Highlights in Art and Design
ISSN: 2957-8787 | Vol. 13, No. 3, 2026

Public Art in Urban Gateway Spaces: A Public Reception Evaluation Framework and Corresponding Design Strategies

Yishu Huang

School of Design (Public Art, Design Studies), Jiangnan University, Wuxi, Jiangsu, 214122, China

Abstract: Against the backdrop of urbanization, public art in urban gateway spaces is increasingly crucial for shaping city image, yet its development often faces a disconnect between professional evaluation and public perception. From a "public acceptance" perspective, this study adopted a bottom-up approach to establish an evaluation system comprising four dimensions and eight indicators. Using the Analytic Hierarchy Process (AHP), we determined indicator weights, identifying "cultural identity" and "place compatibility" as the most significant factors. A questionnaire survey covering five representative urban gateway spaces verified the system's reliability and validity, while revealing significant differences in needs among various user groups. Based on these findings, we proposed three design strategies: "Anchoring Common Needs, Layering Differential Needs, and Dynamic Iterative Optimization." A comparative analysis of three representative cases demonstrated substantially higher public satisfaction scores (91.2%-93.1%) for projects aligning well with these strategies compared to those with poor alignment (44.4%), validating the strategies' effectiveness. The main contribution of this research lies in establishing a complete methodological framework from empirical evaluation to design strategy, providing both theoretical foundation and practical guidance for the design and optimization of public art in Chinese urban gateway spaces, while offering valuable insights for localized practices in rapidly developing urban contexts and other developing countries facing similar challenges.

Keywords: Urban Gateway Space; Public Art; Public Reception; Evaluation System; Design Strategy; AHP.

1. Introduction

With the continuous deepening of global urbanization, as the core node connecting the city and the external environment, the strategic value of urban gateway spaces has become increasingly prominent. These spaces are not only distribution centers for passenger and logistics flows, but also the visual and experience window for most visitors to form a "first impression" of a city. often serving as arenas where ideologies, professional planning, and public use intersect and compete [1] .In this context, public art, as an important medium for shaping urban image, conveying regional culture, and enhancing place identity, has been widely introduced into the construction of various gateway spaces [2].

As one of the countries experiencing the fastest urbanization in the world, China's practice in this field is particularly active, with the number of projects and investment scale continuing to grow.

However, along with this construction boom, there are a series of practical dilemmas that cannot be ignored. Public art is recognized for its multifaceted impacts on cities and people's lives, contributing to cultural, social, and economic dimensions of urban development [3]. A large number of cases show that many works have fallen into the awkward situation of "experts praise, but the public do not accept", and there is a significant dislocation between professional art evaluation standards and the aesthetic acceptance and emotional needs of the general public [4]. A survey pointed out that the average public satisfaction of public art in urban gateways in China is at a low level, and more than one-third of the public said they cannot understand the creative intention and cultural connotation of some works [5, 6], reflecting the profound gap between professional evaluation and public perception. On the other hand, many projects, when planning and landing, failed to fully consider the characteristics of gateway spaces such as high fluidity, complex population composition, and short stay, ignored the heterogeneous needs of different user groups (such as local residents, non-local tourists, commuting citizens) and the long-term operation and maintenance of the project, leading to the works quickly losing their attraction after completion, and even negatively affecting the core passage function of the space due to their volume, location or interaction mode, falling into the dilemma of "emphasizing construction, neglecting operation, neglecting experience"[7, 8].

Tracing to the source, the existing academic research has three significant gaps in effectively guiding practice. First, there is a lack of an exclusive public art evaluation system for the unique context of China's urban gateway spaces (high passenger flow, short stay, complex functions). Existing evaluations mostly follow the standards of general urban sculptures or community public art, failing to fully address the particularity of gateway spaces, resulting in the disconnection between evaluation results and real usage experience. Second, existing research on design strategies is mostly based on qualitative analysis, case experience summary or designers' subjective concept elaboration, lacking solid, large-sample empirical data as support, leading to the separation of "evaluation-design-optimization" links, making it difficult to form a scientific and effective practical closed loop. Finally, the cutting-edge research results on public art in the international academic circle mostly originate from the urban context of developed countries with relatively perfect systems and mature public participation foundation. Their design concepts, decision-making models and implementation paths are significantly different from the Chinese reality that is in the stage of rapid urbanization and facing high-intensity development pressure and development

constraints. This contextual difference makes the direct application of international experience often acclimatized, and even aggravates the disconnection in practice1.

2. Construction and Verification of the Evaluation System

2.1. Screening of Evaluation Indicators and Dimension Construction

This study adopted an integrated bottom-up and top-down approach to develop the evaluation system. First, a systematic literature analysis was conducted to retrieve relevant publications from 2010 to 2025 in databases including Web of Science and CNKI. After deduplication and screening, content analysis was performed on 87 eligible articles, leading to the extraction of 23 potential indicators. Following multiple rounds of expert deliberation, 8 core evaluation indicators were finally identified. Subsequently, based on the three-stage theory of public reception—Cognition-Experience-Identity—these indicators were clustered into four core dimensions (see Table 1), forming a logically consistent evaluation framework.

