



Renewal strategies for old industrial areas in the post-industrial age—Take “Zurich-West” in Switzerland as an example

JIANG Hong[†] & ZHANG SiWei

School of Architecture, Southeast University, Nanjing 210096, China

This paper introduces and analyses the renewal planning of “Zurich-West”, an old industrial area. It points out that systematic and comprehensive target orientation, extensive collaboration in argumentation and decision-making, and the design ideas of coexistence and integration are the key to its success. Considering the status quo of China’s old industrial district remodeling, the paper offers some suggestions.

Zurich-West, industrial area, urban renewal, collaborative planning, sustainable development

As the largest industrial and commercial city in Switzerland and a world-famous financial center, for many years Zurich has been evaluated as “city with the highest living quality in the world”. Located between Limmat River and Swiss Federal Railway, “Zurich-West” is geographically close to the downtown, so transportation is convenient. Being once the gathering place of Zurich’s heavy industry, this district gradually grew out of a marginal area of the city into an essential component of the downtown during the expansion of the city. At present, the local government considers this district as one of the major areas to be developed, and plans to transform it into the most dynamic and attractive region in Zurich (Figures 1 and 2).



Figure 1 Bird view of Zurich-West^[1].



Figure 2 General planning of Zurich-West^[1].

Since it was affiliated to Zurich’s administrative district in the late 19th century, Zurich-West has experienced the course of development, prosperity, recession and revival, reflecting the significant socio-economic background. The period from 1890 to 1966 enjoyed the heyday of Switzerland’s industry. With the continuous expansion of cities, a growing number of industrial enterprises moved from old towns to intensive industrial areas. As a result, Zurich-West became one of the most intensive heavy industry zones in Switzerland. After

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[†]Corresponding author (email: Jianghongseu@163.com)

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1966, however, Switzerland's industrial sector suffered such a shrinking that by 1976 the employment opportunities in the construction industry and the textile industry had decreased by a total number of 380 000, and by 1986 the industry sector's employment opportunities had decreased by 26%. This situation lasted till the 1990s, and during that period, the number of employment in the industrial sector further decreased by 18%, according to statistics. Under that background, Zurich-West gradually fell from prosperity to recession.

Moreover, because of trade protection and structural problems such as aging of the population, Swiss economy was stuck in a state of low growth for a long time after the 1990s. Lack of vitality caused its international competitiveness to decline, and forced it to face the urgent issue of structural reform. So the Swiss Government strengthened industrial transformation and increased investment on scientific researches. Therefore, high-tech industry and financial services sector gradually became the pillar of economy. Particularly, replacing the traditional manufacturing industry bit by bit, new industries such as financial credit, scientific research and development, and information services became the leading industry of the city In Zurich. According to statistics in 2007, only 9.8% of the total labor forces of 348 400 in Zurich were engaged in manufacturing and industry sectors and the number of employees dropped from 45 070 in 1998 to 34 143 in 2007. In contrast, 90.2% were engaged in all kinds of services. Under the industrial transformation and upgrading background, the revival plan of Zurich-West was put on the government's agenda. Starting from 1996, through all the continuous discussions and consultations, the government determined the development target, the guiding principle and the action frame for Zurich-West, and approved the detailed planning program in 2001.

By now, the renewal development of Zurich-West has obtained good social and economic benefits. Attracting attentions from all walks of life, Zurich-West has become a renewal model of old industrial areas in the post-industrial age.

1 Systematic and comprehensive target orientation

The development target of Zurich-West is not limited to beautifying the declined area, but focuses on the functional revival of overall development, which is an inte-

grated, comprehensive and systematized orientation.

