

Dynamic Adjustment of Municipal and County Territorial Spatial Master Plans Based on Health-Check Evaluation: Basic Understanding, Practical Dilemmas, and Mechanism Design

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Abstract

Evaluation and adjustment are key links in the supervision and implementation system of territorial spatial planning; their coordinated operation enables dynamic governance of territorial space. Facing the implementation needs of major strategies and major projects during the 15th Five-Year Plan period, the coordination mechanism between health-check evaluation and dynamic adjustment of territorial spatial master plans urgently requires systematic improvement. Starting from the intrinsic dynamism of territorial spatial governance, this paper reviews China's plan evaluation and adjustment mechanisms before the "multi-plan integration" reform, defines the connotation and characteristics of dynamic adjustment in territorial spatial planning, and analyzes the adjustment needs and practical difficulties encountered in implementing municipal and county territorial spatial master plans. Based on the deep reciprocal logic between health-check evaluation and dynamic adjustment, it proposes a mechanism framework for dynamic adjustment composed of five levels: objectives, principles, content, operation, and safeguards. The framework provides theoretical and practical reference for evaluating and adjusting territorial spatial plans at the municipal and county levels.

Keywords

territorial spatial planning; health-check evaluation; dynamic adjustment; spatial governance; planning implementation

Introduction

The mechanism of plan evaluation and adjustment is a key component of the supervision system for territorial spatial planning implementation [1]. It is also an important practice for promoting high-quality urban development and modernizing territorial spatial governance. In 2019, the Opinions of the CPC Central Committee and the State Council on Establishing and Supervising the Implementation of the Territorial Spatial Planning System made top-level arrangements for health-check evaluation and dynamic adjustment. After years of "multi-plan integration" reform, China has established a national urban health-check evaluation system for territorial spatial planning, and municipal and county territorial spatial master plans have entered the stage of full implementation. At the same time, these plans face diverse needs for adjustment and improvement in implementation transmission and in supporting new requirements for socioeconomic development. In March 2026, the Outline of the 15th Five-Year Plan for National Economic and Social Development proposed to "dynamically improve territorial spatial planning based on national development planning and the results of territorial spatial planning evaluation." Dynamic adjustment of territorial spatial planning has therefore become a major direction for optimizing territorial spatial control. As the health-check evaluation system continues to improve, establishing a sound dynamic adjustment mechanism on the basis of evaluation results has become an urgent practical issue.

Since the reconstruction of the territorial spatial planning system, theoretical and practical research on planning evaluation and adjustment has gradually developed, but overall it started late and remains weak in institutional design. In health-check evaluation, some scholars have explored methods, pathways, technical frameworks, and monitoring-warning mechanisms at different spatial scales, including cross-regional, provincial, municipal, and county levels [2-7]. Others have examined theoretical frameworks for territorial spatial planning implementation evaluation, reciprocal paths between health-check evaluation and implementation management, and interactive frameworks linking territorial spatial planning with health-check evaluation [8-10]. In dynamic adjustment, some studies argue that comprehensive land consolidation can provide an institutional interface for territorial spatial plan adjustment [11]; others propose using near-term planning as a staged carrier for maintaining territorial spatial master plans [12], or construct pathways through which evaluation-based adjustment links development planning and territorial spatial planning [13]. Overall, existing research often discusses health-check evaluation or dynamic adjustment separately. The use of health-check evaluation as a basis for plan adjustment is still moving from conceptual advocacy to practical exploration, and closed-loop coupling between evaluation and dynamic adjustment remains insufficient. In response to the implementation needs of municipal and county territorial spatial master plans, it is necessary to design a systematic coordination mechanism. This paper proceeds from the dynamism of territorial spatial governance, aims to improve governance capacity and effectiveness, clarifies the connotation and institutional features of dynamic adjustment, analyzes the practical needs and dilemmas of dynamic adjustment, and constructs a dynamic adjustment framework based on health-check evaluation to support high-quality implementation of spatial planning.

1 Basic Understanding of Dynamic Adjustment in Territorial Spatial Planning

1.1 Review and Reflection on Plan Evaluation and Adjustment Before “Multi-Plan Integration”

Before the “multi-plan integration” reform, development planning, urban-rural planning, land-use planning, and other spatial plans had largely established their own systems for evaluation and adjustment [12,14]. A comparison of these systems (Table 1) shows that all followed the basic principle of “evaluation before adjustment.” Yet because the plans differed in positioning and function, they varied significantly in evaluation mechanisms, use of evaluation outputs, and rigidity of adjustment.

Table 1. Comparison of Plan Evaluation and Adjustment Systems Before “Multi-Plan Integration”