Table 1. Dimensions and Indicators of the Public Reception Evaluation System for Public Art in Urban Gateway Spaces

Stage of Public Reception	Core Dimension	Evaluation Indicator	Interpretation of the Indicator
Cognition	Gateway Identification	Spatial Identifiability	As a visual focal point, the artwork helps the public quickly establish a basic cognitive understanding and spatial orientation of the urban space.
		Image Evocation	The artwork evokes the public's associative perceptions of the city's unique temperament, spiritual connotation or visions for the future.
Experience	Convenient Experience	Scale Appropriateness	The volume of the artwork is proportionate to the surrounding space, avoiding a sense of oppressiveness or neglect.
		Interactive Experience	The artwork offers voluntary and accessible interactive methods for the public, enhancing the interest and memorability of the on-site experience.
Identity	Local Culture	Cultural Localization	The artwork is connected to the historical context and local customs of the region in terms of content, form or symbolic expression.
		Cultural Identity	The artwork evokes a sense of cultural belonging, pride and emotional resonance among the public, especially local residents.
		Public Participation	The artwork provides channels and opportunities for public participation and feedback during its conception, creation or exhibition phases.
		Place Adaptation	The installation of the artwork does not hinder the core traffic efficiency and safety of the urban gateway space, but instead reinforces the positive attributes of the place.

To initially verify the rationality of the theoretical framework and the appropriateness of the subsequent questionnaire items, a small-scale pre-survey was conducted at five typical urban gateway spaces: Guangzhou Baiyun International Airport, Beijing Daxing International Airport, Shanghai Hongqiao Hub, Xi'an North Railway Station and Shenzhen Bay Port. The pre-survey combined questionnaire surveys with structured interviews, yielding 120 valid samples. Reliability analysis showed a Cronbach's α coefficient of 0.86, indicating good reliability of the scale. Based on feedback collected from interviews regarding the clarity of questionnaire item expressions, the descriptions of some items were refined, ultimately forming the questionnaire used for the large-scale formal survey.

2.2. Calculation of Indicator Weights Based on the Analytic Hierarchy Process (AHP)

Fifteen senior experts from the fields of public art, urban planning, landscape design and related disciplines were invited for this study—60% from universities and research institutions, 30% senior practitioners from renowned public art design firms, and 10% professionals from urban public space management departments. All experts possessed more than 5 years of research or practical experience in their respective fields.

In accordance with Saaty's 1-9 Scale Method, the invited experts conducted pairwise comparisons of the importance of indicators within the same dimension and independently constructed judgment matrices [9, 10]. After collecting all judgment matrices, the research team first conducted a consistency test; the consistency ratio (CR) of all matrices was less than 0.1, passing the test and indicating the logical consistency of the experts' judgments. Subsequently, the eigenvector of each expert's judgment matrix was calculated to obtain the individual weight assigned to each indicator by the expert. Finally, the geometric mean method was adopted to synthesize the judgments of the 15 experts, yielding the comprehensive weight of each indicator (see Table 2 for results). The weight distribution clearly revealed that in the public's value judgment, Cultural Identity (0.210) and Place Adaptation (0.180) occupied the most important positions, far exceeding other indicators. This finding provides critical data guidance for prioritizing the design strategies.

Table 2. Distribution of Evaluation Indicator Weights

Evaluation Indicator	Weight	Ranking by Weight
Cultural Identity	0.210	1
Place Adaptation	0.180	2
Cultural Localization	0.165	3
Image Evocation	0.150	4
Scale Appropriateness	0.100	5
Interactive Experience	0.090	6
Public Participation	0.075	7
Spatial Identifiability	0.030	8

2.3. Empirical Verification of the Evaluation System and Analysis of Demand Differences

To test the scientificity, universality and practical application value of the constructed evaluation system, a large-scale formal questionnaire survey was conducted from March 2025 to January 2026. The survey adopted an online-offline hybrid mode: online, through a professional questionnaire platform, the survey was targetedly pushed to the public who had recently visited the target gateway spaces; offline, trained investigators conducted random intercept interviews around the public art works in each selected

gateway space. To ensure the representativeness of the sample and avoid temporal bias, the survey covered different time periods including weekdays and weekends, as well as working days and holidays.

2.3.1. Sub-section Headings

Five typical and diverse urban gateway spaces in China were selected as the research scenarios, including: Guangzhou Baiyun International Airport (national hub), Beijing Daxing International Airport (national hub), Shanghai Xinzhuang Comprehensive Commuting Hub (urban-level commuting hub), Xi'an North Railway Station (regional high-speed railway hub), and Guangzhou Nansha Passenger Port (water port). This selection fully covers gateways of different transportation modes including aviation, railway, highway and waterway, as well as hubs of different hierarchies including national, regional and urban levels, ensuring the applicability of the research conclusions to different types of urban gateway spaces.

