

INTEGRATED DEVELOPMENT OF TERRITORIES: PERSPECTIVES AND CONFLICTS

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The study found that integrated territorial development projects in Russia are actively developing: the dynamics of indicators is steadily increasing. Nevertheless, this area of the construction industry has a significant list of legislative, economic, social, and organizational shortcomings. This leads to constant conflicts of interests between project stakeholders and acute conflicts, which, if not resolved, can lead to the collapse of the project. The article determines that there is a need to develop an arbitration system for the integrated development of territories, which would automate all processes and transfer conflict from the zone of conflict of interests to the field of mathematical modeling and maximum seamless elimination of collisions.

Keywords: complex development of territories, conflicts, collisions, housing stock, resettlement, social architecture, sustainability, marginability, master plan, building density.

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PLAYGROUND AS AN ELEMENT OF COMPREHENSIVE IMPROVEMENT: EVOLUTION OF FUNCTIONS AND FORMS

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The article examines the evolution of playgrounds as a structural element of urban improvement: from isolated objects of the pre-revolutionary period to modern multifunctional play complexes. Children's play areas within residential developments and public spaces in Russian cities were studied. Three broad stages in the development of the playground concept were identified: the pre-revolutionary (spontaneous), Soviet (mass standardized), and modern (inclusive multifunctional) stages. Current operational problems were identified: vandal resistance, material wear and tear, and high maintenance costs.

Keywords: territory improvement, playground, play space, comfortable urban environment, recreation area, inclusivity, universal design, residential complex

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AUTOMATED ARBITRATION SYSTEM IN ORDER TO ELIMINATE CONFLICTS IN THE IMPLEMENTATION OF PROJECTS FOR THE INTEGRATED DEVELOPMENT OF URBAN AREAS ON THE EXAMPLE OF NIZHNY NOVGOROD, VORONEZH AND MARIUPOL

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Integrated territorial development is a key tool for urban renewal in Russia, designed to solve the tasks of renovation of dilapidated housing, infrastructure development and improving the quality of life. However, its implementation in practice inevitably faces a complex of social, legal and urban conflicts. Contradictions arise at the junction of the public interests of the city's development, the commercial goals of developers, and the private rights of citizens to property, habitual habitat, and historical and cultural heritage. This study analyzes three characteristic but different conflicts within the framework of the KRT projects: the preservation of historical buildings in Nizhny Novgorod, the problem of the "garage amnesty" in Voronezh and the post-conflict rehabilitation of housing in Mariupol. These cases demonstrate a wide range of challenges: from typical Russian problems to unique situations requiring special legal and social mechanisms.

Keywords: complex development of territories, conflicts, collisions, housing stock, resettlement, master plan, arbitration, developer, cultural heritage site, garage amnesty, post-conflict reconstruction.

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MANAGING THE FINAL STAGE OF THE LIFE CYCLE OF CONSTRUCTION OBJECTS IN THE TRANSITION TO A CIRCULAR ECONOMY

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The purpose of the article is to develop organizational and technological solutions for managing the final stage of the life cycle of construction objects based on the principles of the circular economy. The following tasks were solved as part of the research: an analysis of domestic and foreign experience in the field of construction waste management was conducted, the main barriers hindering the implementation of circular approaches were identified, a classification of circular strategies for decommissioning buildings was developed, and a methodology for a multifactorial assessment of alternative scenarios for completing the life cycle was proposed, including a system of quantitative indicators and calculation formulas

Keywords: construction facility, life cycle, final stage, management, circular economy, recycling of construction waste, economic efficiency

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THE INFLUENCE OF A SINGLE DESIGN CODE ON THE APPEARANCE OF CITIES IN THE RUSSIAN FEDERATION

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This article examines the introduction of a single design - code in Russia, aimed at forming common approaches to visualizing the urban environment and architecture. General concepts, principles and characteristics are considered. As an example, the norms established by Government Decree No. 902-PP of 25.12.2013 regarding the requirements for advertising structures and signs in the capital are given. In addition, the process of introducing the updated design code in cities such as Kursk and Rybinsk is being studied, which describes practical steps to adapt the appearance of buildings and signs according to new standards. The positive consequences of the introduction of a single design - code, which improve the perception of urban space and increase the level of attractiveness of territories, are emphasized.

