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To cite this article: Marina Sapunova (2025) From apartments to land: fragmented property transitions in Soviet-era urban residential districts, *Planning Perspectives*, 40:5, 1261-1283, DOI: [10.1080/02665433.2025.2525512](https://doi.org/10.1080/02665433.2025.2525512)

To link to this article: <https://doi.org/10.1080/02665433.2025.2525512>



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Published online: 10 Jul 2025.



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From apartments to land: fragmented property transitions in Soviet-era urban residential districts

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ABSTRACT

Significant land boundary-setting initiatives emerged across post-Soviet countries at the end of the twentieth century as a result of shifting property regimes. For residential districts built during the Soviet era, this marked a profound transformation. The emergence of numerous small-scale owners and private and public interests in property reshaped how these areas are maintained and governed. Thus, the inherited spatial structures of Soviet mass housing have become sites of contestation and re-evaluation in the post-Soviet era.

This paper examines a late-Soviet housing district in Irkutsk to trace spatial transformations following post-1991 privatization. While it rapidly enabled apartment privatization to become possible, the land beneath buildings remained subject to delayed and often ambiguous processes of legal recognition. The analysis shows how ownership changes have redefined the legal, spatial and institutional role of land in Soviet-era housing districts. Drawing on analysis of planning documents and local media sources from the 1990s and 2000s, the paper shows how shifts in ownership and limited municipal capacity produced fragmented land governance. The findings contribute to the debates on the meaning of transition by foregrounding land as a contested element of Soviet housing planning legacies.

KEYWORDS

Post-Soviet land property; urban land reform; mass housing; microrayon; spatial legacy

Introduction

The question of land in Soviet-era residential districts remains one of the most contested issues in post-Soviet urban planning and property governance. This paper examines land ownership transformations through a case study of a residential district of the 1960s and 1970s in Irkutsk, Russia. It proceeds from the premise that although both apartments and land in microrayons remained state-owned under the Soviet system, by the late Soviet period, apartments had increasingly come to be used as private family spaces and were treated as quasi-private goods. In contrast, land in residential districts continued to be defined as a communal resource under centralized state control.¹ The post-Soviet transition to private property made the legal formalization of land plots in residential districts one of the central, but administratively complex tasks of land reform. The Irkutsk case illustrates how attempts to formalize land rights in post-Soviet period were often delayed or selectively applied, reinforcing legal ambiguity and shaping fragmented land governance in Soviet-era residential districts.

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¹Smith, Property of Communists.

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The residential districts built in Soviet Russia in the second half of the twentieth century relied on the *microrayon* as the basic spatial and social unit of everyday life. Microrayons consisted of groups of standardized apartment blocks, open spaces, schools, and everyday infrastructure. They embodied the collectivist logic of Soviet planning and were designed to create functionally self-sufficient living environments, a core principle that sought to integrate housing, services, and daily life within a single planned urban unit.² Despite the central role of courtyards and different types of open spaces in the microrayon concept, many land use issues in these areas remained unresolved in the post-Soviet period or were addressed informally, particularly through municipal permits for infill construction. This legacy of spatial organization shaped how housing and land were affected by the legal and institutional changes of the 1990s.

After the collapse of the Soviet Union in 1991, Russia entered a period of radical political, economic, and institutional transformation. The reforms of the 1990s, often described as ‘shock therapy,’ aimed to introduce market institutions including privatization, market pricing, tax and land reforms.³ The 1991 law on housing privatization enabled residents to claim ownership of their apartments, which had to foster a broad class of property owners whose accumulated capital would stimulate the development of real estate markets.⁴ However, the land beneath them remained in state or municipal hands. A significant shift occurred with the adoption of the 2001 Land Code, which legally recognized urban land as a potential object of private property, including plots under multi-apartment buildings. The 2004 Housing Code allowed such land to be transferred into shared ownership by apartment owners. Yet in practice, formal land allocation depended on municipalities preparing land survey plans (*proekt mezhevaniya*), as required by the 2004 Urban Planning Code. The delineation of land under existing buildings was meant to precede new construction. Nevertheless, by that time many municipalities were already operating according to procedures inherited from the Soviet period, resulting in the coexistence of conflicting legal frameworks and ad hoc practices. This has led to fragmented, case-by-case decision-making and reinforced uncertainty around land governance. This created tensions between owners of privatized housing and landholders within the same microrayon.

The complexities of the post-Soviet, and more broadly post-socialist, transition have been widely explored in the literature on institutional, political, and spatial change in the context of market reforms.⁵ Among the many expectations associated with these reforms was the idea that ownership would produce responsible citizens who would drive both economic growth and democratic development. Implementing this idea turned out to be far more complex and uneven in practice than imagined.⁶ A foundational contribution by Katherine Verdery emphasizes that capitalist forms of ownership do not emerge ‘naturally’ in place of socialist ones, but are shaped by past property practices and the conflicts they generate. Verdery further contends that socialist space was not a ‘tabula rasa upon which new forms could be written unproblematically.’⁷ Other studies have highlighted the key role of municipalities as intermediaries in property transformation. The coexistence of multiple ownership forms complicates collective decision-making and frequently impedes coordinated development.⁸ Case studies on re-privatization and cadastral mapping further underscore

²see “Printsipy postroeniya zhilogo rayona i mikrorayona,” 1–15.

³Åslund, *How Russia Became a Market Economy*; Boycko, Shleifer, and Vishny, *Privatizing Russia*.

⁴Kosareva and Struyk, “Housing Privatization,” 198.

⁵Hirt, *Iron Curtains*; Verdery, *The Vanishing Hectare*; Mariotti and Leetmaa, *Urban Planning During Socialism*.

⁶Sikor, *When Things Become Property*, 198.

⁷Verdere, “The Property Regime of Socialism.”

⁸see for example, Korableva et al., “Dwelling in Failure.”

the unevenness of these processes and the centrality of local governments in shaping outcomes.⁹ In the absence of clear legal regulation, land-related issues were often left unresolved or addressed informally, particularly through development-driven interventions.

The paper contributes to these debates by focusing on the role of land in the transformation of Soviet residential districts. It shows how national legal frameworks were adapted, negotiated, or bypassed in municipal practice, producing contradictory and path-dependent outcomes. Through the case of the Solnechny microrayon in Irkutsk, the paper analyses how the shift from state to private land ownership reshaped governance structures and spatial configurations of inherited residential space. Here, the term *inheritance* refers not only to the legal transfer of property rights, but also to the material, spatial, and institutional legacies of Soviet urbanism.¹⁰ This includes physical layouts, planning norms, and administrative routines that continue to shape how urban housing and land are governed today.

The contradictory outcomes of land formalization reflect the differences in how land and property is understood and valued by various actors. This is where the concept of ‘polyrationality’ offers a particularly useful to understand the problem of land ownership transition in the Soviet microrayon.¹¹ In his work, Davy consistently argued that land is not merely a physical object but a socially constructed resource, understood and used differently by actors depending on the rationality operating in a particular context. This conceptual lens highlights the specific dynamics of the transition from one equilibrium, defined by collective state ownership of land in Soviet microrayons, to another, market-based one, based on a pluralist ownership system.

