

New Planning Paradigm: Conceptual Proposition, Methodological System, and Practical Pathways

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Abstract

Against the combined pressures of the climate crisis, the AI-driven revolution in digital intelligence, social restructuring, and the normalization of global risks, the traditional modernist planning paradigm centered on "forecasting - zoning - control" is facing systemic misalignment. It reduces urban life to material-spatial appearances, weakens human agency and social relations, separates cities from ecosystems, overlooks endogenous dynamics and the allocation of rights and responsibilities, lacks large-scale quantitative and intelligent support for fine-grained data, and commonly emphasizes construction over operation and maintenance. As a result, it is unable to safeguard the lifelong health and prosperity of cities. In response to this "paradigm crisis", this paper proposes and systematically elaborates the concept of "New Planning". It views territorial and urban space as a highly coupled social-ecological-technological composite system, takes plural and collaborative value as its anchor, adaptive process as its basic logic, and data intelligence and multi-actor co-governance as key supports. It establishes a closed-loop governance mechanism of "perception - analysis - response - learning", promoting a shift from static blueprints to dynamic guidance, from technical drawings to action protocols and institutional toolkits, and from one-off plan preparation to continuous operation and institutionalized learning. The paper further clarifies the conceptual boundaries, methodological system, and practical pathways of New Planning, offering a paradigmatic methodology for territorial spatial planning, detailed planning, and urban regeneration.

Keywords

new planning; planning paradigm; data intelligence; adaptation; complex systems

1 Planning at the Crossroads of the Times

Since its emergence, urban planning as a discipline in China has continuously explored new directions of development. Major theoretical leaps and paradigm shifts have usually responded to profound changes in the national macro-institutional system [1-7]. Examples include the institutional and methodological innovations triggered by market-oriented reforms in the late 1980s, the expansion of the breadth and depth of talent training after urban and rural planning became a first-level discipline in 2011, and the institutional reconstruction associated with the national spatial planning system since 2018. In this process, the disciplinary logic has shifted from expansion orientation to bottom-line constraints, and the work focus has moved from incremental planning to stock-based planning. Today, amid dramatic and uncertain changes in the global social, economic, and technological environment, and at a new historical stage of Chinese modernization, the planning discipline has never more urgently needed to reflect deeply and confront a paradigm crisis.

Urban planning is now undergoing a profound paradigm transition. Globally, complex crises and high uncertainty are increasingly becoming normal conditions. Technologies such as artificial intelligence are rapidly and repeatedly restructuring social production and everyday life with disruptive force, while

inadequate responses to climate change further reveal the limits of traditional spatial governance. Under the cumulative pressure of these global challenges, the modernist planning paradigm based on forecasting, zoning, and control has shown severe systemic misalignment [8]. This misalignment is not limited to the rigidity of spatial control. More fundamentally, it reflects the lack of deep integration among cognitive science, data science, and systems science in global planning education [9].

At this historical juncture, China's planning community must assume a new strategic mission in the global landscape: to fulfill its educational mission by building an internationalized model of new talent training, to reshape global academic discourse by refining theories from local practice [10], and to provide a theoretical reference for the global transformation of rapid urbanization from quantity to quality [11]. The proposal of "New Planning" is therefore not only an internal disciplinary iteration, but also an inevitable choice for addressing complexity and renewing urban vitality.

This paper seeks to answer three questions. Why has the traditional planning paradigm become systemically and structurally dysfunctional in the contemporary era? What are the core connotations and theoretical boundaries of New Planning? How can New Planning form operable practical pathways in national spatial planning, detailed planning, and urban regeneration?

1.1 Defects of the traditional urban planning paradigm

If New Planning is understood as a paradigm leap, the failure of the traditional planning paradigm has both external and internal causes. Changing social, economic, and technological conditions provide the external premise, while the disciplinary inertia of traditional urban and rural planning is the fundamental reason for its contemporary structural dysfunction.

(1) It reduces complex urban life to material and spatial carriers. Traditional planning focuses one-sidedly on physical space and neglects living processes such as interpersonal interaction and cultural inheritance. Planning thereby departs from the actual operating logic of cities.

(2) It treats the urban subject, composed of people, as a "background condition" for planning. It weakens the social nature of the city, places human needs in a secondary position, and insufficiently considers community relations, public participation, and other social attributes, often producing a mismatch between plans and people's real needs.

(3) It neglects the decisive role of ecological systemic sustainability in sustaining urban life. Urban construction is only one part of the ecosystems on which human beings depend. By separating cities from natural ecology and failing to take ecological carrying capacity as a planning premise, traditional planning cannot secure long-term urban vitality.