The core idea of Zurich-West's development plan puts emphasis on the basic principle of "sustainable development", which is the "decisive premise of all the work". Under the guidance of that principle, the plan sets five detailed goals: 1) Promoting the integration of various urban functions. The plan tries to realize a "mixed type" of urban functions in the area. The future Zurich-West will contain multiple urban functions, such as residence, high-tech research and development, design and media, restaurants and hotels, culture and entertainment, commerce and retailing, as well as physical fitness facilities. 2) Consummating the construction of essential infrastructure. It mainly includes schools, public transportation, road network, public space, as well as other necessary ancillary facilities. 3) Achieving flexibility in the use of fixed facility. In designs of buildings and other fixed facilities, attention should be paid to the high degree of flexibility of functions, so that they can meet the demand for long-term use under the changing market conditions. 4) Making best use of the situation and developing step by step. All development units should properly deal with the relationship among the actual development targets, the property right limits and the planning laws; based on that, they determine the development steps. 5) Realizing the coordinated sustainable development of economy, society and environment. The plan assumes that development must occur within "the triangle" framework of economy, society and environment, with "sustainability" as a prerequisite^[2].

Economically, Zurich-West's goals are essentially the same to the development thoughts of Zurich's industrial structure upgrading. Most companies in Switzerland are small or medium-sized, about 88% of which are micro-enterprises with less than 10 employees. Providing a quarter of all the employment opportunities, these tiny enterprises are mostly engaged in high value-added new industries, such as research and development, design, art, and information service. The local government hopes to make good use of Zurich's advantages in scientific research, culture, information and capital, thus encouraging the development of emerging industries, and small or medium-sized enterprises. The rent in Zurich-West is relatively low, which makes the area an "incubator" stimulating the accumulation of new industries and providing significant employment opportunities. To be specific, 17 900 people worked in Zurich-West in 2000, but by the end of 2005, the number had increased to 19 200.

If each project of the plan is carried out smoothly, by 2015 the employment number will have reached around 30 000, and it is expected that in the long run 40 000 people will eventually choose Zurich-West as their workplace^[1].

Meanwhile, Zurich-West is facing the task of integrating multiple cultures. On the one hand, in Zurich-West, a lot of relics from the industrial era are preserved. Many factories and warehouses have certain historical and artistic values, become a symbol of the industrial era, and constitute a unique memory of the city. As a container of urban culture, urban space needs memories to carry and continue this part of history. Based on that attitude, the distinct features of the original industrial area need to be preserved, and functional replacement should take place in the original basic spatial structure and configuration. On the other hand, Zurich is a major city for modern art with rich artistic atmosphere, where “Dadaism” originated in the early 20th century. Renewal development in Zurich-West will strengthen this kind of atmosphere, so as to make the area the Zurich’s future art center for research, creation and exhibition of modern art. Besides, thanks to the strict protection of the Old City, Zurich-West is able to engage in the construction of large-volume modern edifices and high-rise buildings, which provides Zurich-West with the opportunity to intensively display modern styles in the main urban area of Zurich.

In addition, the living environment of Zurich-West lags behind that of the Old City. “Brown Fields” left behind after the relocation of industry workshops, together with the deficiency in public facility, have made the district unattractive to residents. The living environment is to be improved by consummating infrastructure and optimizing public space. With the deepening of revival, the residential population has continuously increased. There are already over 3 000 residents at present, hopefully there will be 7 000 in 2015, and after the planning goals are achieved, there will be around 8 000.

With the above target orientation, the renewal development of Zurich-West tries to form a systematic transformation pattern which is based on the structural adjustment and promotion of the city’s overall function. Its target and orientation are made by comprehensively considering economic, social and cultural factors; they completely respond to the city’s structural decline, functional failure and physical aging.

2 Extensive collaboration in argumentation and decision-making

In western capitalist countries, one of the principal contradictions in cities’ development is between the private interest represented by the private ownership of land and the public interest represented by urban planning. The only way to solve this contradiction and balance the interests of all sides is consulting and coordinating with one another. According to Habermas’ “Theory of Communicative Action”, communication reflects the relationship between people. Actors try to understand the situation of action in order to make consistent arrangements for the action plans. Through communication we can promote the popular grasping of knowledge, and by cooperation the whole society becomes an organic one, so that individuals approve the social norms and values and that the common goal of the society can be achieved.