Plan Type	Development Planning	Urban-Rural Planning	Land-Use Planning	Major Function-Oriented Zone Planning
Evaluation mechanism	Annual monitoring and evaluation; mid-term evaluation; final summary evaluation	Periodic evaluation of plan implementation	Implementation evaluation of general land-use plans, which may be conducted annually	Timely plan evaluation with evaluation reports
Adjustment mechanism	Dynamic adjustment and	Modification of provincial urban	Modification of general land-use	Evaluation and dynamic revision

	revision mechanism	systems, city master plans, and town master plans according to statutory authority and procedures	plans when implementation evaluation confirms the need	mechanism
Adjustment content	Mainly adjustment and updating of indicators	Evaluation reports identify proposed modifications and whether mandatory content is involved; master plans may be modified under five types of circumstances	Eligible cases may adjust urban-rural construction land scale boundaries; general land-use plans may be modified under six types of circumstances	Evaluation results identify plan content requiring adjustment or recommend plan revision
Procedure	The development and reform commission, with relevant parties, proposes an adjustment plan, submits it for approval, and then submits it to the NPC Standing Committee for deliberation and approval	If mandatory master-plan content is involved, a special report must first be submitted to the original approval authority; after consent, a modification plan may be prepared and submitted under statutory approval procedures	Modification approval follows the prescribed plan-preparation and approval procedure	Organized by the original approval authority
Policy basis	Opinions on Establishing and Improving the Implementation Mechanism of the	Urban and Rural Planning Law of the People's Republic of China (2007); Measures	Notice of the Ministry of Land and Resources on Strict Management of	National Major Function-Oriented Zone Plan (2010)

	National 13th Five-Year Plan Outline (2016)	for Evaluating the Implementation of City Master Plans (Trial) (2009); Rules for Modifying City Master Plans (2010)	General Land-Use Plan Implementation (2012); Measures for the Management of General Land-Use Plans (2017)	
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Source: Compiled from relevant laws and policy documents.

In development planning, a relatively mature monitoring and evaluation system has been established on a five-year cycle, consisting of annual monitoring, mid-term evaluation, and final summary evaluation, together with a dynamic adjustment and revision mechanism. Evaluation focuses mainly on socioeconomic development performance, major project implementation, policy coordination, and the alignment of development goals. The mid-term evaluation report can serve as a direct basis for plan adjustment, and adjustment mainly targets indicators that support goal achievement. Because development planning is dominated by expected indicators and contains fewer binding indicators, only the adjustment of binding indicators is subject to strict procedures; its adjustment mechanism is therefore relatively flexible.

For spatial plans, evaluation and adjustment systems have produced different practical outcomes. First, in urban-rural planning, implementation evaluation focuses on compliance with urban spatial layout and construction control. Evaluation of plan implementation is the statutory precondition for plan modification. When modifications involve mandatory content, special demonstration and review are required to maintain the seriousness of modification. Yet during the period of incremental expansion, insufficient statutory constraints on plan authority and evaluation-based adjustment, together with the drive of administrative performance and land finance, led local governments to modify plans frequently. Second, in land-use planning, annual monitoring and periodic evaluation focus on cultivated land protection and total construction land control. Evaluation results are used to guide indicator adjustment and plan modification. Core indicators such as cultivated land retention, permanent basic farmland protection, and total construction land are legally rigid and strictly approved, contributing substantially to national food security. At the same time, a differentiated adjustment mechanism distinguished “plan adjustment” from “plan modification,” thereby providing limited flexibility for local development. However, because planned-economy-style indicator control was overly rigid, modification procedures were cumbersome, and approval levels were high, the land-use planning adjustment mechanism suffered from low efficiency and weak adaptability when responding to the dynamic development needs of local market economies. Third, the National Major Function-Oriented Zone Plan proposed an evaluation and dynamic revision mechanism and required adjustment content or revision recommendations to be proposed on the basis of evaluation results. However, no specific follow-up guidance was issued, and the content and procedures for evaluation-based adjustment remained vague, with limited practical implementation.

1.2 Connotation of Dynamic Adjustment in Territorial Spatial Planning

Dynamic adjustment of territorial spatial planning was first established in national top-level institutional documents. Although no unified academic definition has yet been formed, the idea has long appeared in the history of urban planning thought. The Charter of Machu Picchu emphasized that “regional and urban planning is a dynamic process,” while the Declaration of Warsaw advocated that planning at any scale should include continuous coordination. Chinese scholars have also discussed the practice and theory of dynamic planning [15-16]. In addition, dynamic planning theory responds to the inflexibility of traditional planning by advocating incremental correction and improvement, so that plans can cope with the complexity and uncertainty of urban development [17-18]. Thus, the dynamic nature of planning has become a broad consensus. Before “multi-plan integration,” different plans used institutional arrangements such as plan modification, plan adjustment, or dynamic maintenance to respond to uncertainty in implementation. Although these terms differed, their core meaning was consistent: a standardized, precise, orderly, and controllable process of dynamic plan adaptation.

Territorial spatial planning organizes territorial-space development and protection activities according to the basic logic of unified territorial spatial use control [19]. Through strategic guidance and rigid control, it promotes efficient allocation of spatial resources and improves territorial spatial governance, becoming a core instrument of territorial governance. Territorial space itself is a highly coupled social-ecological-technical complex system [20]. The functional spaces subject to planning control are heterogeneous, dynamic, and scale-dependent [21]. A static planning blueprint is therefore unable to fully respond to constantly changing spatial governance needs. This means that territorial spatial planning is a governance process of continuous deepening, optimization, calibration, and improvement, while dynamic adjustment is the key path for realizing that process. Establishing a territorial spatial plan adjustment mechanism as an institutional interface for dynamic territorial governance is thus an inevitable choice for modernizing territorial spatial governance capacity.