(4) It lacks systematic research and allocation mechanisms for the endogenous dynamics of urban life processes. It pays insufficient attention to endogenous drivers such as industrial upgrading, population mobility, and innovation iteration, making it difficult to allocate resources in ways that activate urban development vitality.

(5) It lacks systematic arrangements for rights and responsibilities in planning practice. Clear structures of authority, responsibility, and supervision have not been established, which often leads to blurred accountability, buck-passing, and weak implementation outcomes.

(6) It lacks a systematic disciplinary foundation for understanding the laws of urban development itself. A disciplinary system covering the full dimensions of urban development has not yet been formed, leaving planning without robust theoretical support and limiting its ability to grasp the core laws of urban development.

(7) It lacks the capacity for large-scale computation and intelligent assistance based on fine-grained data for precise quantitative planning. Technical constraints have prevented precise quantitative analysis and large-scale computation of the fine-grained data required by planning, making it difficult to improve planning's scientific quality and efficiency through intelligent technologies.

(8) It lacks the capacity to maintain the lifelong health of urban facilities after construction. The prevailing tendency is to value construction while neglecting operation and maintenance. Without long-term operational mechanisms, urban facilities cannot remain stable over time or continuously support urban health and prosperity.

1.2 Systemic and structural dysfunction of the traditional planning paradigm today

1.2.1 Historical transformations in the external social and economic environment

(1) Technological revolution and digital transformation. AI, big data, the Internet of Things, and other new technologies are redefining space, function, and governance, while also bringing challenges such as data security, the digital divide, and algorithmic ethics.

(2) Climate and environmental crises. Dual-carbon constraints, frequent extreme weather, and circular resource use require cities to shift from adaptation through expansion to adaptation through resilience.

(3) Socioeconomic restructuring. Aging, declining fertility, smaller households, and the shift from incremental expansion to stock renewal are reshaping the allocation of public services and the logic of operation.

(4) Reconfiguration of globalization. Adjustments to industrial chains and geopolitical risks require a balance between efficiency and security and are reshaping the positioning of urban networks.

(5) Changes in values and lifestyles. Aspirations for a better life now extend to culture, experience, and spiritual fulfillment, while awakened awareness of participation requires transparent negotiation throughout the planning process.

1.2.2 Inertia within the traditional planning discipline

The essential inertia of traditional urban planning does not arise from the laziness of individual planners. It is a systemic result of institutionalized and knowledge-based structures. This inertia can be summarized in six dimensions, each of which helps explain why traditional urban and rural planning becomes ineffective today.

(1) Cognitive inertia: a misreading of the nature of the city. The city is treated as a spatial object that can be designed once and for all, rather than as an organic life system in continuous evolution [12]. Urban planning is typically understood as "land-use structure + functional zoning + indicator allocation", while the dynamic roles of human subjects, desires, behavior, social networks, institutions, power, capital, and culture are overlooked. The uncertainty, abrupt change, and nonlinear patterns of urban life are also ignored. Planning logic remains at the surface of space. It can describe urban life phenomena, but cannot explain or regulate them. New problems of urban and rural development, and historical shifts in social, economic, ecological, and technological systems, are misread through old categories, weakening disciplinary innovation.

(2) Methodological inertia: misplaced dependence on the nature of planning. The mistaken reliance on blueprint-style planning is not merely a cognitive error, but also a methodological complacency. "Drawing + indicator table" is taken to be the whole method of planning. Planning is equated with deliverables rather than with processes and mechanisms. Land-use balance, floor-area ratio, population size, and functional proportions are poorly suited to scenario deduction, dynamic feedback, pilot testing,

evaluation, adjustment, algorithms, and simulation results. When confronted with complex problems, the usual response is to "add another drawing" or "add another indicator". New tools such as AI, data, and models are compressed into auxiliary tools for drafting. If the paradigm remains unchanged, the tools can only be used in reduced ways [13].

(3) Inertia in knowledge production: an evaluation system that favors "safe research". Planning evaluation standards reward reproducible normative studies and penalize cross-boundary uncertain exploration. In practice, there is a preference for stable models and mature paradigms, a reluctance to innovate fundamentally in the knowledge system, and even an avoidance of small but risky improvements. Knowledge production in traditional urban planning tends toward intellectual inbreeding and cannot systematically integrate new knowledge from engineering, the social sciences, and the natural sciences.