The paper begins with a discussion of Soviet planning principles and introduces the Solnechny microrayon. The next section outlines the research methodology. The main body of the paper includes three parts: the historical spatial structure of the district, post-Soviet land-use transformations, and the legal and institutional consequences of continued uncertainty. The conclusion reflects on the challenges of integrating Soviet residential legacies into a market-oriented land regime and returns to the broader question of what happens to land in inherited housing districts under systemic transition. It also considers how these tensions are expressed in the built environment and shaped by competing logics of property and governance.

Historical and conceptual background: the Soviet microrayon

In the second half of the twentieth century, the Soviet Union addressed the urban housing crisis primarily through the industrialization of housing construction. By the 1950s, the housing deficit in most cities had reduced the quality of life, with on average of only 4 square metres of living space per person and families often confined to a single room, sharing kitchens and bathrooms with other families.¹² Beginning with the Khrushchev housing reforms of the mid-1950s, the Soviet government prioritized the transition from communal type of housing (*pokomnatnoe rasselenie*) to individual apartments for each family (*pokvartirnoe rasselenie*).¹³ The industrial production of housing made it possible for many families to move into separate apartments with their own kitchen and bathroom.¹⁴ This shift significantly increased the total residential space available in

⁹see for example, Kuletskaya and Willam, “Warsaw and Its Land.”

¹⁰Verdery, *What Was Socialism, and What Comes Next?*

¹¹Davy, “Polyrational Property.” 473

¹²Renaud, “The Housing System of the Former Soviet Union,” 883 and Meerovich, *Gradostroitel'naya Politika v SSSR*, 194.

¹³Meerovich, “Chelovek i Mikrorayon.”

¹⁴Renaud, “The Housing System of the Former Soviet Union,” 883 and Glendinning, *Mass Housing*, 299.

cities, raising the average to 15.8 square metres per person by 1989, which counted all functional areas of the apartment. However, it also made the housing sector heavily dependent on standardized production methods for decades to come.

The rapid housing development during the second half of the twentieth century was achieved by reducing costs at two key stages: design and construction. First, central design institutions introduced standardized housing sections for mass production, significantly reducing design time.¹⁵ Second, the state established a network of construction factories (*domostroitel'nye kombinaty*) in major cities and industrial regions.¹⁶ These factories produced prefabricated components locally, enabling rapid housing construction. Consequently, from the mid-1950s to the late-1980s, numerous mass-produced residential districts were built on the outskirts of most Soviet cities.

The industrialization of housing construction significantly shaped the spatial organization of residential districts in Soviet cities. As in mass-housing production, Soviet spatial planning was guided by the imperative to develop a replicable and cost-efficient approach to designing residential areas, while ensuring that essential services and amenities remained within walking distance.¹⁷ The primary response to this need was the concept of a 'stepped' (*stupenchataya sistema*) spatial model, emerged from planning experiments of the 1930s and 1940s, aiming to organize worker housing in socialist cities (*sotsgorod*).¹⁸ By the late 1950s, the stepped model structured Soviet planning into three levels: house groups (*zhilaya gruppa*), microrayons (*mikrorayon*) made up of several house groups and daily service facilities, and residential districts (*zhiloy rayon*) formed from multiple microrayons.¹⁹ As the base unit delivering daily services like schools, kindergartens, and shops, the microrayon became a key repeatable spatial form for meeting residents' everyday needs. [Figure 1]

The rationalization of spatial solutions in Soviet microrayons was most clearly expressed in the idea of 'territorial balance' (*balans territorii*), codified in urban planning regulations.²⁰ It ensured proportional land allocation for housing, public amenities, green spaces, and streets on a per capita basis, enabling walkable access to services and guaranteeing open areas for recreation and everyday use.²¹ As recent research has shown, these green areas were deliberately planned for communal use and were 'envisioned as an infrastructure of socialist modernity.'²² The approach differentiated green areas hierarchically as local parks, microrayon gardens, boulevards, and vegetated buffers near public buildings and schools.²³ At the same time, the green areas helped to break up very long housing blocks, connect public facilities, and reinforce spatial coherence of microrayons. The territorial balance thus provided a standardized method for calculating land requirements while ensuring that each project included the minimum set of social functions per resident.

¹⁵Erofeev, "Experiment in the Architecture," 36 and Zarecor, *Manufacturing a Socialist Modernity*, 69–112.

¹⁶Malaia, "A Unit of Homemaking," 4; Erofeev, "The I-464 Housing Delivery System," 216–217.

¹⁷see the Soviet construction cost reduction recommendations in Vasiliev and Zakov "Planirovka i zastroyka novykh zhilykh rayonov," 20–21.

¹⁸early models were based on the workforce size, shaping housing and service provision, see Konysheva, "Formirovanie Kontseptsii Zhilogo Mikrorayona," 88.

¹⁹"Printsipy postroyeniya zhilogo rayona i mikrorayona."

²⁰"SN 41–58 Regulations and Codes for Urban Planning and Development," 1958. (The balance of land use implies that the percentage allocated to each of the four functions must collectively amount to 100%. For residential areas, with a standard of 9 square meters per person, the land area for housing is calculated at 33–36 square meters per person. The area for cultural and domestic services, including sports facilities, is 12–17 square meters per person, while public green spaces occupy 8–12 square meters per person. Finally, the area designated for urban streets (excluding intra-district roads) is 12–15 square meters per person. These urban planning regulations were established in the 1958 Planning and Construction Standards.

²¹see "SN 41–58," "SNIIP II-60-75," "SNIIP 2.07.01-89," Trutnev et al., *Pravovye Voprosy Mezhevanija*, 49–49.

²²Taylor, "Plans, Plants, and Sense of Place."

²³Avdot'in, Lezhava, and Smoliar, *Gradostroitel'noe Proektirovanie*, 323–330.

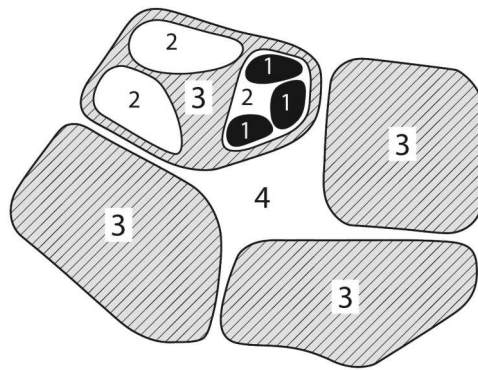


Figure 1. 'Stepped' (stupenchataya sistema) spatial model: 1 – house groups (2,000–2,500 residents), 2 – micro-rayons (6,000–18,000), 3 – residential districts (30,000–70,000), 4 – city. Redrawn by the author from a figure in *Arkhitectura SSSR* 12 (1964), 2.

