

A photograph of an urban green space, possibly a rooftop garden or a courtyard, with several elderly people sitting on a bench and walking. The image is overlaid with a semi-transparent red filter.

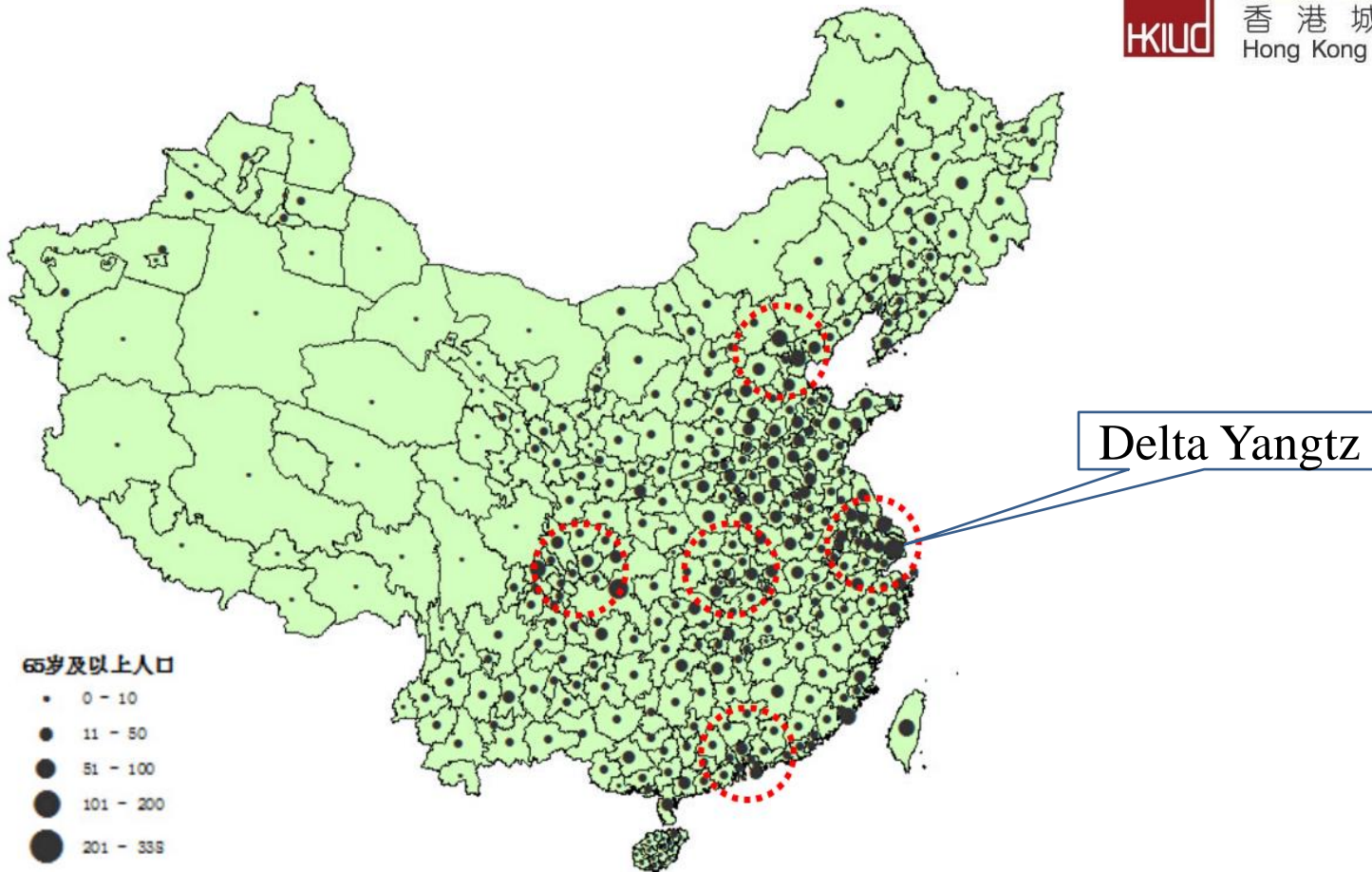
# The Impact of Urban Green Space on the Social Life of the Elderly

An aerial photograph of a busy street intersection with many pedestrians and vehicles. The image is overlaid with a semi-transparent red filter.

## The empirical research and the planning response

An aerial photograph of a busy street intersection with many pedestrians and vehicles. A prominent feature is a set of stairs leading up from the street. The image is overlaid with a semi-transparent red filter.

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School of Architecture & Urban Planning  
Tongji University  
Shanghai Urban Planning Association



Resource: 6<sup>th</sup> Census Data

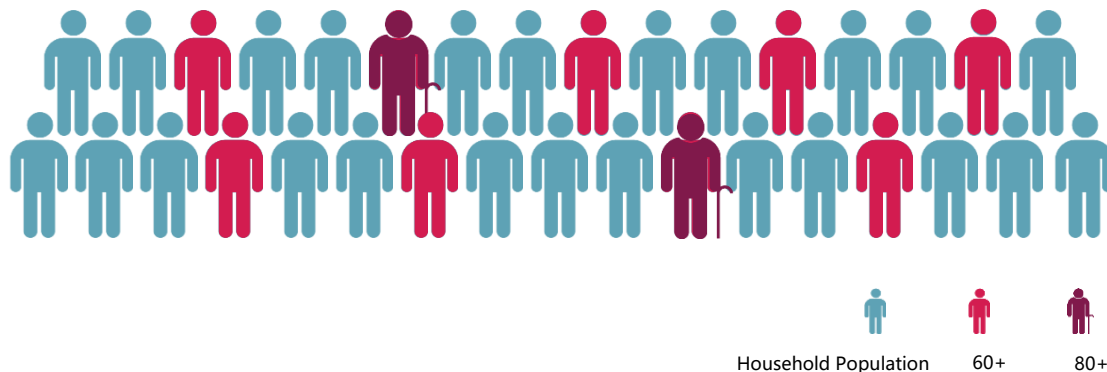
# Shanghai

2017 total household population 14,563,500

60+ 4,836,000 **33.2%** of total population

80+ 805,800 **5.4%** of total population , **16.7%** of total aged people

Source: Shanghai Statistic Bureau, 2017



# Planning & design response to Age-friendly City

- Where comes the space resources ?
- How to improve the user's experience?