It should be emphasized that the view that plan adjustment undermines plan authority and seriousness is a misconception rooted in static control thinking from the planned-economy era. It treats planning as a one-off governmental command for spatial control rather than understanding territorial spatial planning from the standpoint of the dynamic adaptability of national spatial governance. The authority and seriousness of planning lie in strictly implementing the development philosophy of ecological civilization and major national strategic intentions, and in firmly observing centrally defined resource, energy, protection, and spatial bottom-line requirements. When protection and development conflict, local governments should not be prohibited from adjusting plans altogether; instead, plans should be scientifically, systematically, and normatively improved to safeguard reasonable local development demands without violating national intent.

In summary, dynamic adjustment of territorial spatial planning is an important policy instrument for continuously optimizing and improving plans while keeping strategic goals, structural content, and bottom-line constraints unchanged. It responds to major national and regional strategies, major policies, major changes in natural conditions, and local socioeconomic development needs, and ensures the effective implementation of planning intentions. Its core value lies in following the dynamic governance logic of territorial spatial governance modernization and promoting the transformation of territorial spatial planning from a static “blueprint control tool” into a “spatial governance mechanism” capable of responding to uncertainty and self-adaptive optimization.

1.3 Institutional Features of Dynamic Adjustment in Territorial Spatial Planning

Compared with previous spatial plans, territorial spatial planning operates in a profoundly changed institutional environment shaped by the modernization of spatial governance in the era of ecological civilization [22]. Dynamic adjustment should therefore embody four institutional features.

First, it should support whole-territory and full-element governance. Territorial spatial planning covers all territorial space and all relevant elements, and makes systematic arrangements for multiple types of use behavior across different spaces and elements. Adjustment must therefore avoid arbitrary fragmentation and should incorporate comprehensive assessment of impacts across the whole territory and systematic adaptation across all elements.

Second, it should match bottom-line control with flexible development. The “three zones and three lines” constitute the non-negotiable red lines for territorial-space development and protection. Their purpose is not to restrict development, but to force cities toward intensive and qualitative development. Spatial bottom lines centered on the “three lines” must be strictly observed. At the same time, given the objective adjustment needs of the stock-development era, the conditions, circumstances, and procedures for adjustment should be clearly and strictly defined.

Third, it should form a positive-feedback loop in the planning process. The practical orientation of making planning usable, manageable, and effective requires close connection between plan preparation and implementation management, forming a full-cycle operating system of plan preparation, implementation tracking, evaluation and demonstration, and feedback correction [23]. Evaluation and adjustment are the key channels for realizing this positive feedback loop. Plan adjustment should therefore be based on a closed-loop logic that enables timely and effective planning responses to changes in spatial development.

Fourth, it should support collaborative governance in planning mechanisms. The territorial spatial planning system has restructured the division of planning authority between central and local governments. According to the collaborative governance principle of “one level of government, one level of authority,” the hierarchical approval system for master plans grants local governments more autonomy. Regulating dynamic adjustment according to the principle of matching powers and responsibilities, and clarifying the adjustment authority of central and local governments, is an important expression of vertical collaborative governance.

2 Practical Needs and Dilemmas of Dynamic Adjustment in Municipal and County Territorial Spatial Master Plans

At present, urban development has shifted toward stock renewal, quality improvement, and efficiency enhancement. The 15th Five-Year Plan will introduce new strategic adjustments, and territorial spatial governance must accordingly rely on dynamic optimization to ensure the realization of national governance goals. Under tight resource and environmental constraints, municipal and county territorial spatial master plans face urgent adjustment needs and practical dilemmas in adapting to spatial governance realities.

2.1 Practical Needs for Dynamic Adjustment

2.1.1 Strategic Dimension: Ensuring Precise Implementation of National and Regional Development Strategies

Because major national and regional strategies are long-term, staged, and dynamically evolving, municipal and county territorial spatial master plans require continuous dynamic adjustment to ensure

that local spatial layouts precisely match national strategic goals and tasks. First, the 15th Five-Year Plan will deploy new strategic tasks and major measures. The major industrial projects, regional infrastructure, energy and resource projects, and other initiatives identified by these tasks need to be fully secured in spatial planning. Second, major strategies such as coordinated development of the Beijing-Tianjin-Hebei region, Yangtze River Delta integration, and Guangdong-Hong Kong-Macao Greater Bay Area development continue to extend to the municipal and county levels. Existing plans often make insufficient arrangements for these strategies, and should strengthen cross-administrative urban layout, industrial coordination, infrastructure connectivity, and integrated cross-regional and cross-boundary spatial development. Finally, in response to macro-policy shifts such as the dual-carbon goals and the national layout of major productive forces, spatial development strategies and resource-allocation priorities should be adjusted in a timely manner, so that planning can actively guide spatial resources toward fields prioritized by the state.

2.1.2 Spatial Dimension: Improving Flexibility in Responding to Iterative Spatial Demand

As the spatial coordination platform, the master plan must integrate and coordinate the spatial placement demands of various industries and sectors. Because development plans and special plans differ in preparation cycles and depth, spatial planning must have a degree of flexibility in securing project space. On the one hand, key projects proposed in development plans change as circumstances evolve. Development-plan evaluation and adjustment mechanisms provide flexibility, while spatial planning has not yet established a corresponding adjustment mechanism. On the other hand, special plans cover more than ten fields, including water conservancy, transport, energy, agriculture, and forestry. They are highly professional, often linear in spatial form, and frequently subject to change. During implementation, they easily encounter conflicts in functional layout and spatial coordination. Their connection with territorial spatial master plans therefore also requires continuous calibration. Only by making dynamic adjustment a regular coordination platform can the spatial integration demands generated by overlapping plans at different stages be met, allowing the master plan to play its foundational role in the national planning system.