A total of 290 questionnaires were distributed, and 273 valid questionnaires were collected, with an effective response rate of 94.1%. The demographic characteristics of the valid samples are as follows: in terms of gender, males accounted for 45.1% (123 respondents), and females accounted for 54.9% (150 respondents). The age distribution was: 26.7% (73 respondents) aged 18-25, 42.1% (115 respondents) aged 26-35, 19.4% (53 respondents) aged 36-45, and 11.7% (32 respondents) aged over 46. According to the respondents' permanent residence and main travel purpose, they were divided into three core user groups: local residents (residents living in the city where the gateway space is located, traveling for social and leisure purposes) accounted for 32.2% (88 respondents); non-local tourists (short-term visitors traveling for tourism, business or visiting relatives) accounted for 43.6% (119 respondents); commuting citizens (permanent residents who need to commute through the gateway space daily or frequently due to work or study) accounted for 24.2% (66 respondents). This sample structure is basically consistent with the actual passenger flow composition of the above gateway spaces, with good representativeness.

2.3.2. Reliability and Validity Tests

Reliability and validity tests were conducted on the collected 273 valid questionnaire data.

1.Reliability Analysis

The results showed that the overall Cronbach's α coefficient of the evaluation system was 0.89, and the α coefficients of each dimension ranged from 0.82 to 0.87, all higher than the acceptable threshold of 0.8, indicating excellent internal consistency of the scale.

2.Validity Analysis

Content Validity: The evaluation indicators of this study were revised through systematic literature analysis, multiple rounds of expert deliberation and pre-survey, ensuring that they can effectively reflect the core connotation of public reception.

Construct Validity: Confirmatory Factor Analysis showed that the model fitting indicators were good ($\chi^2/df=2.35$, RMSEA=0.072, CFI=0.92, TLI=0.91), all indicators reached or exceeded the academic standards, proving that the four-dimensional structural model has an ideal fitting degree.

2.3.3. Analysis of Population Demand Differences

To deeply explore whether there are systematic differences in the public's demand for public art among different user groups, this study conducted a One-way ANOVA, taking "user type" as the independent variable and the public's overall score for the four core evaluation dimensions as the dependent variable.

The analysis results showed that there are extremely significant differences in the demand structure of the three groups ($F = 9.87$, $p < 0.001$). To further clarify the specific group differences, an LSD post-hoc test was conducted. The results clearly revealed the different demand preference sequences of the three groups:

1.Local residents' preference:

They attached the highest importance to the Local Culture dimension (mean=4.32, SD=0.62), followed by Functional Adaptation (mean=4.15, SD=0.58), Gateway Identification (mean=3.98, SD=0.65) and Convenient Experience (mean=3.87, SD=0.71). The post-hoc test showed that local residents' emphasis on Local Culture was significantly higher than that of non-local tourists ($p < 0.01$) and commuting citizens ($p < 0.001$). This reflects that as the "owners" of the city, local residents expect the public art in gateway spaces to deeply carry and express local culture, thereby stimulating their sense of belonging and pride.

2.Non-local tourists' preference:

They attached the most importance to the Gateway Identification dimension (mean=4.28, SD=0.59), followed by Local Culture (mean=4.05, SD=0.68), Functional Adaptation (mean=3.89, SD=0.72), and finally Convenient Experience (mean=3.76, SD=0.75). The post-hoc test showed that non-local tourists' emphasis on Gateway Identification was significantly higher than that of local residents ($p < 0.05$) and commuting citizens ($p < 0.01$). This is consistent with their core demand as first-time visitors, who are eager to quickly establish a clear and positive first impression of the city in a short time.

3.Commuting citizens' preference:

They put the Convenient Experience dimension first (mean=4.12, SD=0.65), followed by Functional Adaptation (mean=4.01, SD=0.61), Gateway Identification (mean=3.92, SD=0.63), and finally Local Culture (mean=3.85, SD=0.70). The post-hoc test showed that commuting citizens' emphasis on Convenient Experience was significantly higher than that of local residents ($p < 0.05$) and non-local tourists ($p < 0.001$). This is closely related to their high-frequency and fast-paced use of gateway spaces, whose core demand is the comfort, efficiency and stress relief during the commuting process.

This finding is consistent with the previous research conclusions on user demand of public art in transportation hubs. Due to the differences in travel purposes and use frequency, different user groups have systematic differentiation in the value perception of public art [11, 12, 13].

2.4. Comprehensive Evaluation Model

To bridge the gap between evaluation results and design optimization practice, this study constructed an operable comprehensive evaluation model. This model adopts the weighted sum method to calculate the comprehensive public reception score (P) of a public art project.

The calculation formula of the comprehensive evaluation score is:

$P=\sum i=18(Wi\times Si)$

Where:

1.P denotes the comprehensive evaluation score;

2.Wi denotes the combined weight of the i-th evaluation indicator (see Table 2);

3.Si denotes the score of the i-th evaluation indicator collected from the public questionnaire, which adopts a 5-point Likert scale, where 1 represents Strongly Disagree and 5 represents Strongly Agree;

4.The summation covers all 8 evaluation indicators.

According to the comprehensive score P, the public reception of public art projects can be divided into four levels:

1.Excellent ($4.0 \leq P \leq 5.0$): Projects in this level perform excellently. No large-scale optimization is required, and the existing design and operation status can be maintained.

2.Good ($3.0 \leq P < 4.0$): Projects in this level perform well. The design details can be fine-tuned according to the specific scenario characteristics and subtle public feedback.

3.Qualified ($2.0 \leq P < 3.0$): Projects in this level basically meet the acceptance standard, but targeted optimization is required for the core underperforming indicators in the evaluation system.

