

# Revitalizing Urban Micro Public Spaces: 6 Key Sections

Systematic Renovation and Implementation of Micro Spaces in Haidian Street, Beijing



Database

Demonstration Sites  
for Renovation

Design Guidelines

Multi-partner  
Management

Community  
Public Space  
Basic Research

Community  
Activities



# Revitalizing Urban Micro Public Spaces: 6 Key Sections

-- Systematic Renovation and Implementation of Micro Spaces in Haidian Street, Beijing

## PROJECT STATEMENT

China's urban development has transitioned from expansive growth to a focus on high-quality development. Enhancing the efficiency of urban land use has become a pressing issue. Urban micro public spaces, as pivotal arenas for urban stock renewal, offer extensive growth prospects. However, several challenges hinder their renewal: the integration gap between academic research on urban micro spaces and practical design, a lack of systematic guidance in the renewal process, weak brand influence in community micro-renewal efforts, and inadequate investment in spatial construction. Additionally, managing multi-stakeholder relationships within communities and ensuring sustainable space renewal pose significant challenges.

To address these issues and foster sustainable urban micro space renewal, this project has developed six key areas of focus: 1) community public space basic research, 2) micro public spaces-database, 3) micro public spaces-design guidelines, 4) micro public spaces-demonstration sites for renovation, 5) micro public spaces-community activities, 6) micro public spaces-multi-partner management. This systematic approach provides an efficient framework for future community micro space renewal and holds potential for widespread application across urban community spaces.

## PROJECT NARRATIVE AND CONTENTS

China's urban development has transitioned from expansive growth to a focus on high-quality development. Improving land use efficiency is crucial to achieving this goal. Urban micro public spaces, characterized by their small scale and dispersed layout, constitute the most prevalent type of space in cities and are deeply integrated into residents' daily lives. As Beijing embarks on a new phase of urban inventory renewal, there is an urgent need to regenerate and transform a significant number of urban micro public spaces, which play a pivotal role in urban revitalization. However, the current update of community micro public spaces faces several challenges:

**Integrating community research findings into space design:** Effective community renewal requires synthesizing research outcomes with practical design to formulate appropriate spatial renewal strategies.

**Achieving systematic updates of community micro spaces:** Currently, the quantity and construction of micro-public spaces lack clarity, and there is no comprehensive guide to steer the entire process from site selection to design, construction, and operation.

**Establishing the brand influence of community micro space updates:** There is a lack of distinct branding in community micro space updates, resulting in inadequate publicity and influence.

**Enhancing the quality of community micro space design:** The design and construction quality of community micro spaces is subpar, compounded by insufficient investment in community renewal.

**Coordinating stakeholder interests in community micro-updates:** Involving multiple stakeholders complicates the implementation of community micro-public space renewal.

**Sustaining continuous updates of community micro spaces:** The renewal of community micro-public spaces lacks driving force and sustainable vitality. To address these challenges, the project proposes 6 key sections for systematically updating micro-public spaces: 1) community public space basic research, 2) micro public spaces-database, 3) micro public spaces-design guidelines, 4) micro public spaces-demonstration sites for renovation, 5) micro public spaces-community activities, 6) micro public spaces-multi-partner management. The project is currently being piloted in Haidian Street, Haidian District, Beijing, covering 32 communities with a population of approximately 122,900 people.



## 1. Community Public Space Basic Research

This project proposes a community renewal model that integrates research and practice. The team has conducted a series of fundamental studies, primarily focusing on community renewal models, community behavior, aging in communities, community renewal case study, and community microclimate research. These studies aim to explore the users and their needs in the community public space. Based on these research findings, the design team has developed corresponding strategies for the design of community public spaces. At the same time, the research team also verify and optimize the previous research results according to the design effect.

## 2. Micro Public Spaces - Database

The research team investigated various aspects of existing micro public spaces, including their type, location, area, landscape elements, and other information. To date, a total of 132 micro public spaces have been identified in Haidian Street. The research team has established an online database to collect and store this data. In the future, the database will be open to the public, and community residents can discover and record micro public spaces around them at any time through mobile terminals.

## 3. Micro Public Spaces - Design Guidelines

The formulation of micro public space design guidelines aims to enhance the rationality, standardization, and scientific basis of space construction. Key design aspects for the systematic construction of micro public spaces include identification system design, functional layout, facility design, pavement design. The mechanism system construction for micro public space renewal in the design guidelines consists of six steps: joint participation, joint proposal, joint discussion, joint construction, joint management, and joint sharing. Each step is supported by a corresponding toolkit.

## 4. Micro Public Spaces - Demonstration Sites for Renovation

The design team employed specific design guidelines to oversee the transformation of 4 community micro spaces. 4 distinct types of community micro spaces were selected for renovation:

- **Daoxiangting - a sunken courtyard space within a community**

Situated in the Daoxiangyuan Xili community, this renewal demonstration site caters primarily to the elderly and children. Leveraging the site's varying elevations, designers ingeniously integrated children's play facilities and fitness equipment, effectively addressing the diverse needs of residents.

