

Challenges of Promoting People-Centric Urban Renewal in China – The Case of Wuhan

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Abstract

With space become scarce resource, many cities in China are experiencing a transformation from incremental planning to renewal planning. Also, to improve the existing built-environment for the benefits of the inhabitants, the national government issued a series of policy relating to people-centric development. Among all Chinese metropolises, Wuhan is taking efforts on urban renewal by revitalizing the neighborhoods built before 2000. However, the public facilities on neighborhoods which relate to residents' daily lives are not considered enough. Focusing on residents and public facilities on neighborhoods, this research aims at identifying and understanding the challenges faced by urban renewal in Wuhan considering people-centric development. After collecting over 5000 questionnaires from 34 neighborhoods, the research adopted quantitative and quality mixed methods to investigate the relationships between residents' satisfaction and public facilities. Three main challenges are stated by the research. Firstly, the conflict between public space and parking under the circumstance of scarce space. Secondly, social equity is the part that the current people-centric urban renewal can promote. Thirdly, the actions taken by urban renewal involve a plenty of departments of the government. Besides, this research generates two recommendations for urban renewal in Wuhan to overcome the challenges.

Keywords

Urban Renewal, People-centric, Neighborhood, Public Facilities, China.

1. Introduction

Urban renewal has become hot issue worldwide as the reduction of total developable land. Many cities have to meet the needs of growing number of inhabitants and also support future development, which was challenged by the scarcity of space in urban built-up area. Since the widely accepted trends of urban planning keep changing (Teaford, 2000), urban renewal can work as reusing existing developed areas. People-centric is the main strategy of urban development in China in recent years and urban renewal is the realm in point. People-centric development takes people's needs as a basement for decision making, it also highlights on public participation to empower the grassroots (Zhi, 2022). This strategy leads to a construction of human settlement rather than places only suitable for economic development. For residents, neighborhood's environment, traveling mode, education, and health care that accessible in surrounding areas are their mainly concern (Wang, 2019). In existing (or old) neighborhoods, urban renewal can improve quality of life through physical renovation and urban governance. Physical

improvement is to repair the neighborhoods, which focuses on characters of residents' living needs and well organizes distribution public facilities like public space (Zhu et al., 2020). Urban governance deliver public welfare and services by institutional rules, which can engage various stakeholders and their resources and powers into urban renewal works (Lin et al., 2022). The results of people-centric urban renewal are evaluated by residents' satisfaction (Wang, 2019).

However, the latest problems revealed that it is challenging to realize people-centric in the process of urban renewal due to conflicts between different demands, complex property ownerships, and various regulation departments. Thus, this empirical research aims to further investigate the challenges on the status quo of urban renewal in Wuhan in regards to people-centric ideology. The structure of this paper has four major parts. In section 2, it reviews theories with respect to urban renewal, Chinas' general working mechanism, neighborhoods satisfaction and influential factors. Section 3 states methodology the research used, including case selection, questionnaires design and data collection, and data analysis. Section 4 shows results of analysis based on field investigation and quantative calculation. Section 5 concludes the challenges and barriers hindering people-centric development, and then generates two recommendations based on the experience of urban renewal in Shanghai.

2. Literature Review

2.1. Urban renewal and people-centric

Urban renewal is being executing in many developing and developed cities, since lands are scarce resources to sustain future population growth and to support high quality of people's lives. What urban renewal focuses on is not only physical environmental improvement, but also to solve social and urban problems (Clark and Wright, 2018). The reasons that urban renewal should focus on local and residents have been stated by many scholars. Teafords (2000) describes the trends of planning as the fashion of planning which changes quickly. Since there is no suitable planning model suitable for all, Teafords (2000) argues that the sensibility of urban renewal should focus on local needs and local people, rather than current aesthetic, planning, or policy. Hawley (1963) uses statistical analysis and points out that the success of urban renewal relates to the low ratio of officials to employed labor force, which indicates that the main characters or the major participants of urban renewal programs should be the residents and professional workers rather than the governments.

China also realizes the importance of local views to urban renewal programs, so it puts forward the policy with a main strategy for redevelopment, people-centric. Usually, the municipal government makes general goals and guidance for the city, district governments make response to the municipal governments and take actions (Zhuang et al., 2019). Grass-roots governments (sub-district office and neighborhood committees) do not have power to make decision in urban renewal process, but they influence on the cooperation between governments, who are the top-level decision makers, and residents, who are the people-centric urban renewal mainly concerns about (Zhuang et al., 2019).