Keywords: a unified design code, signage, urban space, and aesthetic design.

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FEATURES OF RENOVATION AND ACHIEVING SUSTAINABLE DEVELOPMENT OF THE STRUCTURE OF HOUSING STOCK BASED ON THE DEMOGRAPHIC COMPOSITION OF FAMILIES IN THE CITY OF GITEGA IN THE REPUBLIC OF BURUNDI - AFRICAN COUNTRY

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This study examines the renovation and sustainable development the city of Gitega's housing stock, taking into account the dynamics of demographic changes in households. City of Gitega faces significant housing challenges caused by rapid urbanization and continuous population growth. These challenges include urban expansion, the development of the informal economy, a lack of housing suitable for large families, and environmental pressures. The study resulted in the development of a master plan for the city of Gitega through 2050, taking into account various types of family structures and their percentages.

Keywords: Renovation, Sustainable development, housing development, demographic trends, Republic of Burundi. family composition.

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GREEN INFRASTRUCTURE OF THE URBAN WATER CYCLE: ANALYSIS AND COMPARISON OF STORMWATER MANAGEMENT TECHNOLOGIES

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The article examines the key problems of traditional stormwater management methods: overloaded drainage systems, flooding of territories, and pollution of water bodies. Three main types of solutions employing green infrastructure technologies are analyzed: green roofs, rain gardens, and permeable pavements. For each technology, the mechanism of action, environmental efficiency, area of application, and limitations are identified. The applicability of these solutions to Russian climatic conditions is substantiated.

Keywords: “green” infrastructure; green roofs; rain gardens; permeable pavements; stormwater management; sustainable urban development

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INFLUENCE OF THE SPATIAL AND PLANNING ORGANIZATION OF THE LOCATION OF TOURIST FACILITIES IN A SMALL CITY ON THE FORMATION OF A TOURIST ROUTE

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The article explores the relationship between the spatial and planning organization of tourist facilities in small towns and the process of forming tourist routes. The types of spatial and planning structure of cities are considered. The study is based on a comparative urban planning analysis of three towns with a tourist specialization: Gorokhovets (Vladimir Region), Myshkin (Yaroslavl Region), and Zvenigorod (Moscow Region). The coefficient of compactness of tourist routes is determined.

Keywords: spatial and planning organization, tourist routes, tourism, small towns, attractions, compactness coefficient

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EVOLUTION OF REGULATORY AND PLANNING REQUIREMENTS FOR SCHOOL BUILDINGS: HISTORICAL ANALYSIS AND CURRENT TRENDS

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The article is devoted to a comprehensive analysis of the historical and architectural evolution of the educational space, considered in the context of the changing pedagogical paradigms and social requirements. The study examines the genesis of the architectural forms of schools, from the ancient

gymnasiums and monastic schools of the Middle Ages to modern multifunctional campuses and inclusive educational complexes. Special attention is paid to the influence of regulatory frameworks, particularly modern codes of practice, on the development of planning solutions that ensure the safety, comfort, and accessibility of the environment. Key trends in the design of educational institutions have been identified.

Keywords: architecture of educational institutions, historical evolution, educational space, normative design, inclusive environment, modern campus

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ANALYSIS OF APPROACHES TO VACUUM-AERATION DIAGNOSTICS OF LATENT WATERPROOFING DEFECTS OF FLAT ROOFS

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Hidden waterproofing defects of flat roofs are formed in areas of seams, junctions, mechanical damage and moisture accumulation, therefore visual signs of leakage do not allow reliable identification of the place of continuity violation. A rational examination scheme is based on a combination of aeration and local vacuum control, in which the movement of the gas medium through the defect is used as a diagnostic feature. This technique allows you to identify suspicious areas, specify the coordinates of damage, take into account the condition of the insulation, the effect of condensation, the features of roll and membrane coatings, and link the test results with subsequent repairs. The practical value of the approach is to reduce the volume of openings, increase the accuracy of leak localization, and create a reproducible algorithm for checking roof tightness. Its use is advisable during the acceptance of work, operational control and selection of repair solutions, when it is necessary to compare the signs of humidification with the actual air filtration channels in the roofing system.

