

THE BEIJING 2008 OLYMPIC GAMES AND URBAN LAND USE EVOLUTION:
DID THE 2008 OLYMPICS BENEFIT LOCAL COMMUNITIES?

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Introduction

When trying to accommodate a once-in-decades event in an urban area, host cities for the Olympic Games are often faced with the problem of redeveloping an established place usually an under-performing area. This is especially the case when the city tries to use the Olympics as an opportunity to enhance urban development. This all-too-often causes a change of land use on the site and in the surrounding areas close to the venues. Most of the past host cities experienced land use transformations: London, Beijing, Barcelona, etc. (Festa 2012, and Lei & Marjolein 2009). Such change can drive urban development by introducing functions that are of higher economic and social efficiency as well as those that are missing in the area. But debates arise whether the Olympics benefit only the local community that accommodates the venues or whether the overall city may receive positive Olympic legacies. My research question is: what are the Olympics benefits to local communities as regards on-site and off-site impacts on land use change?

In order to answer that question, this thesis examines how the land uses of adjacent properties changed before, during and after the 2008 Olympic Games in Beijing. The question is whether Olympic events contribute to urban land use development, how did land uses evolve, what are the impacts on local economic development, transportation infrastructure improvement, and public open space provision, and do local communities benefit from the Olympic legacies (If not, who is the receiving the benefits).

A good knowledge of these questions can help municipal governments and their planning departments better understand the local impact of the Olympic Games rather than just as benefits to the city as a whole. When planning for such events, it would be helpful if planners were aware of what land use transformations might take place during the process and what effects it might have. Either for image or national pride a city bids for international mega-events and holds an optimistic expectation of promising returns: better infrastructure, more open space, booming economic development, increasing job opportunities, enhanced city image and greater capital investment. But planners should bear in mind whether expectations are actually realized, and, if they are, what might simultaneously take place. In sense of that, knowing the Olympics effects on land use change may help us identify the benefit and costs, thus in turn help us to reflect on how should we plan for international mega-events such as the Olympics.

Background

The Olympic Games began in 1896 in Athens (Greece) when Pierre de Coubertin (France) created them by founding the first modern International Olympic Committee (IOC) in Paris in 1894 (Olympic.org 2014). Held at four-year intervals, the Olympics has become a global event so popular that it is now considered a festival of sportsmanship, cultural diversity, and peace (BBC: Primary History 2014).

As the Games evolved over time, many cities saw them as an opportunity to achieve

planning goals or solve urban issues by taking advantage of the fact that holding the Olympics, somewhat considered as a manifest of national pride, can drive land use evolution which otherwise may take decades to accomplish (Kindel, Watkins, & Hasdal 2009). In the name of the Olympics, host cities may update infrastructure, improve public services, or accelerate real estate developments, which would hardly be possible without the Games. However, when it comes to the impacts of such a big event on land use changes at a local level is an open question: that is, do the local residents who originally live around the Olympic area in a host city really benefit from the Games' legacy?

When the first modern Olympic Games were held, the IOC chose Athens (Greece) as the host city in honor of its Greek origin. Ever since, each of the modern Olympics takes place in different city and country across the world. To hold an Olympics, cities have to go through two key phases nine years before the Olympics they would like to stage: 1) Applicant Phase and 2) Candidate City Phase (Olympic.org 2014). During the Applicant Phase, the city submits answers to an IOC questionnaire in the form of an Applicant File which will then be studied by a Working Group appointed by the IOC. The Applicant Cities are evaluated on the basis of 11 technical criteria:

- Government support, legal issues and public opinion
- General infrastructure
- Sports venues
- Olympic village(s)
- Environment: conditions and impact
- Accommodation
- Transport concept
- Safety and security

- Previous experience hosting sports events
- Finance
- General project

In the second phase, usually four to six cities present themselves as candidates. They are required to prepare a Candidate File which contains the answers to a second round questionnaire along with specific plans to hold the Olympics ranging from “the Olympic Village, transport, security and accommodation to sports and venues, the environment, marketing and many more” (Olympic.org 2014). The Candidate File is reviewed by an IOC Evaluation Committee. After a series of presentations delivered by the candidates, a host city is selected by the IOC members.