Together, this turn in the Soviet housing and planning after the 1950s embodied two forms of value within the microrayon: the sense of personal entitlement to a separate apartment and the benefits of communal space and services. The first one was not based on the legal title but rather

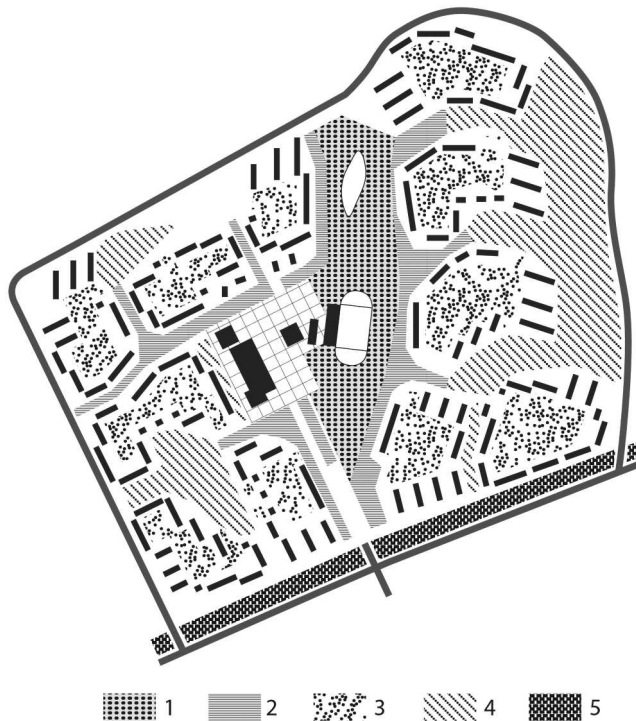


Figure 2. A greening system for a microrayon: 1 – district park or garden, 2 – street and pedestrian pathways greenery, 3 – microrayon gardens and green areas for groups of residential buildings, 4 – green spaces associated with schools and childcare facilities, 5 – protective green plantings along major roads. Redrawn by the author from the Soviet handbook for urban planners Avdot'in, Lev Nikolaevich, Il'ia Georgievich Lezhava, and Il'ia Moiseevich Smoliar. *Gradostroitel'noe Proektirovanie*. Stroiizdat, 1989, 324.

on long-term practices of exclusive use, intergenerational transfer, and perceived autonomy.²⁴ By the late 1960s, many residents had come to see their apartments as something they could likely pass on to their children.²⁵ After the collapse of the Soviet Union, the housing privatization formalized these claims, granting apartments legal status as private property and market value, even though many remained shared between several generations.²⁶ During the financial upheavals of the 1990s an apartment became both a financial resource and a source of personal security.

The second form of value, associated with communal space and services in microrayons, was provided to residents at minimal cost during the Soviet period, with expenses largely covered by the state or industrial enterprises.²⁷ This model created strong expectations that green areas, infrastructure, and shared amenities would remain accessible, and inexpensive. However, after the collapse of the Soviet Union, while apartments became available to be privatized, the land for a certain time remained in a state ownership with a larger state intention to transfer the maximum possible share of land in residential districts into collective ownership by apartment owners or other actors. During this transitional period, the everyday use of land and shared spaces such as stairwells and courtyards followed the Soviet-era habits, often prevailed over the formal ownership or legal clarity.²⁸ The persistence of these practices, combined with delays in formalizing land rights contributed to a fragmented and uncertain regulatory environment, a legacy that continues to shape post-Soviet urban governance.

Post-Soviet land use for Soviet housing: challenges in transition

Market reforms in 1990s Russia redefined urban land and housing ownership. The 1994 Civil Code established private, municipal, and state forms of ownership, replacing the Soviet system in which the state simultaneously owned urban land, commissioned residential projects, and acted as both designer and contractor. While this system appeared unified, in practice it involved multiple actors, such as municipalities, ministries, industrial enterprises, and construction trusts, operating within a vertically integrated hierarchy.²⁹ Although their roles often overlapped and could result in conflicts, these actors were coordinated through administrative rather than market mechanisms and did not function as independent stakeholders in the capitalist sense. In the market-based system, a legal framework was required to regulate the relationships between numerous property owners, both public and private.³⁰ Land and urban planning reforms between 1991 and 2004 laid the groundwork for legal land use regulation in Russian cities, culminating in the 2004 Urban Planning Code.³¹ A key component of this transition was the formal delineation and registration of land plots, which required the preparation of land development plans (*proekt planirovki*) and land surveying plans (*proekt mezhevaniya*), followed by public hearings and cadastral registration.³² This process was essential for enabling land transactions, taxation, and property management in the post-Soviet cities.

²⁴Malaia, Taking the Soviet Union Apart Room by Room, 27–34; Smith, Property of Communists, 151–177; Trudolyubov, Private property in Russia.

²⁵Trudolyubov, The Tragedy of Property, 170.

²⁶Zavisca, Housing the New Russia, 13.

²⁷Lebskii, Rabochii klass SSSR, 49–57.

²⁸Malaia, Taking the Soviet Union Apart Room by Room, 122–125.

²⁹Stas', Sovetskaiia vedomstvennost', 307–355.

³⁰Trutnev et al., "Gradoregulirovanie," 109; Golubchikov, "Urban Planning in Russia," 244.

³¹Ibid., 110–115.

³²Urban Planning Code of the Russian Federation, 29 December 2004, No. 190-FZ.

The market reforms placed municipalities at the centre of land regulation, supported by international development institutions such as the World Bank, USAID, and think tanks like the Urban Institute and the Institute for Urban Economics.³³ However, while some cities adopted zoning by the late 1990s, many continued to rely on Soviet-era procedures. Reform progress was uneven, constrained by administrative inertia, fears of losing flexibility and control, or limited local expertise.³⁴ As a result, the pace and depth of reform largely depended on the initiative and capacity of local authorities.

In microrayons, where land use and spatial layouts were inherited from the Soviet period, the 2004 Urban Planning Code suggested land to be categorized in two types: public-use land, which remained in municipal ownership and could not be privatized, and all other land, which could be privately or jointly owned, leased, or held by legal entities.³⁵ The Code also established a sequencing principle: land plots were first to be delineated under long-existing buildings, recognizing their priority status, before allocating land for future development. Survey plans had to reflect both the existing layout and regulations at the time of original construction. For residential buildings, this tied plot size to Soviet-era norms of territorial balance.

In practice, however, the land survey practices that emerged from the 2000s in Russian cities were highly variable and frequently marked by speculative practices, misinterpretations of federal legislation by local authorities, and corruption.³⁶ Municipalities were tasked with coordinating diverse stakeholders and maintaining land and infrastructure often disproportionate to their resources and authority.³⁷ Consequently, municipal practices in managing Soviet-era microrayons often differed from, or even contradicted, federal legislation. For residents, unclear land status limited both their responsibilities for shared spaces and their ability to influence local development.³⁸ In turn it opened the door to speculative developments or changes in land use by various stakeholders.

Materials and methods

My analysis is based on a single case-study approach, focusing on the Soviet-era microrayon Solnechny in Irkutsk as a representative example of land ownership transition.³⁹ The case is particularly relevant to the availability of planning documents from the post-Soviet transformation period, including city-wide development plans and microrayon-scale documents for the period of 1991 and 2022. These include an explanatory note for the district development plan (*proekt planirovki*) dated 2006, a 2011 district development plan, land survey plans (*proekt mezhevaniya*) from 2014, 2017 and 2022, and a 2021 concept plan for public spaces. Together, these documents allow insight into evolving land-related decisions.

To ensure source triangulation and strengthen the validity of the findings, publicly available cadastral data, open municipal tender records, and local and regional newspapers (primarily *Vostochno-Sibirskaya Pravda* and *Irkutsk. Weekly Municipal Newspaper*, 1990s – 2000s) were used to trace ownership patterns and public representation of the market transition in Irkutsk during the

³³Trutnev, Valletta, and Yakoubov, "Progress and Problems."

