

Countermeasures for spatial governance of cross-district scenic byway

--A case of Chengde National No. 1 Scenic Byway, China

Ting Wang^{1, a}, Jiawen He^{2, b}, He Zhu^{1, *}

¹School of Architecture and Urban Planning, Beijing University of Civil Engineering and Architecture, Exhibition Hall Road, Xicheng District, Beijing, 100044, China

²Melbourne School of Design, The University of Melbourne, The University of Melbourne Grattan Street, Parkville, Victoria, 3010, Australia

^awangting@bucea.edu.cn, ^bjiawenhe826@bucea.edu.cn, * zhuhe@bucea.edu.cn

*Correspondence Author

Abstract. Scenic byway is a new corridor cross administrative region spatial carrier with complex functions of transportation, ecology, recreation, and culture. The large spatial span makes Scenic byway face governance problems such as crossing Administrative Region institutional barriers. Through literature review, on-the-spot investigation, induction and summary, this paper finds that cross-district scenic byways have: (1) The characteristics of giant corridor form, multi-level spatial elements, two-dimensional spatial management scale and multiple spatial subjects. (2) The development and protection of multi type resources, the game of management power, and the unclear division of rights, responsibilities, and interests among multi-subject. (3) Cross region, cross department, cross subject and other multicategory "cross-border" Governance Dilemma. By introducing the concept of space governance, the principles, objectives, subjects, and contents of Scenic byway governance across administrative regions are clarified based on the logic of "problem objective countermeasure", and the space governance system with the sub objectives of "consensus system of Space justice", "space platform-based management and control process" and "consultation mechanism of space community" is attempted to be constructed. Taking the "National No. 1 Scenic Byway" in Chengde as an example, put forward such countermeasures as legislation and regulation, building a composite space consensus system, establishing a control process, clarifying space powers, and establishing a multi-subject negotiation mechanism, to achieve the goal of cross administrative Scenic byway space governance through a set of laws and regulations, a set of control processes, and a set of mechanisms. In order to provide a research perspective for the spatial governance paradigm of scenic byways across administrative regions, and provide a practical basis for the proposed coordinated development strategy of typical corridor spatial regions.

Keywords: Cross-district; Scenic byway; Spatial governance; National No. 1 Scenic Byway; Chengde; China.

1. Introduction

Scenic Byway was first proposed in 1933 when the Blue Ridge Scenic Byway was built in the United States, and is a road with dual functions of transportation and landscape appreciation. The whole area of the scenic byway includes not only the road itself, but also the landscapes and entities with aesthetic, recreational, cultural, historical, and archaeological values within the road view corridor (Yu et al., 2018). The essence of a scenic byway is a "string of beads-like" tourist destination that connects points and attractions through a linear route. With the advent of the era of integrated development of transportation and travel, the construction of scenic byways has emerged across in China, also extending to "green roads", "park roads", "tourist highways", "heritage corridors", "cultural routes" and other forms. American research on scenic byways is early and mainly involves conceptual system (Yu et al., 2018; Liu & Zhou, 2001), planning and design (Blumentrath & Tveit, 2014; Klein et al., 2015), evaluation system (Akbar, 2003), operation and management (Joseph, 2003), road functional facilities (Yu, 2009), standard setting of bills (Federal Highway Administration, 2011),

and in ecological restoration, cultural heritage, etc. (Yao et al., 2019). Research on scenic byways within China started late and focused on the practical levels of scenic byway planning and design, resource and landscape evaluation, and product cultivation (Li et al., 2018; Ning et al., 2017). Based on the regional development perspective, the scenic byway realizes the transformation of the road from a single transportation function to a composite function of transportation, ecology, recreation and culture, especially to strengthen the landscape ornamental function of the road passers-by and tourists driving, to play the pulling and radiating role of the road as an economic corridor, is an important means for governments around the world to promote the optimization of spatial layout and regional synergistic development. In recent years, scenic byways have received high attention at the national level in China, and terms such as "scenic byways" and "tourism highways" have frequently appeared in policy documents issued by the Ministry of Culture and Tourism, the Ministry of Transport, and other departments (Yu & Han, 2019). Scenic byways have ushered in significant development opportunities. However, due to the cross-district spatial form, composite functions and multiple subjects of the scenic byways, there are still many problems in their management.