Beijing, like host cities in previous Games, took it as an opportunity for fast development in urban renewal. The city tied its Olympic agenda to long-term land use development goals (Au-Yeung 2009). In 2008, a total of 37 stadiums served the Games, among which 31 were located in Beijing, with 11 pre-existing, 12 newly built, and 8 temporary structures that were removed after the event (Appendix: Figure 1). Half of Olympic-related structures inside Beijing, including two main stadiums, Beijing National Stadium (used for opening and closing ceremony, field and track, and soccer games), Beijing National Aquatics Center and the Olympic Village, were located around Olympic Green in the north-west of Chaoyang District. This area has been dramatically changed by the 2008 Olympics from an under-developed village to a busy modern urban community with sports, cultural, recreational and business services.

Yet contradictions arose from the fact that the Olympic venues are not located in places that most need incentives for land use development because of insufficient public inputs during planning process that led to the overriding of local needs by governmental objectives. Additionally, opponents argued that the Beijing Olympic initiatives failed to function at its full potential, because some of the best practices of management and operation strategies didn't survive the Games.

Literature Review

When the Chinese government and its planning authorities failed to adapt the 2008 Olympic agenda to local needs, a disparity occurred between the development of the Olympic sites. Reflecting on the site selection process of the Beijing municipal government, evidence shows that there were four main issues: 1) inadequate compensation to the displaced residents who moved out of the Olympic site, 2) insecurity and lack of alternative housing for evicted renters, 3) cultural heritage protection and displacements, and 4) housing rights violations set to continue after the Olympic Games (Fowler 2008).

Given the current location, many commentators consider the 2008 Olympic site problematic in its planning process with disappointing post-Olympic effects. In his *Gaining from olympic games legacy on land use improvement: a study on Beijing 2008 games*, Au-Yeung (2009) chose three different forms of legacies that are distinguished from each other in user groups, ownerships, and location to further examine their contributions and

damage to the land use development of Beijing: 1) the Olympic Green (the area containing the main stadiums), 2) Chaoyang Park Beach Volleyball Ground (a temporary Olympic venue); and 3) Beijing Workers' Stadium (an existing stadium renovated for the Games).

Key findings are: 1) the Olympics changed the land use of the three chosen sites, leading to further disparity of urban development in the city, 2) the benefits were contained in a small area around the venues, while they should have been channeled to other parts of the city, 3) although not directly impacted, the under-performing south Beijing neighborhoods would have been better-off through the development of public infrastructure extended from Olympic area, such as public transportation systems, and 4) there was a lack a public involvement in the land use planning process during preparation of the Games and public participation was limited as far as the stakeholders.

A similar study of East London addressed the state-led gentrification issues that took place during and after the 2012 Games in London (Watt 2013). Although some believe that the gentrification might occur because of the national economic trend and the urban development evolution (Lees, Slater, and Wyly 2008), it is argued that gentrification in East London was largely correlated with the 2012 Olympics.

Watt (2013) reviewed government initiatives that aimed at turning the Olympic village into residential units in an affordable manner but failed to meet the housing need of potential working-class (Inside Housing 2012a). The Olympics aggravated the gentrification problem by accelerating the rise of housing price and replacing existing locally-available jobs with

new Olympic-related jobs that were typically not available to low-income, industrial manual working class because they lack the necessary skills. Physical redevelopment for the Games facilities required that existing affordable housing and community facilities be removed or replaced, resulting in even higher housing prices (Bernstock 2009, Davis & Thornley 2010, and Raco & Tunney 2010).

Research Design

The object to study is land use change and its impacts on the surrounding neighborhoods in Chaoyang District, Beijing. The data needed to answer this question included municipal planning visions, land use information, evidence of infrastructure improvements, and economic indicators.