(4) Discursive inertia: a disciplinary language system with a weak voice on new issues. Without vocabulary, there is no problem; without naming, there can be no discussion. Mainstream disciplinary discourse has long revolved around spatial structure, functional layout, urban hierarchy, and scale control. It lacks mature language for urban emotions, social networks, platform governance, algorithmic power, data justice, and related issues. New topics are therefore downgraded to "supplementary analysis", squeezed into "other factors", or placed in "prospects and suggestions". The language system itself filters innovation.

(5) Institutional inertia: the self-enclosure of the statutory planning system. Compliance overwhelms effectiveness. Whether a plan is considered successful is mainly determined by whether it passes approval, conforms to regulations, and follows complete procedures. Institutional accountability for implementation effects, social feedback, and long-term operational performance remains weak. As a result, the rational choice for planners is to avoid mistakes rather than solve problems. Innovation implies unclear risks, ambiguous responsibilities, and high compliance costs. The institutional incentive structure naturally penalizes innovation.

The inertia of traditional urban and rural planning is therefore not simply an unwillingness to innovate. The modes of cognition, methodological tools, knowledge production, discourse system, and institutional structure on which it depends were designed for a stable era. In an era marked by instability, high uncertainty, strong coupling, and high risk, the proposal of New Planning becomes inevitable. This is why paradigm reconstruction carries historically fundamental significance.

2 Conceptual Proposition: What Is "New Planning"?

2.1 The concept of "New Planning"

The concept of New Planning arises both from a deep understanding of rapidly changing external economic and social conditions and from a thorough reflection on the conservatism of the traditional planning paradigm. New Planning is a future-oriented urban action framework centered on human well-being and ecological continuity. It aims at the harmonious coexistence of human settlements and natural ecosystems through forward-looking and systematic public planning, and seeks to achieve vitality-oriented goals such as innovation, livability, beauty, resilience, civilization, intelligence, vibrancy, and equity.

New Planning has clear conceptual boundaries. It is neither "technical planning" nor generalized governance. It is not "AI replacing planners" [14], but the use of data intelligence to strengthen

rationality while maintaining human value judgment and responsibility [15]. It does not stand outside statutory planning; rather, it pushes statutory planning to evolve from a single rigid blueprint into an institutional system of "bottom lines - rules - actions - evaluation". It is not a vague governance slogan, but a way to translate governance goals into measurable indicators, executable actions, and iterative mechanisms.

The conceptual shift of New Planning is a shift from "spatial planning" to guiding social-ecological-technological composite systems. It is a fundamental transformation in the framework of problem cognition. Within this framework, territorial and urban space is no longer regarded as a single object of spatial allocation, but as a highly coupled social-ecological-technological composite system.

Accordingly, New Planning can be understood as a governance-oriented planning paradigm guided by public value, oriented toward complex systems, organized by adaptive processes, and supported by data intelligence and multi-actor co-governance. It emphasizes that planning is not only about drawing and control, but also about organizing collaborative action, allocating rights and responsibilities, building operating mechanisms, and enabling continuous learning.

2.2 Characteristics of New Planning

The defining characteristics of New Planning distinguish it from traditional planning. They include the following aspects.

(1) Ecological civilization. Cities are understood as origins, spillover points, and demonstration sites for humanity's move toward a new ecological and digital-intelligent civilization. Carbon neutrality, biodiversity, and resource circulation become core goals, allowing cities to demonstrate a new civilizational pathway.

(2) People-centeredness. New Planning takes the people as its center and the people's better life as its core value. Respect for people's will guides the entire planning process, with special attention to vulnerable groups and equitable sharing of urban and rural development outcomes.

(3) Digital-intelligent companionship. Data and intelligent systems support efficient urban operation, reduce the extractive consumption of natural and social resources by urban operation, and strengthen cities' capacity to perceive, judge, respond, regulate, and learn.

(4) Safety and resilience. New Planning builds a new urban resilience planning system based on the prediction, deduction, and safety guarantee of various urban disasters. It incorporates systematic safety measures before, during, and after events, and designs and implements regular urban safety monitoring systems.

(5) Participatory governance. Planning is treated as a process of negotiation and co-construction. Institutionalized participation improves the democratic character and legitimacy of public decision-making.

(6) Sustainable development. New Planning breaks through short-term interests and cyclical constraints, and uses intergenerational equity to guide long-term stable and sustainable urban evolution.

2.3 Core ideas of New Planning

The core ideas of New Planning are the fundamental value orientations and strategic thinking that guide planning preparation and implementation under the reform of the territorial spatial planning system, ecological civilization construction, and the requirements of high-quality development.

