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Problems and prospects of transition to the master planning system in urban development practice

The paper examines the key problems and prospects of introducing a master-planning system into urban development practice. It analyzes institutional, legal, and economic barriers that hinder the transition from situational project design to a comprehensive strategic approach at the territorial level. Particular attention is paid to coordination between different levels of government, the integration of long-term target programs, and the consideration of multidimensional constraints — natural-climatic, infrastructural, and social. Based on a comparative analysis of foreign and Russian urban practices, practical recommendations are formulated to improve the regulatory framework, strengthen the institutional role of local self-government, and create financial instruments that stimulate integrated territorial development. The conclusion presents forecasts for the sustainable implementation of master-planning under systemic reforms and proposes a pilot roadmap for its introduction in Russian conditions. The author provides detailed explanations and examples of master-planning implementation in various regional contexts, emphasizing the need to adapt international practices to local specificities and legal frameworks.

Keywords: *master planning, urban planning, integrated territorial development, institutional mechanisms, urban policy*

The transition to a master-planning system is increasingly viewed as a key instrument for modernizing contemporary urban development practices. In contrast to fragmented project-based initiatives, a master plan provides strategic coordination of territorial development, integrating demand forecasting, the synchronization of infrastructure investments, and assessments of economic feasibility. However, in the Russian context, the implementation of such a system faces numerous constraints, ranging from deficiencies in the regulatory framework to limited institutional capacity at the municipal level and the lack of robust financial mechanisms [1, 2].

In international practice, master planning is employed as a strategic instrument for the development of major cities and urban agglomerations. A review of academic and policy sources shows that successful cases — such as those observed in several European cities and parts of Asia — are built upon a combination of well-defined legal frameworks, transparent procedures for public participation, and long-term financing arrangements [3–5]. In Russian academic literature, issues of territorial planning and the integration of functional components are examined by domestic researchers who emphasize the need to adapt international approaches to the specific institutional conditions of the Russian context [6, 7].

This study represents an analytical investigation based on a comparative review of existing practices, an examination of regulatory documents, and a synthesis of findings from thematic publications. The research applies methods of system analysis, expert evaluation, and case-study approaches. The use of qualitative analytical techniques makes it possible to identify the key factors influencing the effectiveness of master planning and to formulate practical recommendations for the Russian regulatory and administrative context [1, 3, 6].

The absence of a unified competency framework across federal, regional, and municipal levels results in a fragmented distribution of responsibilities. Strategic planning objectives often diverge from the short-term operational interests of local authorities, which slows the coordination and approval of long-term development projects [2, 8]. Such misalignment leads to duplication of functions and reduces the overall effectiveness of administrative decision-making [6, 9]. In addition, inconsistencies in regulatory approaches and spatial-planning instruments complicate the implementation of inter-regional initiatives and comprehensive territorial-development programs [10, 11]. Overcoming this gap requires institutional integration across levels of government and the establishment of unified methodological standards for master planning [4, 12]. Such harmonization would strengthen vertical accountability and improve the quality of interaction among stakeholders involved in urban-development policy [3, 13].

The existing legislative framework, which is primarily focused on municipal regulations and land-use relations, does not always provide sufficient instruments for the implementation of comprehensive master plans. This includes the absence of robust mechanisms for mandatory infrastructure financing and long-term public–private partnership arrangements [6, 9]. The need to address this gap is driven by the requirement for a comprehensive assessment of planning decisions, incorporating economic, social, and environmental dimensions. In addition, potential alternative development scenarios should be taken into account and evaluated through a comparative analysis based on a set of performance indicators.

The need for extensive use of GIS technologies, transport-flow modelling, and scenario-based forecasting is constrained by a shortage of qualified

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► specialists and limited access to advanced analytical tools [12]. This requirement arises from the necessity to conduct a comprehensive assessment of the impacts of planning decisions, encompassing economic, social, and environmental dimensions. Furthermore, it is essential to consider potential alternative development scenarios and perform their comparative evaluation using a defined set of performance indicators.

Master planning constitutes a critical instrument for the strategic optimization of land use, facilitating the coordinated deployment of infrastructural investments while enhancing the predictability of territorial development, thereby mitigating transaction costs and augmenting investment appeal [3, 5, 10]. This methodology underpins the articulation of a comprehensive vision for urban spatial organization, ensuring a calibrated balance between residential, public, and industrial zones [4, 6]. Moreover, master planning provides a framework for the systematic allocation of transport flows and the efficient management of engineering networks, which exerts a direct influence on urban environmental quality and the overall standard of living [7, 9, 11]. A further salient advantage pertains to the increased transparency of planning outcomes: the existence of a consolidated master document reduces administrative barriers and promotes participatory engagement of stakeholders in strategic decision-making processes [5, 8]. From a long-term perspective, such an approach reinforces the sustainability of territorial development, fosters the expansion of the municipal tax base, and contributes to the enhancement of investment ratings for local authorities [3, 6, 10].

Key risks associated with master planning include the potential politicization of planning decisions, insufficient adaptability in the context of rapidly evolving economic conditions, and the risk of overestimating initial assumptions, which may result in inefficient resource allocation [8, 11]. Addressing these risks necessitates a comprehensive assessment of the implications of planning decisions, encompassing economic, social, and environmental dimensions. Additionally, it is essential to consider alternative territorial development scenarios and conduct comparative evaluations against a defined set of performance indicators.