2.2. Neighborhood satisfaction and influential factors

Neighborhood satisfaction is one of subjective measurements for current urban livability and also of predictors for future urban lives quality (Mouratidis, 2020). It has three major aspects about the satisfaction: dwelling design, neighborhood, and neighbors (Buys and Miller, 2012). These are associated with physical constructions, living environments, and social interaction. Specifically, several factors influence on neighborhood satisfaction: the proximity to central areas, safety, sense of belonging, local amenities (or public service facilities) (Mouratidis and Yiannakou, 2022). The associations of these factors with neighborhood satisfaction are complicated as some factors do not simply have positive or negative

influences (Zhang et al., 2021). In certain research areas, some public facilities, such as dining hall, have positive influence on the satisfaction, whereas the level of neighborhood satisfaction will not decrease without them. Since the non-linear or asymmetric influences of the influential factors, it is necessary to prioritizing the factors based on residents' needs when improving the quality of neighborhoods (Cao et al., 2020, Zhang et al., 2021). Among the different prioritized factors, common factors are affordable housing, available public facilities which include public space, convenient transportation, quiet and safe environment. The effects of urban renewal on neighborhood cover not only the physical environments, but also social networks, cohesion, and trust in neighborhoods. These items can be concluded as social capital. With statistical analysis, Du et al. (2020) affirmed the significant positive relationship between social capital and residents' satisfaction. Residents would enjoy living in redeveloped neighborhoods if the results of urban renewal can enrich their social capital.

3. Methodology

3.1. Case selection

This study mainly focuses on residents' needs for public facilities at neighborhood level. To acquire these data, surveys, including questionnaires and field investigation with respondents of permanent residents, are taken from November 2020 to December 2020. The study areas are randomly selected neighborhoods in the city of Wuhan. Wuhan is divided into 13 administrative districts (Figure 1). This study selects 2 or 3 neighborhoods in each district, and 34 neighborhoods totally in Wuhan. The selected neighborhoods were also grouped into two by the built age of the majority of the buildings within (Figure 2).