# Urban green space (UGS)

- Urban green space (UGS) refers to the open space for entertainment and physical exercise in the urban area, which is equipped with sufficient vegetation coverage and communal facilities (*Schipperijn et al., 2013*).
- UGS affects QoL of the elderly mainly by means of affecting their behaviors, including physical activity and social interaction, etc (*Lachowycza and Jonesb , 2013*).
- Green space confers **health benefits**, i.e. through providing suitable spaces for leisure activities and for meeting people, thereby, promoting physical activity and social contacts (*Dadvand et al., 2016; de Vries et al., 2013; Hartig et al., 2014; Maas et al., 2009*).



■ Aged people are the main users of UGS

■ Lack of public space in the densely populated urban area



[广场舞与散打 场地争夺!!-资讯视频-爱奇艺](#)



[视频] 时长 05:13

2015年5月27日 - [广场舞与散打场地争夺!!](#)

[www.iqiyi.com/w\\_19rrsi3x...](http://www.iqiyi.com/w_19rrsi3x...) - 百度快照

[广场舞大妈与轮滑青年争场地 怒扇青年耳光 体育 腾讯网](#)



2015年8月7日 - 安徽商报(记者 苏艺) 8月1日晚上,在蚌埠一广场上,一群广场舞大妈和玩轮滑的青年,因场地问题发生了纠纷。在争执中,一名大妈怒扇了一青年数个耳光...

[sports.qq.com/a/201508...](http://sports.qq.com/a/201508...) - 百度快照 - 175条评价

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[视频] 时长: 4分钟

[广场舞大妈争场地暴力围殴对手结局意外反转](#)[高清]

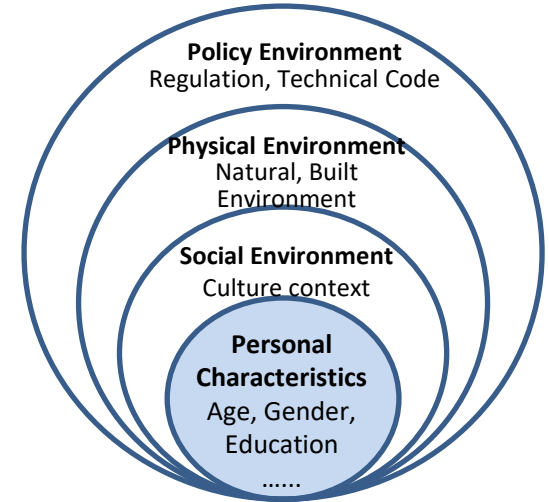
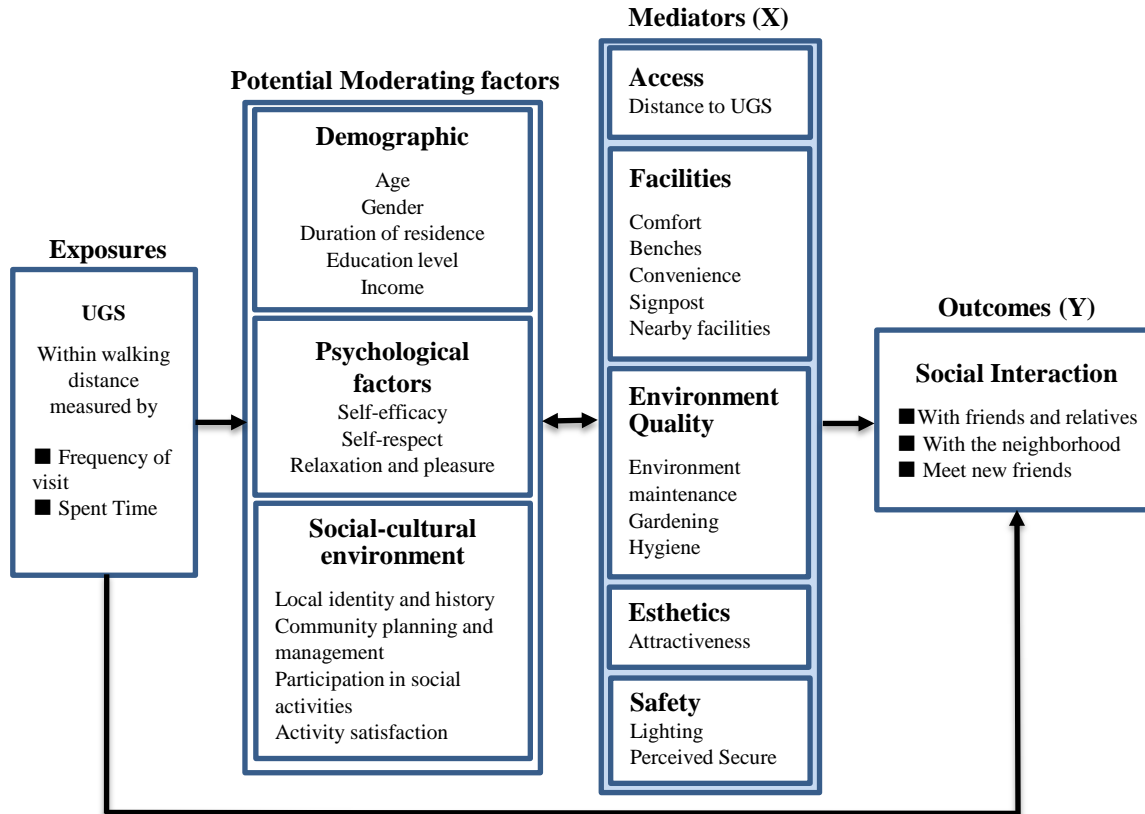
[v.ku6.com/show/rtRL3PmSG...](http://v.ku6.com/show/rtRL3PmSG...) - 百度快照

[为争夺"广场舞"场地 兰州两大妈动口又动手-广场舞|大妈-每日...](#)

2014年4月9日 - [争"广场舞"场地两大妈动口又动手](#) 每日甘肃网-兰州晨报(记者张学江 实习生王佳宁) 4月7日晚8时许,兰州市七里河区肉联厂惠苑小区门前的空地上,两...