This paper explains these ideas through "five cores and five views": worldview, value view, goal view, process view, and learning view.

(1) Worldview: complex adaptive systems and life processes. The planning object shifts from "static space" to "life process". Human interaction, industrial evolution, cultural inheritance, ecological metabolism, and technological intervention jointly shape urban operation.

(2) Value view: from growthism to collaborative value. Ecological sustainability, social equity, cultural continuity, safety, and resilience become shared constraints and goals. The emphasis is on value guidance rather than a final scale target.

(3) Goal view: from ultimate scale to measurable value outcomes. Traditional planning takes final population and land-use scale as its target. New Planning sets measurable value-oriented outcomes, such as coverage of 15-minute life circles, carbon-sink growth, and social integration indices, and allows goals to be dynamically adjusted according to monitoring feedback. Goals therefore become a compass rather than a finish line.

(4) Process view: from blueprint delivery to adaptive process governance. Planning shifts from one-time preparation to continuous maintenance in order to ensure the healthy operation of cities. Scenario deduction, action programs, pilot iteration, and "planning - action - evaluation - adjustment" cycles form the basic process [16].

(5) Learning view: from periodic revision to an institutionalized learning center. Traditional planning depends on revision every five to ten years. New Planning emphasizes permanent "planning learning centers", knowledge management, and trigger-based revision clauses, internalizing learning as a system capacity.

The core ideas of New Planning consist of five concentric layers: the central layer, or worldview; the second layer, or value orientation; the third layer, or goal setting; the fourth layer, or implementation mechanism; and the outer supporting layer, or learning mechanism. Together they form a structure of "concentric circles + feedback loops".

2.4 Connotative system of New Planning

Around the core concept of the New Planning paradigm, this paper systematically sorts out and defines its essential elements, including guiding ideas, value orientations, objectives and tasks, core contents, institutional architecture, and operating logic. These elements together form an integrated framework for the New Planning paradigm. In simple terms, this connotative system is a systematic summary of what New Planning is, what it contains, and how it operates. It will also remain a dynamic process of improvement, continuously enriched by subsequent practice and research.

3 Methodological System: From "Drawings and Texts" to "Action Protocols and Open Toolkits"

After establishing the philosophical foundation, core values, and conceptual characteristics of New Planning, a fundamental practical question arises: through what concrete methodological system can this new worldview and value system be translated into actions that are operable, testable, and iterative? The methodological system of New Planning is not a simple repair or incremental addition to the traditional "technical toolkit". It is a deep reconstruction of the entire chain of outputs, production processes, implementation, and feedback for social-ecological-technological composite systems. Its core mission is to build a governance operating system capable of handling complexity, carrying plural values, and adapting to change, thereby transforming planning from a professional activity that produces "technical products" - drawings and texts - into a continuous institutional process that organizes public action.

3.1 Reconstructing outputs: from a final blueprint to a governance framework of parallel outputs

In the traditional planning paradigm, the planning output is essentially a technical manual and administrative permit for a future spatial form; its final form is a statutory set of drawings and indicators. The New Planning paradigm requires the output itself to be an operable governance framework with binding, action-oriented, and open characteristics. Its core outputs should therefore evolve into three interlocking systems produced in parallel.

3.1.1 Bottom lines and rules: the "immune system" and "basic law" of safe and healthy system operation

This is the rigid core and stable foundation of New Planning outputs. It includes survival bottom lines, operating rules, and trigger clauses.

Survival bottom lines are rigid control boundaries designated on the basis of ecological background conditions and disaster risk assessment. Examples include ecological protection red lines, extremely high-risk disaster zones, and resource carrying-capacity thresholds. They constitute the lifelines of urban survival.

Operating rules are sets of positive incentives and negative lists for spatial development and use. Examples include land-use compatibility rules for different locations and contexts, performance-linked rules for development intensity and form - such as exchanging carbon-sink capacity for floor-area ratio - and rules for the provision and transfer of public space and infrastructure. Such rules should be scenario-based and explainable rather than one-size-fits-all indicators.

Trigger clauses are "condition - response" mechanisms embedded in planning texts. When monitoring data show that thresholds have been reached - for example, when the aging rate in a community exceeds 30%, local heat-island intensity worsens for three consecutive years, or employment in a specific industry drops sharply - or when major external shocks occur, such as the promulgation of a new national strategy or the application of disruptive technologies, preset adaptive adjustment procedures are automatically or semi-automatically triggered. These may include local evaluation or the opening of a specific policy toolkit, thereby transforming planning from a static document into an institution with stress-response capacity.