2.1.3 Implementation Dimension: Strengthening the Adaptability of Multi-Scale Planning Transmission

This round of spatial planning practice attempts to allocate and control territorial resources through top-down decomposition of rigid indicators and delineation of spatial bottom lines. In particular, it establishes a strong “indicator + space” constraint for the “three lines,” with boundaries refined directly to spatial coordinates. This precise rigid transmission is technically rational because it is easy to manage and supervise, but it lacks differentiated and adaptive spatial governance rationality across multiple scales [24], generating deviations between ideal arrangements and actual conditions. On the one hand, in the scale transformation from “whole territory” to “region” and then to “elements,” rigid content such as binding indicators and control boundaries must face complex scenarios involving spatial management authority and market change, exposing problems such as resource mismatch and insufficient flexibility. On the other hand, municipal and county development differs by stage. Development may far exceed or fall well below planning expectations. Static control indicators and spatial layouts cannot easily adapt to dynamic governance needs. To overcome the imbalance between rigidity and flexibility in multi-scale planning transmission, dynamic adjustment is needed to ensure effective plan implementation.

2.2 Practical Dilemmas in Dynamic Adjustment

2.2.1 Ambiguous Value Positioning and Lack of Rule Consensus

Unclear value positioning and the absence of rule consensus are the primary obstacles to the standardized implementation of dynamic adjustment in municipal and county territorial spatial master plans. Cognitively, the relationship between “rigidity” and “flexibility” is still often understood as a binary opposition, leading to two misconceptions: arbitrary disorder and excessive rigidity. On the one hand, some localities attempt to break spatial bottom-line controls at will and use dynamic adjustment as a “green channel” to bypass approval and implement non-compliant projects. On the other hand, excessive emphasis on plan authority makes some governments unwilling or afraid to respond to legitimate adjustment needs, causing plans to become disconnected from development realities. In terms of rules and standards, existing spatial planning regulations use multiple terms, including “modification,” “adjustment,” “correction,” and “optimization” (Table 2). Standards for adjustable circumstances are inconsistent, leaving local governments with broad discretion in technical pathways, depth of demonstration, and approval procedures. This is unfavorable to the overall effectiveness of the planning system. The root cause is inertia from traditional static planning thinking: planning is treated as a definitive final blueprint, and the core value of dynamic adjustment in improving plan-development fit and governance effectiveness is overlooked.

Table 2. Provisions on Plan Adjustment in Selected Provincial and Municipal Spatial Planning Regulations

Regulation	Zhejiang Territorial Spatial Planning Regulation	Hainan Free Trade Port Territorial Spatial Planning Regulation	Guangzhou Territorial Spatial Planning Regulation	Beijing Urban-Rural Planning Regulation
Adjustment type	Correction; modification	Modification	Modification; adjustment; optimization	Modification
Adjustable circumstances	Correction based on health-check evaluation results; modification of detailed plans involving mandatory master-plan content	Major national or provincial strategies or policies change; administrative divisions change or superior territorial spatial master plans are modified; major national or provincial energy, transport, water conservancy, or other projects are	Modification: national strategies or major policies change; administrative divisions are adjusted; superior territorial spatial plans change; major national or provincial infrastructure or other projects are needed; unforeseeable	Municipal master plan: superior territorial spatial plan changes, major national strategies change, major projects are built, or administrative divisions are adjusted. District master plan: superior territorial spatial plan changes;

		needed; major national defense or public-safety projects are needed; other circumstances prescribed by laws, regulations, or the provincial government	major national defense, military, emergency rescue, disaster relief, or epidemic-control projects are needed; implementation evaluation confirms the need for modification; other circumstances prescribed by laws and regulations or identified by the provincial government. Adjustment: layout adjustment of cross-city/county urban-rural construction land or urban development boundaries. Optimization: local optimization of urban-rural construction land or urban development boundaries within the city or county	administrative divisions are adjusted; major national strategies change; major projects approved by provincial or higher governments are built; urban health-check evaluation of territorial spatial planning indicates a need for modification; other circumstances meeting national or provincial provisions or identified by the municipal government
Procedure and authority	Statutory procedures and authority	Authority defined by national and provincial provisions	Modification: if mandatory content is involved, approval follows the	Municipal plan: reviewed and approved by the provincial government, then

			original procedure; if not, the provincial government determines the procedure. Adjustment and optimization: procedures are formulated by the provincial competent department	submitted to the State Council for approval. District plan: approved by the municipal government and filed with the provincial government
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Source: Compiled from issued provincial and municipal territorial spatial planning regulations.

2.2.2 Disconnection Between Health-Check Evaluation and Dynamic Adjustment Management Chains

Although institutional documents have identified health-check evaluation as a basis for dynamic adjustment and improvement, no coordinated linkage mechanism has yet been established. Health-check evaluation and dynamic adjustment remain disconnected. Existing evaluations often present problems and recommendations as abstract textual conclusions. Their value is concentrated more on supervision of implementation than on driving optimization. They do not convert evaluation results into specific adjustment task plans through a full-chain closed loop of “health-check evaluation conclusions - adjustment demand list - adjustment plan preparation.” As a result, evaluation outputs lack operability. Nor has a binding procedural connection been established between health-check evaluation and plan adjustment, making it difficult for evaluation to directly trigger adjustment work. In some localities, plan adjustment is still dominated by project implementation and administrative will, weakening the scientific and systematic nature of dynamic adjustment.