After the 1960s, advocacy planning emerged gradually in Western urban planning. Its main purpose is to reverse the existent concept of elitism which pays no attention to the public, and to require planners to advocate public participation in planning. Paul Davidoff, a representative of advocacy planning, believes that planners should popularize technical knowledge of planning and become a political advocator for public service when the urban planning led by the government and the market affects the public interest. This thought provides a theoretical basis for public participation in urban planning. In recent years, Patsy Healey has developed the theory of “Collaborative Planning”. This theory emphasizes collaboration and interaction among stakeholder groups in the process of policy formulation and implementation, transforming the task of urban planning from the process of the physical space design of “Building Places” into the institutionalized process of “Place-Making”^[3].

The renewal process of Zurich-West is a combination of the government leadership “from top to bottom” and the public participation “from bottom to top”. The concept of collaborative planning has been embodied thoroughly in the process of argumentation and decision-making. The planning points out that “(Zurich-West’s) development will be a collaborative process, which should involve all the land owners and other stakeholders.” For this purpose, the government has established the specialized agency to coordinate the relationship among the municipal authorities, public institutions

(e.g. the state government and the Federal Railway), landowners, land users, and design and construction companies. The function is ensuring that the entire process of planning and construction can fully reflect the consensus of all parties and can achieve common goals.

After several rounds of consultation, in June 2000, the Zurich Government and the landowners in the city together established a cooperation framework for the development planning, determined Zurich-West's developing target, urban planning principle, public spatial image, transportation organization concept, as well as action schedule, and completed the detailed design. It is worth mentioning that the overall planning of Zurich-West does not adopt a single proposal of a certain design institution, but is a result of extensive and in-depth discussion on designs of several well-known design agencies. After the project was started in 2002, the municipal government held an open hearing every six months and invited persons responsible from administrative departments, related design agencies, development units, landowners and local residents to discuss various construction issues of Zurich-West's development. So far there have been 11 hearings. The half year summaries of Zurich-West's construction released by the government deal with decisions about the district by the government and the parliament, objections from all sides, latest modification results of the design and implementation progress, embodying a great transparency to the public.

The argumentation and decision-making process of Zurich-West is a game process of all parties' interests. As the approval and decision-making process is open and transparent, relevant interest groups and the public are constantly able to offer suggestions and raise questions to the planning and the specific designs. Consequently, the cycle of argumentation, approval and construction is rather long. Many projects approved by the executive branch have to go through a long process of reconsideration if someone disapproves, which leads to a relatively slow development process of Zurich-West. However, such collaborative planning process and extensive public involvement have virtually moved the "social evaluation" of urban planning ahead of the construction part, which can minimize the interest conflict brought by development. Therefore, efficiency is sacrificed for fairness to ensure that the project can receive good social benefits. In short, the good balance among market, administration and public power leads to a healthy development of Zurich-West.

3 Design ideas of coexistence and integration

The revitalization of Zurich-West is not the simple superposition of old buildings' reconstruction, but a systematic upgrading program. The essence of collaborative planning is to achieve a balanced condition of multiple sides, which is embodied in the specific designs. The development of Zurich-West, at both macro and micro levels, has fully reflected the ideas of opposition, integration and coexistence.

As to functionality, this district is rejuvenated through the introduction of multiple functions. On the one hand, the functional settings of Zurich-West are closely related to Zurich's general industrial orientation. New industries are carried by the heterogeneous space in order to complete a new round of industrial restructuring, thus becoming the engine of urban economic development. On the other hand, it is noticeable that the new urbanism focusing on mixed functions has replaced the rationalism emphasizing definite functional division, and has been practiced in planning. According to land use planning, land functions in Zurich-West include: apartment 22%, synthetically office building 42%, retailing 2%, culture, restaurants and sports 5%, trade industry 23%, and school 6%^[4]. This development mode is called a "cocktail" one, vividly describing the importance of functional integration to the city's vitality.