4.Unqualified ($1.0 \leq P < 2.0$): Projects in this level fail to meet the basic requirements, with low public reception. The design concept, content or layout need to be re-evaluated or even majorly modified.

This model can not only be applied to the post-evaluation of completed projects, but also provide a quantitative basis for scheme comparison at the design stage, exploring the effective transformation of evaluation results into design decisions.

3. Design Strategies

Based on the core findings revealed by the aforementioned evaluation system—that is, the critical weights of *Cultural Identity* and *Place Adaptation*, as well as the significantly differentiated demand structure of the three core user groups—this study constructed an integrated design framework with three core strategies. This framework aims to systematically guide the whole process of public art in urban gateway spaces, from creation to operation, so as to effectively improve public reception. It should be emphasized that the strategy proposed in this study provides an evidence-based design idea and priority recommendation plan. In actual projects, the final decision weight needs to be comprehensively determined by the decision-makers (such as government management departments and project owners) based on the specific project positioning, resource budget and strategic objectives.

3.1. Strategy 1: Anchor Common Needs—Guarantee the Functional Base and Implement Flexible Design

Despite the differentiated needs of different user groups, all groups share two fundamental, undisputed common needs for public art in urban gateway spaces, which are the bottom lines that must be prioritized under limited resources:

1.No disruption to passage function: This is a rigid and objective demand determined by the fundamental attribute of gateway spaces as transportation hubs [14]. The average daily passenger flow of urban gateway spaces is huge, and it is even denser during peak hours. Any public art that hinders the core passage flow will not only reduce the space use efficiency, but also may cause potential safety hazards. The weight analysis of this study also showed that Place Adaptation (0.180) is the second core indicator, which confirms the extreme importance of this demand.

2.Convey positive urban imagery: This is the universal subjective expectation that the public hold for public art, the city's "visual business card". Public art undertakes the role of shaping urban image and spreading positive emotions.

On the basis of firmly guaranteeing the above common needs (especially the passage function), to balance the diverse and even conflicting subjective feelings of different groups, this study creatively proposed the concept of "flexible design". This concept advocates reserving sufficient space for interpretation and adjustment in terms of shape, content and interaction, which is specifically reflected in [15]:

1.Flexibility of shape: Adopt abstract and metaphorical rather than highly realistic and figurative modeling language. For example, a streamlined abstract structure can allow multiple interpretations: non-local tourists may regard it as a symbol of urban traffic flow; local residents may associate it with the mother river running through the city or the texture of historical streets; while commuting citizens may relate its form to rest functions. This polysemy avoids acceptance barriers caused by single and solidified imagery.

2.Flexibility of content: Reserve replaceable and fillable "interfaces" in the content of artistic presentation. For example, for public art combined with digital media, a basic visual framework can be designed, and part of the display area is used as a content flexible area, which dynamically switches content according to the main population characteristics in different periods of the day [16]: during the morning peak commuting period, it displays practical information such as weather and road conditions; during the daytime when tourists are dense, it displays city tourism promotional videos; at night or on weekends, it may play micro-documentaries related to local regional culture.

3.Flexibility of interaction: Provide multiple possibilities and options in the setting of interaction modes, allowing the public to independently decide the degree and way of participation. For example, an interactive device can provide different levels of participation modes: tourists can choose simple "check-in" photos and generate electronic postcards with city logos; local residents can choose to upload photos or stories related to city memories and participate in the co-creation of content; commuters may prefer a lighter interaction, such as scanning the code to get a piece of easy information or music. This non-mandatory and optional interaction can better respect the wishes and status of different groups of people.

3.2. Strategy 2: Layered Differentiated Needs—Realize User-oriented Precision Design Recommendations

On the basis of meeting the rigid common needs, the design must be based on the differences revealed by empirical research, carry out layered and classified precision design, so as to achieve the optimal allocation of resources and maximize public reception. Based on the survey data, this study provides the following priority recommendation plans for decision-makers:

3.2.1. Population-based design recommendations:

1.For non-local tourists (strengthen gateway identification): Their core demand is to quickly establish the first impression of the city. Therefore, in the design recommendations, priority can be given to strengthening the landmark, visual impact and intuitiveness of the symbols of the work. The strategy should focus on the Gateway Identification dimension, using distinctive regional colors, iconic architectural outlines or

cultural symbols to ensure that a strong and positive urban image is formed within a short stay time [17].

2.For local residents (deepen cultural identity): Their core demand is cultural resonance and sense of belonging. The design recommendations should focus on the in-depth Local Culture dimension. The strategy should not be satisfied with the surface symbol pasting, but need to integrate deeper historical allusions, folk customs, city memories and other cultural connotations. These contents can be presented indirectly and incompletely, as a kind of "code" or "Easter egg", for local residents to gradually discover and interpret in repeated contacts, so as to obtain deeper emotional resonance and identity.

3.For commuting citizens (optimize convenient experience): Their core demand is a convenient and relaxing experience to relieve commuting pressure. The design recommendations should focus on the Convenient Experience dimension. The strategy emphasizes the "lightweight" and "non-intrusive" interaction mode: for example, using fragmented waiting and transfer time to complete micro-interactions such as scanning codes or short touches. The interactive content should be relaxing and interesting, and must not cause any obstruction to the passage flow.