For complex giant systems that cross-regions, multiple elements, and multiple subjects, management in the traditional sense cannot operate continuously and smoothly (Kooiman, 1993), and requires the introduction of governance with system integrity, functional systematic, and governance effectiveness. Spatial governance is a systematic coordination process that integrates public, sectoral, and private interests (Guo & Cheng, 2010), and integrates political, economic, social, ecological, and technological relationships to coordinate the use, benefits, and distribution of various resources and elements in urban and rural spaces (Zhang & Chen, 2014). Currently, spatial governance is widely used in many fields such as allocation of spatial resources, spatial planning, urbanization, urban clusters, and cross-regional governance. China's spatial governance capacity has stepped into the cognition of thinking with systemic problem-solving solutions and put into practice (Wang & Wei, 2015; Fan, 2017). With the gradual refinement and precision of spatial governance in China, spatial governance research no longer focuses on theoretical studies (Huang & Chen, 2017; Chen, 2015) and macroscopic large-scale (Liu, 2014; Zhang, 2016) studies such as national, regional, and urban (Liu, 2014; Zhang, 2016), but begins to tend to focus on small-scale and typical forms of spaces such as communities, enterprises, and watersheds (Yang, 2017; Zhang, 2019). However, as a typical linear space with a large span of space, the management and governance studies of scenic byways have not received sufficient attention.

Scenic byways have the dual attributes of spatial scale and public management, and the management logic emphasizes the synergy within and between different subjects of government, market, and society, as well as the coordination with natural resources and ecosystems. This paper is followed the requirement of enhancing the spatial governance system of the national territory, and introduces the theory and experience of spatial governance into the process of scenic byways' management. Based on the theories of geography, urban and rural planning, management, and other related disciplines, we analyze and clarify the basic characteristics of scenic byways, and set sub-goals to build a cross-district scenic byways spatial governance system from three dimensions: consensus on the value of resource elements, management of development behavior, and division of rights, responsibilities, and benefits of multi-subject. The paper takes Chengde National No. 1 Scenic Byway as a case and proposes spatial governance countermeasures, with a view to providing a research perspective for the spatial governance paradigm of cross-district scenic byways and a practical basis for the proposed coordinated development strategy of typical linear spatial regions.

2. Basic features of cross-district scenic byways

2.1 Multi-functional mixing

The original function of the road is access, and the transformation from a road to a scenic byway produces the extended functions of slow walking recreation, scenic viewing, and access. Scenic byways throughout the region of tourism resources, scenic spots, traditional villages, and towns, etc.

to "hanging bag" form and scenic byways closely linked, so that the scenic byways than ordinary roads with local open, permeable characteristics. The generation of extended functions of scenic byways has led to the development of value-added functions such as the economy of the leisure and vacation industry, which are additional functions based on the extension of the original and extended functions. The leisure and vacation industry encompasses related industrial fields such as leisure and vacation life, including the production of material goods while providing for the pursuit of human spiritual and cultural life (Yang, 2017), especially the economic forms and industrial systems led by tourism, service, and sports industries, which usually involve peripheral industries such as transportation, catering, and excursions (Yu et al., 2006). Compared to simple urban and rural greenways, scenic byways have the derived function of connecting urban and rural spaces. The mixture of original, extended, value-added and derived functions results in the composite feature of the scenic byway function and the flexible feature of the boundary of the functional space. In addition, roads with a single access function may fragment terrestrial wildlife habitats due to their closed and enclosed spatial characteristics and high-speed flow, fragmenting and islanding habitats such as forests, wetlands, and grasslands, hindering activities such as wildlife migration, breeding, and foraging, and isolating population linkages (Zhang, 2019; Shen & Jin, 2018), with poorer ecological functions; whereas, scenic paths can provide better ecological functions due to their spatial local openness, permeability, and boundary flexibility.