- **Zhihuachang - an enclosed public space within a community**

Located in the Sanyimiao Community, with roots tracing back to the Dahua Garment Factory, this renewal demonstration site honors its industrial heritage. Retaining the essence of its past, designers embraced "textile" as a central theme, incorporating button patterns, sewing lines, and poetry about textiles into the design.

- **Rainbow Garden - a ribbon public space within a community**

Situated in the Haidian Community, this renewal demonstration site embodies the concept of the "Rainbow." The designer orchestrated a multifaceted community space seamlessly blending functionality with aesthetics. From a dedicated fitness area to a tranquil reading nook, each space is thoughtfully designed to cater to different age groups, ensuring inclusivity and engagement within the community.

- **Huaiyinli - a community public space integrated with the renovation of the garbage station**

Located in the Daozuomiao community, this renewal demonstration site ingeniously repurposes an underutilized green expanse into a bustling activity



square. Additionally, a comprehensive upgrade of the garbage station has been undertaken, seamlessly integrating it into the environment. This upgraded facility not only addresses odor concerns but also strategically segregates pedestrian traffic from the waste disposal route, thereby enhancing both functionality and aesthetics.

## **5. Micro Public Spaces - Community Activities**

This project utilizes the micro public space renewal demonstration site to organize a series of community participation activities. These activities are included in the community guidelines toolkit. These activities foster communication and interaction among residents while enhancing their sense of ownership. By participating in these activities, community residents gradually become involved in the process of urban renewal.

## **6. Micro Public Spaces - Multi-partner Management**

The project utilizes the community workstation as a platform for multi-party communication. Universities, residents, street governments, construction party, investor, service enterprise and other groups collaborate on this platform to jointly promote the implementation of the Haidian Street micro public space renewal project. Community residents from passive participation to leading action, and gradually enhance the initiative of residents to participate in urban renewal. The work across the six sections of community renewal will be carried out continuously and systematically.

This systematic approach to micro space renewal not only offers an efficient framework for future community micro space renewal in China but also establishes a foundation for sustainable urban development. Its comprehensive and practical nature positions it to serve as a model for widespread adoption and to offer guidance for addressing micro space renewal challenges in various regions across China.



# BACKGROUND

China's urban development has transitioned from a period of expansive growth to one focused on pursuing high-quality development. The imperative now lies in achieving this high-quality development while also optimizing land use efficiency, particularly within the context of Beijing's urban landscape. Urban micro spaces, characterized by their small scale and dispersed layout, constitute the most prevalent spatial type in the city and are deeply intertwined with residents' daily lives. As Beijing embarks on a new phase of urban renewal, marked by the rejuvenation of existing assets, there arises a pressing need to regenerate and transform a multitude of micro public spaces.

## Six Challenge & Six Strategy

### Question 1

#### Strategy 1

#### Strategy 4

How can community-related research findings be seamlessly integrated into space design? There is a need to amalgamate research outcomes with design practices and propose corresponding spatial renewal strategies.

What approach can be adopted for the systematic update of community micro spaces? The absence of a comprehensive action guide for site selection, design, construction, operation, and maintenance poses a challenge.

#### Strategy 2

#### Strategy 3

### Question 2

### Question 3

#### Strategy 2

#### Strategy 3

How can the brand influence of community micro space renewal be established? The absence of a distinct updated brand and insufficient publicity power and influence hinders progress.

Strategy 1 — Community Public Space Basic Research

Strategy 2 — Micro Public Spaces - Database

Strategy 3 — Micro Public Spaces - Design Guidelines

Strategy 4 — Micro Public Spaces - Demonstration Sites for Renovation

Strategy 5 — Micro Public Spaces - Community Activities

Strategy 6 — Micro Public Spaces - Multi-partner Management

### Question 4

How can the quality of community micro space design be improved? The current low quality of design and construction, coupled with inadequate capital investment, presents a significant obstacle.

#### Strategy 3

#### Strategy 4

#### Strategy 5

#### Strategy 6

How can the interests of all parties involved in community micro renewal be effectively coordinated? The intervention of multiple rights holders complicates the implementation of renewal efforts.