Several implementation models can be identified: a centralized model based on regional programs; a project-oriented model implemented through pilot projects; and a hybrid model, which incorporates private capital through public-private partnership mechanisms and designated territorial development zones. In the context of Russian urban development, the hybrid model appears most feasible, as it allows for the integration of governmental regulation with market-based incentives [4, 9, 13].

Several implementation models can be distinguished: a centralized approach, based on regional programs; a project-oriented approach, implemented through pilot projects; and a hybrid model, which involves private capital participation via public-private partnership mechanisms and designated territorial development zones. In the context of Russian urban development, the hybrid model appears most feasible, as it enables the integration of governmental regulation with market-based incentives [4, 9, 13].

The implementation of a legal framework to ensure compliance with approved master plan provisions is essential, including the assignment of accountability for parties failing to meet deadlines or adhere to implementation parameters [7, 10]. Such a framework would enhance procedural transparency, mitigate the risk of administrative errors, and strengthen trust among stakeholders engaged in investment and construction activities [3, 8, 11].

Strengthening the role of municipalities through the enhancement of their competencies and the provision of financial instruments is essential, alongside the establishment of cross-sectoral

coordination councils for major territorial projects, comprising representatives from government, business, and civil society [2, 7]. This requirement stems from the necessity of a comprehensive assessment of the implications of planning decisions, encompassing economic, social, and environmental dimensions. Furthermore, alternative territorial development scenarios should be considered, with comparative evaluations conducted against a defined set of performance indicators. The formation of such councils ensures a balanced consideration of the interests of various stakeholders and enhances the transparency of urban planning decision-making processes [5, 9]. The involvement of public institutions and professional associations in the approval of project decisions fosters trust in governmental authorities and reduces the risk of conflicts during project implementation [10, 11]. Municipalities must possess the methodological and analytical resources required to assess the consequences of planning decisions [4, 6]. Effective interaction between municipal and regional structures will establish a resilient feedback system and improve the quality of strategic planning [8, 14]. In the long term, this will provide a foundation for integrating master planning principles into spatial governance mechanisms, enabling more coordinated territorial development [12, 15].

The implementation of long-term infrastructure bonds, a "land bank" mechanism, and public-private partnerships with guaranteed long-term returns for investors is recommended. Additionally, targeted territorial development funds involving regional budgets and private capital may be established [10, 11]. This approach is necessitated by the requirement for a comprehensive assessment of the implications of planning decisions, encompassing economic, social, and environmental dimensions. Furthermore, alternative territorial development scenarios should be considered, with comparative evaluations conducted using a defined set of performance indicators.

It is essential to develop continuing education programs for urban planners, expand access to analytical platforms, and promote interdisciplinary education integrating urban studies, economics, and information technology [12, 14]. This requirement arises from the necessity of a comprehensive assessment of the implications of planning decisions, encompassing economic, social, and environmental dimensions. Furthermore, alternative territorial development scenarios should be considered, with comparative evaluations conducted against a defined set of performance indicators.

An illustrative roadmap for pilot implementation can be structured as follows: Phase 1 – Preparatory (0–6 months): formation of the project team, preliminary territorial audit, data collection, and identification of key constraints. Phase 2 – Design (6–18 months): development of territorial development scenarios, stakeholder consultations, and refinement of financial mechanisms. Phase 3 – Implementation (18–60 months): phased deployment of infrastructural measures and monitoring of execution. Phase 4 – Institutionalization: amendments to regulatory frameworks and scaling of successful solutions [3, 5].

The transition to a master planning system offers significant opportunities for sustainable and coordinated urban territorial development. However, the realization of this transition necessitates a comprehensive approach aimed at overcoming institutional, legal, and financial barriers. Key success factors include the establishment of a transparent regulatory framework, the development of financial mechanisms, and the enhancement of municipal competencies. When these conditions are met, master planning can serve as an effective instrument for transforming spatial policy and promoting sustainable urban development.

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Проблемы и перспективы перехода к системе мастер-планирования в градостроительной деятельности

В статье рассматриваются ключевые проблемы и перспективы внедрения системы мастер-планирования в градостроительной деятельности. Проанализированы институциональные, правовые и экономические барьеры, препятствующие переходу от ситуативного проектирования к комплексному стратегическому подходу на уровне территорий. Особое внимание уделено вопросам координации между различными уровнями власти, интеграции долгосрочных целевых программ и учету многомерных ограничений — природно-климатических, инфраструктурных и социальных. На основе сравнительного обзора практик зарубежных и российских городов формулируются практические рекомендации по совершенствованию нормативно-правовой базы, усилению институциональной роли местного самоуправления и созданию финансовых инструментов, стимулирующих комплексное развитие территорий. В заключении представлены прогнозы устойчивого внедрения мастер-планирования при условии системных реформ и предложена дорожная карта пилотного внедрения в российских условиях. Автор дает подробные пояснения и примеры реализации мастер-планирования в разных региональных контекстах, подчеркивая необходимость адаптации международных практик к местным особенностям и правовым реалиям.

Ключевые слова: мастер-планирование, градостроительство, комплексное развитие территорий, институциональные механизмы, городская политика

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