³⁴Trutnev, "The City and the Law," 24; Fadeeva et al., *Rodnye zemli*, 188–190.

³⁵Trutnev et al., *Pravovye Voprosy Mezhevaniya*, 8.

³⁶Stadnikov, "A Microrayon's Urban Renewal," 160; Levin and Satarov, "Corruption and Institutions in Russia."

³⁷Yasin, "Politicheskaya Ekonomiya Reformy ZhKH."

³⁸Safarova, "Praktika Primeneniya."

³⁹Yin, *Case Study Research and Applications*.

early years of post-Soviet period.⁴⁰ Newspaper articles were searched using keywords drawn from planning documents in the Molchanov-Sibirsky online archive of scanned periodicals. Regional-level media were included to capture the multilevel nature of land conflicts, which often involved actors at the municipal, regional, and federal levels. While planning documents served as the main empirical base, the use of additional sources allowed for cross-verification and helped address data gaps.⁴¹ Nonetheless, limitations in the availability of planning data constrain the interpretation of institutional rationale behind specific decisions.

Selecting the city of Irkutsk as a case study is grounded in two key factors: its role in the late Soviet industrialization process, which included large-scale housing development, and its distinctive post-Soviet institutional trajectory. As part of the industrial expansion in Eastern Siberia during the 1960s and 1970s, driven by resource extraction, particularly coal mining, hydroelectric development, non-ferrous metallurgy, and heavy manufacturing, Irkutsk became a place of intensified urban growth.⁴² In the post-Soviet period, Irkutsk was among the few cities to take early, proactive steps in land use regulation and property management. With support of international agencies, it became a testing ground for market-oriented tools, including open land auctions, housing market, and institutional reforms in the 1990s and early 2000s.⁴³ The relative transparency of these experiments, combined with a well-preserved body of local planning documents and media sources, enables the reconstruction of key decisions. This combination of a clearly structured Soviet spatial legacy and an active post-Soviet regulatory transformation makes Irkutsk particularly well-suited for analyzing land ownership transitions at the microrayon scale.

Results: Solnechny by the end of the Soviet period

The construction of the Solnechny microrayon in Irkutsk (known as the Karl-Marx-Stadt microrayon until 1991) began with a 1969 development plan.⁴⁴ By then, industrialization had turned Irkutsk and Eastern Siberia into a hub for international cooperation among socialist countries and a centre of mass housing construction.⁴⁵ Housing-related exchanges included technology transfer, standardized housing models, and youth construction brigades.⁴⁶ Microrayon development in Irkutsk was thus tied to broader Soviet youth and regional development policies. In Eastern Siberia, housing provision was a key mechanism used by the Soviet state to attract and retain young specialists and skilled urban workforce.

This political and economic role of Eastern Siberia for the Soviet state gave local architects a certain degree of flexibility to experiment with standardized housing designs and open space planning within the microrayons.⁴⁷ The Solnechny project used the five-storey 1-464 series and the nine-storey 135 series, both widely common in the USSR, but with climatic adaptations suited to Siberian conditions. Architects introduced innovations such as corner sections on vertical piles, enabling the perimeter arrangement of five-storey sections around a semi-closed courtyard, which was not typical for the Soviet microrayons. As a result, the project achieved a relatively compact design while

⁴⁰Deacon, "Yesterday's Papers and Today's Technology," 22.

⁴¹Yin, "Validity and Generalization in Future Case Study Evaluations," 324.

⁴²Slavinsky, "Siberia and the Soviet Far East."

⁴³see, for example, Petrovich, Heart, and Zadorov, "Land Use Regulatory System (Zoning)"

⁴⁴The former name referred to Karl-Marx-Stadt, Irkutsk's sister city in the GDR during the Soviet period, now known as Chemnitz.

⁴⁵Ogly, "Konceptsiya razvitiia."

⁴⁶Karasev, "Photo Report of the Visit to the Irkutsk Region by Siegfried Lorenz."

⁴⁷Antipin et al., "Shestidesyatniki."

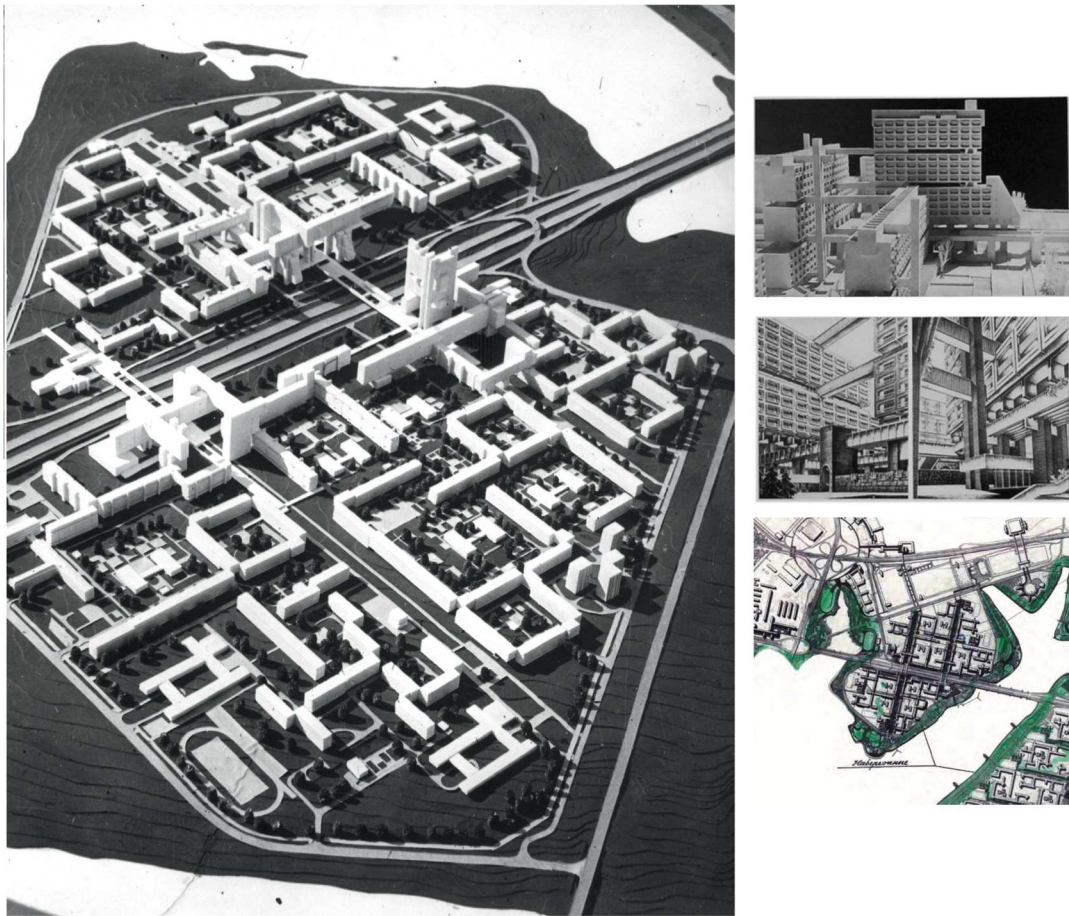


Figure 3. Model of Solnechny from the north. 1970s, Irkutskgrazhdanproekt – left, Details of planned pathways and 1969 plan of Solnechny – right, via the archives of Project Baikal journal provided by Elena Grigoryeva, the founding editor-in-chief.