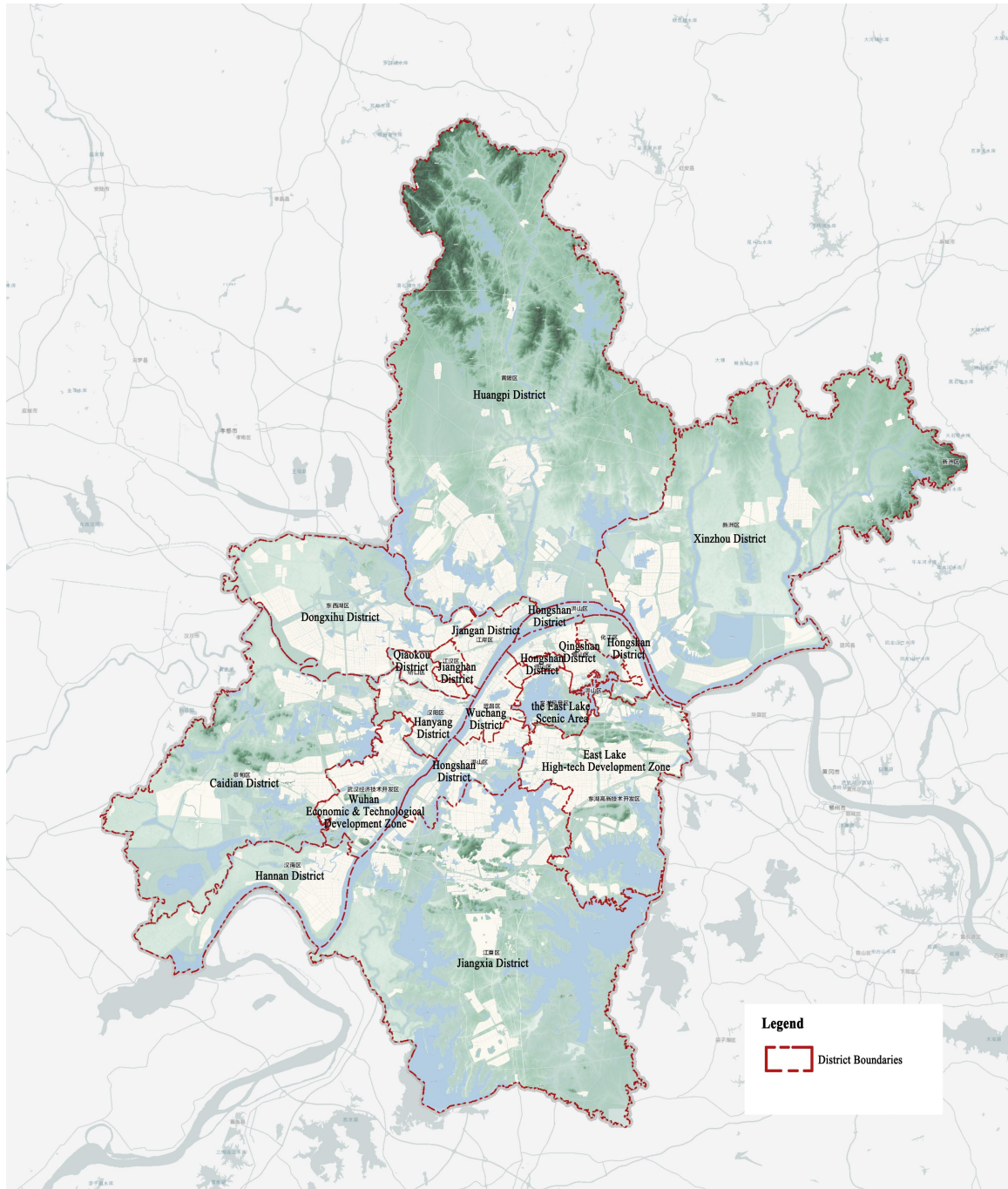


Figure 1. Thirteen administrative districts in Wuhan

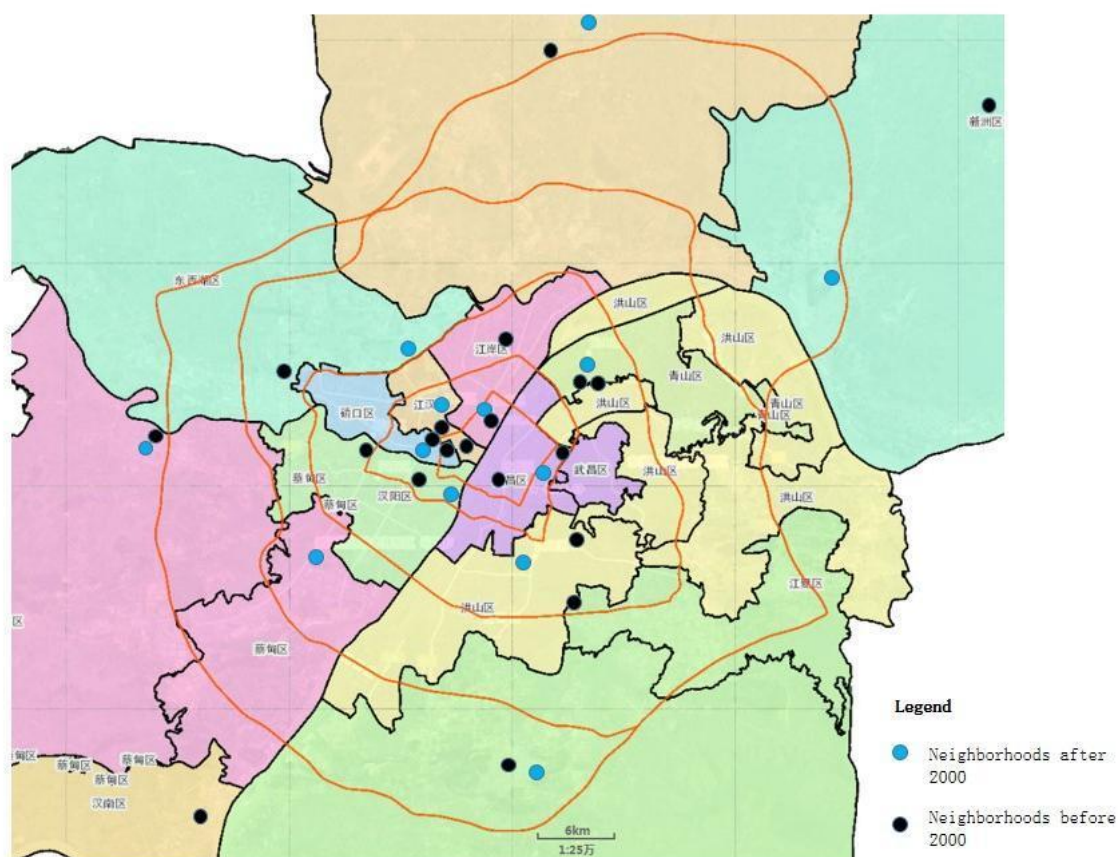


Figure 2. The locations of 34 selected neighborhoods

3.2. Questionnaire design and data collection

The surveys collected both objective and subjective data. Objective data including socio-economic characteristics of respondents, demographic data of the selected neighborhoods, current status of public facilities at neighborhood level. This study classifies public facilities at neighborhood level into 6 major categories, administration, education, health care, business service, civil facilities and transportation, entertainment and open space. The questionnaires are designed mainly focus on collecting subjective information about them from respondents. Designed questions cover access to the public facilities (the most frequently used ones, the most urgent to improve, etc.), and satisfactions with the public facilities in the neighborhood as a whole and each individual facility in details.

To ensure effectiveness of the questionnaires and to control personal bias from interviewers, survey distribution work was assigned to 9 working groups. Each group has 2 to 3 trained interviewers who are responsible for questionnaires in designated neighborhoods. Finally, 5,258 samples and over 150 samples are collected in each neighborhood. After data recheck, there are 5100 valid ones and 158 invalid ones, thus the valid rate of the collected questionnaires is 97%.

3.3. Data analysis

By SPSS, the collected data is statistically administrated and analyzed. Reliability test, logistic regression model, multilinearity test, descriptive analysis was adopted to identify the various performance of neighborhood satisfaction and explore the significant associations. This research set up several research hypotheses, for instance, the satisfaction about parking and public space have relationship for empirical studies.

4. Results

4.1. The conflict between public space and parking under the circumstance of scarce space

One of the common observed problems is the conflict between public space and parking, especially in old neighborhoods whose space is a scarce resource. Figure 3 shows a typical old neighborhood, Qiaoxi, after urban renewal. Although the space has been rehabilitated, parking lots and car lane still cover large portion of whole space while public space, such as sitting out