_0 \]  

\[ MV_{lp}^{seized} - \text{market value of the seized land plot,} \quad MV_{b}^{seized} - \text{market value of seized buildings (residential building),} \quad MV_{o}^{seized} - \text{market value of seized outbuildings,} \quad MV_{p}^{seized} - \text{market value of the seized perennial plantations located on the land plot,} \quad L_0 - \text{losses caused to the owner.} \]

Determining the market value of real estate and land plot, as a rule, does not lead to any difficulties. Determining the amount of losses is a stumbling block. It is important to note that when withdrawing a land plot for state needs, it is impossible to assess losses from the point of view of Federal Law No. 135 “On Valuation Activities in the Russian Federation”, in Art. 5 of this law there is no such concept, so the question remains open, how and in what order will the losses be directly assessed? The question arises: what can be attributed to the losses incurred, and how to determine their value?

In particular, the losses incurred by the owner include:
losses associated with a change in the place of residence, temporary use of another dwelling prior to the acquisition of another dwelling
- losses associated with relocation;
- losses associated with the search for another residential premises to acquire ownership;
- losses associated with registration of ownership of another residential premises;
- losses associated with the early termination of obligations to third parties, including lost profits.

Consider a practical example of calculating the above identified losses.

Calculation of losses associated with the search for a property similar to seized and rented temporary housing.

For example, according to a survey of real estate agencies of the city of Tyumen, presented in table 1, the cost of intermediaries (realtors) related to the support of the transaction of purchase and sale of suburban real estate (including the sale and purchase of land, houses within the city of Tyumen), are at least 33600 rub.

**Table 1.** Analysis of the cost, time of the provision of real estate services and discounts on bargaining in transactions for the rental of residential real estate in the city of Tyumen.

| Name of the company | Support services for the purchase of a house with a land plot | Residential tenancy rental services | The average time a realtor works with a buyer to support a transaction for the purchase of residential real estate (when making a transaction in cash), months | The average range of bargaining when renting residential real estate, % | Source of information |
|---------------------|-------------------------------------------------------------|-----------------------------------|---------------------------------------------------------------------------------|----------------------------------------------------------------------|------------------------|
|                      | Fixed remuneration, rubles                                  | Remuneration as a percentage of the value of the property, % | Remuneration in form of                                                       |                                                                      |                        |
| Real Estate Agency 1 | 29000                                                       | 1.6%                              | 70% of the monthly rental price                                                 | 2                                                                  | 2.7% (average 4.5%)   | Telephone interview of a representative of a real estate agency |
| Real Estate Agency 2 | 30000                                                       | 1%                                | 60% of the monthly rental price                                                 | 4                                                                  | 3.4% (average 3.5%)   | Telephone interview of a representative of a real estate agency |
| Real Estate Agency 3 | 50000                                                       | 2%                                | 70% of the monthly rental price                                                 | 2                                                                  | 2.4% (average 3%)     | Telephone interview of a representative of a real estate agency |
| Real Estate Agency 4 | 30000                                                       | 1%                                | 50% of the monthly rental price                                                 | 3                                                                  | 3%                    | Telephone interview of a representative of a real estate agency |
| Real Estate Agency 5 | 29000                                                       | 1%                                | Do not provide rental services                                                  | 3                                                                  | -                     | Telephone interview of a representative of a real estate agency |
| Average value of the indicator | 33600                                                       | 1.3%                              | 62.5%                                                                           | 2.8                                                               | 3.5%                  | Estimator Calculation |

Hence:
- when determining the cost of services to support the transaction of buying a house with a land plot: the average value of the fixed remuneration in the amount of 33600 rubles, in the amount with
the remuneration in the form of a percentage of the value of the property makes 1.3% of the value of the property equal to the value withdrawn.

- when determining the cost of services for the support of rental transactions for residential real estate: the average value of the remuneration in the form of a percentage of the monthly cost of the rental rate makes 62.5%

- The cost of the seized land plot with improvements (house, outbuildings, perennial plantings) is 9211417 rubles.

Thus, the amount of remuneration (fee) of intermediaries (realtors) associated with the support of a purchase and sale transaction will be:

\[33600 \text{ rub.} + 1.3\% \times 9211417 \text{ rub.} = 153348 \text{ rubles.}\]

The cost of renting a residential property (3-room apartment) is 47446 rubles per month.

Thus, the amount of remuneration (fee) of intermediaries (realtors) associated with the support of a rental transaction for residential real estate will be:

\[62.5\% \times 47446 \text{ rubles.} = 29654 \text{ rubles.}\]

The owner of the seized residential premises incurs losses associated with the temporary use of another residential premises until the acquisition of another residential property, therefore, the owner of the seized land will need to rent a residential premises for temporary residence.

To determine a reasonable rental period for another residential premises before acquiring another residential property, it is necessary to conduct a survey of representatives of real estate agencies and find out the average time a realtor works with a buyer.