2.2 Giant corridor space form

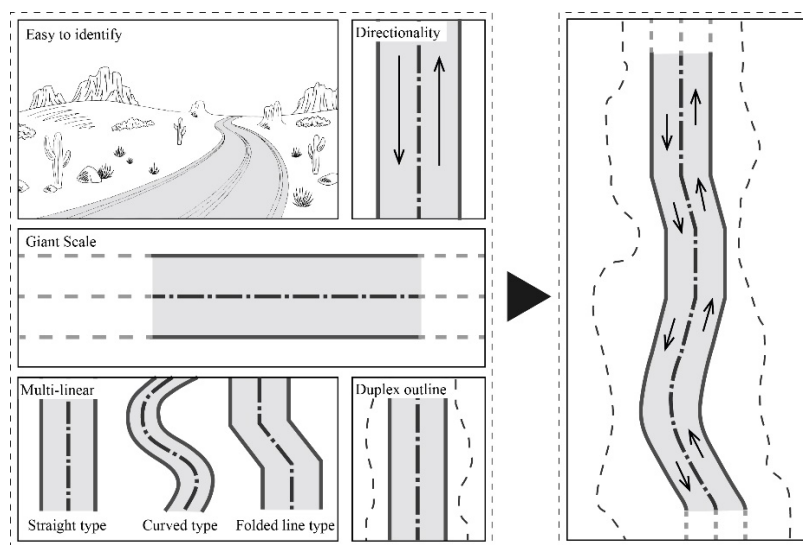


Fig. 1 The feature diagram of scenic byway plane space form

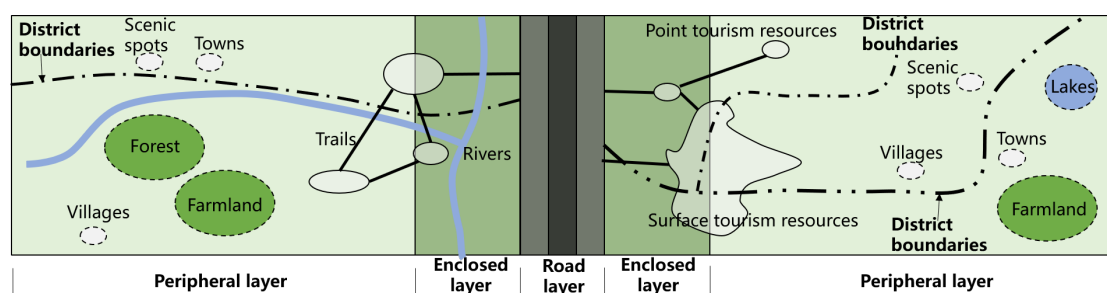


Fig. 2 The spatial structure of scenic byway

Compared with buildings, farmland, forests, lakes and other spaces, scenic byways have obvious differences in line, point and surface planes, and their primary characteristic is "easily identifiable linear forms with directionality". The length of the scenic byway determines the "giant" character of the linear form. The view corridor on both sides of the scenic byway determines its "compound contour" feature (Figure 1), and the flexible boundary feature of partial openness and permeability

(Figure 2). The non-homogeneity of the scenic byway space causes the "multilinear composite" feature, and the profile form of the scenic byway shows the characteristics of high and low undulation, vehicle movement and scenery change, which reorganizes the geographical landscape scale (Figure 3).



Fig. 3 Spatial morphological feature of landscape passage longitudinal section

2.3 Multi-level spatial elements

It is divided into four levels in terms of different spatial resolutions: (1) The first level of spatial elements is mainly the natural environment, dominated by topography, geology, and geomorphology. (2) The spatial elements of the second tier of scenic byways are still dominated by natural environmental influences, but the main difference from the first level is the regional special elements, such as rivers, wetlands, forests, etc. (3) The third level is the built-up spatial environment of the scenic byway itself and along and around it, as well as the dynamic behaviors within that range, such as villages, road networks, tourist areas, and human behavior patterns. (4) The fourth level is the local architectural group, including tourism projects along the scenic route and tourism facilities, including architectural forms, spatial combination methods, and building materials that conform to historical, cultural, economic, and political factors.

2.4 Two-dimensional space management

Scenic Byway spatial management involves both vertical and horizontal two-dimensional. Vertical dimension: China's current Land Law, Urban and Rural Planning Law and Administrative License Law all give administrative power and responsibility according to the principle of "one level of government, one level of authority", and the management of scenic byways involves different levels of administrative areas, such as townships, towns, counties, cities, and provinces. Horizontal dimension: the development, utilization and protection of the scenic byway and its resources along the route involve multiple functional departments; the road carrier is managed by the transportation department; scenic spots, tourism service facilities and tourism mode are managed by the culture and tourism department; resources such as grassland and forest are managed by the natural resources department; villages and towns along the scenic byway are managed by local governments.

2.5 Multi-subject participation

The giant linearity of the scenic byways' morphology causes the spatial transboundary nature of the byways, i.e., they cross administrative boundaries. The spanning level is determined by the location and length of the scenic byway, and involves a variety of levels that span townships, cities, counties and even provinces. Scenic byways along the mountains, forests, lakes, villages and towns, historical relics and other resources are rich, involving natural resources, transportation, development and reform commission, planning, construction, tourism, culture, ecological and environmental protection, and other functional departments, that is, across departmental boundaries. In addition, in the operation and management of the scenic byway the operation is cross-border due to the influence of PPP and other investment methods. The "three spans" of cross-district, cross-management department and cross-border operation represent the characteristics of the participation of multiple subjects in scenic byways, and lead to a certain extent to the ambiguity of the scope of rights and responsibilities of spatial subjects.