area, is very limited. Compared to Qiaoxi, figure 4 and 5 show an old neighborhood called Libei which has not experienced urban renewal yet. The conflict has triggered some rude way to manage disordered parking by individuals. For instance, the Chinese writing in figure 3 means “if you park here, your tires would be pricked”. Figure 4 shows a basketball court is occupied by private cars.



Figure 3. Qiaoxi Neighborhood after urban renewal



Figure 4. Parking management in a threaten way in libei Neighborhood



Figure 5. Parking areas occupy public space in Libei Neighborhood

Based on the observation, we make a research hypothesis that residential satisfaction with public space is significantly associated with their satisfaction with parking lots. Table 1-3 are results of the Spearman RHO correlation analysis. The results indicate that the association between the satisfactions of parking and of public space is statistically significant, regardless the neighborhood is old or new. These results probably reflect the conflict is objective existence, and it influences on residents' lives.

However, the correlation coefficients are not as expected. It is thought that the space in old neighborhoods is much scarcer than it in new neighborhoods, so the strength of correlation of old ones should be stronger than of new ones. Yet, the data shows a reversed result. Then, we check the ways that respondents choose to travel (table 4). The data marked by cyan indicates that the portion of samples choosing this travel mode in new neighborhoods is lower than that in old neighborhoods, while the data marked by yellow is vice versa. Table 4 shows that the portion of who choose public transportation is higher in old neighborhoods than it is in new neighborhoods; while the portions of who choose private vehicles is lower in old neighborhoods.

Based on the results above, the conflict cannot be effectively resolved only by increasing more space, given the scarcity of existing space resources in old districts due to original planning did not consider about parking needs, the conflict still exist in new neighborhoods where parking areas have been planned. Thus, discouraging the usage of private cars and encouraging residents to use public transport can be the key to relieve the contradiction. Strategies, such as increasing accessibility of bus stations, reducing the bus fare and adding connective transport can be effective.