maintaining the standard microrayon density of approximately 4,900 square metres per hectare, with a median building height of 5.4 storeys.⁴⁸ [Figure 3]

The first buildings were completed by 1972. Based on the standard 1-464 series, the five-storey buildings were constructed rapidly, with most completed between 1972 and 1978. Although the plan for semi-enclosed courtyards was retained, few of the corner sections on piles were built. [Figure 4] These elements were proved difficult due to the limitations of Soviet construction technology, which was not ready for customized designs, including poor thermal insulation and production inefficiencies.⁴⁹ By 1990, nine-storey sections were completed. However, several custom-designed multi-apartment buildings, as well as planned schools, kindergartens, and public infrastructure, were not implemented. As a result, by the 1990s, parts of the microrayon land remained vacant, with the original 1969 Soviet development plan left partly unfinished. By 1990, the

⁴⁸The calculations were carried out by the author based on publicly available data on residential buildings, as the original explanatory note for the project is not available.

⁴⁹Antipin et al., "Shestidesjatniki (1964–1974)," 6.

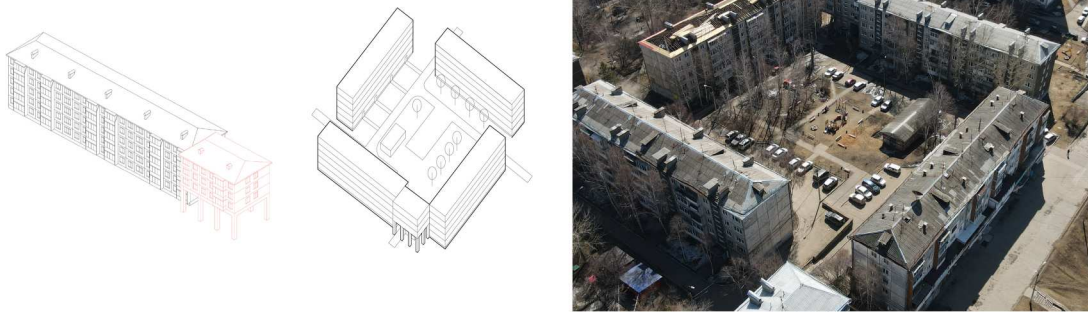


Figure 4. Corner sections on piles in Solnechny based on panel series 1-464. Diagram by K. Gulyaeva and aerial view by R. Malinovich (2021).

microrayon had reached around 70–80% of the 1969 development plan: 103 of the planned 131 residential buildings were completed, housing about 23,000 residents instead of the projected 34,000, with an average of 14.9 square metres of living space per person.

The landscape component of the project aimed to separate pedestrian and vehicular flows with two pedestrian overpasses connecting the northern and southern parts of the microrayon. Although never built, these pathways defined two main internal connections leading toward the riverfront and the Angara River. Solnechny's location on a peninsula, shaped by the earlier construction of the Angara River hydroelectric dam, allowed to use the riverfront as an integral part of microrayon recreation.⁵⁰ A boat station offered transport links to Lake Baikal and other settlements along the Angara, enhancing the district's landscape potential. This combination of natural setting and an individualized layout based on standard housing blocks contributed to Solnechny's lasting residential appeal.

The post-1990 land question in Irkutsk

In the 1990s, Irkutsk took early steps to develop land use regulations, a new type of document for the post-Soviet period. The city's draft zoning and development rules were publicly presented in 1996, and they came into force in 1999.⁵¹ Yet, addressing land issues in built-up areas was not a top priority, as the municipality focused on auctioning undeveloped land, forming a real estate market, and managing municipal property. Built-up areas required more time and effort to reconcile the interests of existing residents, business owners, and other stakeholders, particularly given yet the lack of legislative or planning frameworks for addressing built-up areas. Still, the importance of land delineation was recognized locally, highlighting in the press: 'When 100 per cent of Irkutsk's land resources are included in the Land Cadastre, their use will undoubtedly become more efficient. After all, land gains value only when it has an owner.'⁵² In this view, 'efficiency' meant full legal clarity through total cadastral coverage, where every parcel is formally assigned to either public or private owner, and any change implies a redistribution of rights or value.

⁵⁰Grigoryeva and Lidin, "Boulevards of Architects," 93.

⁵¹"Explanatory Note for the Draft Zoning.," "Report of the Mayor of Irkutsk," 3.

⁵²"Irkutsk." Weekly Municipal Newspaper, March 1, 1999, 5.

Although full cadastral coverage was still a long way off, these early statements signified a shift in how urban land was understood by the municipality as a source of tax revenue. Following fiscal, budget and land reforms in the 2000s, the land tax in cities became a local tax, directly impacting municipal budgets. It was intended as a key incentive for the municipality to address land relations, including built-up residential districts. Irkutsk newspapers throughout the 1990s and 2000s emphasized the direct relationship between land registration and local revenues, highlighting the need for a complete inventory, identification of landowners, and reassessment of private property to improve tax collection.⁵³ In 2006, for example, an open tender for land survey work in Soviet-era residential districts aimed to ‘establish plot-boundaries of built-up and undeveloped land to create a taxable base for land parcels under multi-apartment buildings and other real estate assets within these buildings.’⁵⁴ Thus, this fiscal incentive aimed to encourage the municipalities to undertake land survey to expand the taxable land base.

However, in practice, this incentive was insufficient for the municipality to advance city-wide land registration. A 1998 municipal newspaper noted that many plots were being used without legal documentation, while also highlighting that systematic registration was only just beginning.⁵⁵ By 2008 the problem of unused or unregistered land within residential districts, referred to as ‘grey zones of residential development,’ had become embedded in municipal practice, often resulting in ‘legal voids’ and ad hoc decision-making.⁵⁶ With municipal land governance remaining fragmented, these ‘legal voids’ became a key channel for private development in Soviet-era residential districts during the 2000s.

Furthermore, the 2015 abolition of the local land tax on plots located beneath multi-apartment buildings, part of a nationwide policy change, removed a key incentive for municipalities to allocate land in built-up residential districts.⁵⁷ The land component was indirectly incorporated into apartment property tax, calculated by location but not by land plot size or legal status. This change likely pushed Soviet-era housing areas to the bottom of the priority list for completing land survey work that had begun in the 1990s and 2000s., while land tax revenues shifted primarily toward other land categories.

The first land parcels and post-Soviet spatial transformations of Solnechny

Land conflicts in Solnechny related to the allocation of plots for new housing development in the early 2000s were associated with two types of new construction. The first was a low-rise townhouse settlement built along the riverfront in the northeastern part of Solnechny, approved in 1998–1999 and targeted at middle and upper-income residents seeking alternatives to apartment blocks.⁵⁸ This reflected a broader regional push for developing standardized low-rise housing as a new product for the housing market. The existing social infrastructure in Solnechny was a key factor supporting the experiment to establish a low-rise settlement here.⁵⁹ While mass housing faced growing criticism in the 1990s, microrayons offered a certain type of resource for new development due to their already established infrastructure.

⁵³“Irkutsk.” Irkutsk: Weekly Municipal Newspaper, 31 January 2005, 5.