2.2.3 Lagging System Design for Dynamic Adjustment

Because of the inertia of the previous “modification” systems for spatial plans, spatial plan preparation did not fully account for the continuous calibration required by dynamic governance. The institutional supply needed to support standardized operation clearly lags behind practical demand. First, dynamic adjustment faces a legitimacy dilemma. The Territorial Spatial Planning Law has not yet been promulgated, while the modification systems in the Land Administration Law and the Urban and Rural Planning Law are designed for occasional circumstances and no longer meet the needs of regular dynamic spatial governance. Second, dynamic adjustment lacks coordination, and element adjustment operates in a fragmented manner. Current adjustment of permanent basic farmland, ecological protection red lines, and urban development boundaries is handled separately; differences in approval level, timing, and technical standards generate conflicts, turning dynamic adjustment into fragmented “patching” rather than systematic spatial optimization. Third, plan adjustment authority remains unclear. The “one level of government, one level of authority” principle is already clear in plan preparation. Yet apart from the largely clarified authority and procedures for modifying or adjusting the “three lines,” authority for other plan adjustments is unclear, and an institutional balance between central control and

local flexibility has not yet formed. Finally, supervision remains insufficient. A sound supervision and accountability mechanism is needed to define responsible actors, circumstances, and standards, so as to prevent illegal and disorderly adjustment.

3 Mechanism Design for Dynamic Adjustment of Municipal and County Territorial Spatial Master Plans Based on Health-Check Evaluation

As an important component of the national governance system, territorial spatial planning is essentially tasked with handling the relationship between top-down safety control and bottom-up development demands in accordance with the modernization of national spatial governance capacity. These two logics naturally create tension. Building a dynamic planning adaptation system that coordinates development and security is an effective way to resolve that tension. At the back end of plan implementation, evaluation and adjustment play a crucial role because of their close reciprocal logic. Their coordinated operation provides an institutional interface for dynamic territorial governance and promotes a dynamic balance between planning rigidity and flexibility. Establishing a municipal and county dynamic adjustment mechanism based on health-check evaluation aims to strengthen the adaptability, flexibility, and institutional resilience of territorial spatial planning through an institutionalized sequence of “evaluation - adjustment - replanning.”

3.1 Reciprocal Logic Between Health-Check Evaluation and Dynamic Adjustment

The effectiveness of plan implementation depends not only on a well-designed blueprint but also on the capacity to respond scientifically to changing constraints. Health-check evaluation and dynamic adjustment help shift spatial governance from a one-way “implementation - result” model to a two-way “learning - adaptation” model with continuous feedback. Within the closed-loop life-cycle operation of planning, health-check evaluation and dynamic adjustment are closely reciprocal (Figure 1), forming a basic “diagnosis - treatment” logic: health-check evaluation diagnoses “urban diseases,” while plan adjustment provides targeted treatment.

Health-check evaluation systematically, comprehensively, and objectively assesses urban operation and plan implementation through evaluation organized by timing and dimensions. It monitors, warns, and identifies deviations in a timely manner, accurately revealing problems and weaknesses in urban spatial governance and providing a scientific basis for dynamic plan adjustment. Plan adjustment responds to implementation bottlenecks and spatial demands identified by evaluation, formulates adjustment and optimization plans, considers the degree of impact and the administrative authority involved, and carries out layered, categorized, and graded plan correction or optimization. Health-check evaluation is an important precondition for dynamic adjustment, and dynamic adjustment is the implementation carrier of health-check evaluation. Their reciprocal logic is essentially a process of self-correction and improvement based on feedback on spatial development problems. Deep connection between the two improves plan adaptability and implementation effectiveness and jointly promotes dynamic governance in territorial spatial planning.

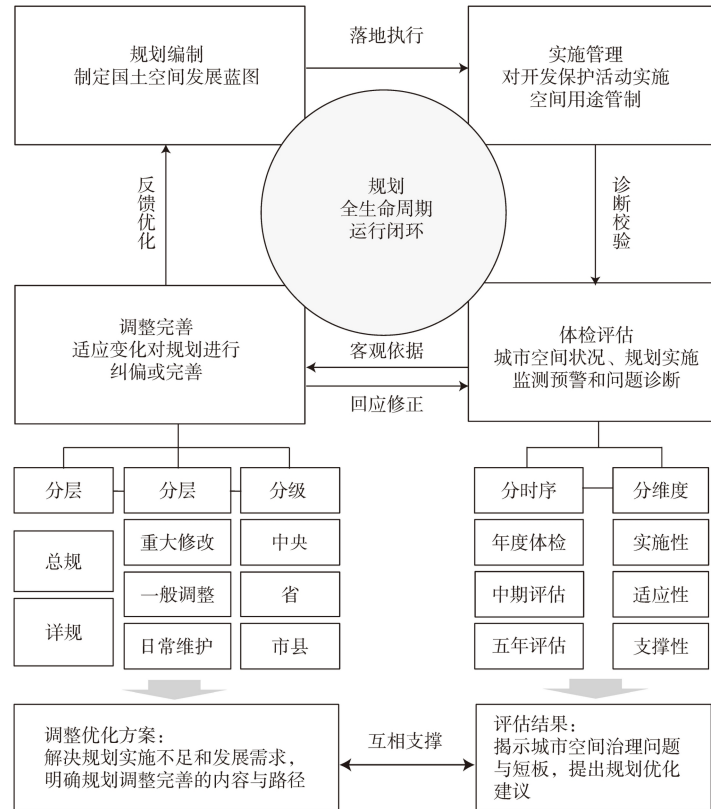


Figure 1. Interactive Feedback Between Health-Check Evaluation and Dynamic Plan Adjustment