			31. Satisfaction about parking lots	28. Satisfaction about public space (squares, parks, etc.)
Spearman's rho	31. Satisfaction about	Correlation Coefficient	1.000	.294**

parking lots	Sig. (2-tailed)	.	.000
	N	5100	5100
28. Satisfaction about public space (squares, parks, etc.)	Correlation Coefficient	.294**	1.000
	Sig. (2-tailed)	.000	.
	N	5100	5100

** . Correlation is significant at the 0.01 level (2-tailed).

Table 1. The Spearman RHO correlation analysis results of a relationship between satisfactions of parking lots and of public space (based on all kinds of neighborhoods).

			31. Satisfaction about parking lots	28. Satisfaction about public space (squares, parks, etc.)
Spearman's rho	31. Satisfaction about parking lots	Correlation Coefficient	1.000	.254**
		Sig. (2-tailed)	.	.000
		N	2100	2100
	28. Satisfaction about public space (squares, parks, etc.)	Correlation Coefficient	.254**	1.000
		Sig. (2-tailed)	.000	.
		N	2100	2100

** . Correlation is significant at the 0.01 level (2-tailed).

Table 2. The Spearman RHO correlation analysis results of a relationship between satisfactions of parking lots and of public space (based on new neighborhoods).

			31. Satisfaction about parking lots	28. Satisfaction about public space (squares, parks, etc.)
Spearman's rho	31. Satisfaction about parking lots	Correlation Coefficient	1.000	.210**
		Sig. (2-tailed)	.	.000
		N	3000	3000
	28. Satisfaction about public space (squares, parks, etc.)	Correlation Coefficient	.210**	1.000
		Sig. (2-tailed)	.000	.
		N	3000	3000

** . Correlation is significant at the 0.01 level (2-tailed).

Table 3. The Spearman RHO correlation analysis results of a relationship between satisfactions of parking lots and of public space (based on old neighborhoods).

33. Usually, the ways you choose to travel: * The type of neighborhood Crosstabulation

			The type of neighborhood		Total
			After 2000	Before 2000	
33. Usually, the ways you choose to travel:	buses	Count	726	1122	1848
		Expected Count	760.9	1087.1	1848.0
		% within the type of neighborhood	34.6%	37.4%	36.2%
_____ Metro		Count	551	798	1349
		Expected Count	555.5	793.5	1349.0
		% within the type of neighborhood	26.2%	26.6%	26.5%
Private cars		Count	446	545	991
		Expected Count	408.1	582.9	991.0
		% within the type of neighborhood	21.2%	18.2%	19.4%
Taxi or car-hailing service		Count	29	28	57
		Expected Count	23.5	33.5	57.0
		% within the type of neighborhood	1.4%	0.9%	1.1%
Bike or sharing bike		Count	195	314	509
		Expected Count	209.6	299.4	509.0
		% within the type of neighborhood	9.3%	10.5%	10.0%
pedestrian		Count	153	193	346
		Expected Count	142.5	203.5	346.0
		% within the type of neighborhood	7.3%	6.4%	6.8%
Total		Count	2100	3000	5100
		Expected Count	2100.0	3000.0	5100.0
		% within 33. Usually, the ways you choose to travel: _____	41.2%	58.8%	100.0%
		% within the type of neighborhood	100.0%	100.0%	100.0%
		% of Total	41.2%	58.8%	100.0%

Table 4. Crosstabulation: the ways residents choose for traveling.

4.2. The equity of public facilities services has been ignored in current practice

Public goods should be shared by public, while some vulnerable groups cannot enjoy them since the equity of public facilities is ignored. Under the background of urban renewal and aging society, the most obvious vulnerable group is elderly population. The time they interact with neighbors is much longer than other age groups because of large plenty of time after retirement. Figure 6 shows that the elderly (people over 60) use facilities of administration, health care, entertainment and public space more frequently than others; they use civil and transportation facilities less frequently than others. To be more specific, the elderly visit small park or recreation area and elderly activity center frequently (figure 7), and they prefer to take bus; in comparison, people aged between 26 to 45 are the largest users of parking lots (figure 8).