⁵⁴“Notice of an Open Tender,” 9.

⁵⁵“Irkutsk.” Irkutsk: Weekly Municipal Newspaper, 23 January 1998, 2.

⁵⁶Serye Pyatna Irkutskoy Zastroyki,” 3.; Trutnev, “The City and the Law,” 15.

⁵⁷Federal Law No. 284- FZ (2014).

⁵⁸“Kanadskaja Derevnja,” 5.

⁵⁹“Beregovaya Voyna v Solnechnom,” 5.

The land allocation for this development was contested by a yacht club partially located on the same site. The club represented a surviving entity of the Soviet-era trade-union-sponsored sailing federation.⁶⁰ This case illustrates a broader post-Soviet trend, when many agreements previously allowing trade unions to control valuable and investment-worthy properties have been reconsidered by public authorities.⁶¹ As a result, ownership of these properties has shifted from the unions to the state. In Solnechny, the conflict involved multiple stakeholders, including a yacht club without a formally registered land title but with a history of land use dating back to the Soviet period, a private developer promoting low-rise housing in the Irkutsk region, a general contractor presenting regional interest, and municipal authorities responsible for land reallocation.⁶² Only one third of the land previously used by the trade union remained to the club.⁶³ The dispute over land rights remained unresolved for at least another twelve years.⁶⁴ The conflict illustrates how land relations in the microrayon were taking shape amid overlapping property registration and land redistribution processes, often bringing into tension Soviet-era patterns of land use with the interests of newly emerging post-Soviet stakeholders. [Figure 5]

The second type of development in Solnechny was the construction of new multi-apartment buildings on land left vacant since the Soviet period, when parts of the original housing project were left incomplete. The first cadastral records of these plots appeared between 2002 and 2004, with construction taking place from 2006 to 2014.⁶⁵ This new wave of development often exceeded the height and density parameters envisioned in the original Soviet project. According to a 2006 explanatory note from development plan (*proekt planirovki*), most were multi-storey housing, with roughly two-thirds of them reaching up to 25 storeys.⁶⁶ The new development was framed in the note as ‘completing the formation’ of Solnechny, which can be understood as a reference to the original ideas of the Soviet-era plan.⁶⁷ At the time, 98.9% of Soviet-era buildings were assessed as having amortization levels below 30%, which justified their preservation, and no demolition was foreseen.⁶⁸ The plan added 153,100 m² to the existing 470,400 m² of residential space. This densification triggered protests among residents, however, plans remained unchanged.⁶⁹ It did, however, prompt the emergence of grassroots resident groups from 2003. [Table 1]

Alongside the allocation of land for new construction in the 2000s, apartment owners in Solnechny began formalizing land rights under Soviet-era multi-apartment buildings. A 2014 municipal land survey plan (*proekt mezhevaniya*) documented which plots were registered and where residents had yet to claim their rights.⁷⁰ [Figure 6] Under this plan, plots typically included only green areas around buildings and, particularly in the case of five-storey 1-464 series, did not include the semi-enclosed courtyards. The 2017 version of the municipal land survey plan revised this approach by dividing courtyards among adjacent buildings. Despite the existence of official plans, the cadastral registration depends on apartment owners, resulting in diverse outcomes in terms of plot size and configuration. This is especially evident in the case of five-storey perimeter buildings, which reveal four common scenarios. [Figures 7 and 8]

⁶⁰Ibid.

⁶¹Sviridov, “Ekspropriatsiya profsoyuzov nachnetsya s yaht-klubu.”

⁶²“Beregovaya Voyna v Solnechnom,” 5.

⁶³Ibid.

⁶⁴“Yakht-Klub ‘Vodnik’ Pytayutsya Vyselit’ s Zanimayemoy Territorii.”

⁶⁵see for example, Gorunova, “Proekt ‘Marchal,’” 4

⁶⁶“Poyasnitelnaya Zapiska.”

⁶⁷Ibid.

⁶⁸Ibid.

⁶⁹“Kto Budet Reshat’ Nashu Sud’bu?”

⁷⁰Irkutsk City Administration, “Prilozheniye № 5 k postanovleniyu administratsii g. Irkutsk ot 24.11.2014 № 031-06-1394/14.”



Figure 5. Post-1991 development types: 1–1999 townhouse area, 2 – multi-storey housing ‘Marshal’, author; copies from the local newspapers about the conflicts from Molchanov-Sibirsky online archive of scanned periodicals.

Table 1. Comparison of existing housing stock and planned development in Solnechny, 2006.

Indicator	Existing (2006)	Planned (in 2006)
Total housing stock	470.4 thousand m ²	623.5 thousand m ²
Preserved housing stock		470.4 thousand m ² (100%)
New planned housing	–	153.1 thousand m ²
– of which: 2–3 storeys	–	6.1 thousand m ²
– of which: 4–5 storeys	–	5.1 thousand m ²
– of which: 6 + storeys	–	141.9 thousand m ²
Stock with physical wear ≤ 30%	465.1 thousand m ² (98.9%)	–
Stock with physical wear 31–65%	5.3 thousand m ² (1.1%)	–
Stock with physical wear > 65%	0 thousand m ² (0%)	–
Population	21,300 people	24,000 people

Minimal plot alignment: One of the four buildings has plot boundaries that align closely with its footprint (registered in 2005). As a result, the owners in this building pay lower taxes while still having unrestricted physical access to the entire courtyard, including playgrounds and open parking areas.⁷¹

Shared plots: Several buildings share a single plot (registered in 2006). Consequently, any decision-making regarding land use, maintenance, or improvements to the courtyard require the agreement of the owners of all four buildings involved.

Minimal land registration: Only one building has a minimally sized plot (registered in 2005). The other three do not have registered plots, which does not restrict their use of the shared courtyard.

Full registration: All buildings surrounding the courtyard have registered plots covering one hundred per cent of the courtyard area, with each building having its own registered plot

⁷¹under the legal framework in which land tax applied to plots beneath multi-apartment buildings prior to its abolition in 2015



Figure 6. Registered land plots: left – by 2006, centre – by 2014, right – by 2022, based on publicly available cadastral data. Author.



Figure 7. Land survey plans from 2014 (white) and 2017 (red) illustrating how proposed boundaries for land parcels under apartment buildings differed over time. Author.

(registered in 2010 and 2023). From a spatial perspective, all buildings share access to the entire courtyard, although specific features like playgrounds or parking may be located within separate registered plots.

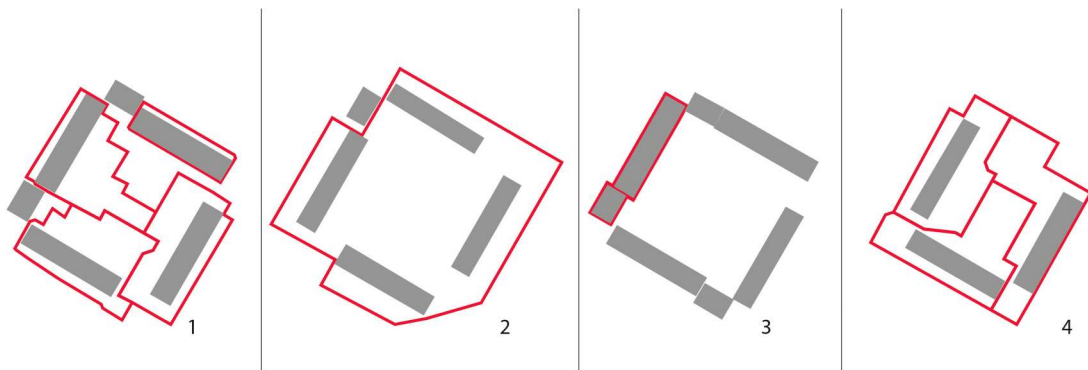


Figure 8. Four plot division scenarios for panel series 1-464. Based on open cadastral data and survey plans. Author.