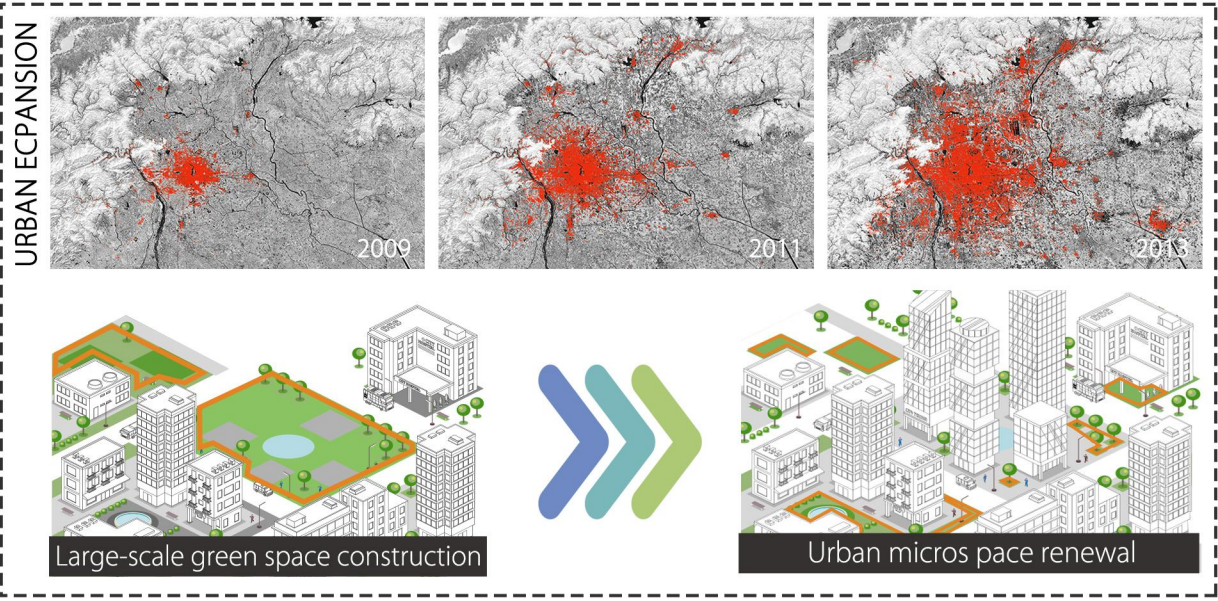
### Question 5

### Question 6

#### Strategy 6

#### Strategy 5

How can the continuous updating of community micro space be achieved? The lack of driving force in the renewal process and insufficient renewal vitality pose ongoing challenges.



Community micro space renewal is a crucial aspect of urban revitalization. To address the six key challenges currently facing community micro space updates, this project proposes six sections for community micro public space renewal: a comprehensive database, design guidelines, demonstration sites for renovation, community activities, and multi-partner management.