[gansu.gansudaily.com.c...](http://gansu.gansudaily.com.c...) - 百度快照 - 60条评价

# Conceptual Model



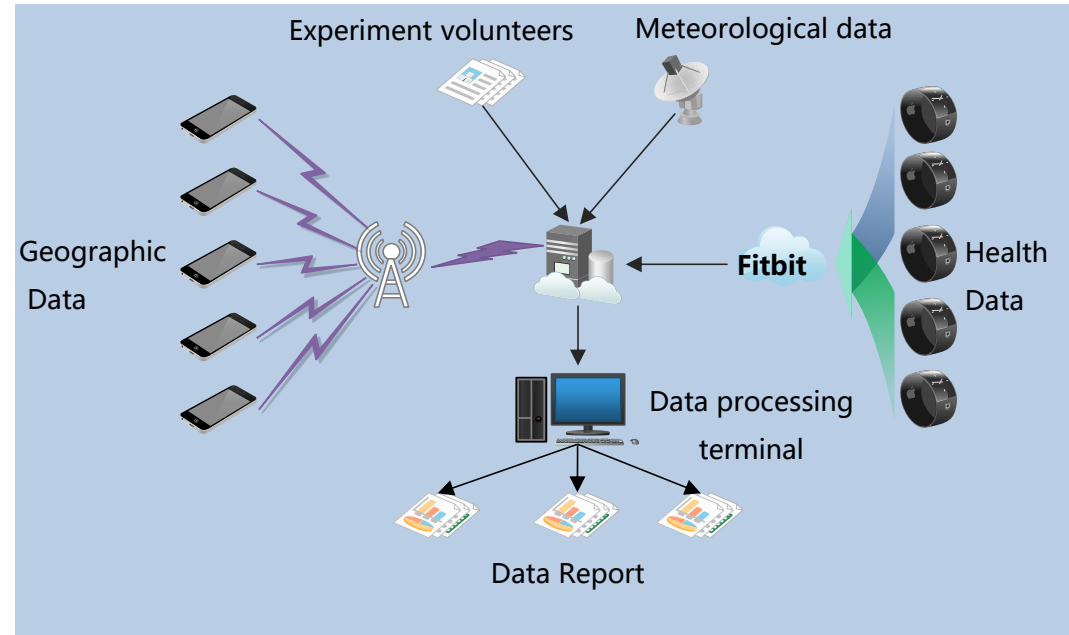
## The Socioecological Theory

Bedimo-Rung et al., 2005;  
Lachowycza and Jonesb, 2013;  
Hadi, T et al., 2016



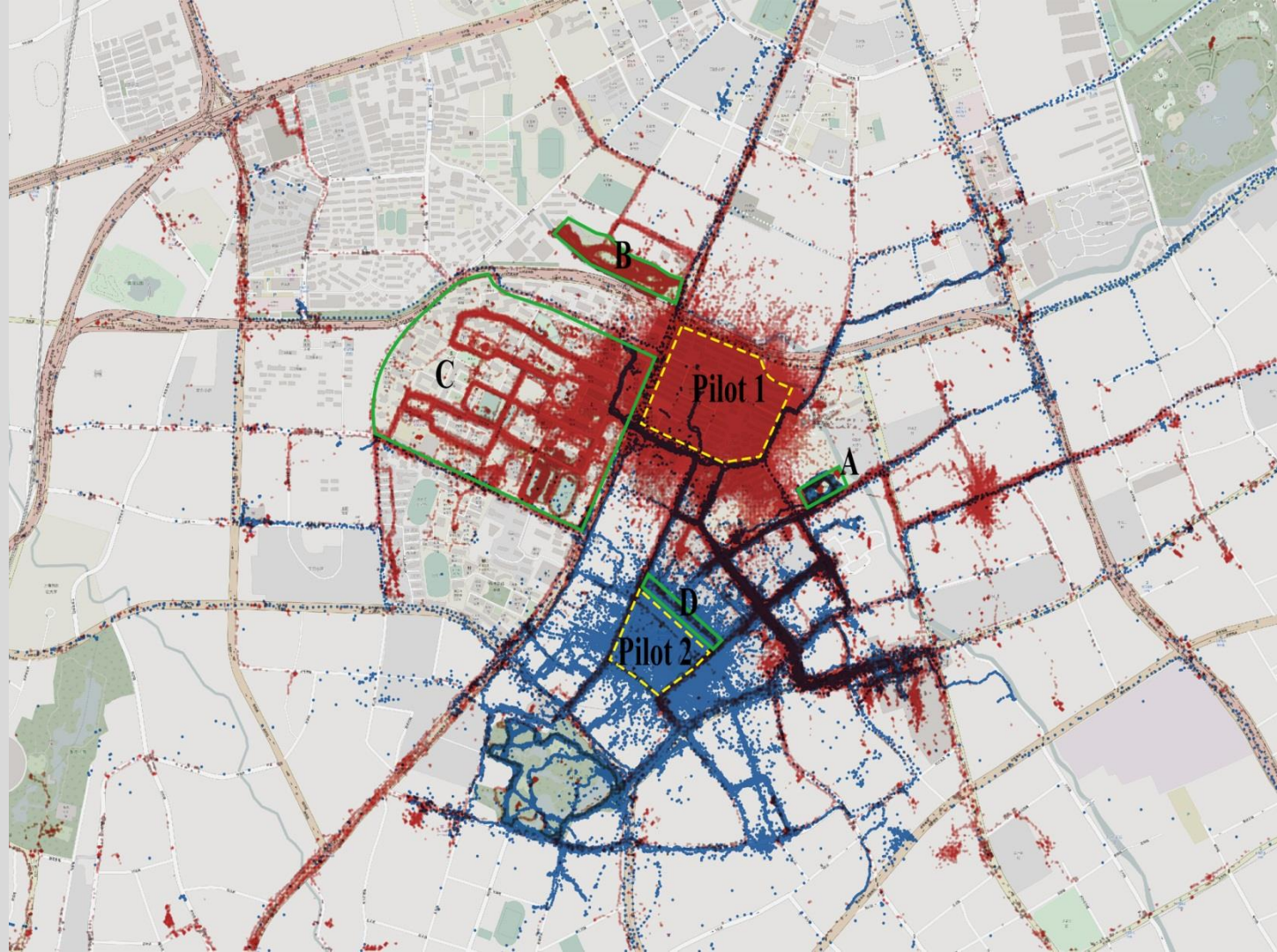
# Research Methods

- Spatiotemporal behavior study based on GPS data
- Spatial Feature Analysis based on GIS & site measurement
- Quantitative Sociological Analysis Based on Survey Questionnaire