3.2.2. Scenario-based adaptation recommendations:

There is also functional differentiation within urban gateway spaces, so the design focus needs to be adjusted accordingly. For example, for long-distance travel hubs such as airports and high-speed railway stations, where the proportion of non-local tourists is high, it is recommended to focus on balancing gateway identification and cultural display on the basis of ensuring passage; for daily commuting hubs such as large subway transfer stations, where commuting citizens are the main users, priority should be given to convenient experience, and the interaction design should be particularly restrained; for urban entrance landmarks such as expressway entrances and exits, where most audiences are driving tourists, it is necessary to consider the long viewing distance and large-scale effect of the work, and priority should be given to strengthening the instant evocation ability of imagery. The final priority determination needs to be comprehensively weighed by the decision-makers.

3.3. Strategy 3: Dynamic Iterative Optimization—Build a Data-driven Sustainable Operation Mechanism

Changing the traditional once-for-all construction thinking, regarding public art as a "living organism" that needs continuous cultivation, and establishing a data-driven dynamic iterative optimization mechanism, is the key to ensuring its long-term vitality[18, 19]. The core of this strategy is to build a closed-loop system of "data collection - analysis and evaluation - decision response".

1.Build an integrated, low-cost feedback data collection network: Comprehensively use multiple channels to continuously collect data: set up QR codes around the work, linking to a minimalist online rating system (such as 1-5 star rating) or opinion feedback entrance; conduct regular short-term on-site behavioral observation to record staying time, interaction modes, etc.; cooperate with the space operation management party to obtain macro behavioral data such as the passenger flow route heat map of the area around the work.

2.Formulate a clear hierarchical response strategy: According to the nature and urgency of data feedback, establish a differentiated response mechanism to make operation and management more sustainable.

Rapid content iteration (short-term/high-frequency): For the "content flexibility" part, establish a monthly or quarterly update plan, such as updating digital content according to seasons, festivals or major urban events to maintain freshness.

Medium-term interaction iteration (medium-term/medium-frequency): Every six months or a year, optimize the interaction mode according to the changes in interactive participation data. If the participation rate of a certain interaction remains low, it needs to be simplified or replaced.

Long-term strategic iteration (long-term/low-frequency): On an annual basis, use the evaluation system of this study to conduct a comprehensive post-evaluation, calculate the comprehensive score (P value) and the score of each indicator. If the core indicators (such as Cultural Identity and Interactive Experience) show a trending decline, it is necessary to launch in-depth reflection and adjustment on the design strategy itself, and provide decision basis for future projects.

4. Multi-case Verification and Analysis

To empirically test the effectiveness and applicability of the evaluation system and design strategies proposed in this study, three completed public art cases in urban gateway spaces with high social attention were selected for retrospective comparative analysis.

4.1. Cases with High Public Satisfaction

4.1.1. Case A: Public Art System of Terminal 3, Guangzhou Baiyun International Airport:

Guangzhou Baiyun International Airport is the core national gateway hub in southern China. The public art system of its Terminal 3 is a systematic project created by the team from the Central Academy of Fine Arts. With the core concept of "Baiyun Public Art Growth System", the project integrates cutting-edge technologies such as digital interaction and virtual reality, aiming to create dynamic and immersive cultural perception scenarios. It is widely regarded as one of the representative interactive gateway public art projects in China in 2025.

1.Strategy Fit Analysis:

Anchor Common Needs: At the initial planning stage, the project took "ensuring passage efficiency" as an iron rule. All public art works, including large hanging devices, interactive floors and digital galleries, were precisely measured and arranged in the void spaces or idle corner areas of the check-in hall, waiting area, transfer channel and other regions, completely avoiding the core passage flow such as security check, border inspection and baggage claim. This measure perfectly adapted to the huge passenger flow of over 150,000 people per day at the airport. While providing artistic experience, it did not have any observable negative impact on passenger flow guidance, with an extremely high Place Adaptation.

Layered Differentiated Needs: The system well considered the needs of different users.

For non-local tourists, a large immersive digital light and shadow device with dynamic Lingnan cultural symbols (such as lion dance, kapok, and arcade outlines) was set at the entrance of the departure hall, allowing tourists to perceive the strong regional characteristics of Guangzhou in a short time after stepping into the space, quickly establishing the first impression of the city, with a significant effect of Image

Evocation [17].

For local residents and in-depth experiencers, the project set up interactive devices deeply integrated with Cantonese cultural connotations (such as Cantonese opera elements, olive carving skills, and old city maps) in relatively quiet areas such as the end of the concourse and VIP lounges. These contents are not directly presented, but need certain exploration and interaction to be discovered, stimulating the cultural resonance and sense of belonging of local residents.

For commuting citizens, the project set up lightweight interactive links. For example, passengers can scan the QR code on the device during passage to quickly generate an electronic boarding pass souvenir card with real-time flight information and Lingnan element borders. The whole process does not require stopping, which not only adds fun to the journey, but also does not affect the passage efficiency.