The example of the shared courtyard vividly illustrates a tension between two spatial logics: the principle of land ownership, which implies control over land access, and Soviet microrayon planning, which inherently denies the possibility of restricting access to the common resources such as a courtyard or other types of green and open areas. In many post-Soviet cities, fencing around residential buildings has become a common practice, particularly in microrayons where the spatial layout does not centre around a shared courtyard. Such enclosures often serve to delineate and privatize formerly open space, reflecting a shift toward control over space.⁷² In Solnechny, however, this practice has not become widespread, likely due to the spatial structure, where the courtyard is clearly defined by the surrounding five-storey buildings. Municipal plans as of 2022 reflect a tendency to apply the full registration scenario to five-storey buildings with shared courtyards, seeking as well to shift full financial and legal responsibility for the courtyard to apartment owners.

The case of Solnechny shows how land relations in a post-Soviet microrayon have taken shape through the interaction of spatial layouts, legal change, and institutional practices. While overlapping property regimes may function in practice, their coordination requires clearer institutional frameworks, capable of accommodating the coexistence of multiple stakeholder rationalities. Governance of shared land involves actors with divergent interests, including apartment owners, developers, regional actors, municipal authorities, and, sometimes former Soviet-era land users such as trade unions. Municipal land survey plans from 2017 and 2022 indicate that certain land issues still remain unresolved even decades later, deferring decisions and costs.⁷³ In Solnechny, land continues to be a site of negotiation shaped by inherited layouts and new development agendas, where formalization not only legalizes ownership but redefines the meaning and use of urban land.

Public-use land: transforming the Solnechny riverfront

Recent transformations in Solnechny are defined less by new residential construction and more by how public-use land (*territorii obshchego pol'zovaniya*) is managed and redefined. This category includes spaces such as squares, parks, embankments, green areas, and boulevards, which are

⁷²Trudolyubov, *The Tragedy of Property*.

⁷³"Pravila Zastroyki – v Kazhdom Kioske."



Figure 9. Left – Riverfront use in the 2000s. Photos: E. D. Bryukhanenko, 2000 and 1990, Khroniki Priangarya archive n. FN010101, n. FN014522 in Molchanov-Sibirsky online library. Right – public-use land (*territorii obshchego pol'zovaniya*) in Solnechny from 2022 land survey plan (with an inverse version). Author.

meant to remain open and accessible to everyone and cannot be privatized. However, what counts as public-use land is not fixed, thus its composition is determined in each case by the approved land survey plan (*proekt mezhevaniya*). As a result, a boulevard may be classified as public-use land in one district but not in another. Since the municipality is responsible for maintaining such land, its designation directly determines who bears the costs and obligations of upkeep, and implicitly involves a reassessment of inherited Soviet green and open spaces.

Solnechny riverfront, one of the largest open spaces inherited from the Soviet microrayon, offers an example of shifting land status. Although it has long been used as a publicly accessible space for both microrayon residents and the whole city, it was never formally designated as public-use land in post-Soviet land survey plans. In the post-Soviet period, the riverfront was subdivided into parcels, and permitted land uses gradually expanded to include commercial development. Ownership became fragmented among multiple stakeholders, including townhouse residents, several new yacht clubs, the river shipping company, and parcels classified as unallocated municipal land. Over time, the municipality began leasing some of the remaining plots through public-private partnerships and long-term lease agreements. [Figure 9]

According to the 2021 master plan, ten development or improvement projects were planned or underway along the riverfront, as the riverfront was also included into a city-wide initiative to reconstruct and reinforce the riverbanks in Irkutsk.⁷⁴ Funding for these projects has expected to come primarily from federal and regional programmes, public-private partnerships, and private investors rather than the municipal budget.⁷⁵ As of 2022 land survey plan, only a small portion of land with direct river access was classified as public-use land and, thus, maintained by the municipality. These developments raise critical questions about municipal capacity to maintain and manage open public space inherited as a part of Soviet microrayon. What was de facto public or intended as such in Soviet-era projects often no longer aligns with the fiscal and administrative capacities of municipalities in the post-Soviet context. In Solnechny, the location has drawn investments, but this has come at the cost of growing development pressure. In many other microrayons, where land is less commercially attractive, the financial and institutional resources required to sustain large public spaces remain a significant and unresolved challenge.

⁷⁴"Materialy Gradostroitel'nogo Soveta Pri Gubernatore Irkutskoy Oblasti."

⁷⁵Strategiya Razvitiya Predmest'ya Znamenskoye v Irkutske.

Discussion

The spatial transformations in Solnechny during the post-Soviet period may not represent the most radical interventions in terms of densification or demolition of existing buildings.⁷⁶ However, they reveal how the Soviet spatial principles for microrayons have confronted the post-Soviet transition to a new property regime. These principles, designed for a system of state ownership, demands significant re-evaluation under transition towards a pluralistic regime of land rights. Such a transition necessitates not only technical land allocation, but also a clear distribution of financial and administrative responsibilities to maintain inherited space. This calls for an open discussion about the spatial values embedded in the Soviet microrayon, focusing on the resources required to sustain these urban spaces under new ownership regimes.

At the same time, post-Soviet development in Solnechny emerged without sufficient municipal capacity to manage land relations in microrayons at the local level. Although federal legislation in the mid-2000s introduced the principle requiring existing land uses to be legally secured before any alterations, in practice, municipal agendas were mainly focused on preparing plots for investment and land auctions.⁷⁷ Consequently, land regulation within microrayons was reduced to a patchwork of piecemeal decisions, leaving legal ‘voids,’ offering opportunities for speculative development.⁷⁸ This piecemeal approach to managing the Soviet-era Solnechny microrayon has become the default development strategy. The 2022 land survey plan still left parts of the microrayon without clear land decisions, revealing how unresolved land status continues to define post-Soviet urban development.

The situation in Solnechny illustrates broader challenges facing Soviet-era residential districts undergoing land reform. Initially, the spatial qualities of these areas such as open courtyards and generous green spaces were not recognized by either residents or local authorities as values at risk of being lost. In Russia, wider public debates about these spatial values only emerged in the 2010s, in response to high-density infill projects and subsequent resident protests.⁷⁹ However, by that time, many opportunities related to the legal status and uses of land in microrayons had already been lost.⁸⁰ Subsequent legislative changes, such as the abolition of public hearings further constrained owners’ ability to participate in or influence land-use decision.