3. Scenic byway management dilemmas

3.1 Existing problems

The spatial characteristics of cross-district scenic byways are interrelated and influenced by each other (Figure 4), which also leads to three governance problems: first, the development, utilization, and protection of multiple types of resources, and the differences in planning levels and categories of related regions lead to regional land use changes and changes in landscape patterns. On the one hand, the vague vertical management attribution leads to border shielding effect and the phenomenon of "administrative district economy", which makes cross-regional cooperative development and joint protection difficult and leads to homogeneous development and vicious competition; on the other hand, the vague horizontal management attribution leads to the phenomenon of fragmented management, which leads to multiple management, inconsistent law enforcement, and even regulatory "unclear mechanism". The mechanism is unclear, or even a regulatory "vacuum", shirking responsibilities, and other problems. Third, the tendency of diversification of subjects leads to unclear division of rights, responsibilities, and benefits, as well as the problems of ecological compensation and fairness of development in the region caused by "distant views and near benefits".

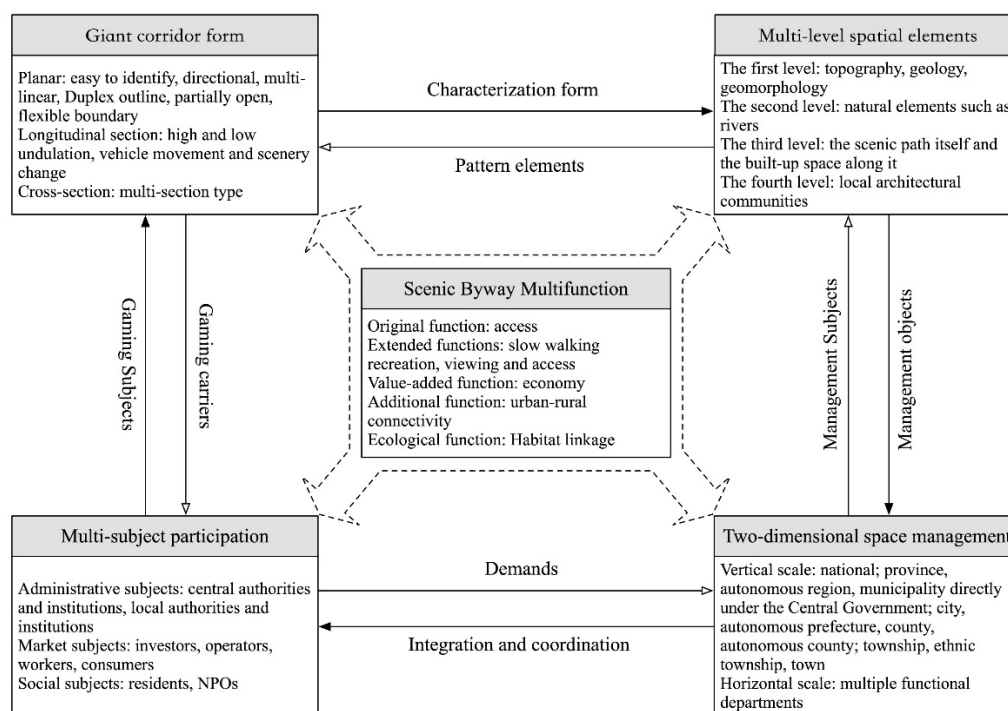


Fig. 4 The relationship between spatial characteristics of cross-district scenic byways

3.2 Governance dilemmas

China's legal system basically follows the administrative divisions for governmental management of affairs (Shu & Liu, 1994). The administrative divisions create obstacles to the development of cross-district synergy. With urban clusters and metropolitan areas gradually becoming the dominant regional economies and the introduction of cross-regional strategies such as the "Yangtze River Economic Belt", the research and practice of breaking through the constraints of administrative boundaries on regional economic integration and the coordinated development and cooperation across administrative regions has become a hot topic (Tao, 2008). For the governance of urban agglomerations and metropolitan areas across middle and high-level administrative regions, multi-level specialized governance institutions are usually set up to address the issue of cross-branch inter-governmental cooperation through high-profile management authority, high-level leadership staffing, and high-level strategic planning (Gui, 2019). The successful experiences of adopting legislative approaches to cross-government governance are mainly for heritage protection corridors and

watershed protection areas. However, these legislations are motivated by bottom-line control to clarify governmental responsibilities and do not involve the distribution of benefits, such as the Great Wall Protection Regulations and the Taihu Lake Basin Management Regulations. It is unrealistic to apply the cross-district governance tools of urban agglomerations and metropolitan areas to the governance of scenic byways; compared to heritage corridors and watersheds, scenic byways are more focused on benefit distribution, and legislation alone is hardly effective. In the context of rapid development of scenic byways, cross-district scenic byways involve richer business forms, more diversified elements and subjects, and the influence of factors such as multi-scope "cross-border", local competition, institutional streamlining, power games, market segmentation, and uneven interests, which make cross-district scenic byway governance extremely prone to dilemmas such as competition over cooperation and virtual over real (Tao, 2008; Gui, 2019), making governance more difficult.