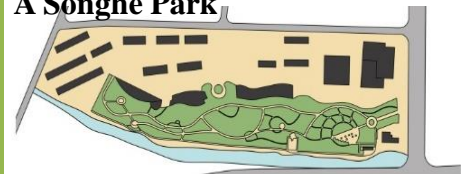
Ethics approval (Reference no: 2015xy112)

# STEP 1





A Songhe Park



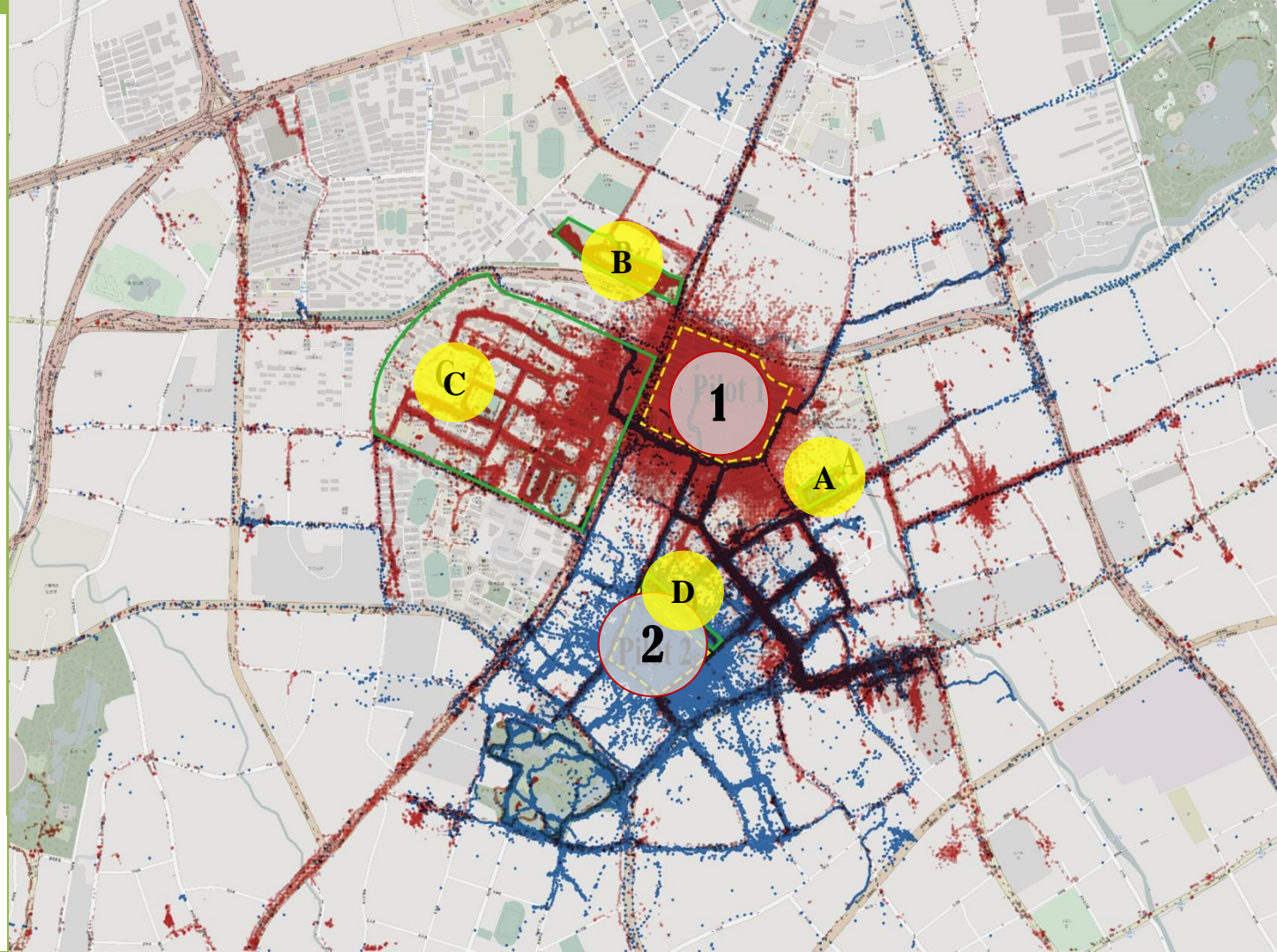
B Siping Park



C Tongji University



D Sujiatun Road



# STEP 2



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## Questionnaire Survey

	Total Questionnaires	Valid Questionnaires	Male	Female
A Songhe Park	157	148	85	63
B Siping Park	101	88	45	43
C Tongji University	147	137	75	62
D Sujiatun Road	114	113	61	52
<b>Total</b>	<b>519</b>	<b>486</b>	<b>266</b>	<b>220</b>



## Level of social interaction in UGS (Y)

Social interaction	%	Reassignment
Very low	20.0%	1
Low	18.5%	2
Medium	18.7%	3
High	21.6%	4
Very high	21.2%	5