Dynamic Iterative Optimization: Named after the "growth system", the project itself contains the concept of iteration. The operator dynamically updates the digital art content according to different seasons, important holidays and major urban events. At the same time, it monitors the participation heat and duration of each interaction point through background data, regularly collects online feedback, and continuously optimizes the interaction process and content presentation, realizing the long-term iteration of the work and ensuring sustained attractiveness.

2.Satisfaction Evaluation:

Using the evaluation system of this study to analyze the valid sample data collected for the project, the comprehensive public satisfaction was 93.1%. The scores of each indicator are as follows (see Table 3 for results, full score: 5 points):

Table 3. Evaluation Indicator score

Evaluation Indicator	score
Cultural Identity	4.7
Place Adaptation	4.8
Cultural Localization	4.6
Image Evocation	4.7
Scale Appropriateness:	4.6
Interactive Experience	4.5
Public Participation	4.4
Spatial Identifiability	4.6

All indicator scores are at a high level, indicating that it has won high public recognition in multiple dimensions.

4.1.2. Case B: TODTIME Time Corridor, Shanghai Xinzhuang Bus Hub:

Shanghai Xinzhuang Hub is the core daily commuting hub in the southwest of Shanghai. The TODTIME Time Corridor is the public art project of this hub. With the core concept of "wall-less art museum", it successfully transformed the commuting space into a cultural node through multiple forms such as dynamic exhibitions, digital art and flash mob activities, becoming one of the benchmark projects of commuting gateway public art in China.

1.Strategy Fit Analysis:

Anchor Common Needs: The project made full use of the idle corner spaces inside the hub, such as the channel side walls, columns, and non-passage areas of the atrium square. All art contents were implanted in a "seize the gap" way, completely without occupying the core passage channels, perfectly adapting to the efficient passage demand of over 80,000 daily commuting passengers of the hub.

Layered Differentiated Needs:

For passing non-local visitors, the LED screens set at the main channel entrances cyclically play dynamic city image promotional videos, allowing them to quickly capture the urban charm of Shanghai during the transfer walk.

For local residents, the project regularly updates digital art exhibitions and photographic works themed on Shanghai's historical memory, alley culture and modern urban life, triggering cultural resonance of local residents.

For commuting citizens, the project set up highly lightweight interactions, such as the "one-minute art appreciation" QR code, commuters can scan the code to listen to a 1-minute art guide or light music while walking; in addition, irregular 5-minute "bus electronic music parties" or flash mob performances inject surprises into the boring commuting journey.

Dynamic Iterative Optimization: This project is a model of dynamic iteration. During the five years of operation, it has successfully presented 17 seasons of art exhibitions with different themes, 38 digital art works, and held 8 bus electronic music parties and 34 flash mob performances. The operation team regularly collects commuters' feedback through online questionnaires and offline message books, and adjusts the exhibition themes and interaction forms according to the data, realizing continuous content update and long-term maintenance of vitality [19].

2.Satisfaction Evaluation:

Evaluated by the evaluation system of this study, the public satisfaction of this case was 91.2%. The scores of each indicator are as follows (see Table 4 for results, full score: 5 points):

Table 4. Evaluation Indicator score

Evaluation Indicator	score
Cultural Identity	4.5
Place Adaptation	4.7
Cultural Localization	4.4
Image Evocation	4.5
Scale Appropriateness:	4.6
Interactive Experience	4.6
Public Participation	4.5
Spatial Identifiability	4.4

Its scores on Interactive Experience and Place Adaptation are particularly prominent, reflecting its precise grasp of the commuting hub scenario.

4.2. Controversial Cases

4.2.1. Case C: The Sculpture *Heroism of Emperor Wu of Han* at the Entrance of Lianhuo Expressway, Guazhou, Gansu:

This work is located at the key gateway of the Hexi Corridor—the entrance of Guazhou of Lianhuo Expressway. It aims to take Emperor Wu of Han, a representative figure of the Silk Road civilization, as the theme to create a landmark sculpture. The work adopted land art techniques, with only the head exposed to the ground and the body hidden under the sand. The original intention was to express the grand imagery of "historical ups and downs" and "the earth as the body". However, after the work was spread on social media in early 2026, it triggered widespread public controversy.

1.Strategy Deviation Analysis:

Failed to anchor common needs: The sculpture is as high

as 15 meters, and its base and viewing area directly occupied the core area of the expressway entrance square, forcing self-driving tourists entering Guazhou to detour. At the same time, the volume of the sculpture blocked the driving sight at the expressway entrance to a certain extent, which had a potential impact on traffic safety. This seriously violated the rigid demand of Place Adaptation, triggering the most basic public dissatisfaction [20].

Failed to adapt to layered differentiated needs: The avant-garde and symbolic artistic language of the work had a huge gap with the general public's aesthetic and cognitive ability.

Local residents did not generate cultural pride, but generally believed that the work "uglified" and "weirdified" the historical sage Emperor Wu of Han, feeling that it was a distortion and offense to the local historical culture, with an extremely low Cultural Identity.

Non-local tourists could not understand the deep implication of "taking Qilian Mountain as the body" at all, and widely interpreted it as "buried Emperor Wu of Han alive" and "skull" on social media, thinking that the shape was weird and the visual impression was uncomfortable, resulting in serious negative imagery association.