4. Cross-district scenic byway spatial governance system construction

Problems such as fragmented management of cross-district scenic byways and unclear distribution of rights, responsibilities and benefits have seriously restricted the strategic significance of scenic byways. By establishing a set of regulations and standards, a set of processes and a set of mechanisms to achieve "a consensus system of spatial justice," "a management process of spatial platform," and "a consultation mechanism of spatial community" (Figure 5), to build a systematic, holistic, and synergistic spatial governance of the cross-district scenic byways, and promote harmonious man-land relations and coordinated regional development of the cross-district scenic byways.

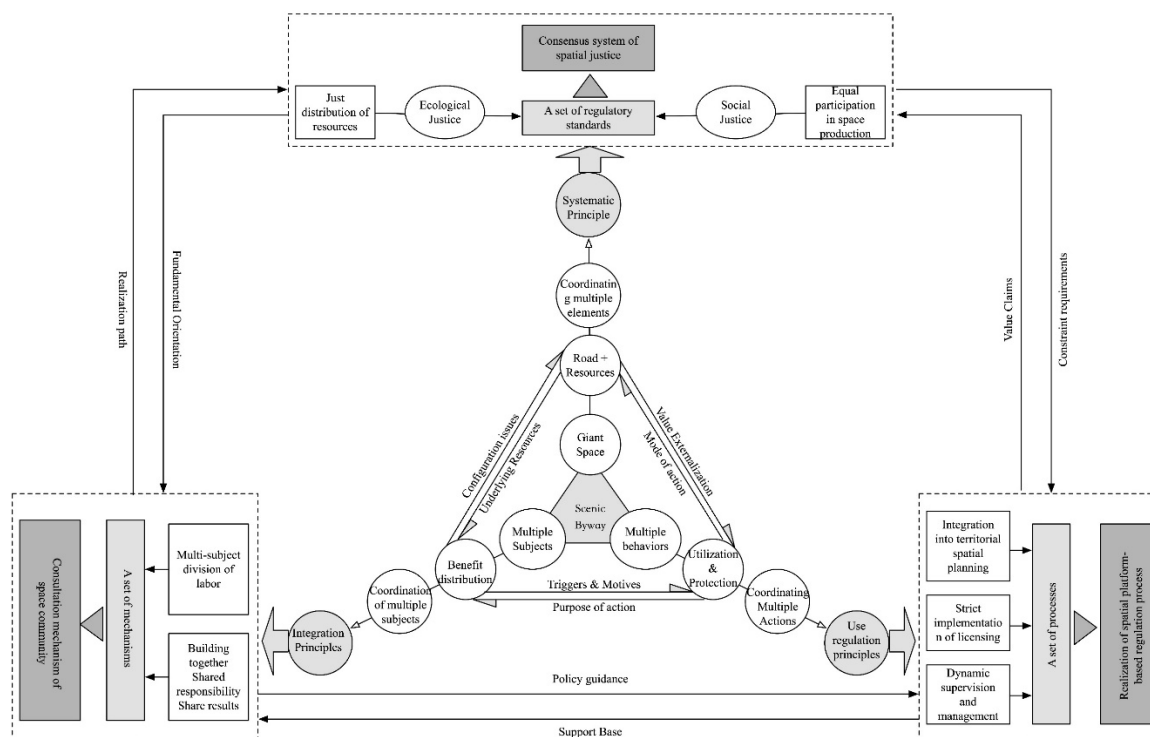


Fig. 5 The cross-district scenic byway governance system

4.1 Governance Principles

Guided by governance issues and combined with spatial governance analysis, the construction of a spatial governance system for cross-district scenic byways emphasizes synergy within and between different subjects of administration, market, and society, as well as coordination with natural resources and ecosystems. Therefore, the following three principles should be followed: (1) Systematic governance principle. The management of natural ecological space in China is scattered in multiple functional departments, which leads to fragmented management authority and