# LOCATION & PLAN



0 100 200 500 m

Haidian park



CHINA

HAIDIAN DISTRICT

BEIJING

HAIDIAN ROAD COMMUNITY

DAOZUOMIAO COMMUNITY

DAOXIANGXILI COMMUNITY

SANYIMIAO COMMUNITY

HAIDIAN STREET

HAIDIAN DISTRICT

HAIDIAN STREET

Project achievements

**5** RESEARCH TOPICS

**32** COMMUNITIES, **132** MICRO SPACES

**1** DESIGN GUIDELINE

**4** DEMONSTRATION SITES FOR RENOVATION

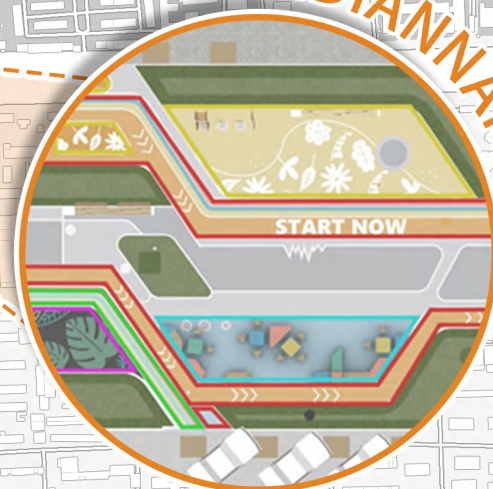
**19** ACTIVITY TOOLKITS

**9** PARTICIPANTS

DAOXIANGXI



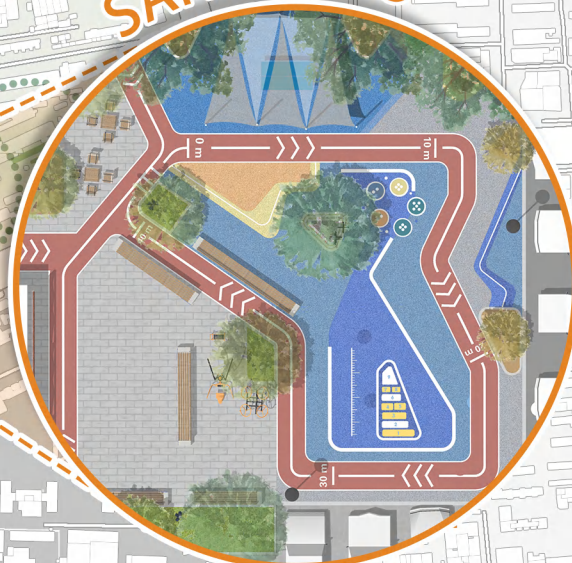
HAIDIANNANLU



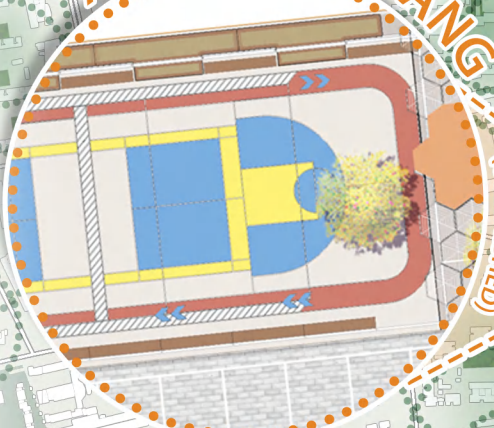
DAOZUOMIAO



SANYIMIAO



XIAONANZHANG



The construction of small and micro public space lacks a unified standard system. The research team has drawn up design guidelines for small and micro public Spaces, providing design guidance for space renewal from the aspects of logo design, functional layout, facility design, pavement design, etc., strengthening community renewal brand construction, and achieving high-quality empowerment development.



# 1 COMMUNITY PUBLIC SPACE BASIC RESEARCH



summarize strategies from practice  
find research topics from practice

## Community Microclimate Research and Design

**01 Theoretical Studies**  
Summarise the effect of noise on thermal and overall comfort, in established studies.

**Literature Search**  
Conduct a literature search in Web of Science and China National Knowledge Infrastructure to capture current research progress on the impact of noise on thermal comfort in urban outdoor spaces and the effect of both on overall comfort levels

**Literature Screening and Addition**  
Adding indoor and outdoor research on the effects of sight, smell, and hearing on comfort, as well as climate-resilient designs

**Results of Literature Screening**  
In the end, all the papers involved in the collation totalled 61 papers.

**A total of 318 papers belonging to this or related research areas 10 papers directly explored the interaction between outdoor thermal comfort and the acoustic environment**

**Thermal comfort questionnaire**  
1) Please describe your current thermal sensation  
2) Please describe the comfort level of the current thermal environment  
3) Please describe your level of acceptance of the thermal environment  
4) How would you rate the various aspects of the thermal environment you are in at this time?  
5) Your comments on the landscape  
6) Do you like the view from where you are at this moment?  
7) How satisfied are you with the walk you have just taken?  
8) If you were to visit a greenway in the future, to what extent would you choose the section of

**02 Field measurements**  
Designing experiments for the community activity to further research.

**Instrument Measurement**

**Questionnaire Inquiry**

**03 Design Strategies**  
Proposing design strategies for improving inhabitant acoustic and thermal comfort.

**Full-age Functional Layout**

**Intergenerational Integration**

**Ageing Facilities**

**Barrier-free Design**

**Community Renewal Model Research**  
《Landscape Progressive-action Design》

**Community Behavior Research**  
《Fragmentation and Integration: Research on the Alienation and Fusion Renewal of Public Space in the Old City of Jinan Based on Crowd Activities from the Perspective of Daily Life》

**Community Aging Research**  
《Research on the Behavior of "the Grandparents' Looking After" in Outdoor Public Space of Urban Residential Areas under the Background of Inter-generational Parenting》

**Community Renewal Case Study**  
《The Action-Oriented Model and Key Works of Community Environment Construction: A Case Study of the Dashilar Area in Beijing》

**Community Microclimate Research**  
《Study on thermal comfort of elderly in community parks: An exploration from the perspectives of different activities and ages》

This project proposes a community renewal model that integrates research and practice. The team has conducted a series of fundamental studies, primarily focusing on community renewal models, community behavior, aging in communities, community renewal case study, and community microclimate research. Based on these research findings, the design team has developed corresponding strategies for the design of community public spaces.



# 2 MICRO PUBLIC SPACES - DATABASE

Online Database



Investigation



The research team investigated various aspects of existing micro public spaces, including their type, location, area, landscape elements, and other information. To date, a total of 132 micro public spaces have been identified in Haidian Street. The research team has established an online database to collect and store this data.