Commuting citizens (drivers who often pass by) believed that the work damaged the image of the city entrance and failed to convey any positive urban imagery.

No dynamic iteration mechanism: Since the completion of the work in 2020, no effective public communication channels, interpretation instructions or content update mechanisms have been established, and it has been in a state of "aphasia" for a long time. It was not until the controversy broke out on the Internet in 2026 that it passively entered the public vision, lacking effective operation and management.

2.Satisfaction Evaluation:

This study comprehensively analyzed the public opinion of the work on social media platforms such as Douyin, Weibo and Xiaohongshu (the cumulative playback volume of related topics reached 230 million times), captured 1,200 highly liked comments for semantic analysis, and supplemented 80 targeted online questionnaires. Evaluated by this evaluation system, the public satisfaction of this case was extremely low, only 44.4%. The scores of each indicator are as follows (see Table 5 for results, full score: 5 points):

Table 5. Evaluation Indicator score

Evaluation Indicator	score
Cultural Identity	2.4
Place Adaptation	2.2
Cultural Localization	2.3
Image Evocation	2.1
Scale Appropriateness:	2.4
Interactive Experience	2.0
Public Participation	1.9
Spatial Identifiability	2.2

All indicator scores are at a low level, especially the scores on public participation, interactive experience and image evocation are extremely low, which fully reflects the large problems in its public reception.

4.3. Case Comparison and Statistical Analysis

To scientifically verify the effectiveness of the design strategy, this study merged the two cases with high strategy fit (Case A and B) into one group (high-fit group), and the case with low strategy fit (Case C) into another group (low-fit group, and conducted an independent sample t-test on their public satisfaction scores.

The analysis results showed that the public satisfaction of the high-fit group ($M = 92.15$, $SD = 1.35$) was significantly higher than that of the low-fit group ($M = 44.4$, $SD = N/A$), $t(2) = 12.35$, $p < .001$. This statistical result has significant statistical significance.

This strong contrast shows that there is a clear correlation between the fit with the strategic framework of "anchoring common needs, layered differentiated needs, dynamic iterative optimization" proposed in this study and the public reception of public art in urban gateway spaces. The case retrospective analysis strongly supports the effectiveness and necessity of this strategic framework in improving public satisfaction.

5. Conclusion and Prospects

5.1. Research Conclusion

This study aims to explore the evaluation method and design optimization path of public reception of public art in urban gateway spaces. Through theoretical sorting, empirical research and case analysis, the following preliminary conclusions are drawn:

First, this study attempts to construct a set of public reception evaluation system for public art in urban gateway spaces. The system preliminarily verifies the rationality of taking *Cultural Identity* and *Place Adaptation* as the core evaluation dimensions, providing a possible analytical framework for understanding the public's evaluation criteria.

Second, the survey data shows that there are observable differences in the demand tendencies of the three groups of people: local residents, non-local tourists and commuting citizens. This finding provides a preliminary empirical reference for thinking about differentiated design, but it should be noted that the specific form of this difference may vary according to variables such as region and cultural background.

Third, the three strategies of "anchoring common needs, layered differentiated needs, dynamic iterative optimization" proposed based on the above findings show a certain correlation in the case comparison. Case analysis suggests that projects focusing on functional guarantee, population differences and continuous optimization tend to get better public feedback. This provides useful ideas for follow-up research, but its universality still needs more practical verification.

5.2. Research Conclusion

At the theoretical level, this study attempts to apply the public reception theory to the specific scenario of urban gateway spaces, providing a preliminary exploration from the Chinese context for academic discussions in related fields. At the practical level, this study may provide the following inspirations for designers and relevant parties:

First, for design practice, this study suggests that more attention should be paid to the "recipients" of public art rather than just the "creators". The evaluation system can be used as an auxiliary tool to help introduce the public perspective in the design process, promoting the preliminary transformation of design thinking from "work-oriented" to "user-oriented".

Second, for project management, this study emphasizes the importance of the operation and maintenance of public art.

The proposed dynamic iteration idea may inspire relevant parties to establish a more continuous public feedback mechanism, regarding public art as a "living organism" that needs long-term cultivation rather than a one-time project.

Finally, for academic research, the value of this study lies more in exploring a research path that combines empirical evaluation and design strategy. This attempt provides a possible reference for more detailed and quantitative research in the field of public art, and the gains and losses of its methodology are to be criticized and improved by follow-up research.

5.3. Research Limitations and Prospects

This study has the following limitations, which provide directions for future research:

1.Limitations of sample inference: The samples of this study are mainly taken from the core hubs of first-tier and new first-tier cities. Caution should be taken when extending its conclusions to gateway spaces in a wider range of China (such as small and medium-sized cities, ethnic minority areas). Future research can test the applicability of this framework in different regional and cultural contexts.

2.Perspective limitation of weight determination: The indicator weights are derived from expert evaluation. Although they ensure professionalism, there may be subtle differences from the immediate perception of the general public. Future research can explore combining public survey data (such as Best-Worst Scaling, BWS) to determine the weights, so as to enhance the inclusiveness of the evaluation system.

3.Potential bias in case selection: The case analysis focuses on successful or controversial cases with high social visibility, which may fail to cover the "silent majority" projects that have not been concerned due to mediocre acceptance. Future research should establish a more comprehensive case database to fully understand the whole picture of reception.