responsibility and inefficient management due to differences in management subjects, value orientation, and management tools (Lin et al., 2019; Ye & Wang, 2019). The proposal of "Systematic Governance of Mountain, Water, Forest, Field, Lake and Grass" and the formation of the Ministry of Natural Resources have "stitched together" the fragmented governance. The spatial governance of cross-district scenic byway requires comprehensive consideration of ecosystem wholeness and multi-element coupling to achieve a value consensus system of spatial justice. (2) Principles of territorial spatial regulation. From land use control to territorial spatial regulation marks from single element management to life community government, emphasizing the integration of natural endowment and human activities under specific tenure and specific location (Cao, 2019), and cross-district scenic byway spatial governance should government and constraints on the behavior of subjects. (4) The principle of integrating multiple parties. The rights, responsibilities and management priorities of the administrative level should be clarified to form a spatial governance synergy (Chen & Jiang, 2019); the construction, operation and management of scenic byways also involve enterprises, collectives, communities, public welfare organizations and other subjects. Therefore, the principle of integrating administrative, market and social multiple subjects should be followed to establish a mechanism for negotiating the distribution of rights, responsibilities, and benefits of the spatial community.

4.2 Governance Objectives

Following the principle of governance, three sub-objectives are set from three dimensions: consensus on the value of resource elements, regulation of development behavior, and division of rights, responsibilities, and benefits of multiple subjects, which are "consensus system of spatial justice", "regulation process of spatial platform", and "consultation mechanism of spatial community". The three are interrelated. The demand for justice in spatial resource allocation and spatial production is the expression of social justice that reasonably guarantees the spatial rights, responsibilities, and benefits of each subject, as well as the expression of ecological justice for the harmonious coexistence of human-earth systems (Guo & Zhao, 2020). And it provides constraints for the use regulation (i.e., the behavior and degree of natural resources utilization by actors) of the resource environment and the carrier of construction activities. The value of use regulation is to realize the spatial justice of the harmonious coexistence of man-land system. At the same time, the "consensus system of spatial justice" is the fundamental orientation of the consultation mechanism of joint construction, joint responsibility and sharing, and the consultation mechanism of joint construction, joint responsibility and sharing is the effective way to realize spatial justice. The "spatial platform-based regulation process" provides support for the coordination mechanism of co-construction, co-responsibility and sharing, and the consultation mechanism is the policy guidance of spatial platform-based regulation.

4.3 Governance Subjects

Cross-district scenic byway governance subjects include administrative subjects, market subjects and social subjects. (1) The administrative subjects mainly include the people's governments at all levels and relevant functional departments at the cross-administrative level, which should be transformed from a "guide" to an "active coordinator". Reflecting the service-oriented government's guarantee function, it is mainly responsible for the scenic byway planning, construction, and part of the management funds allocation, guaranteeing the completion and operation of the scenic byways, as well as daily inspection and supervision and maintenance. (2) The market subject includes (public, private, collective) enterprises, reflecting the production function, mainly responsible for the production and investment of resources along the scenic byway, recreation service facilities. And clarify the distribution of benefits and environmental protection, maintenance responsibilities. For the construction and operation of separate scenic byways can be established or hired for the operation of scenic byways and special franchise companies to perform operational functions. Responsibilities include recovering revenue from development investment for operating business management, market governance, and image promotion. It is also responsible for the specific operational management of the scenic byway operation and is accountable for project benefits as well as

ecological impacts. (3) Social subjects include non-profit organizations such as public interest organizations and environmental protection organizations. They are mainly responsible for representing the interests of local community citizens, collecting their demands for participation in the governance of the scenic byways and having supervisory responsibility for the resource environment.

4.4 Governance content

The content of the cross-district Scenic Byway space governance is carried out according to three major sub-objectives. (1) Consensus system of spatial justice: Formation of a multi-element public value consensus. To ensure fairness in resources and opportunities through legislation and regulations, and to build a framework of relevant legal and regulatory systems. In the area of "people and nature", we coordinate the reasonable and fair distribution of multiple elements, such as the cross-district scenic byways and the resources along them, and clarify various ownership rights and ecological responsibilities. In the area of "people and people," ensure equal opportunities for participation in spatial production and reasonable distribution of benefits. (2) Spatial platform-based regulation process: Using space as a platform, a set of regulation processes is established to clarify spatial authority. Incorporate scenic byways into cross-district spatial planning, and strictly formulate permits for scenic byway implementation. Realize "information sharing" and "business collaboration" in the approval of spatial projects. Rely on the spatial planning information platform to carry out zoning and classification use regulation and information-based dynamic supervision and management (Zhen et al., 2019; Kong et al., 2019). To realize information sharing and data sharing among governments at all levels and functional departments on matters related to planning, authority, approval, and supervision of scenic byways, and to make rational decisions. (3) The consultation mechanism of the spatial community: Following the principle of integrating multiple parties, we coordinate the distribution of rights, responsibilities, and benefits of multiple subjects of the cross-district scenic byways by establishing consultation mechanisms of joint construction, joint responsibility and sharing.