3.1.2 Action protocols: a "social contract" and "project management manual" for building consensus and allocating resources

Action protocols are the key bridge from vision to practice. They translate abstract planning goals into concrete commitments with timetables, responsible parties, and resource guarantees. They are dynamic and traceable contracts signed by government departments, market organizations, social organizations, community representatives, and other actors. Their core components include the following.

Strategic action packages break overall planning goals into cross-sectoral clusters of strategic actions, such as carbon-neutral transition packages, healthy neighborhood packages, and resilient infrastructure network packages. Each package contains logically connected projects, policies, and initiatives.

Responsibility matrices and resource maps clarify the lead department, collaborating departments, and participating actors for each action, and match them with fiscal budgets, social capital, land resources, and policy authorization. The entire process should be transparent and open, providing a basis for coordination, supervision, and accountability.

Implementation roadmaps clarify the logical sequence, key milestones, and phased outputs of planning actions. They acknowledge path dependence while allowing flexible adjustment as long as the overall direction remains unchanged.

3.1.3 Open toolkits: "public knowledge infrastructure" for empowering multiple actors and continuous learning

To ensure that planning governance can continuously absorb new knowledge, respond to new problems, and lower the threshold for participation by the public and professionals, New Planning must provide an open-source, modular, and iterative toolkit [17]. It should become a living knowledge platform maintained collectively.

Data dictionaries and interactive dashboards provide authoritative and machine-readable standards and interfaces for planning-related data. They also offer interactive data visualization platforms for different users, including decision-makers, communities, and developers, making complex information easier to understand.

Model and scenario script libraries collect and open-source various models used for urban simulation - such as traffic flows, carbon emissions, population migration, and flood simulation - together with their parameter scripts. Planners, researchers, and even citizen groups can run and test urban responses under different policy scenarios on a unified platform, turning planning deduction from a black box into an open-source experiment.

Templates for negotiation and co-creation mechanisms provide tested public participation workflows, toolkits - such as participatory mapping, consensus conferences, and citizens' juries - and digital negotiation platforms, making participatory governance more standardized and convenient.

Monitoring and evaluation method libraries provide customizable key performance indicator systems, evaluation methods, and algorithmic warning models. Different users can use these tools for self-monitoring and evaluation.

Together, these three outputs constitute the body of New Planning. Bottom lines and rules are the skeleton that keeps the system stable; action protocols are the muscles that drive the system toward its goals; open toolkits are the nervous system and senses that support perception, coordination, and learning.

3.2 Reconstructing implementation: from engineering-style advancement to adaptive implementation networks

Traditional planning implementation resembles a construction project: standardized construction proceeds in phases and areas according to a master drawing. New Planning faces a continuously growing and changing organism. Its implementation logic must therefore shift toward cultivating an adaptive implementation network capable of self-organization, trial-and-error learning, and the diffusion of innovation.

3.2.1 Activist planning: activating endogenous social dynamics through micro-renewal and tactical urbanism

New Planning rejects a fixation on grand projects and advocates low-cost, fast-paced, place-based micro-interventions. Rapid and tangible improvements in urban "nerve endings" - such as streets, idle parcels, and waterfronts - can include pocket parks, pedestrianization, and community gardens. These interventions quickly test ideas, accumulate social capital, and stimulate community pride and

willingness to participate. Such "urban acupuncture" projects are not only part of planning implementation, but also social experiments for collecting feedback and iterating design.

3.2.2 Policy laboratory mechanisms: piloting institutional innovation in risk-controllable areas

For innovative planning contents involving complex property rights, interest adjustment, or breakthroughs in existing regulations - such as mixed land use, transfer of development rights, and new models for adaptive reuse of historic buildings - specific areas can be designated as policy innovation zones. Within these zones, some existing rules may be temporarily adjusted or exempted under strict supervision and evaluation in order to pilot institutional innovation. Successful experiences can be distilled into general policies or rules and incorporated into the open toolkit. If a pilot fails, its impact remains limited and its costs are bearable. Through the laboratory mechanism, planning implementation becomes a process of institutional learning.

3.2.3 Platform-based governance: government as system integrator and guardian of rules

The role of government shifts from all-powerful leader to platform builder and ecosystem catalyst. Its core functions are to establish fair and transparent rules - the bottom lines and rules described above - build platforms for resource matching and information sharing, certify and empower qualified implementation actors such as community organizations, social enterprises, and professional institutions, supervise the entire process, and safeguard the public interest. By issuing demand lists in action protocols, government can attract and integrate resources and intelligence from market and social actors, creating an implementation ecosystem in which government builds the platform and multiple actors perform.