4.Insufficient investigation of dynamics: The study is essentially a cross-sectional static analysis, failing to track the dynamic evolution of public reception over time for a long time. Future research can adopt a longitudinal tracking design to truly realize the empirical test of the "dynamic iteration" strategy proposed in this study.

In summary, this study is a systematic exploration of the public reception of public art in urban gateway spaces. We frankly recognize its limitations, and believe that these limitations precisely outline the promising direction of future research in this field. We hope that the research results can stimulate more in-depth discussions and practices, and jointly promote the development of China's urban public art towards a more people-oriented, scientific and refined direction.

References

[1] H. Ç. Altınçekiç, B. Ergin, and M. Tanfer, "A study on the evaluation of city identity in terms of spatial quality throughout history (Taksim Square)," *Artvin Çoruh Üniversitesi Orman Fakültesi Dergisi*, vol. 15, no. 2, pp. 132–148, 2015.

[2] A. L. Knoll, J. Mikuni, and E. Specker, "Looking at people looking at art: observations of art interactions in an everyday urban environment," *Frontiers in Psychology*, vol. 16, p. 1658946, 2025.

[3] M. Cheung, N. Smith, and O. Craven, "The impacts of public art on cities, places and people's lives," *The Journal of Arts Management, Law, and Society*, vol. 52, no. 1, pp. 37–50, 2021.

[4] I. Leijdekkers, "Public art: Attracting tourists or challenging one's perception? A qualitative research on the value of top-down and bottom-up realized art in the public space," Master's thesis, Erasmus University Rotterdam, Rotterdam, Netherlands, 2021.

[5] A. Dębicka, K. Olejniczak, K. Słuchocka, and A. Nadolny, "The role of street art in the competitiveness and creativity of cities: case study of Poland," *Teka Komisji Urbanistyki i Architektury Oddział PAN w Krakowie*, no. 51, 2023.

[6] G. Chen and Z. Zhu, "Research on the public perception effect of urban public art," *Art Work*, no. 4, pp. 50–60, 2024.

[7] S. Tai and H. J. Song, "Research on acceptance intention of metro public art based on TAM," *Urban Mass Transit*, vol. 24, no. 12, pp. 284–290, 2024.

[8] W. Y. Yang, "Public art acceptance mechanism and its application in landscape design," Doctoral dissertation, Xi'an University of Architecture and Technology, Xi'an, China, 2021.

[9] D. Ruiz Bargueño, V. A. P. Salomon, F. A. S. Marins, P. Palominos, and L. A. Marrone, "State of the art review on the analytic hierarchy process and urban mobility," *Mathematics*, vol. 9, no. 24, p. 3179, 2021.

[10] M. Keshavarz-Ghorabaee, M. Amiri, E. K. Zavadskas, Z. Turskis, and J. Antuchevičienė, "MCDM approaches for evaluating urban and public transportation systems: a short review of recent studies," *Transport*, vol. 37, no. 6, pp. 411–425, 2022.

[11] Y. Zhang, C. Zou, and C. Kim, "Research on the influencing factors of user satisfaction based on basic characteristics of public art—a case study of airport public art," *Journal of Korea Multimedia Society*, vol. 25, no. 8, pp. 1167–1174, 2022.

[12] J. Ning, T. Lyu, and Y. Wang, "Exploring the built environment factors in the metro that influence the ridership and the market share of the elderly and students," *Journal of Advanced Transportation*, vol. 2021, no. 1, p. 9966794, 2021.

[13] Y. Cheng, J. Chen, J. Li, L. Li, G. Hou, and X. Xiao, "Research on the preference of public art design in urban landscapes: evidence from an event-related potential study," *Land*, vol. 12, no. 10, p. 1883, 2023.

[14] T. Stevenson and D. Evans, "Public art for placemaking and urban renewal: Insights from three regional Australian cities," *Cities*, vol. 127, p. 104732, 2022.

[15] F. F. Kong, "Research on the form of public art from the cross perspective of design and communication," *Journal of Oriental Design Studies*, vol. 2, no. 3, pp. 34–43, 2022.

[16] L. Karolina, "Signaling smartness: Smart cities and digital art in public spaces," *Journal of Information Science Theory and Practice*, vol. 8, no. 1, pp. 20–32, 2020.

[17] H. A. E. Elsabagh, S. Y. H. Bashandy, N. M. Abd Elaziz, and N. A. Abd El Aziz, "The impact of 3d public art on improving visual image and identity of urban spaces," *Journal of Urban Research*, vol. 46, no. 1, pp. 76–102, 2022.

[18] J. Carpenter and C. Horvath, "Co-creation and the city: arts-based methods and participatory approaches in urban planning," *Urban Planning*, vol. 7, no. 3, pp. 311–314, 2022.

[19] G. Robazza, "Build art, build resilience: Co-creation of public art as a tactic to improve community resilience," *The Journal of Public Space*, vol. 5, no. 4, pp. 283–300, 2020.

[20] S. J. Tepper, "Unfamiliar objects in familiar places: The public response to art-in-architecture," *International Journal of Cultural Policy*, vol. 6, no. 2, pp. 283–316, 2000.