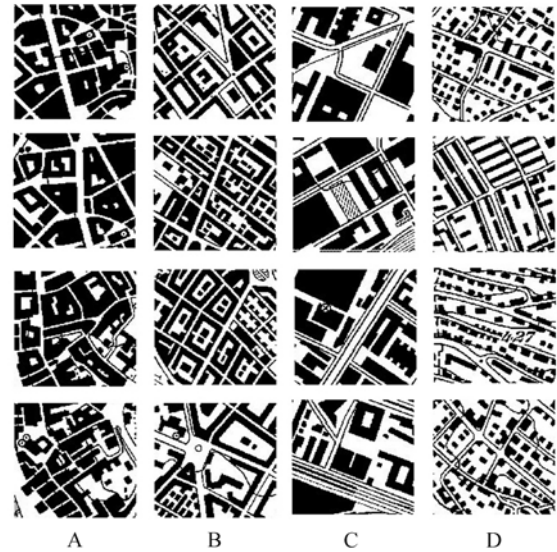
Emphasis is also put on the comprehensive social effect in choosing projects to be introduced. With the coordination of the government, it has been decided that ZHdK, which was established in August 2007 by merging HMT and HGKZ, will be relocated to Zurich-West (Figure 3). As one of the largest European art schools with about 2000 students, the university aims at cultivating artists in design, film, media, music, dancing and drama, and involves itself in related research and creation. The introduction of ZHdK endows the district with an internationally influential art education and research base. More importantly, teaching and research results of the university, including all kinds of art exhibitions and performances, will provide the public with a wealth of cultural products. Furthermore, its affiliated museums, theaters, concert halls, etc. will perfect the public cultural facilities. Thus, by setting the art university, the functional upgrading is achieved, and Zurich's role of cultural center is also consolidated.



Figure 3 Design of ZHdK Building^[1].

With regard to space, the buildings with huge volume and open space in old industrial areas are totally different from the compact medieval streets, the regular baroque blocks, and the loose modern residences (Figure 4). Compared with the surroundings, the urban texture of the industrial area is an obviously heterogeneous part of the city. The renewal and development of Zurich-West does not try to get rid of the spatial differences formed in history, but attempts to retain this heterogeneous urban space. On the one hand, this approach is to maintain the spatial characteristics. On the other hand, it is due to the limit of objective conditions—main roads have already taken shape, and it is hard to change the boundary of each piece of land because of its private ownership. Therefore, it is difficult to make large-scaled adjustment. In order to achieve its goals, the planning also puts forward twelve detailed urban design principles regarding transportation, landscape, public space, landmark creating, underground facilities, etc., providing operational control criteria for detailed designs.

New constructions in Zurich-West adopt a scale similar to that of the surroundings, but appear relatively huge compared to other regions of the city, so the unique spatial sense of the industrial area is strengthened. In order to keep the original spatial pattern, old industrial buildings in good structural conditions have mostly been preserved and reconstructed. Reconstruction ways are diverse; whether to retain the appearance and change the inside, or to retain the structure and renovate the outside, or to combine the old with the new and reinforce extension, they all reflect the principle of harmony between the old and the new. By comparison of materials and dimension, the designs make a clear boundary between the newly-built part and the retained part but still realize integration. For instance, a building complex called PULS 5, which was built in 1893 as a foundry workshop, is now converted into an indoor public square (Figure 5(a)). In



A: Texture of medieval ages
B: Texture of baroque ages
C: Texture of industrial ages
D: Texture of sprawl suburbs

Figure 4 Different Textures of Zurich.