3.3 Reconstructing monitoring and evaluation: from periodic physical examination to real-time diagnosis and prognostic learning

Evaluation in traditional planning often lags years behind implementation and usually focuses on whether projects have been built according to drawings, rather than whether expected values have been achieved. In New Planning, the monitoring and evaluation system is the core feedback loop of planning as a guide for complex adaptive systems. It must be embedded, real-time, diagnostic, and forward-looking.

3.3.1 Building a multi-source sensing network for urban vital signs

New Planning should integrate heterogeneous data from IoT sensors, remote sensing, mobile communications, social media, and government operations to build a regular sensing capacity for key urban vital signs, including economic vitality, social interaction, environmental quality, traffic operation, and energy metabolism. This is equivalent to installing a continuous electrocardiogram and electroencephalogram for the city.

3.3.2 Building a "value - indicator - data" diagnostic dashboard

Core planning values such as ecological continuity, social equity, safety, and resilience should be translated into multi-level, quantifiable, and comparable key performance indicators. Through data visualization, the real-time or near-real-time status of these indicators can be presented on interactive dashboards understandable to decision-makers, managers, and the public. The dashboard should not only display information but also diagnose problems, tracing the roots of systemic issues through correlation analysis among indicators.

3.3.3 Developing algorithm-based early-warning and scenario-simulation systems

Monitoring should move beyond describing the present. Machine learning and simulation models can be used to warn of risks that deviate from expected trajectories, such as impending infrastructure overload or the fragmentation of ecological corridors. The system should also support multi-scenario simulation under different future policy choices, providing "if - then" foresight for decision-making and shifting planning adjustment from passive firefighting to proactive intervention.

3.3.4 Forming an institutionalized learning loop of "monitoring - evaluation - adjustment"

Monitoring and evaluation results must be rigidly linked to dynamic planning adjustment mechanisms. Periodic evaluation reports, such as annual reports, should become statutory grounds for reviewing the implementation of action protocols and the effectiveness of bottom lines and rules. Warning signals and scenario simulation conclusions should directly trigger trigger clauses or initiate rapid revision procedures. In this way, the entire New Planning system becomes an intelligent agent capable of continuously learning from its own operation.

In summary, the methodological system of New Planning reconstructs outputs, implementation modes, and monitoring and evaluation in an integrated manner. It aims to build a territorial spatial governance operating system that is programmable, operable, and debuggable. Planning is transformed from a fragile predictive document about the future into a resilient adaptive governance process that stands in the present and shapes the future. This methodological shift is the internal training that the planning profession must complete as it moves from "spatial form designer" to "systems governance engineer".

4 Practical Pathways: Implementation Frameworks in Multi-Scale Spatial Governance

The truth of the New Planning paradigm must ultimately be tested through practical effectiveness. It cannot remain theoretical speculation or an ideal vision. It must find practical pathways that can be embedded, grown, and iterated within the existing "five-level, three-category" territorial spatial planning system. The proposal of New Planning is not a revolutionary overthrow of the existing system, but a deep paradigm internalization and institutional upgrade. At different spatial governance scales, it recalibrates the roles, tools, and outputs of planning, forming a coherent implementation framework from macro-strategic coordination to micro-level everyday governance. The key is to translate the core ideas of New Planning - complex systems thinking, adaptive processes, multi-actor co-governance, and data intelligence - into identifiable, operable, and evaluable action logics at different scales.

4.1 National and regional levels: from a "spatial control chessboard" to a "system coordination platform"

At national and regional scales, the inertia of traditional planning is to draw a deterministic "spatial control chessboard" and allocate and control territorial resources through rigid indicators passed down level by level. New Planning instead holds that the core mission of macro-scale planning is to formulate rules, set goals, and build platforms for the complex interaction and collaborative evolution of the national or regional urban system.

4.1.1 Core task transition: from allocating spatial indicators to setting collaborative rules and value anchors

At national and regional levels, the primary outputs of New Planning should be a clear set of meta-rules and collaborative value goals.

Meta-rule formulation establishes basic rules that transcend administrative boundaries and safeguard system health. Examples include cross-basin rules for ecological compensation and water-quality linkage,

rules for carbon-emissions trading and carbon-sink collaboration within urban agglomerations, rules for joint construction, sharing, and risk sharing of major infrastructure corridors such as transportation, energy, and data, and regional minimum standards and fiscal transfer rules for access to basic public services such as education and health care. These rules define the rules of the game that lower-level plans must follow, but do not prescribe exactly how the game should be played.