5. Spatial management measures of National No. 1 Scenic Byway

Chengde National No.1 Scenic Avenue is in the dam area of Chengde City, Hebei Province. It is 180 kilometers long, spanning 2 county-level administrative regions and 1 ranch. There are 16 townships, 112 administrative villages and 55 beautiful villages along the route. Under the existing management system, the National No. 1 Scenic Byway faces typical contradictions of cross-district governance such as unclear positioning, multiple management, and unclear authority and responsibility. Taking the National No. 1 Scenic Byway as a case to explore the spatial governance of cross-district scenic byways is representative and of practical value.

5.1 Legislation and regulations to build a composite space consensus system

National No.1 Scenic Avenue crosses the 4A-level tourist attraction, Seyhanba National Forest, and the entrance income is used for road maintenance, environmental management, and ecological protection. Scenic ticketing mode in the scenic byway after the full tube through the cancellation, so the lack of byway maintenance management fund. Access and tourism demand superimposed, so that the vehicle traffic far exceeds the ecological carrying capacity in the peak tourism season, the ecological environment threatened. In fact, whether the scenic byway is regarded as a single function of the road or scenic spots, there are corresponding laws and regulations as the basis for governance. However, as a multi-functional composite production space with multiple elements, the way the traffic department manages roads and the way the tourism department manages scenic spots do not provide good spatial governance.

Based on the cross-district scenic byway spatial governance system, consensus on the construction of a composite spatial system of scenic byways and the resources along them, both in terms of

legislation and regulation. (1) Sort out the functions of National No. 1 Scenic byway, and consider the Scenic byway itself, recreation attraction, service facilities, ecological landscape and related cities, towns, villages, and communities along the scenic byway as a system space as the object of governance. Promote Chengde City to formulate the Regulations on the Spatial Governance of the National No. 1 Scenic Byway to form a consensus on the positioning of the Scenic Byway in the administrative management system. Make specific regulations on the protection, utilization, planning, management and ecological compensation of resources and assets along the route. Clarify the various rights and functions of relevant resources and assets to ensure scientific and fair distribution, thus realizing ecological justice in the composite space of the National No. 1 Scenic byway. (2) Promote the preparation of the standard system of the National No. 1 Scenic Byway. Guiding the entry and exit of projects and improving the quality of services, including the "National No. 1 Scenic Byway Construction Standards" that regulate construction projects such as the expansion of the main body of the Scenic Byway, recreational facilities, and the landscape environment. Standardize the management of "construction, management and maintenance" and other management matters of the "National No. 1 Scenic Byway Management Standards". And standardize the scenic spots along the byway, catering and accommodation, rural tourism, and other business service behavior of the "National No. 1 Scenic Byway service standards", will meet the standard standards of business and projects into the Scenic Byway supporting service promotion system, in order to achieve social justice in the composite space of the Scenic Byway.

5.2 Establishing control processes to clarify space rights

National No.1 Scenic Byway crosses two county-level administrative regions and one ranch, involving the government and functional departments for their own management authority and sectoral interests in fragmented management, resulting in the entire route of the Scenic Byway resources and business cannot achieve coherent integration. For example, the Fengning County government developed a resort area for the Yongtaixing grassland in order to boost the local tourism economy, but the Regulations on Nature Reserves strictly restrict grassland tourism, while the government and the state-owned forest management body are not subordinate to each other administratively, and the two sides cannot reach a consensus, resulting in the grassland not being opened simultaneously after the tourism facilities were built, and the tourism facilities are now in a semi-deserted state.

Based on the cross-district scenic byway spatial governance system, the problem is solved by establishing a spatial platform of "planning-approval-regulation" governance process. (1) Establish the National No. 1 Scenic Byway Spatial Information Platform as technical support, and access to the Chengde City Territorial Spatial Planning Information System, to facilitate data sharing and business coordination of the spatial management of the Scenic Byway by all levels of government, functional departments and management agencies involved in the Scenic Byway. The functional zoning management of direct management area, regulation area and coordination area is carried out for scenic byway, roadside facilities, vision zones and radiation zones, and the powers of relevant departments are clarified through "power list" and "duty list" (Duan et al., 2019) to promote The regional spatial resources are optimally and efficiently allocated to achieve synergy across administrative boundaries (Xu et al., 2019). (2) Articulate urban and rural construction management, administrative license for the spatial development behavior of the Scenic Byway, and clarify the spatial carrier uses and conditions of use for natural resource development, utilization, and construction activities. By setting up spatial access conditions, develop development and utilization and protection conditions that are in line with the spatial justice of the Scenic Byway, prevent over-exploitation, and ensure the systemic and ecological integrity of Scenic Byway resources. (3) Establish the Scenic Byway comprehensive dynamic information technology supervision mechanism. Integration of city and county natural resources, transportation, culture and tourism, market supervision, environmental protection and other functional departments and ranch management committee responsibilities, the establishment of "3 + N + 1" ("city - county - scenic spot" 3 levels of linkage, "N "a functional unit," 1 "ranch

management area) joint supervision, to carry out daily inspections, using modern information technology for dynamic monitoring.