Record Sheet

PLAN



QUESTIONNAIRE

点位名称 Name	调研要素 Elements	现状 Situation
(稻香北) 社区 (8)号楼(东)侧 (Daoxiangbei) community (8) Building (East) side	位置 Location	<input type="checkbox"/> 公共空间位于街角 <input type="checkbox"/> 公共空间位于道路两侧 <input type="checkbox"/> 公共空间位于道路一侧 <input type="checkbox"/> 公共空间位于建筑之间 <input type="checkbox"/> 公共空间位于道路与建筑之间 <input type="checkbox"/> 公共空间位于道路之间
	面积 Area	<input type="checkbox"/> < 20 m <sup>2</sup> <input type="checkbox"/> 20-1200 m <sup>2</sup> <input type="checkbox"/> 1200-4000 m <sup>2</sup> 具体面积: (m <sup>2</sup> ) m <sup>2</sup> (实地测量时可以步测, 否则可以百度地图测量)
	可达性 Accessibility	出入口数量: 开放 步行: <input type="checkbox"/> 住宅区内部道路(10-20m) <input type="checkbox"/> 住宅组团级道路支路(4-10m) <input type="checkbox"/> 宅前小路
	高差 Elevation Difference	是否与道路有高差: <input type="checkbox"/> 是 <input type="checkbox"/> 否 场地内部是否平整: <input type="checkbox"/> 是 <input type="checkbox"/> 否
	现有景观要素 Landscape Element	<input type="checkbox"/> 垃圾桶 <input type="checkbox"/> 座椅 <input type="checkbox"/> 无障碍设施 <input type="checkbox"/> 座椅 <input type="checkbox"/> 公告栏 <input type="checkbox"/> 标识指引 <input type="checkbox"/> 植物景观 <input type="checkbox"/> 台阶 <input type="checkbox"/> 石材 <input type="checkbox"/> 廊架 <input type="checkbox"/> 其他 (快速路、花坛) 请填写具体信息
	植物生长情况 Plant	<input type="checkbox"/> 优秀 <input type="checkbox"/> 良好 <input type="checkbox"/> 适中 <input type="checkbox"/> 较差
	场地占用情况 Occupancy	<input type="checkbox"/> 是 <input type="checkbox"/> 否 <input type="checkbox"/> 垃圾 <input type="checkbox"/> 车辆 <input type="checkbox"/> 杂物 <input type="checkbox"/> 其他 ( )
	场地不利因素 Adverse Factors	<input type="checkbox"/> 位于垃圾房旁, 有异味 <input type="checkbox"/> 离居民楼较近, 设计方案应尽量避免对居民噪声的干扰 <input type="checkbox"/> 紧邻小区道路, 人车混杂 <input type="checkbox"/> 其他(请填写具体信息)
	功能 Function	静态活动: <input type="checkbox"/> 静坐 <input type="checkbox"/> 下棋 <input type="checkbox"/> 其他 (无) 动态活动: <input type="checkbox"/> 聚会 <input type="checkbox"/> 遛狗 <input type="checkbox"/> 其他 (无)



PHOTO OF THE SITE



PHOTO OF THE SITE



# 3 MICRO PUBLIC SPACES - DESIGN GUIDELINES



## 01 IDENTIFICATION SYSTEM

HI WE



Big tree  
Green space system

Project  
identification

Project profile



Project name

Project area

Site function

Opening hours

Use convention

Matters needing  
attention

Community micro space design should have a identification system. These identification system integrate each micro space in the community into a system to enhance the brand influence.

## 02

### FUNCTION LAYOUT

#### 3 儿童游乐:

在儿童使用较为频繁的场地可设置儿童活动区。通过滑梯、秋千等游乐设施,形成安全、趣味的游戏空间。



#### 建议:

- 规定儿童游戏区使用时间,防止扰民
- 活动区宜采用颜色丰富、质量较好的塑胶铺地

#### 不建议:

- 布置在居民楼较近的地方,避免造成居民生活干扰
- 分区不明确,放置过冬设施,对儿童奔跑等活动造成伤害

The functional layout section is divided into eight parts: fitness, communication, children's games, elderly activities, public activities, cultural publicity, nature science popularization and life services.

## 03

### PAVEMENT DESIGN



The pavement design section mainly introduces the building materials commonly used in community landscape design.

## 04

### FACILITY DESIGN



The facility design section is divided into 11 parts: fitness and sports facilities, seats, leisure tables and chairs, children's amusement facilities, pavilion gallery, dustbin, drying rack, lighting, sculpture, warning and protection facilities and publicity column.