3.2 Building a Dynamic Adjustment Mechanism for Municipal and County Territorial Spatial Master Plans

Dynamic adjustment of municipal and county territorial spatial master plans should meet the requirement for dynamic adaptability in national spatial governance. It should strengthen deep connection and coordinated operation between health-check evaluation and plan adjustment, and follow the basic logic of “why to adjust - according to what principles - what to adjust - how to adjust - how to safeguard.” Accordingly, this paper proposes a dynamic adjustment framework composed of five levels: objectives, principles, content, operation, and safeguards (Figure 2).

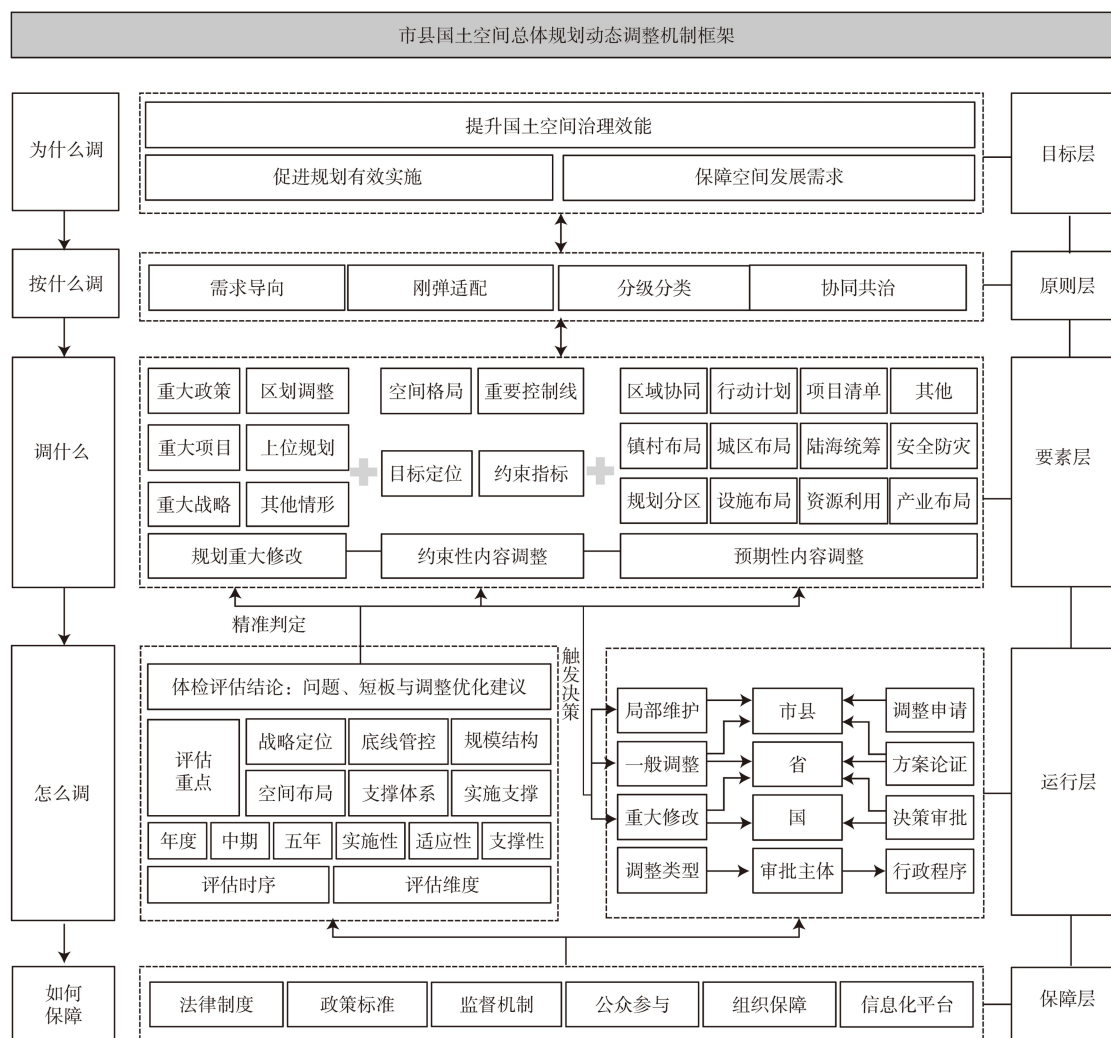


Figure 2. Logic for Constructing a Dynamic Adjustment Mechanism for Municipal and County Territorial Spatial Master Plans

3.2.1 Objective Level: Improving Territorial Spatial Governance Effectiveness

The implementation of municipal and county territorial spatial master plans directly confronts the core contradiction between planning blueprints and development realities. It is the key carrier for realizing territorial spatial governance goals. Establishing a dynamic adjustment mechanism aims to enhance spatial governance effectiveness by promoting effective plan implementation and safeguarding spatial development needs. On the one hand, without affecting the overall goal structure, it optimizes local spatial bottlenecks, forms implementation pathways suited to actual needs, maintains plan flexibility and adaptability, and supports the overall effectiveness of strategic guidance and bottom-line control. On the other hand, it actively serves socioeconomic development planning, ensures that key projects can be incorporated into plans through clear pathways, and enables planning to function as a governance tool for spatial support and coordination.