Keywords: vacuum-aeration tests, roofing, hidden defects, waterproofing, leaks, tightness, diagnostics

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SOCIOCULTURAL PROBLEMS OF HISTORICAL CENTER RECONSTRUCTION: METHODOLOGY OF THE TARGET TYPOLOGICAL APPROACH

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The article substantiates the need to move from fragmentary reconstruction of historical centers to a systematic methodology. Based on the demoecological approach, three socio-cultural problems (heterogeneity, decomposition, deconstruction) and their corresponding areas of environmental impact on humans (socio-functional efficiency, perceptual and ecological comfort, identification and semantic attribution) are identified. The connection of external factors of the demographic ecosystem "population and environment" with these areas has been established, which justifies the need for three target typological indexes. The proposed methodology of the Target Typological Approach (TSTP) allows structuring the conflict of reconstruction goals and making the choice of strategy sound and verifiable.

Keywords: historical center, systems approach, reconstruction, sociocultural problems, urban social space.

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EVALUATION OF IMPACT INVESTMENT PERFORMANCE IN THE REDEVELOPMENT OF A COMMERCIAL PROPERTY - THE «SENATOR» BUSINESS DISTRICT IN VORONEZH

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This article explores methodological approaches to assessing the effectiveness of impact investments. It systematizes key impact investing criteria and analyzes current trends in the development of standardized performance measurement systems. Based on this analysis, the strengths of the redevelopment project are identified in terms of impact objectives and areas for improving its assessment mechanisms are proposed, enabling the transformation of commercially successful development projects into benchmark impact projects scalable to other regions.

Keywords: impact investing, criteria, redevelopment, sustainable development, IT cluster.

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SUBSTANTIATION OF A METHODOLOGICAL APPROACH TO ASSESSING THE RELIABILITY OF ROOFING SYSTEMS IN THE FAR NORTH

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The article is devoted to the analysis and ranking of factors determining the operational reliability of roofing construction systems in the Far North. The paper proposes a methodological approach based on the classification of technological processes, the identification of key influencing factors and their subsequent ranking according to the degree of importance for the Arctic climate. The result of the analysis is a ranked list of operational reliability factors with justification of their significance and weighting factors.

Keywords: Far North, roofing construction systems, reliability, reliability assessment methodology, climatic effects, hygrothermal regime, low-temperature operation, roof operational control.

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JUSTIFICATION OF ASSESSMENT OF THE CONDITION OF GROUPS OF RESIDENTIAL BUILDINGS BY INDICATORS OF OBSOLESCENCE FOR PLANNING THEIR RENEWAL

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In most Russian cities, the current state of the territories of mass residential development, represented mainly by buildings of past decades, urgently requires comprehensive reconstruction and bringing to compliance with modern urban planning standards. Based on this, the most important scientific and practical task is to develop a comprehensive methodological approach to assessing the condition of residential buildings, including a method for determining their obsolescence, which will make it possible to classify objects according to the degree of need for renovation.

Keywords: residential buildings, multi-aspect renovation, systems approach, physical depreciation, moral depreciation, private and general indicators, expert method, Harrington scale, pie chart.

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HYBRID METHODS OF RESOURCE PLANNING OF PROJECTS IN CONDITIONS OF STOCHASTIC UNCERTAINTY AND LIMITED RESOURCES

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The article considers the scheduling and resource planning of construction projects in conditions of limited resources and uncertainty. The limitations of deterministic, reactive and stochastic approaches are shown. A hybrid methodology based on a hierarchical vector-matrix model combining proactive and dynamic planning is proposed. An algorithm for bidirectional transformation of a dynamic schedule and a basic calendar plan is developed. allows you to optimize time and costs. The practical significance is confirmed by the reduction of the risks of failure to meet deadlines in construction projects.

Keywords: calendar and resource planning, construction projects, stochastic uncertainty, dynamic planning, proactive-reactive planning, transformation algorithm, resource constraints, optimization of terms and costs.

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