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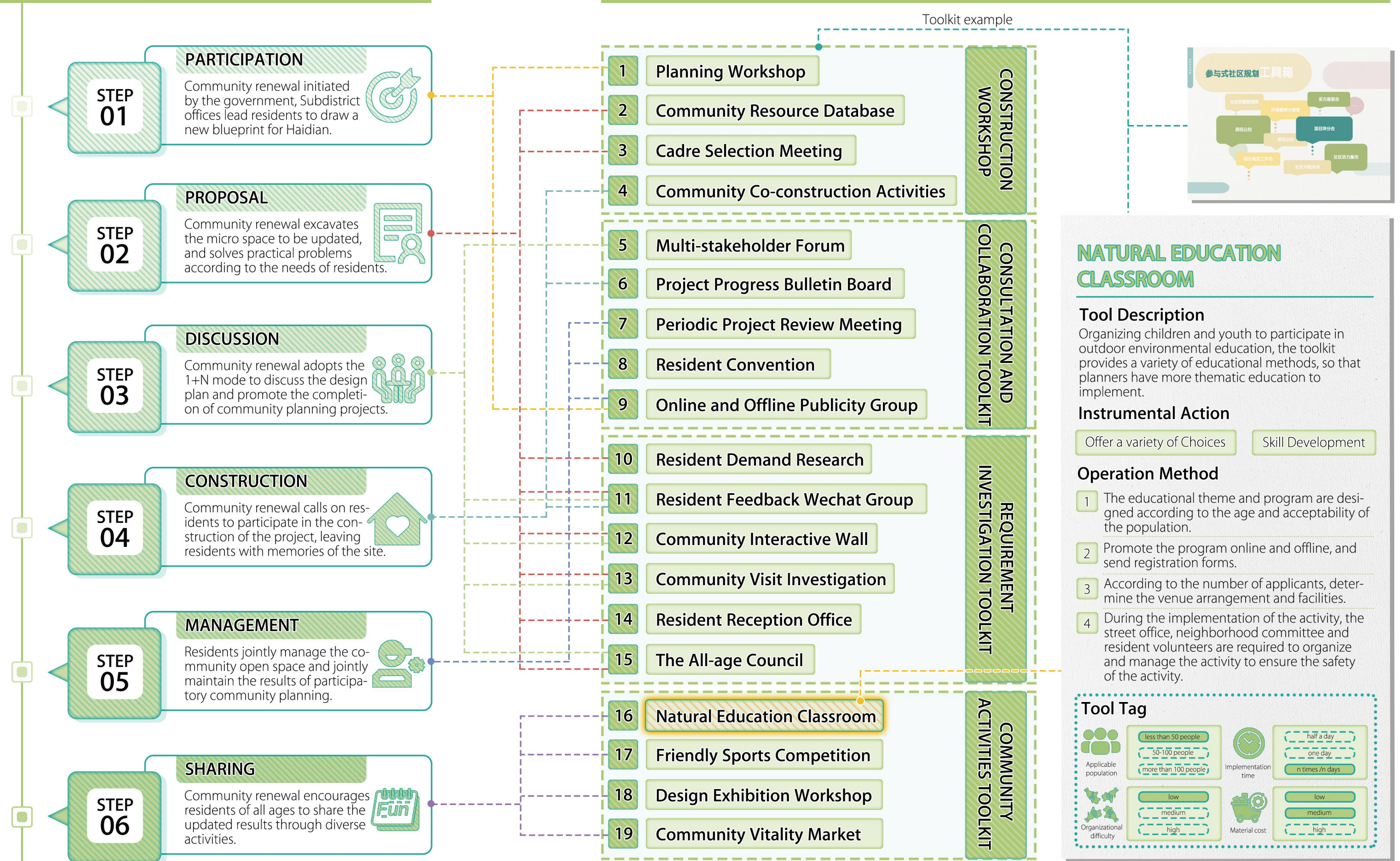
The formulation of micro public space design guidelines aims to enhance the rationality, standardization, and scientific basis of space construction. Key design aspects for the systematic construction of micro public spaces include identification system design, functional layout, facility design, pavement design, and other relevant features.



# 3 MICRO PUBLIC SPACES - DESIGN GUIDELINES

## Mechanism System Construction

## Toolkit



The mechanism system construction for micro public space renewal in the design guidelines consists of six steps: joint participation, joint proposal, joint discussion, joint construction, joint management, and joint sharing. Each step is supported by a corresponding toolkit.



# 4 MICRO PUBLIC SPACES - DEMONSTRATION SITES FOR RENOVATION



## A SUNKEN COURTYARD SPACE IN A COMMUNITY

Situated in the Daoxiangyuan Xili community, this renewal demonstration site caters primarily to the elderly and children. Leveraging the site's varying elevations, designers ingeniously integrated children's play facilities and fitness equipment, effectively addressing the diverse needs of residents.



DAOXIANGTING  
ZHICHANG



## AN ENCLOSED PUBLIC SPACE IN A COMMUNITY

Located in the Sanyimiao Community, with roots tracing back to the Dahua Garment Factory, this renewal demonstration site honors its industrial heritage. Retaining the essence of its past, designers embraced "textile" as a central theme, incorporating button patterns, sewing lines, and poetry about textiles into the design.

The design team used design guidelines to guide the construction of 4 community micro spaces. We have selected 4 different types of community micro spaces for renovation, which are shown on this page: 1) Daoxiangting—— a sunken courtyard space in a community; 2) Zhihuachang——an enclosed public space in a community.