The conflict between public space and parking also highlights the deprivation of the elderly in outdoor activities (Zhu, 2017). Usually, the conflicts result in dedicating public space to parking. In old neighborhoods where large amount of elderly people live in, they articulated their desires for more public space and worries about chaotic parking and its threaten on their safety. Many elderly people cannot find adequate and safe place to do physical exercise. Thus, they usually stay at home or find indoor places play Majiang, a game will result in sedentary lifestyle. In contrast, public space network with good quality and well maintenance can make people close to nature and improve health physically and mentally (UN-Habitat, 2016). Yet, space which full of cars lead to sense of insecurity and anxiety (Calthorpe, 1993).

The distribution of urban services or facilities is a measurement for social equity (Talen, 1997). Exclusive function of public facility implies the sacrifice of other neighborhood lifestyle. With users of vulnerable groups, such as senior people, children, pedestrians, and low-income population, public space tend to be invaded easily by parking. Also, since they are vulnerable groups, they do not have strong voices or large number to call for meeting their needs under circumstance of rapid urban development. Therefore, the social equitable distribution of public facilities considered at neighborhoods level is vital. Moreover, neighborhoods, especially old ones, should be well managed to protect vulnerable facilities from “sacrifice”. In Wuhan, these relate to decision making and interruption from governments.

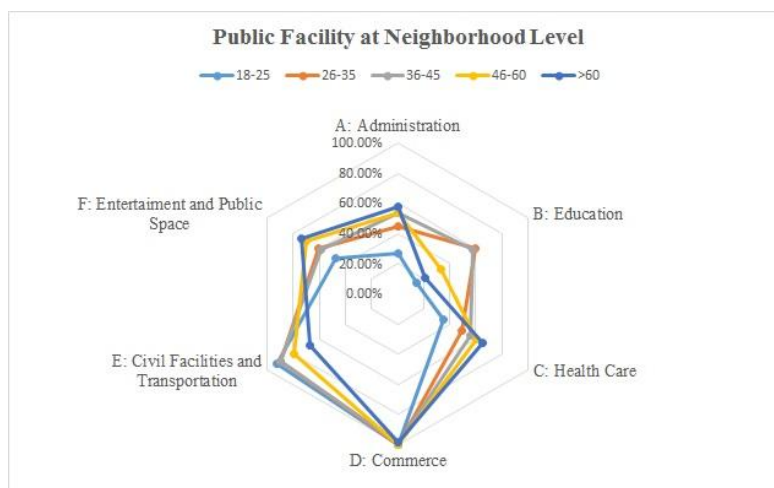


Figure 6. Frequencies of using public facility at neighborhood level depend on different age groups

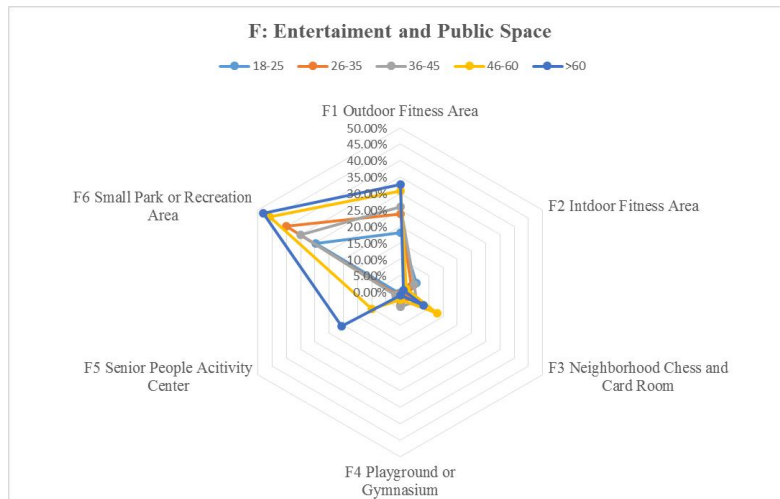


Figure 7. Frequencies of using entertainment and public space facilities depend on different age groups