## UGS factors (X)

**Accessibility-** distance to the UGS

### **Facilities**

inside the UGS (such as seats, fitness facilities, toilets, drinking fountains and other facilities)

in the surroundings

availability and diversity

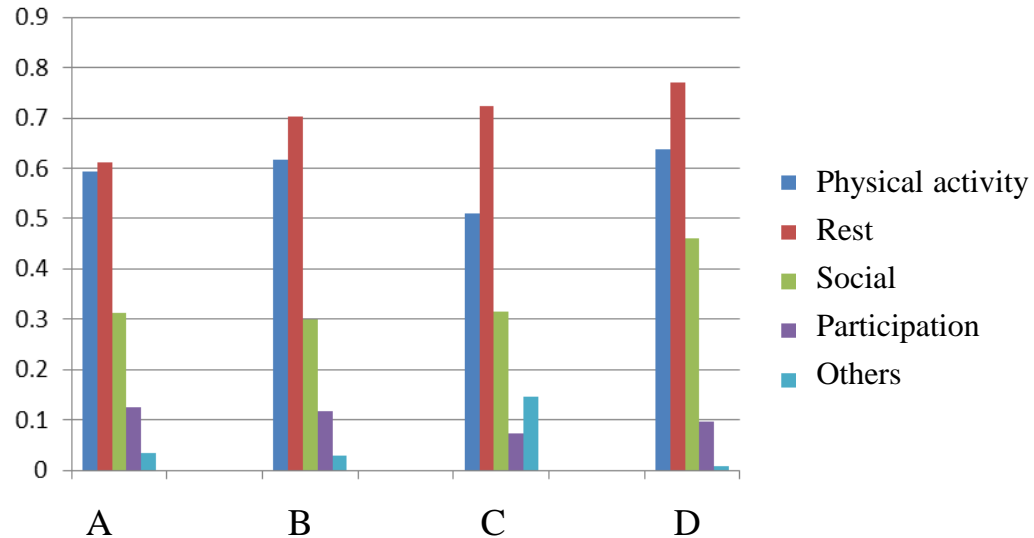
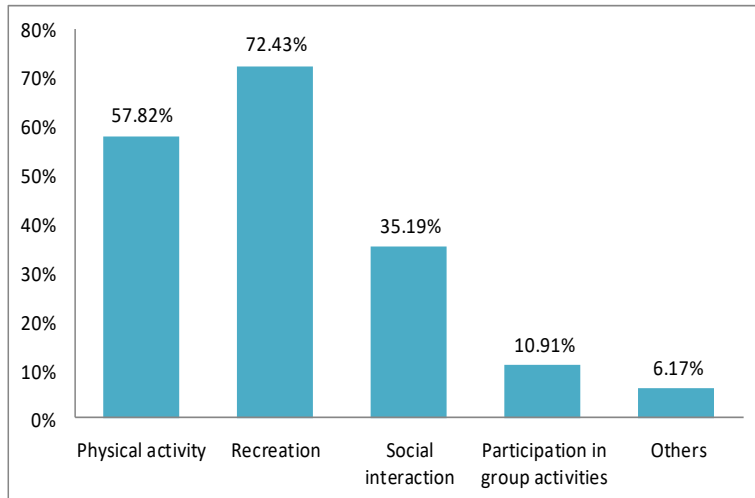
**Condition-** maintenance, gardening

**Esthetics-** attractiveness

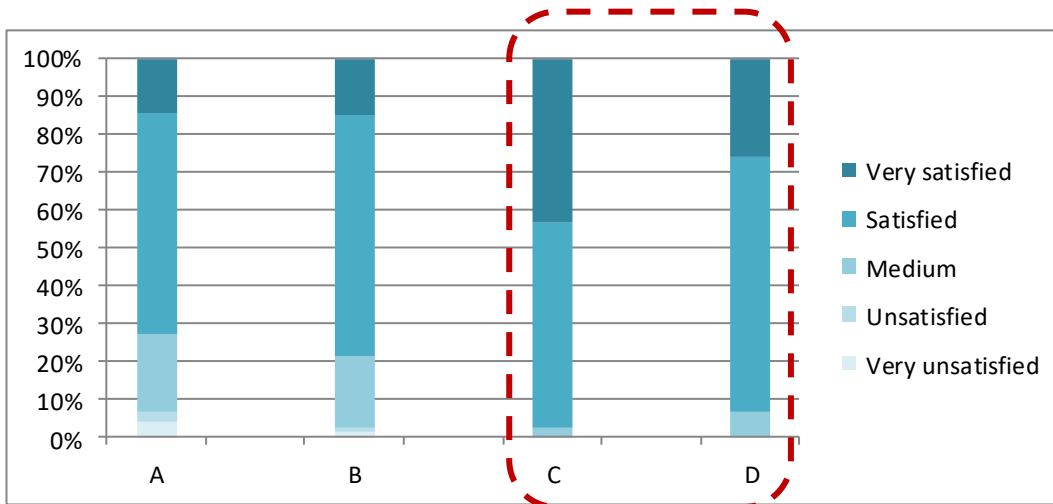
**Safety-** lighting and perceived secure

# Findings

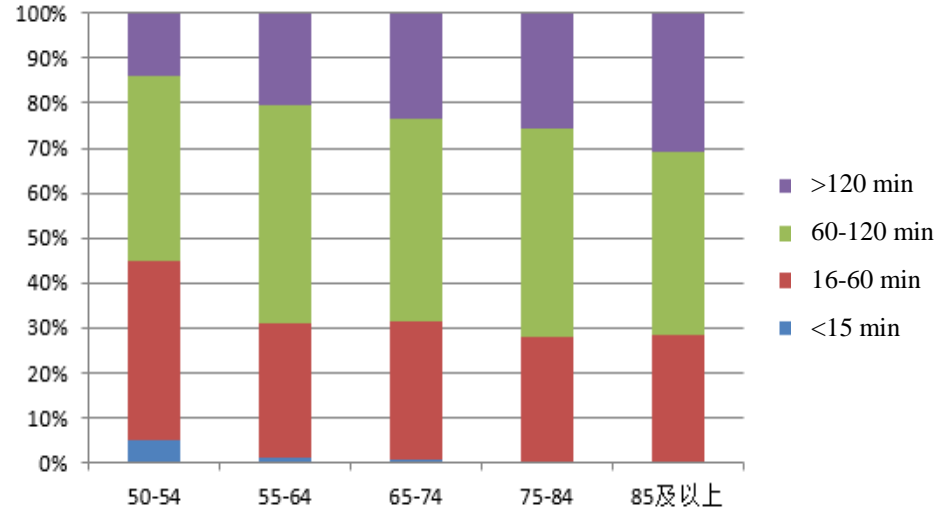
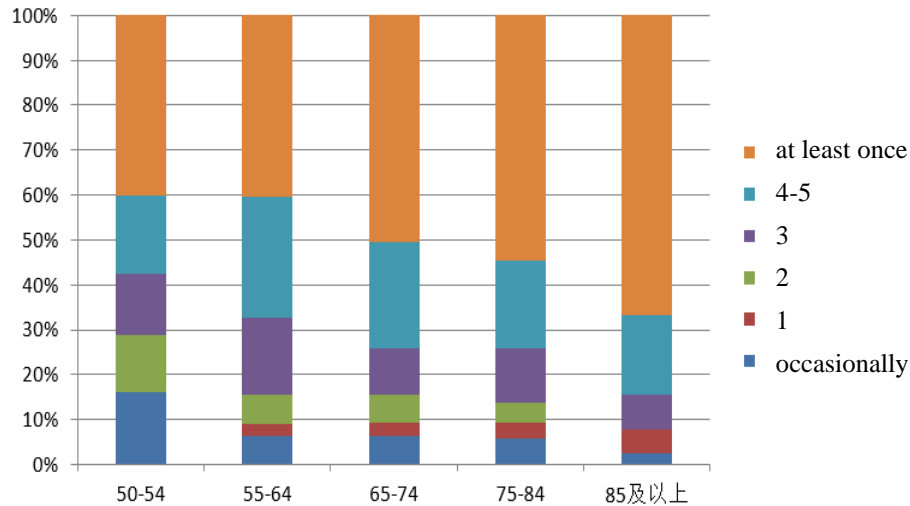
■ Social interaction is one of the motivations for elderly people to go to UGS, but sorting after Recreation and Physical Activity.