# 4 MICRO PUBLIC SPACES - DEMONSTRATION SITES FOR RENOVATION

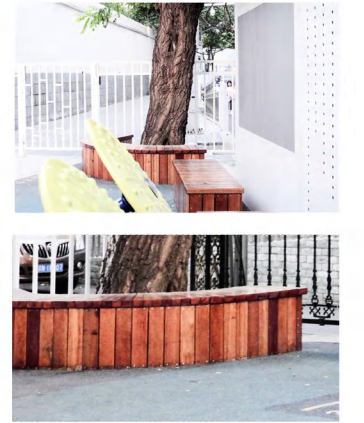


## A RIBBON PUBLIC SPACE IN A COMMUNITY

Situated in the Haidian Community, this renewal demonstration site embodies the concept of the "Rainbow." The designer orchestrated a multifaceted community space seamlessly blending functionality with aesthetics. From a dedicated fitness area to a tranquil reading nook, each space is thoughtfully designed to cater to different age groups, ensuring inclusivity and engagement within the community.



## RAINBOW GARDEN



## A COMMUNITY PUBLIC SPACE COMBINED WITH THE RENOVATION OF THE GARBAGE STATION

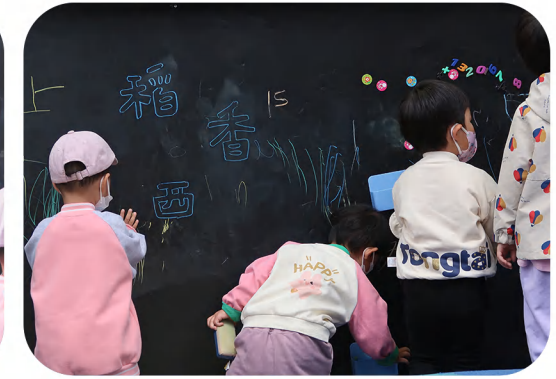
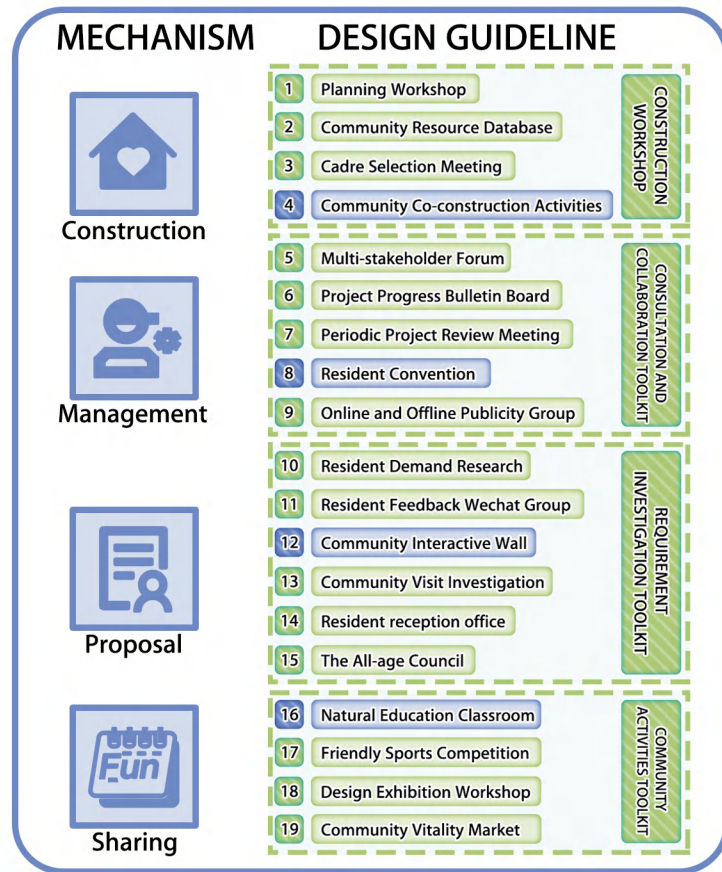
Located in the Daozuomiao community, this renewal demonstration site ingeniously repurposes an underutilized green expanse into a bustling activity square. Additionally, a comprehensive upgrade of the garbage station has been undertaken, seamlessly integrating it into the environment. This upgraded facility not only addresses odor concerns but also strategically segregates pedestrian traffic from the waste disposal route, thereby enhancing both functionality and aesthetics.



The design team used design guidelines to guide the construction of 4 community micro spaces. We have selected 4 different types of community micro spaces for renovation, which are shown on this page:3) Rainbow Garden - a ribbon public space in a community;4) Huaiyinli - a community public space combined with the renovation of the garbage station.