Collaborative value-goal setting proposes measurable and assessable key indicators of regional public value to replace single targets such as economic growth or the scale of construction land. Examples include the annual growth rate of net wetland area in the Yangtze River Delta Eco-Green Integrated Development Demonstration Zone, targets for reducing average intercity commuting time in the Guangdong-Hong Kong-Macao Greater Bay Area, and indices of innovation-factor flows among core cities in the Chengdu-Chongqing economic circle. The focus shifts from entities and stocks to relationships and flows, guiding localities to create overall value through collaboration.

4.1.2 Upgrading core tools: from approval and inspection to monitoring, simulation, and platform empowerment

At this scale, the core tools of planning should be upgraded from administrative control to system cognition, conflict coordination, and collaborative capacity empowerment.

A national-scale urban system simulator should use supercomputing and artificial intelligence to construct macro models capable of simulating the evolution of the national urban network, population flows, industrial migration, and resource-environment pressures under different policy scenarios. It can provide policy stress tests for major strategic decisions, such as the location of national new areas or the alignment of major transport corridors, and anticipate systemic risks.

Regional collaborative digital-twin platforms should build cross-provincial and cross-city platforms for regional planning coordination, enabling the sharing of data on ecological background conditions, infrastructure, industrial layout, and intelligent detection of conflicts. The platform should provide collaborative planning tools and support multi-party online preparation of plans for cross-boundary areas.

Differentiated empowerment and policy toolkits should identify the core systemic problems faced by different regions, such as shrinking cities, fast-growing areas, and ecologically fragile areas, and provide tailored policy toolkits and technical support rather than issuing uniform scale indicators.

4.2 City level: from static master blueprints to an integrated dynamic process of "strategy - action - operation"

The city scale is a key link between higher and lower levels, and it is also where the traditional blueprint planning paradigm is deeply rooted. The breakthrough of New Planning at this scale lies in thoroughly deconstructing the static master-plan blueprint and reconstructing it as a continuously operating urban strategic operating system.

4.2.1 Reconstructing outputs: urban development strategy and general action program

New Planning outputs at the city level should include three organically connected parts.

The strategic framework clarifies the city's value positioning within the region, core development ideas, and long-term public values, thereby building consensus.

The action program translates strategy into iterative three- to five-year action packages. Each action package, such as a TOD package for rail transit and comprehensive development, must specify the lead

and collaborating departments, a list of core projects, resource-raising arrangements, key performance indicators, and evaluation methods.

The operating mechanism establishes standing mechanisms to guarantee action implementation. These may include a city planning and implementation joint meeting led by municipal leaders, a permanent public participation office and digital platform, dynamic fiscal budget adjustment mechanisms linked to action packages, and a system of annual urban development evaluation reports prepared by third-party institutions. The results should be reported directly to the people's congress and used as the basis for adjusting actions in the following year.

4.2.2 Innovating implementation modes: replacing urban construction sprints with refined urban operation

New Planning changes the sprint-like model of urban construction driven by administrative terms, land transfer, and major projects, and shifts toward refined operation oriented to long-term value improvement.

The system of "chief city planner" combined with "chief operating officer" means that the planner is responsible not only for plan preparation, but also for deeper participation in early-stage planning, process coordination, and later evaluation of major projects. This ensures that planning intentions are not distorted in implementation and that someone is accountable for the long-term comprehensive performance of urban space.

The integrated model of "planning - investment - construction - operation" introduces potential future operators at the planning stage for key areas or major renewal projects. Planning is undertaken jointly, and operational needs are fed back into planning and design in advance.

An urban spatial asset ledger and performance audit system treats public service facilities, parks and green spaces, streets, and related spaces as assets that require continuous maintenance and generate social, economic, and environmental benefits. Their operational performance should be audited regularly and used as a basis for optimizing resource allocation and renewal.

4.3 Community and block levels: from "designed space" to a jointly created "lifeworld"

Communities and blocks are the cells of urban life and the lifeworld of residents' everyday experience. Traditional planning often loses its voice at this scale, or appears only as rigid facility indicators and simple spatial design. The core question for New Planning here is how to transform spatial planning into a governance process that strengthens social connection, stimulates local vitality, and realizes everyday well-being.

4.3.1 Transformation of the planning object: from physical space to a social-spatial coupling system

At the community level, the first task of planning is to understand and depict the community's social-spatial map in depth. This includes population structure, community networks, local businesses, sites of cultural memory, daily activity flows, conflicts in the use of public space, and potential connections. Planning should conduct precise spatial intervention and institutional design on the basis of insight into these living relationships.