5.3 Establish a multi-subject consultation mechanism to clarify the rights, responsibilities, and benefits

The controversy of multiple rights, responsibilities and benefits subjects led to the disconnection between the construction and operation of the National No. 1 Scenic Avenue. At the beginning of the construction of National No. 1 Scenic Avenue, the provincial and municipal governments set up a construction command group, from project establishment, policy inclination, financial support, departmental coordination, and other aspects have given full protection. After the scenic byway was completed, the command group was disbanded, and tourism facilities and project operations were undertaken by multiple subjects such as the government, enterprises, and communities, lacking standards and regulations for dividing rights, responsibilities and benefits, difficulties in project integration, serious homogeneous competition, and large gaps in service quality, etc.

Based on the cross-district scenic byway space governance system, establish a multi-body consultation mechanism. (1) Innovative operation mechanism. Rely on Chengde Summer Resort Tourism Group, Chengde Transportation Group and Chengde Bus Group and other enterprises with appropriate qualifications, the establishment of tourism development, traffic maintenance and tourism passenger transport and other franchise companies. Responsible for the introduction of project development, landscape maintenance, tourism toilet construction management, cultural and creative product development, road cleaning and maintenance, service area operation, passenger transport special lines and other businesses. (2) Establishing the incentive mechanism of "common construction" oriented by "sharing" of benefits and the mechanism of "common responsibility" and strict punishment for ecological environment to form a "resource-demand-project" chain. -Demand - Project" chain. Regular consultation by multiple subjects. According to the procedure of "call for demand - discussion and consultation - determination of project - voluntary participation", the demand, resources, participants, and participation methods are matched to form an equal opportunity project construction mechanism. At the beginning of the project, the participants and managers share the responsibility. We also implement the scenic byway manager system in administrative villages along the road, guide local people to participate in the daily supervision of resources and projects along the scenic byway, and establish an information disclosure system. Realize the benefit sharing of the scenic byway, provide more opportunities for participation in investment, employment opportunities, environmental science popularization opportunities for the urban and rural along the scenic byway, as well as through the construction of related projects to regulate the river, restore the mountain, improve the human living environment and pollution control improvement, etc.

6. Conclusion and Discussion

Modern, precise, and refined national governance requires both top-down vertical governance by industry and field, as well as attention to typical spatial governance of different spatial units. The scenic byway is a typical linear cross-district spatial, a "string of beads-like" tourist destination that connects points and faceted tourist attractions through linear routes, and has an active role in pulling and radiating the regional tourism economy. This paper analyzes the spatial characteristics of trans-administrative scenic byways and their governance dilemmas, and constructs a spatial governance system with the subgoals of "consensus system of spatial justice," "regulatory process of spatial platform," and "consultation mechanism of spatial community." Taking Chengde National No. 1 Scenic Byway as a case, we propose countermeasures such as legislation and regulation to build a composite spatial consensus system, establish a regulation process to clarify spatial authority, and establish a multi-body consultation mechanism in response to its current governance problems. The spatial governance system of cross-district scenic byways is characterized by the fact that there is no need to set up a special administrative governance institution. Through a set of standards, a set of

regulatory processes and a set of mechanisms, we aim to provide a new research perspective for the spatial governance paradigm of scenic byways and a practical basis for the proposed coordinated development strategy of typical linear spatial regions.

Although the spatial governance system of cross-administrative scenic byways is proposed and empirically studied in this paper, the research on the legal nature of institutional arrangements for cross-district spatial governance, public decision-making mechanisms, financial and tax allocation mechanisms, and cooperation and guarantee mechanisms in the process of modernizing the spatial governance system and governance capacity of the country needs further in-depth improvement. In addition, the issue of giving a clear legal status to scenic byways in the administrative management system at the national level needs to be urgently resolved. The mechanism for identifying, entrusting the protection and operation of natural resources, assets, and ecological space within the scope of scenic byways also deserves in-depth exploration.

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Declaration of Interest statement

There are no conflicts of interest to declare.

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