■ Higher level of satisfaction with the quality of social interaction in the university campus and street corner park.



■ Higher visiting frequency in the older aged people. Yet, longer stay in the younger aged people.



## ■ Characteristics of social interaction

UGS	Location	Population structure characteristics	Physical conditions	Activity characteristics
A+B	nearby	<b>Diverse</b> : age, gender, income, education	Young, active elderly	Collective activities Entertainment Physical activity
C	nearby	<b>Consistency</b> : Social and cultural background	Young, active elderly	Walk
D	adjacent	<b>Consistency</b> : neighbor, familiar with each other	<b>Higher proportion of older, disabled elderly</b>	<b>Sit and chat</b> Physical activity



## Impact Factors Analysis

Neighborhood parks (A and B)			University campus (C)			Street verge green space (D)			
Factors	OR	CI (95%)	Factors	OR	CI (95%)	Factors	OR	CI (95%)	
Gender	1.106	-0.389-0.591	Gender	0.700	-0.996-0.281	Gender	1.754	-0.248-1.371	
Age	1.411*	0.076-0.611	Age	0.595**	-0.866-0.172	Age	1.082	-0.357-0.516	
Education status	1.010	-0.237-0.257	Education status	0.811	-0.580-0.160	Education status	1.902**	0.165-1.120	
Income	0.819	-0.232-0.191	Income	0.771	-0.602-0.083	Income	0.171	-0.311-0.628	
Number of years living at current address	0.872	-0.357-0.082	Number of years living at current address	-	-	Number of years living at current address	0.903	-0.422-0.218	
UGS visitation frequency	1.139	-0.075-0.335	UGS visitation frequency	-	-	UGS visitation frequency	1.540*	0.050-0.814	
UGS visitation duration	1.284	-0.106-0.605	UGS visitation duration	0.766	-0.680-0.146	UGS visitation duration	0.860	-0.710-0.408	
1	Physiological and psychological characteristics	2.201**	0.512-1.065	Physiological and psychological characteristics	1.600**	0.134-0.806	Use of facilities & Physiological and psychological characteristics	1.480*	0.024-0.760
2	Facility maintenance and satisfaction & air quality	1.868**	0.370-0.879	Socio-cultural environment	-	-	Lighting and perceived safety & Facility maintenance and gardening maintenance	1.234	-0.155-0.574
3	Use of facilities and esthetics	1.139	-0.115-0.376	Facility maintenance and gardening maintenance	-	-	The satisfaction of facilities in UGS and surrounding facilities	1.200	-0.189-0.553
4	Socio-cultural environment	1.790**	0.318-0.846	The satisfaction of facilities in UGS and surrounding facilities	1.376*	0.003-0.634	Socio-cultural environment	3.277**	0.740-1.634
5	Lighting and perceived safety	1.202	-0.061-0.429	Use of facilities	1.423*	0.036-0.669	Esthetics	1.680**	0.145-0.893
6	The satisfaction of surrounding facilities	1.813**	0.231-0.742	Lighting and perceived safety	-	-	Pavement quality and security	1.850**	0.216-1.015
7	Distance	1.626**	0.340-0.850	Esthetics	1.170	-0.173-0.487	-	-	-
8	-	-	-	Distance	-	-	-	-	-

## Importance of impact factors

	<b>Community parks (A and B)</b>	<b>University campus (C)</b>	<b>Street Park (D)</b>
<b>1</b>	user's physiological and psychological characteristics	user's physiological and psychological characteristics	socio-cultural environment
<b>2</b>	the maintenance and satisfaction of facility	facilities' availability	pavement quality and security
<b>3</b>	the satisfaction of surrounding facilities	the satisfaction of surrounding facilities	esthetic
<b>4</b>	socio-cultural environment		facilities' availability
<b>5</b>	distance		user's physiological and psychological characteristics



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# Conclusion & Recommendation

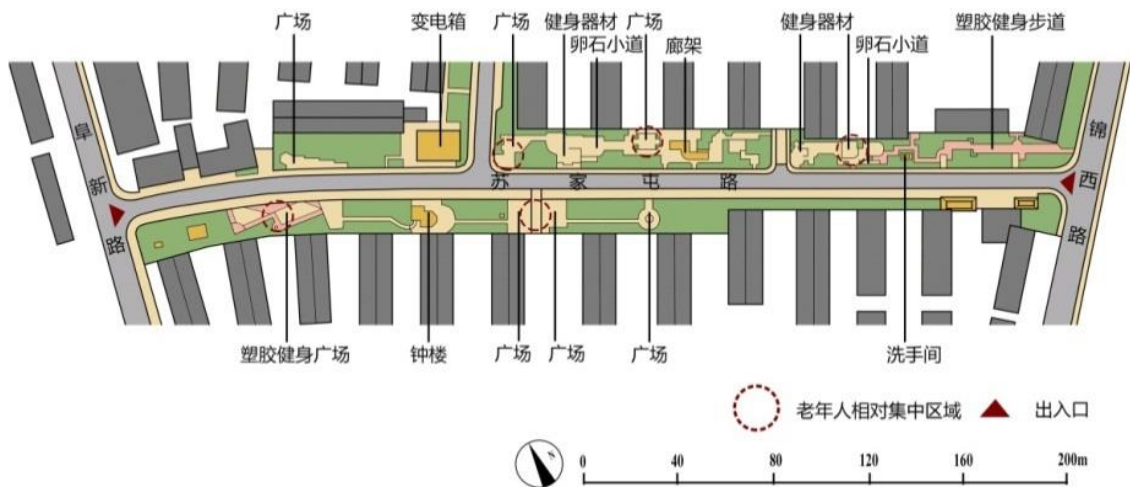
# 1. Action plan to promote UGS comprehensive performance