At the same time, the value attributed to land is not shared equally among stakeholders, and is shaped by evolving local conditions and institutional practices rather than by stable preferences. In Solnechny, four cases of land allocation under five-storey buildings illustrate how boundaries, initially delineated by municipal land survey plans, were revised, adjusted or reduced by the apartment owners’ inputs. Some chose to register only the minimum possible plot size, limited to the building’s footprint, likely in order to reduce their tax liability rather than to secure long-term control over the land. In other cases, owners preferred to retain larger plots that reflected Soviet-era standards for communal space. These cases resulted in provisional local equilibriums, shaped by transitioning legal frameworks, material conditions, and competing rationalities of involved actors. Such differing outcomes reflect the presence of polyrationality, where land is simultaneously a shared resource to be protected and a financial or administrative burden depending upon the position, interests, and capacities of the actors

⁷⁶see, for example, Zhelnina, “Making Urban Futures at Your Kitchen Table,” which discusses Moscow’s 2017 Renovation Program aimed at demolishing thousands of Soviet-era buildings.

⁷⁷Trutnev et al., *Pravovye Voprosy Mezhevanija*, 11.

⁷⁸Trutnev, “The City and the Law,” 15.

⁷⁹Bederson et al., *The city of forking streets*, 39.

⁸⁰Safarova, “*Praktika Primeneniya*.”

involved. Public cadastral data confirms this variability, showing inconsistent patterns of land registration under uniform privatization rules.

This process of land allocation raises a broader question about the nature of what was inherited from the Soviet residential project: apartments, land, or both? While privatized apartments could be sold or passed down to future generations in the post-Soviet period, land remained poorly defined as a component of ownership. Encouraging rapid apartment privatization was in the municipality's interest, relieving it of the financial and administrative burden of housing maintenance during the 1990s.⁸¹ This shift allowed municipalities to pass maintenance responsibilities to property owners through commercial arrangements in the housing and utilities sector. For many families, housing privatization was simply a bureaucratic step to formalize rights to a space already long in use.⁸² The apartment was a clearly bounded, easily transferable unit, defined by the threshold of the front door. In contrast, land ownership beneath multi-apartment buildings required a longer and more complex process of defining boundaries and involved multiple stakeholders beyond the individual household. As a result, land has remained a secondary or overlooked element in the transformation of residential districts.

Surveys from 2004 and 2018 confirm that housing privatization was viewed positively by residents of major cities, where new opportunities for property transactions were more accessible.⁸³ In 2004, 30% of respondents considered ownership a key right, ahead of voting or freedom of movement. However, only 5–7% of respondents saw the right to defend private property in court as significant. By 2018, 93% identified apartment ownership as the most meaningful form of private property, closely associated with familiar Soviet-era possessions such as cars, *dachas*, and garden plots.⁸⁴ Other types of property are either seen as insignificant or insufficiently protected. Thus, residents' prioritization of apartment privatization has implicitly contributed to the limited interest in formalizing land rights, creating conflicting homeowner interests for completing land ownership.

Land in microrayons, still lacking clear legal status, holds little practical value for apartment owners and poses uncertain future obligations. If land taxes on plots beneath apartment buildings, which were repealed in 2015, are reinstated, unclear land ownership could once again become a critical issue for homeowners. The institutional reliance on opaque decision-making and preliminary municipal approvals makes any homeowner initiative related to land an excessive burden with unpredictable outcomes.

The case of Solnechny highlights broader systemic challenges in the governance of urban land in post-socialist contexts. Despite available legal guidelines, local capacity for land surveying and boundary clarification has often been insufficient.⁸⁵ As Trutnev notes, the introduction in Russia in the 2000–2010s of the so-called 'preliminary approval' mechanism marked a regulatory shift away from planning documents toward situational decision-making.⁸⁶ This shift diminished the regulatory role of documents and instead fostered a focus on ad hoc solutions. For Solnechny, while densification became a reality, unresolved land-use issues from the 1990s remain a significant concern for residents and property owners. This lack of resolution continues to challenge the governance of shared residential spaces.

⁸¹Yasin, "Politicheskaya Ekonomiya Reformy ZhKH."

⁸²Zorkaya, "Privatizatsiya i Chastnaya Sobstvennost'."

⁸³Ibid; Volkov and Kolesnikov, "Novaya Russkaya Mechta." 9.

⁸⁴Ibid.

⁸⁵Trutnev, "The City and the Law," 24.

⁸⁶Ibid.

This reflects a deeper structural dilemma: the difficulty of transitioning from one equilibrium (state-controlled land) to another (pluralistic land regimes) involving multiple private and public owners. For certain spatial configurations, this transition carries substantial institutional and material costs. As Verdery highlights, land use under socialism was not a blank page, but a set of arrangements that continue to shape today's disputes. In Solnechny, this is evident in conflicts over former trade union properties, such as the yacht club. Such transitions are best understood not as discrete moments of reform, but as ongoing negotiations over value, authority, and legitimacy.⁸⁷ Delayed decision-making pushes responsibilities and costs into the future, creating unequal burdens among stakeholders. At the same time, these negotiations reshape the material fabric of the microrayon in the present through contested uses of space, attempts to preserve or redefine access, and new functional boundaries that emerge from planning documents and the spatial practices of everyday use.

Conclusion

The case of post-Soviet land reforms in the Solnechny microrayon in Irkutsk demonstrates that time is one of the most constrained resources when establishing coherent land relations. The administrative burden and coordination costs required for implementing land regulation in the early post-Soviet period often outweighed the benefits envisioned by local governments for residential districts. For apartment owners, the unclear legal status of land has required ongoing attention and negotiation, but collective ownership offers few tangible benefits. Collective ownership of land does not limit owners' ability to sell, transfer, or mortgage individual apartments, although in recent years it became a necessary condition for accessing state-funded programmes aimed at improving courtyards. Thus, land governance has proven institutionally costly for municipalities and practically ambiguous for residents, with many land-related issues still unresolved decades after housing privatization.

In the long run the lack of clearly defined land ownership hinders strategic urban development and renewal. This ongoing ambiguity reproduces patterns of dependency on state decisions, which complicates rather than facilitates the management of Soviet-era residential areas. The growing need to address major repairs, infrastructure renewal, and maintenance of public amenities expose the fragility of the current model, particularly as unclear land ownership prevents using land as collateral. In many cases, the division of responsibilities remains unclear, and securing funds for essential improvements remains a persistent problem.

Addressing these challenges requires more than formalization of land titles. It calls for the development of flexible institutional arrangements that can mediate between the legacy of Soviet planning and the evolving needs of urban communities. The case of Solnechny shows that land use practices, collective ownership dynamics, and the management of open spaces require analytical approaches that move beyond formal property categories. Instead, these processes demand approaches attentive to the material, spatial, and social logics embedded in the microrayon. There is a growing need to explore how municipalities and residents navigate overlapping rationalities, lasting legacies, and fragmented regulatory systems.

Acknowledgments

I thank the anonymous reviewers for their thoughtful comments and constructive questions, and the editors of the special issue for their valuable guidance, which contributed significantly to the development of this

⁸⁷Sikor, *When Things Become Property*.

paper. I am also grateful to my colleague Ekaterina Gladkova for her support, and Prof. Dr. Mark Levin and Dr. Nadezhda Shilova for their helpful feedback and discussions on earlier drafts.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Funding

This work was supported by Bundesministerium für Bildung und Forschung: [Grant Number 'Stadt.Kultur.-Bauen – Baukulturelles Erbe in der post-sowjetischen Stadtentwicklung' 2021–2024, Förderkennzeichen 01UC2410B].

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