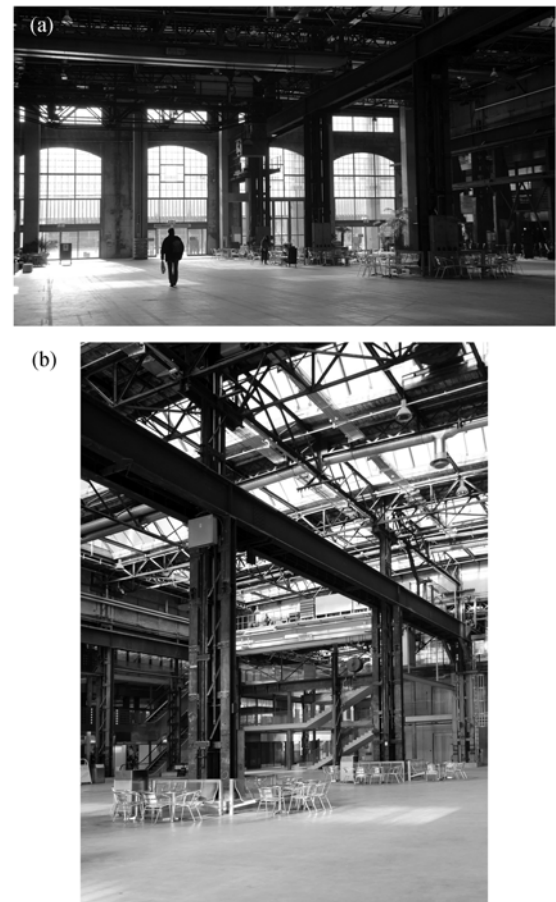


Figure 5 Interior space of PULS 5.

spite of its modern functions, the original structure and the inner typical construction of the buildings have been preserved in good condition; rusting steel components arouse people's memories of the industrial age now and again (Figure 5(b)). The building exterior is covered with U-shaped glass and metal louvers, which is simple and modern. The structural systems of the new and the old are separated from each other and maintain their respective independence, creating an effect of opposition and complementation (Figure 6). Schiffbau shipyard retains the appearance of the old plant, focuses on the modernized transformation of the internal, and adds modern functions such as apartment, office and cinema, making the old and new buildings a group of growing organic whole (Figure 7).



Figure 6 Appearance of PLUS5.



Figure 7 Appearance of SCHIFFBAU.

4 Conclusion

In recent years, with the rapid expansion of city size and the constant adjustment of industrial structure, many cities in China have carried out or are carrying out large-scaled renovation and reconstruction of old industrial areas. The development of Zurich-West has created a method that pays much attention to the balance among all the stakeholders, sustainable development, and space with high quality. The successful experience and the specific operation modes are worth learning and referring to in the reconstruction of China's old urban industrial areas.

Of course, there are great differences between China's actual conditions and those of developed European countries. The population of Zurich has been relatively stable for ages, and the infrastructure is in a better condition, so the demand for urban construction is not very urgent. Hence, the renovation of Zurich-West is largely a means of achieving industrial upgrading and improving competitiveness, so more attention is paid to the quality than to the speed. By contrast, China's cities have large and dense populations, and mechanisms are still in the perfecting stage of transition. Therefore, the renovation of old industrial areas involves more aspects and is much more difficult. Meanwhile, China's cities also face more urgent demands for construction and development. Lack of construction land further makes the renewal a process of spatial homogeneity, and increases the difficulty of shaping the characteristic urban space. Considering actual results, the renewal and reconstruction practice of China's old industrial areas faces the following problems.

1) The target orientation is not a systematic one. Most practices are reconstructing and reusing old industrial buildings at the micro-level, and lack a strategy for reconstruction in the whole. Many cases of remodeling old industrial areas still remain at the level of "beautifying and renewing" physical space forms. But it is crucial for them to further connect with the general urban orientation and the need of industrial upgrading and transformation, so that the overall structural adjustment of urban functions can be achieved.

2) The existing planning argumentation and decision-making process can ensure high efficiency of urban construction, but also leads to contradictions between efficiency and equity, short-term and long-term develop-

ment, high efficiency and high quality. In the renovation process, the administrative and market powers are excessively strong, while the public do not have enough opportunities to efficiently get involved, resulting in far more emphasis on economic benefits than on social benefits. Therefore, it is necessary to further promote the scientific planning argumentation and decision-making, and advocate collaborative planning involving all sides, consequently achieving the balance between development efficiency and quality.

3) The cognition on the historical and cultural values

of industrial areas is incomprehensive, and the protection and renovation modes of industrial relics are relatively simple. In functional replacement and introduction, social influence is limited; it is either the taste dominated by artists, or commercial developers' selling points. It is advisable to further develop the ideas of functional renewal, fully explore the historical and cultural values of old industrial areas, avoid complete demolition and reconstruction, and make progress from single functional reconstruction of old industrial buildings to systematic upgrading of the whole industrial district.

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