## ■ Community Park (A, B)

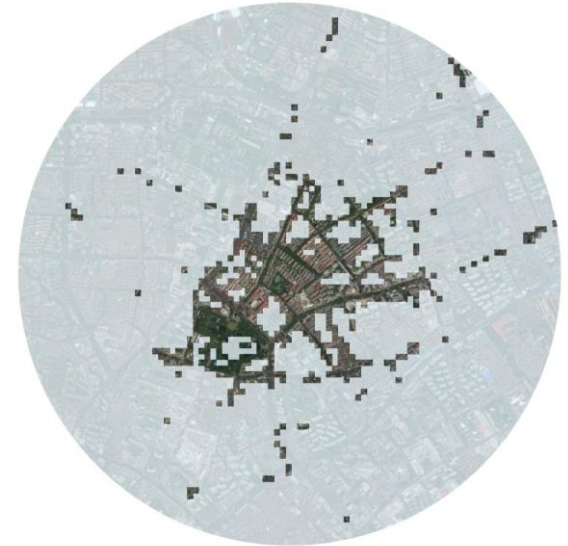
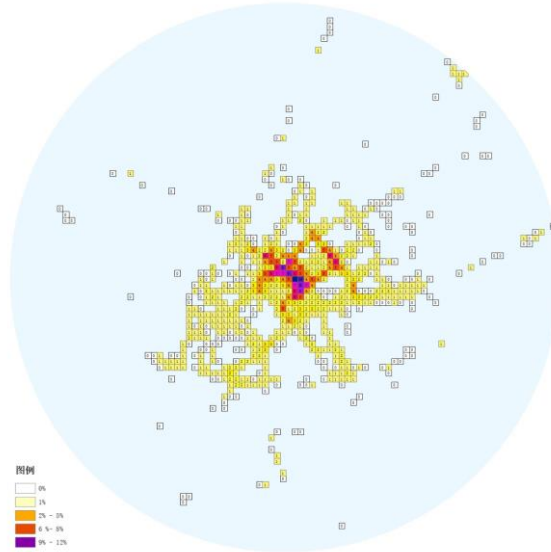