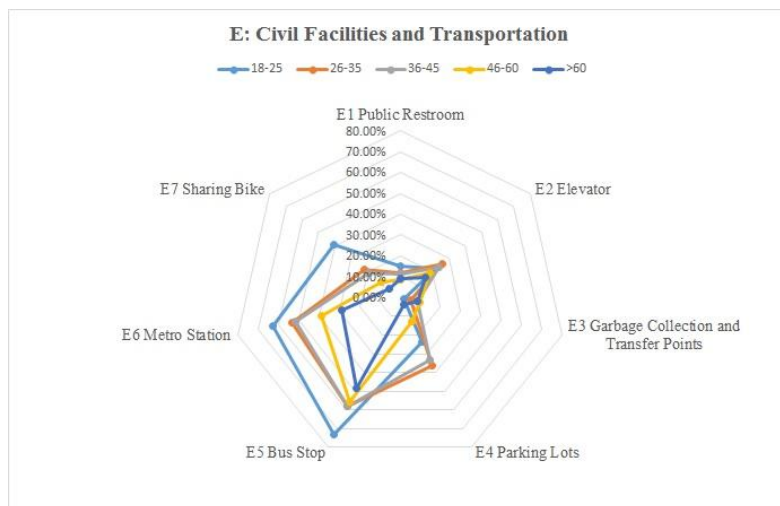


Figure 8. Frequencies of using transportation facilities depend on different age groups

4.3. The difficulty of engaging different stakeholders to navigate the urban renewal

Urban renewal is one of the most important works under the Fourteenth Five-Year Plan of Wuhan. The major policies are Three-Year Action Plan for Renovation of Old Residential Areas in Wuhan (2019-2021) and Further Promoting the Renovation of Old Residential Areas in City (2021). In general, the work is guided by municipal government while district governments take actions in their administrative districts, residents participate in the work and their willing should be respected. However, the practice is far more complicated than what has been specified in the general mechanism due to a large number of involved stakeholders, for example, various government departments, residents, and private sectors. Thus, several difficulties of engaging them to navigate the urban renewal towards more people-centric are facing by now and in the future.

Firstly, practical leadership for various powers is needed. The number of participating government departments is over 20, including planning, housing, finance, development, etc. according to policy documents. (Wuhan Municipal Government, 2019, Wuhan Municipal Government, 2021). Beside governments, the stakeholders related to urban renewal include market and society. The effectiveness of their coordination affects the efficiency and quality of specific projects. With several government departments participate in, professional powers from different careers are gathered. However, another

controversial issue is high degree of separation of responsibilities and powers, which can also lead to negative attitude when facing specific problems with blurred boundaries of responsibility.

Secondly, current urban renewal in Wuhan is lacking sustainable management mechanism to support long-lasting renewal. Urban renewal would be regular rather than short-term works as certain number of buildings would get 'old' as time pass by and the "fashion" of today's urban model may become future's monstrosity (Teaford, 2000). Meticulous neighborhood planning and management are required to avoid frequent and repeated works, such as sewage pipelines reconstruction. One weakness in old neighborhoods is lacking responsible bodies of management such as property management, because many elderly people are unwilling to pay for the service due to ideology issues. Some think grassroots governments should take responsibility of management since they serve residents and connect residents with upper-level governments, while they have limited power and human resources.

Thirdly, the method of public participation is rather a procedure than an effective tool and governments and residents are even stand on the opposite side occasionally. Generally, residents can be involved in urban renewal in Wuhan by interviews personally and online feedback. However, residents in old neighborhoods have strong willing to improve their living conditions and their various opinions are hard to reach a consensus. Thus, every urban renewal program has its specific goals which cannot solve all the concerned issues at once. Also, although governments have strategy of conservation for old buildings, dangerous and illegal old constructions need to be demolished as a procedural basis for building better environment. As property owners normally do not agree with the demolition unless they get satisfactory compensation, many programs are difficult to implement or even cannot start.

Finally, private sectors are hard to involve in urban renewal, the mode of public-private cooperation needs to be further explored. Each neighborhood has limited human and funding resources, it is practical to have involvement of private sectors to provide professional neighborhood staffs and funding. However, their participations are difficult for two reasons. One is complex demarcation of property and operation rights between public and private sectors. Another is the long payback period of small scales of urban renewal programs, which lower their motivations to participate. Therefore, a more financial balanced optimal PPP mechanism are expected to effectively and sustainably engage various sectors.