On average, the realtor’s time with the buyer to support the transaction for the purchase of residential real estate (when making a transaction in cash) was 2.8 months (according to the survey), because the acquisition of residential real estate is carried out in several stages:

- selection of suitable options;
- inspection of selected objects;
- preparation of the transaction (negotiations, collection of documents, verification of documents, clarification of the terms of the transaction and cash settlements);
- registration of the contract of sale of the object and registration of the transfer of money;
- registration of property rights (carried out by the authorities of Rosreestr).

Given the practice of realtors and lawyers when renting premises, one can round off the figure of 2.8 months. up to 3 months. the rental price of the property is paid by the tenant a month in advance.

Considering the logic of the legislator in terms of ensuring housing rights and interests of citizens in cases related to the social rental of residential premises during the seizure of the land on which such residential premises are located for state or municipal needs (Articles 87.2, 89 "Housing Code of Russian Federation" dated 29.12.2004 N 188), one should pay attention to the fact that in the above mentioned cases, citizens are provided with comfortable living quarters, equivalent in total area to the previously occupied living quarters. Thus, most likely the equivalent of such a dwelling will be an apartment consisting of the same number of rooms as the seized residential building, with an area of at least the area of the seized residential building, located in an area similar in location to the seized land as part of the property being evaluated. The object involves the use of temporary residence, short-term. It is also worth considering that the location will be the most decisive factor in the issue of renting temporary housing. in fact, the owner is “tied” to the social infrastructure (schools, hospital, kindergartens, work, etc.) to the area where the seized land is located.

For example, the cost of renting temporary housing is shown in table 2.
### Table 2. The cost of renting an apartment.

| №   | Indicator                | Analogue No. 1 | Analogue No. 2 | Analogue No. 3 | Analogue No. 4 | Analogue No. 5 | Analogue No. 6 |
|-----|--------------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| 1   | Address                  | Tyumen, district Business Center, indicate | Tyumen, district Historical Center, indicate | Tyumen, district Historical Center, indicate | Tyumen, district Historical Center, indicate | Tyumen, district Historical Center, indicate | Tyumen, district Historical Center, indicate |
| 2   | Source of information    |                |                |                |                |                |                |
| 3   | Area, sq.m               | 160            | 126            | 150            | 134            | 140            | 54.7           |
| 4   | Number of rooms          | 3              | 3              | 3              | 3              | 3              | 3              |
| 5   | Rental price, rub.       | 50000          | 50000          | 50000          | 50000          | 50000          | 45000          |
| 6   | Correction for bidding, % | 3.5            | 3.5            | 3.5            | 3.5            | 3.5            | 3.5            |
| 7   | Adjusted cost, rub       | 48250          | 48250          | 48250          | 48250          | 48250          | 43425          |
| 8   | The average value (rounded), rubles |                |                |                |                |                | 47446          |

Thus, the losses due to a change in the place of residence, temporary use of another dwelling prior to the acquisition of another dwelling, will amount to: 3 months. * 47446 rubles / month + 29 654 rub. = 171,992 rub.

- Calculation of losses associated with registration of rights to a land plot and a residential building as part of the valuation object, similar to those withdrawn.

The withdrawn land plot with a residential building and other improvements belongs to the right holders on the right of common shared ownership. Given the fact that compensation for a seized property for state and municipal needs should be equivalent, and reasonable use should be taken into account, it is determined that the state fee is determined upon a one-time (in the presence of all owners) registration of the right of common shared ownership of the object similar to the seized.

According to the current tax legislation, state duties are levied for state registration of rights. According to Article 333.33 of the Tax Code of Clause 22: “for state registration of rights, restrictions on rights and encumbrances on real estate, transactions with real estate, if such transactions are subject to state registration in accordance with federal law, with the exception of legally significant actions provided for in subparagraphs 21, 22.1, 23-26, 28 - 31, 61 and 80.1 of this paragraph: for individuals make 2000 rubles.”

It should be noted that the objects in the valuation object belong to individuals in certain shares on a common ownership right, therefore the size of the state fee for state registration of a share in a common ownership right for an individual will amount to 2000 rubles multiplied by the size of a share in a common ownership right;

Considering that, in the case when the subject of the contract of sale is several real estate objects, the state fee for state registration of the transfer of rights must be paid for each object specified in the contract, because state registration of the transfer of rights to real estate indicated in the contract of sale is carried out in respect of each real estate on the basis of a statement from its right holder.

In Art. 333.33 of the Tax Code of Clause 1, clause 24 "for state registration of an individual’s ownership right to a land plot for conducting personal subsidiary plots, gardening, horticulture, individual garage or individual housing construction, or to an immovable property created on such land plot makes 350 rubles." The withdrawn land from the category of land: land of settlements with permitted use: for construction of an individual residential building refers to the types of permitted use listed in paragraphs. 24, p. 1, Article 333.33 of the Tax Code of Russian Federation (individual housing construction), therefore, the size of the state fee for state registration of an individual’s ownership of a land plot from the land category: land of settlements with permitted use: for the construction of an individual residential building will be 350 rubles.
Thus, the cost of state registration of rights to a land plot from the land category: land of settlements with permitted use: for the construction of an individual residential building and a residential building similar to those withdrawn will be 2350 rubles.