## ■ Pocket park (D)



## 2. New approaches application to cope with new challenges



### 3. Deeper understanding of UGS planning / design according to the types

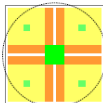
#### 居住街坊

步行半径：100-150米  
居住人口：0.1-0.3万



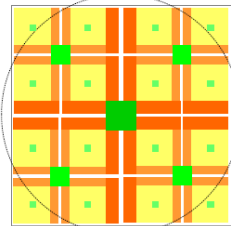
#### 五分钟生活圈居住区

步行半径：200-300米  
居住人口：0.5-1.2万



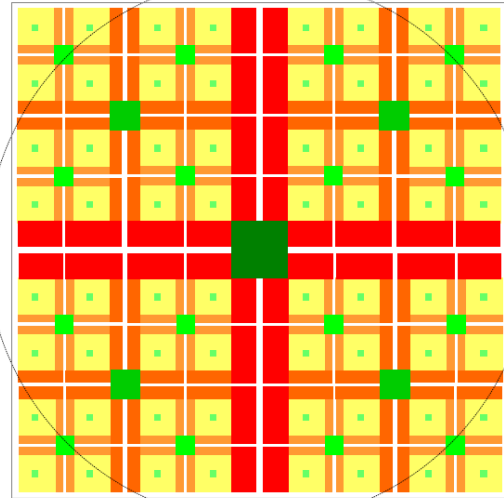
#### 十分钟生活圈居住区

步行半径：400-500米  
居住人口：1.5-2.5万



#### 十五分钟生活圈居住区

步行半径：800-1000米  
居住人口：5-10万



根据城市居民的步行出行能力、服务需求频率和服务半径，划分不同的生活圈居住区层级并配置相应的配套设施。

中华人民共和国国家标准

#### 城市居住区规划设计规范

Code of urban Residential Areas

Planning & Design

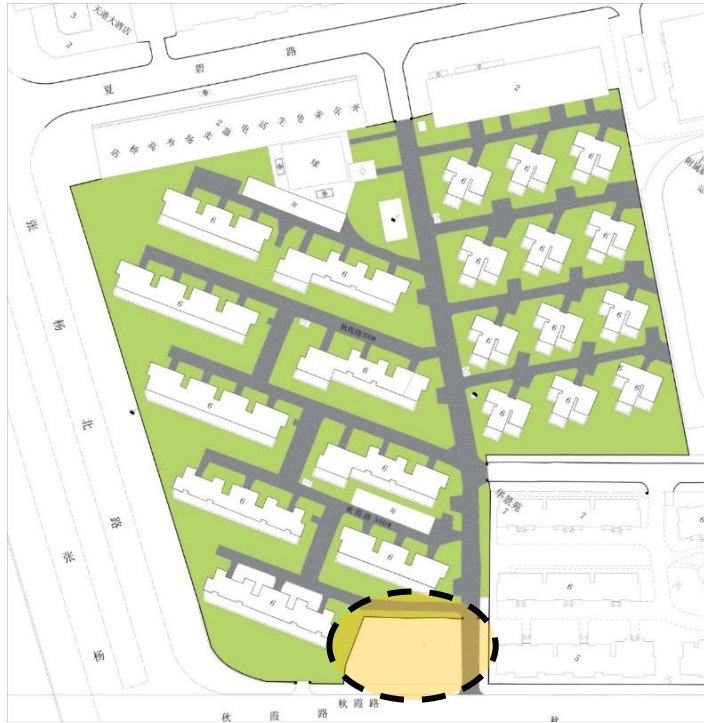
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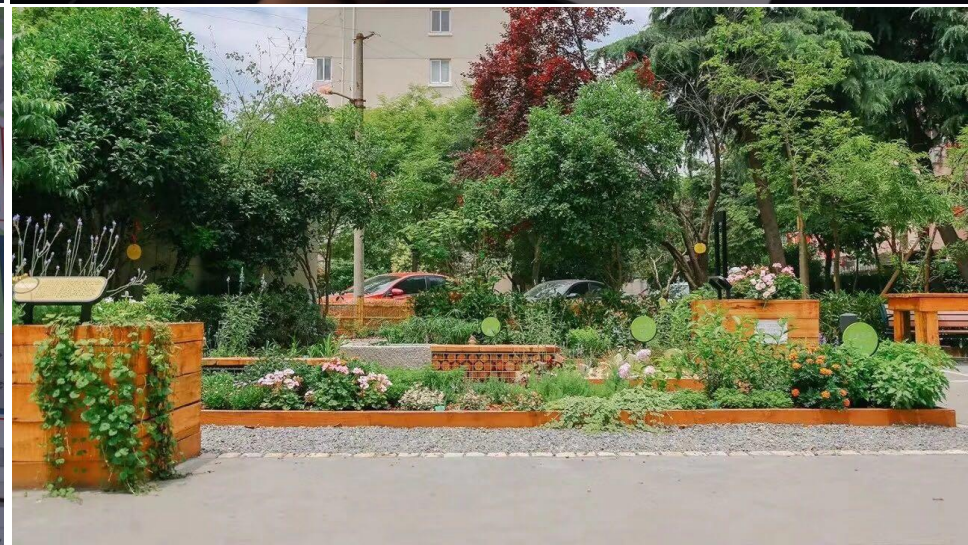
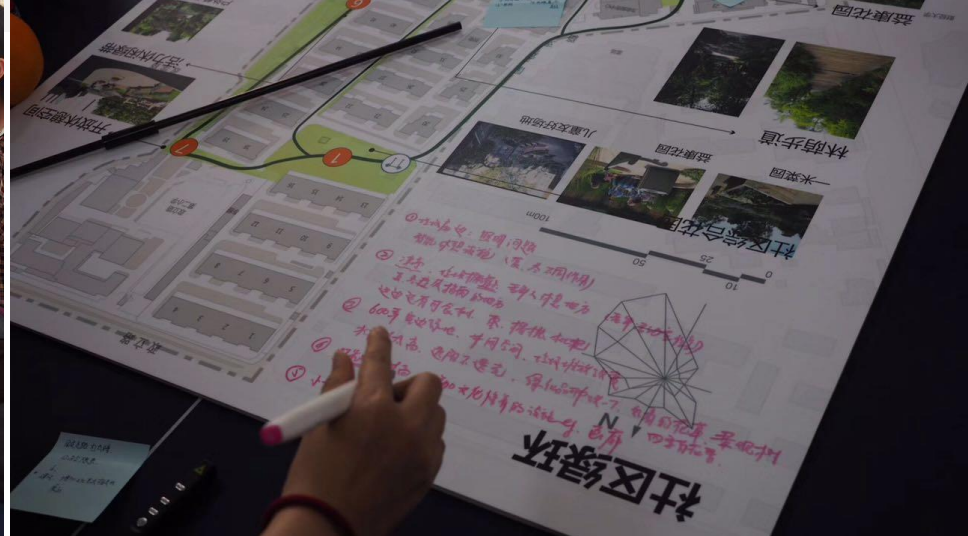
主编部门：中华人民共和国建设部  
批准部门：中华人民共和国建设部  
施行日期：1994年2月1日

中国建筑工业出版社

## 4. Priority in the urban neighborhood renewal



Fute Worker's Village, Pudong District, Shanghai



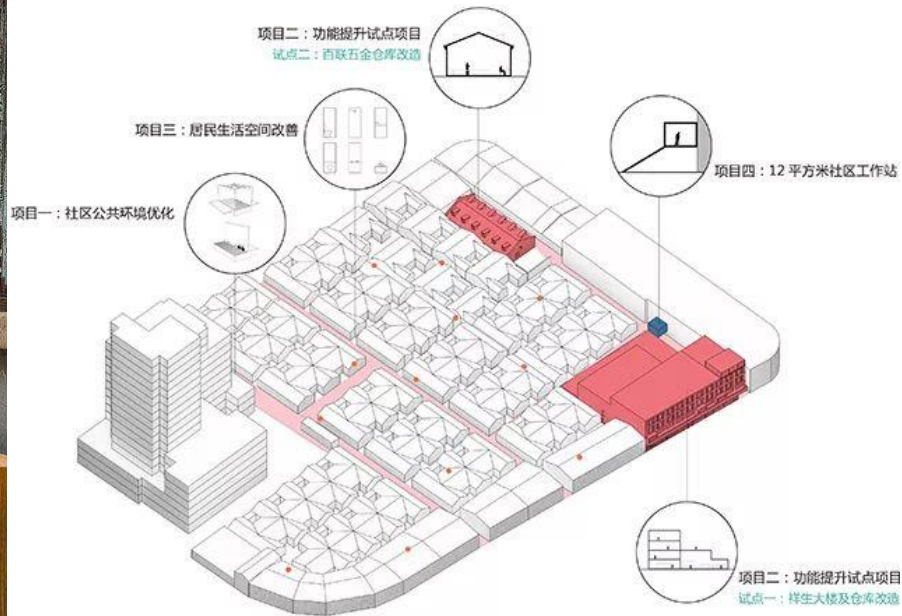


Pocket Park in Pudong District, 2018



Pocket Park in Hongkou District, 2018

## 5. Create sense of place in the neighborhood





As public policy, urban planning needs to think from the level of top-level design, as well as the case specific conditions.

- Observation & assessment
- Motivation of finding problems
- Solution of the problem
- Feasibility of the implementation



# Thanks



老齡城市研究中心  
AGING CITY LAB

同济大学建筑与城市规划学院  
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2018.06.22