3.2.2 Principle Level: Combining Rigidity-Flexibility Matching with System Optimization

First, dynamic adjustment should be demand-oriented and evaluation-led. National and regional strategy implementation, industrial development, and livelihood needs should serve as the basic basis.

Health-check evaluation should be the precondition for dynamic adjustment, accurately identifying problems and clarifying optimization directions. Institutionalized systematic evaluation should ensure the scientific and reasonable nature of adjustment decisions.

Second, rigid control and flexible adaptation should be unified. “Rigid control” and “flexible demand” should be organically integrated. The “three zones and three lines” and binding indicators must be strictly observed. Under the premise of stable spatial structure and no reduction in the quantity or quality of protection targets, dynamic adjustment should be implemented to improve spatial-use efficiency, solve implementation conflicts, and improve the human settlement environment.

Third, adjustment should be graded, categorized, and systematically optimized. According to impact scope, risk level, and control intensity, adjustment should be implemented through graded and categorized procedures. Based on a whole-territory and full-element approach, ecological, agricultural, and urban spaces should be optimized in coordination, and fragmented adjustment should be avoided.

Fourth, administrative authority should match responsibility, and collaborative governance should be strengthened. The planning authority requirements of “who approves, supervises” and “who manages, approves” should be strictly followed. Vertical approval authority and supervision responsibilities should be clearly divided. Departmental coordination and public participation should be strengthened, and diverse interests should be balanced to ensure orderly and standardized evaluation and adjustment.

3.2.3 Content Level: Building a Refined Management System for Adjustment Elements

Dynamic adjustment involves control elements at different levels, of different types, and with different degrees of impact. Based on the practical needs of municipal and county planning and diversified governance demands, a refined management system for adjustment elements should be established. Adjustment elements can be divided into three categories: major plan modification, adjustment of binding content, and adjustment of expected content. Major plan modification refers to circumstances in which plans change significantly because of major national strategies, major policies, major projects, administrative division adjustment, or superior-plan adjustment. Adjustment of binding content concerns positive optimization of rigid control elements, including urban strategic goals, major function positioning, spatial structure, the three zones and three lines, and urban four lines. Its core is optimal adaptation that balances strict control and adequate development [25]. Adjustment of expected content includes planning zones, urban functional layout, resource and energy use, town-village systems, infrastructure layout, action plans, and key project lists. It guides municipal and county spatial development flexibly through spatial layout plans, indicators, and development-protection rules, and further refines planning control in lower-level or special plans.

3.2.4 Operation Level: Establishing a Coordinated Governance Mechanism Linking Evaluation and Adjustment, Categorized by Level and Type and Connected Vertically

First, a rigid connection mechanism between evaluation and adjustment should be established. Based on the deep reciprocal logic between health-check evaluation and dynamic adjustment, their relationship should be strengthened from both technical and administrative sides, opening three links: transformation of results, condition setting, and procedural connection. Evaluation results should first be transformed into specific and operable action plans for adjustment and improvement. Based on the problem list, risk list, and spatial optimization recommendations generated by health-check evaluation, plan actions that directly guide dynamic adjustment should be proposed, so that evaluation results point clearly toward adjustment. Second, judgment standards for triggering plan adjustment based on

evaluation should be formulated. Clear and differentiated trigger conditions or circumstances should be set, such as bottom-line safety, strategic support, and implementation deviation, together with quantitative standards and identification procedures, so that adjustment initiation has a clear basis. Finally, a connection procedure should be established. Health-check evaluation results should be defined as a statutory precondition for starting dynamic adjustment, and a pathway of “evaluation confirmation - demand demonstration - adjustment plan - approval and implementation - feedback iteration” should be opened, with rules and requirements clarified for each stage and actor. Post-adjustment implementation effects should be included in the key monitoring scope of the next round of health-check evaluation, forming a virtuous cycle of continuous optimization.

Second, unified categorized adjustment rules and technical standards should be established. Based on control intensity and implementation difficulty, adjustment matters can be divided into three circumstances: major modification, general adjustment, and local maintenance, each with corresponding technical rules. Major modification refers to changes involving spatial structure, development direction, target positioning, spatial bottom lines, functional structure, or breakthroughs in binding control goals and tasks. General adjustment refers to positive optimization of planning elements such as the three zones and three lines, urban four lines, planning zones, public services, major facilities, and key project lists. It may involve some rigid-control content but does not affect the urban spatial structure or functional layout. Local maintenance refers to minor adjustment or correction of control lines, spatial locations, or land-use boundaries due to project implementation, plan coordination, land survey demarcation, or precision correction. For major modification, plan-modification circumstances and evaluation-demonstration procedures should be refined, and the original approval procedure should be strictly followed. For general adjustment and local maintenance, which correspond to positive optimization of binding content and local adjustment of expected content, the technical details are numerous and specialized. Unified technical standards and operating rules should be explored, and eligible circumstances and scopes for adjustment and optimization should be clarified through positive lists.