- Calculation of the amount of losses associated with moving property of owners of seized objects

The costs associated with moving the property of the owners of the seized objects consist of:

• expenses for loading / unloading, moving property;
• transportation costs.

For example, the market for relocation services (movers + vehicle) in Tyumen is well developed. The data presented in table 3 are the calculation of the minimum tariff for moving from a 3-room apartment (residential building), which correspond to the object as part of the valuation object.

Table 3. Cost analysis of relocation services.

| № | Name of organization, address | The average cost of housing moving, rubles. | Sourse of information |
|---|--------------------------------|------------------------------------------|----------------------|
| 1 | Organization 1, Tyumen        | 12000.00                                | http://tyumen.moi-(telephone interview of a company representative) |
| 2 | Organization 2, Tyumen        | 9870.00                                 | http://tyumen.moi-( telephone interview of a company representative) |
| 3 | Organization 3, Tyumen        | 12000.00                                | http://tyumen.moi-( telephone interview of a company representative) |
| 4 | Organization 4, Tyumen        | 15000.00                                | http://tyumen.moi-( telephone interview of a company representative) |
|   | Total average                 | 12217.5                                | Estimator Calculations |

According to a survey of a transport company providing moving services in the city of Tyumen, presented in table 3, we can conclude that the cost of moving services on average is 12,217.5 rubles. when transporting necessary personal items, furniture and household items. Given that each owner has a certain set of personal items, furniture and household items, the appraiser considers it necessary to take into account the number of owners when calculating the relocation services.

Given that, most likely, the owners of the seized real estate will have two transfers (to a temporary residence and to acquired permanent), the cost of services related to the transfer will be:

12,217.5 rubles * 3 owners * 2 relocations = 73305 rubles.

If there are no documents confirming the occurrence of obligations of the owners of the seized property losses due to the inability to fulfill obligations to third parties, including those based on agreements concluded with such persons, then the right to claim damages related to the inability of the owners of the seized property to fulfill obligations to third parties, including those based on agreements concluded with such persons, are absent. Consequently, losses associated with the early termination of their obligations to third parties are nil.

Calculation and assessment of lost profit occurs only in the case when the object has a commercial purpose or there are documents confirming the conduct of business and income generation (financial statements). During a visual inspection of real estate, it is required to establish the current use of the land plot, its compliance with the type of permitted use - for example, for an individual residential building and household buildings, the residential building is also used for its intended purpose - as a residential building. Therefore, if a land plot with cadastral number. and a residential building located on this land plot is used only for its intended purpose and does not bring income to the owner, then the losses associated with loss of income (lost profit) from the use of the land plot and residential building are equal to zero.

Total losses can be determined by the formula 2:

\[ L_{total} = L_1+L_2+L_3+L_4+L_5+L_6 \]  

\( L_1 \) - losses due to a change in the place of residence, temporary use of another residential premises
until the acquisition of the ownership of another residential premises; L2 - losses due to relocation; L3 - losses in connection with the search for another dwelling to acquire ownership; L4 - losses associated with the search and registration of rights to a property, similar to the seized and the amount of losses associated with moving property of the owners of the seized objects; L5 - losses in connection with the registration of the right of ownership to another residential premises; L6 - losses due to the early termination of obligations to third parties, including lost profits.

According to the results of the above mentioned calculations and analysis, the amount of compensation for the seized land is calculated in table 4.

**Table 4.** Calculation of the total amount of losses associated with the search and registration of rights to a property, similar to seized, the amount of losses associated with moving property of owners of seized objects.

| Name of loss                                                                 | Amount, rub. |
|-----------------------------------------------------------------------------|--------------|
| Losses in connection with a change in the place of residence, temporary use of another dwelling prior to the acquisition of another dwelling | 171992       |
| Losses due to relocation                                                    | 73305        |
| Losses in connection with the search for another dwelling to acquire ownership of it | 153348       |
| Calculation of the total amount of losses associated with the search and registration of rights to a property, similar to the seized and the amount of losses associated with moving property of owners of the seized objects | 2000         |
| Losses in connection with registration of ownership of another dwelling     | 350          |
| Losses due to the early termination of obligations to third parties, including lost profits | 0            |
| Total:                                                                      | 400995       |

Based on the considered example, we can conclude that losses are not some average cost for a “typical” seller. Despite the fact that the types of costs may be typical, but the composition of costs is determined individually for each owner. This feature is the main difference between the nature of losses from market value.

**4. Discussion**

To summarize all of the above mentioned, we note the main conclusions and recommendations:

1. When conducting a loss assessment, appraisers are faced with various problems that the current regulatory legal acts do not help solve.

2. In the regulatory framework there are a number of contradictions that can be interpreted ambiguously. In this regard, the appraiser, when conducting an assessment for the purpose of compensation for losses when taking land plots for state needs, must examine in detail each case from both the economic and legal sides in order to correctly formulate the assessment task and conduct the assessment itself.

Unfortunately, the exchange of experience in the field of valuation for land seizures is still spontaneous, but similar measures (including with the participation of foreign colleagues) are nevertheless held and meet with support from customers of such services. The assessment is associated with a high level of responsibility that the appraiser bears for the owner, state and society.

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