4.3.2 Innovation in method and process: deep participatory design and companion-style place-making

The resident community planner system asks planner teams to take root in communities as companions and enablers, working with residents, merchants, and social organizations to translate needs into implementable design schemes and action plans.

Open decision-making and community funds can be used for micro-renewal of community public spaces and environmental improvement projects. Through residents' councils, workshops, and other forms, plans can be discussed collectively. Small community public-interest funds or participatory budgets can be established, allowing residents to decide how part of the funds will be used and to implement some small projects themselves with professional assistance, thereby strengthening agency and a sense of belonging.

Toolkit-based design guidelines provide modular, selectable, and easy-to-understand community design toolkits, such as neighborhood garden construction guides and shared facility management convention templates. They lower the technical threshold for residents' participation and encourage diverse local creation.

4.3.3 Reshaping goal orientation: social-capital growth and local resilience as core performance

At the community level, New Planning should be evaluated by whether it strengthens social capital - trust, norms of reciprocity, and networks - and local resilience, namely the collective capacity to respond to everyday and sudden challenges. This means that planning must attend to long-term use, maintenance, and management mechanisms after spatial transformation, support the cultivation of community self-organization, and keep space vibrant and healthy through sustained collective activities. Overall, the implementation framework of New Planning is a multi-scale nested adaptive system with feedback across levels. The national and regional levels provide rules and value guidance; the city level translates planning into strategic actions and operating mechanisms; and the community level conducts life experiments and micro-innovation at the front line. Real feedback and data from communities can in turn trigger adjustments to rules at city and regional levels. Within this framework, planning is no longer a hierarchical transmission of commands. It becomes a governance community of continuous learning and co-evolution, truly assuming the historical mission of guiding urban and territorial space - as a social-ecological-technological composite system - toward lifelong health and prosperity.

5 Conclusion and Discussion

5.1 Key challenges and basic principles of the New Planning transition

New Planning is not an ideal model that is low cost and risk free. Its implementation faces at least four kinds of practical challenges: institutional inertia and path dependence, data and algorithmic ethics risks, the reshaping of planning capacity structures, and value trade-offs under conflicts among multiple goals [16].

Accordingly, this paper proposes three basic principles that must be upheld in the New Planning transition.

The principle of value bottom lines insists that people's well-being, ecological security, and social equity are the primary value orientations of planning.

The principle of responsibility bottom lines uses clear structures of rights and responsibilities and auditable mechanisms to ensure that public responsibility for planning processes and outcomes is traceable.

The principle of adaptation bottom lines recognizes uncertainty and internalizes learning, correction, and iteration as normal functions of the planning system.

5.2 Connotative system and core contributions of the New Planning transition

New Planning does not respond to a single planning problem. It addresses the overall need for a paradigm transition in urban planning in an era of high uncertainty. It promotes the transformation of planning from a technical tool for controlling space into a public governance mechanism that guides the evolution of social-ecological-technological composite systems; from the pursuit of a final blueprint into an adaptive process guided by dynamic value goals; from expert domination into multi-actor co-governance enhanced by data intelligence; and from periodic revision into institutionalized learning and continuous iteration.

The core contribution of New Planning is to provide an interpretable, operable, and iterative paradigmatic framework for China's urban and territorial spatial governance. It enables planning not only to draw, but also to operate, correct, and learn, thereby strengthening the resilience and long-term prosperity of urban systems under uncertainty.

5.3 Research outlook

In recent years, Urban Planning Forum has organized several academic dialogues around this theme, with many scholars contributing their ideas and views [19-26]. Since 2021, Academician Wu Zhiqiang has annually released the ten key words of the discipline at the China Urban Planning Discipline Development Forum [27-28]. At the same time, real-time tracking of international and domestic research trends and of innovative planning practices across China aims to focus on China's national conditions and theoretical frontiers, stimulate resonance within the Chinese planning community, and jointly promote innovation in China's urban and rural planning discipline, so that the New Planning paradigm can undergo a new transformation in the new era.

Cross-boundary work, innovation, and the construction of a new paradigm can better secure the vitality of the planning discipline than remaining within the traditional paradigm. They are also the necessary path for maintaining the core competitiveness of planning over the long term. The New Planning paradigm proposed in this paper emerges amid widespread uncertainty and anxiety in academia and practice. Looking back at major historical changes and paradigm shifts, it is precisely such uncertainty and anxiety that have given birth to the next peak of planning.

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