5. Discussion and Conclusion

5.1. Existed barriers hindering people-centric development

Currently, urban renewal in Wuhan follows the national people-centric strategy and have a great achievement. In large number of old neighborhoods, housing has been improved physically, like façade rehabilitation, water and electricity pipe enhancement. Residents' basic daily-life needs are generally met, but the requirements of people-centric urban renewal have not been met yet. Since people-centric development has an important idea of people-oriented distribution of public welfare (Political Bureau of the Central Committee of the CPC, 2015), current urban renewal in Wuhan have to substantially improve the quality of people's lives. By collecting residents' subjective perceptions on public facilities at neighborhood level, this paper explores several challenges faced by people-centric development.

One primary challenge is the conflict between public space and parking under the circumstance of scarce space. The truth of compact planning of old neighborhoods make it hardly to provide extra space to resolve the conflict. While based on questionnaires, the analysis indicates that the ways people choose for commuting affects the frequency they use certain facilities. So, encouragement of public and green transit can be a practical solution for the conflict.

In addition, social equity in current urban renewal has not been adequately considered. The neighborhood planning normally cover as comprehensive aspects as possible when distributing public facilities. However, the distribution of public facilities should be prioritized and adaptive at neighborhood level, because vulnerable groups, like elderly people and low-income population, are easily be ignored and their living needs sometimes are dedicated to others. Therefore, the social equity of urban renewal should take into account to protect public interests and advocate healthier lifestyles.

Moreover, the last challenge lies on the ways to engage different stakeholders into urban renewal towards more people-centric. Urban renewal is not an instant work to be done and there are a variety of stakeholder, it requires a sustainable working mechanism with effective leadership to support long-lasting urban renewal. Also, involving residents in the programs is a tough work due to unattainable consensus among residents' strong and discrete willingness as well as ineffective communications with professionals and governments. Besides residents, creative ways are needed to engage private section into urban renewal as well, since public-private partnership is necessary given the power of administrative intervention is limited in providing professional services.

5.2. Recommendations for improve people-centric urban renewal of Wuhan

To overcome these challenges, this research compared other Chinese metropolis with Wuhan to propose implications. Among all first-tier cities, the urban renewal history and patters of Shanghai is advocated as its substantial practice of 'by the people, for the people'. The recommendations are proposed based on the review of two phases of Shanghai urban renewal as follows.

The first phase (2018-2020) of urban renewal in Shanghai is called building "Beautiful Home" which is similar to current works of urban renewal in Wuhan. Building Beautiful Home focus on strengthening weakness of residential areas, it dealt with modification of façade, stormwater management, public facilities updating, and promoting grassroots governments' power and community autonomy (Shanghai Municipal Government, 2018). The focus on grassroots government and community autonomy is important to people-centric neighborhood development. Since residents play a major role in their neighborhoods, their social capital (sense and involvement of neighborhoods) increasement brought by urban renewal relates to satisfaction on neighborhoods' development (Du et al., 2020). Also, grassroots governments close to the neighborhoods, with appointed professionals, they can make more specific and typical goals and actions compared district governments who stand from a regional view. Wuhan is taking experiments on neighborhood planners, who take responsible to certain neighborhoods' planning. It is needed to form a working mechanism for neighborhood planners. The mechanism can help planners to communicate with different stakeholders and to promote public participation. With stable professional energy as scientific guideline, the neighborhoods can have better people-centric renewal.

The second phase (2021 to now) is to build 15-minute life circle. In this phase, it put forward a guideline, Shanghai 15-minute Life Circle Planning Guideline (2016), to guide the construction. The guideline gives detailed indicators and actions to achieve specific goals. Before planning, large amount of work which investigate the assets of target neighborhoods have to be done. The assets including existing and potential public space, resident's willing, human and funding resources, and potential partners. Residents involve in the whole period of construction by regular meeting with experts, planners, and governments. Problems, like the scarcity of public space, are solved by negotiations with public sectors (in the neighborhood area) who agree with transferring part of their property to be served as green space. Also, 15-minute life circle lead scatter public space to be connected to be a network. With a public space network, the area become pedestrian friendly which have positive influences on neighborhood life. Recently, Wuhan starts to advocate 15-minute life circle too. From the development of urban renewal in Shanghai can predict the trend will be turn into actions in Wuhan. The key point of 15-minute life circle

relates to urban renewal is to find characteristics of each neighborhood area. For instance, the major age groups, the existing physical and social assets, ways of public participation.

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