Third, approval authority should be reasonably divided in line with local powers and responsibilities. Following the requirements of “one level of government, one level of authority” and the reform of streamlining administration, delegating power, improving regulation, and upgrading services, a vertically linked administrative approval mechanism should be established. In terms of approval actors, plan modification remains within the authority of the original approving body, whereas general adjustment and local maintenance should fall within local autonomous authority. Specifically, plan modification should revise the master plan according to statutory procedures. General adjustment does not break through central control requirements and can therefore be granted to local governments; otherwise, cumbersome approval procedures will make it difficult to respond quickly to diversified development needs. Local maintenance involves micro-level planning affairs and should be directly approved by municipal and county governments to improve approval efficiency. In administrative approval, procedures such as adjustment application, plan demonstration, and decision approval should be strictly followed, and the necessity and feasibility of plan adjustment should be strengthened to ensure objective, reasonable, standardized, and orderly adjustment.

3.2.5 Safeguard Level: Strengthening Full-Process Policy Mechanisms

First, the legal and regulatory system for plan adjustment should be improved. The legislative process for the Territorial Spatial Planning Law should be accelerated, and the subjects, authority, procedures, and responsibilities of evaluation and adjustment should be incorporated into a legal framework. The legal force of evaluation and adjustment should be clarified to fill top-level institutional gaps. Departmental rules such as Measures for the Management of Dynamic Adjustment of Territorial Spatial Planning should be explored, systematically specifying triggering conditions, technical standards, approval processes, and result management for dynamic adjustment, thereby providing unified and standardized basic guidance for local practice. Coordination with the Land Administration Law, the Urban and Rural Planning Law, and other relevant laws should also be ensured so that adjustment operates within the legal framework.

Second, local innovation in dynamic adjustment management systems should be promoted. Provinces and municipalities should be encouraged to issue local regulations and supporting implementation rules or operating procedures according to actual conditions. These should clarify applicable circumstances, technical demonstration requirements, publicity and hearing procedures, and other matters. Localities should be encouraged to pilot institutional innovation in dynamic adjustment, accumulating experience for improving the national system.

Third, policy safeguards compatible with dynamic adjustment should be strengthened. Dynamic adjustment is not an isolated technical optimization of spatial layout; it is a systemic task closely connected to current planning control, land use, factor allocation, and other planning-land policies. The dynamic adjustment mechanism should be linked with planning and land policies. Taking optimization of territorial spatial functional layout as the guide, policy interfaces should be opened among spatial layout adjustment, “three lines” control, planning coordination and transmission, land-use plan indicator management, land approval and supply, and other fields, thereby promoting efficient allocation of spatial factors.

Fourth, supervision and assessment of plan adjustment should be strictly implemented. A transparent full-process disclosure system should be established. Information such as necessity demonstrations, draft adjustment plans, and approval results should be disclosed according to law. The territorial spatial monitoring platform should be used to monitor and warn against violations and breakthroughs of bottom lines in real time, and special inspections should be conducted regularly. The implementation of dynamic adjustment should be incorporated into local government performance assessment and natural-resource inspection. Illegal adjustment behaviors, including procedural violations, bottom-line breakthroughs, and falsification, should be strictly held accountable.

4 Conclusion

The dynamic adaptability of territorial spatial governance requires territorial spatial planning to move beyond a static blueprint control tool and become a continuously optimizing and self-adjusting “spatial governance mechanism,” balancing rigid control and flexible development. Because the value of dynamic adjustment is not yet clearly understood and institutional supply lags behind, municipal and county territorial spatial master plans struggle to respond to uncertainty and adapt to spatial governance realities. Dynamic improvement of territorial spatial planning based on evaluation results remains at the level of national top-level design, and an integrated mechanism linking health-check evaluation and dynamic adjustment is urgently needed to promote effective implementation. Based on

the reciprocal “diagnosis - treatment” logic of evaluation and adjustment, this paper constructs a dynamic adjustment mechanism framework for municipal and county territorial spatial master plans composed of objectives, principles, content, operation, and safeguards. With the goal of improving territorial spatial governance effectiveness, the framework emphasizes rigidity-flexibility matching and system optimization. Through refined management of adjustment elements, a rigid connection between evaluation and adjustment, unified categorized rules, approval authority matched to powers and responsibilities, and full-process policy safeguards, it forms an institutionalized “evaluation - adjustment - replanning” coordination mechanism. Its purpose is to improve the adaptability and flexibility of the planning system and realize dynamic governance of territorial spatial planning.

Establishing a dynamic adjustment mechanism for territorial spatial planning is a complex systemic project. It must handle the relationships between government and market, central and local governments, and plan preparation and implementation. It must balance the boundary between “uncertainty” and “certainty” [26]. It should implement national strategic intentions at each level while avoiding excessive administrative intervention that suppresses local development vitality. It also needs to consider socioeconomic development trends, changes in natural patterns, macro-policy adjustment, and other factors, and therefore requires further theoretical and practical exploration.

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AI-assisted translation