# 5 MICRO PUBLIC SPACES - COMMUNITY ACTIVITIES



Toolkit 1: Community Co-construction Activities

Toolkit 3: Community interactive wall



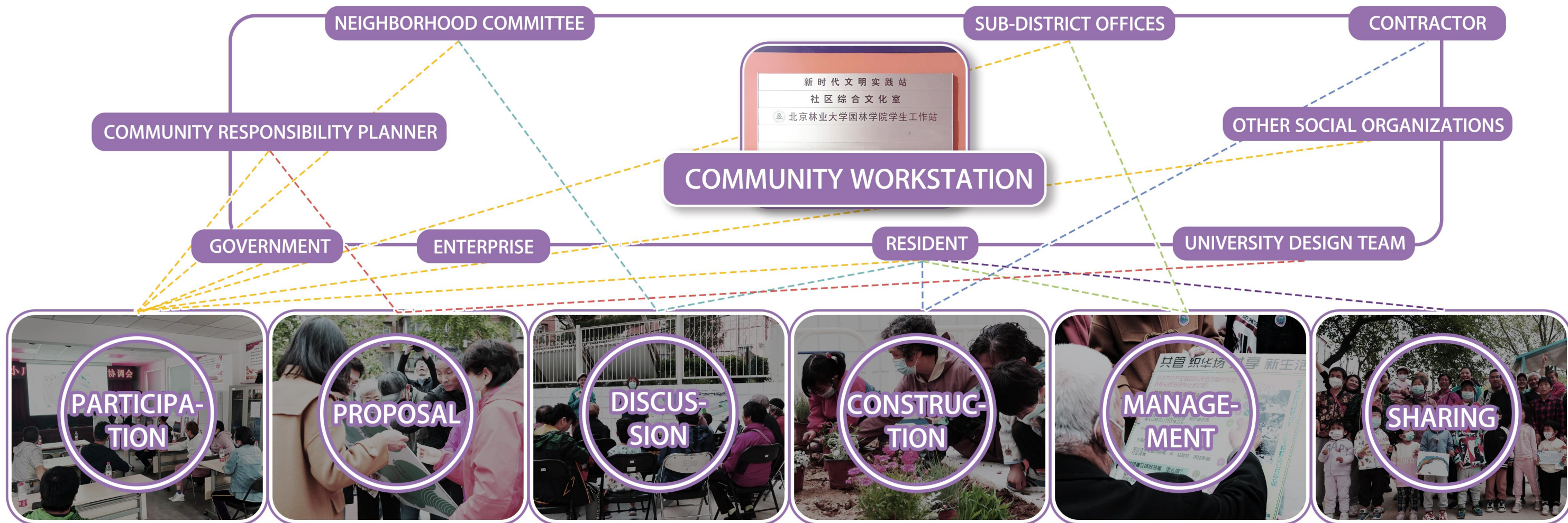
Toolkit 2: Resident Convention

Toolkit 4: Natural education classroom

This project utilizes the micro public space renewal demonstration site to organize a series of community participation activities. These activities foster communication and interaction among residents while enhancing their sense of ownership. By participating in these activities, community residents gradually become involved in the process of urban renewal.



# 6 MICRO PUBLIC SPACES - MULTI-PARTNER MANAGEMENT



## SOCIAL BENIFITS



“针灸式”更新小微空间延续场地记忆——海淀街道三义庙社区大华小区改造新颜

2023-05-10 17:13 北京 听全文

海淀3处小微空间改造竣工亮相 变居民欢乐场

2023-05-04 08:55

老旧小区里的小微空间关乎居民生活的幸福感。记者从海淀区了解到，位于稻香园西里社区等地的3处社区小微空间，经过改造，已成为居民休闲娱乐的好去处。

海淀融媒  
北京市海淀区融媒体中心  
北京

海淀融媒 2023-04-28 16:00 北京 听全文

海淀街道“海之微”小微空间更新计划 了十个小微空间改造名单。三义庙社



稻在乡间，乡在心间！“水稻”主题空间现身海淀小区

海淀网 北京海淀 2023-08-10 13:54 北京

听全文

北京海淀  
北京市海淀区融媒体中心  
北京

创建北京海淀三山五园国家文物保护利用示范区

社区闲置空间变欢乐场！海淀3处小微空间改造竣工亮相

海淀杂谈 2023-04-25 16:13 北京 听全文

海淀杂谈

海淀土著大本营·网罗海淀新鲜实用... 80篇原创内容

共议稻香公约，共商稻西未来”稻香庭启动仪式

来源：稻香园西社区 海淀街道稻香园西社区

海淀街道稻香园西社区  
北京

“共议稻香公约，共商稻西未来”稻香庭启动仪式

2023年4月19日，稻香园西社区稻香庭院下沉广场改造完工，正

民开放使用，下沉广

平米，在前期走访居

听取居民意见后，改

sina 新浪新闻



海淀杂谈  
北京

The project utilizes the community workstation as a platform for multi-party communication. Universities, residents, street governments, and other groups collaborate on this platform to jointly promote the implementation of the Haidian Street micro public space renewal project. The work across the six sections of community renewal will be carried out continuously and systematically.