Land use information, including how the Olympic area was used before the event and what it has been transformed into, answers the question of what changes took place. The information was collected on and off site by visiting the study area and by using satellite maps to identify what the properties were zoned as before and after the Games. The “adjacent neighborhoods” cover a quarter mile buffer from the venues. In this part there is a study of the current master plan of the host city to identify the specific position of Olympic venues and the surrounding areas in the hierarchy of the city, the municipal government’s short-term and long-term vision for the area, and how the city plans took advantage of the Games to achieve their planning goals.

To understand the city's planning vision, I conducted three interviews with urban planners in Beijing Municipal Institute of City Planning & Design and Tsinghua University, including one interview with a planner who was on the commission team that held an international competition for the plan and design of the Olympic Green and Forest Park for the 2008 Olympics.

Accompanying the land use change is often infrastructure improvement. The data needed was public transportation system extension or development (new subway stops during and after the Games), and culture and sports facilities improvement (new parks, public open spaces, convention centers). Studying Beijing's subway and bus maps identified how the city developed its public transportation system: subway line extension and new metro/bus routes.

The result of such land use changes accompanied by infrastructure improvements could be rising land values and increasing real estate investments. The data will answer the question of what are the effects of the land use change triggered by the Olympics. Statistics for land values, by districts are open to the public and can be extracted from Beijing Statistical Yearbook, but may not be at the local level as defined in this research.

Data on real estate investments explains if the 2008 Olympics had an effect on the city's real estate market. The data covers ten years from 2001 to 2010, from the bidding stage to the post-Olympic period. Four indicators are considered relevant because they are most relevant to the Beijing Master Plan (2004-2020) and the new functions added to the area: the total real estate investment, the investment in residential units, in offices, and in retails. Only data of

Beijing and Chaoyang District is available in Beijing Statistical Yearbook (Beijing Municipal Bureau of Statistics 2011).

Interviews with business owners gathered data from the local individuals about how they are doing with the evolution in land use at community level. There were eight walk-in interviews with business owners. The interviews informed us of local business owners' opinions on the issue, which offers an incremental perspective.

Yet it is entirely possible that the population shift around Olympic venues might not be solely affected by the rapid development for organizing a mega-event but a trend that has already been taking place because of the city's planning goal. This possibility required a careful study of the context, being the demographic trend, development projects in history, and governmental initiatives to stimulate such development.

Conclusions were drawn from an analysis of collected data and information. They include a before-and-after comparison of land use maps, calculation of demographic and socioeconomic factors growth rate, and illustrations of infrastructure improvements. These data answer what changes took place and how. The analysis of interviews provided information of what caused such changes and whether they were considered positive or negative from both the city's and local people' perspectives.

Site Selection

In the late 1990s, the Beijing municipal government began to prepare for the 2008

Olympic Games. The current location for the core area for the Beijing 2008 Olympic Games was chosen by “Planning and Coordination Office for Beijing 2008 Olympics Bidding”, a planning office established in 1999 by the Beijing municipal government and the National General Administration of Sports. During the designation there was fierce debate about whether Walicun would be the best location (Ma 2001 August). The debate primarily concerned two candidate sites: Walicun, the current location, and Yizhuang, which is in the southeast of the city (Appendix: Figure 2).

Some planning officials believed that choosing Yizhuang, an industrial land with weak economic base and scarce public service supply, was more justified because the southeast of the city was in greater need of incentives for economic development that could have been accelerated by the Olympics. In over a half century, the southern portion of the city has had high poverty rates and long-term downturn of economic development (Ma 2001 September). On the contrary, Walicun is located in Chaoyang District which had already planned for a commercial center (Appendix: Figure 3). If Beijing saw the 2008 Olympics as an opportunity to a build new city center of commercial and public activities, the concern was that it would lead to redundant construction to locate the venues in an area that already had one commercial center (Peng 2001).

Advocates of Walicun justified the decision by claiming that Yizhuang was not “ready”. “...the south city is less advantaged in real estate development, while by having the Olympics in Walicun the spill-over impact could bring the economic benefit and infrastructure

improvement to the whole city, including the south...” said Mingtao Li, the chief architect of Beijing Institute of Architecture Design who participated in designing the stadiums.

The Selection Process

The site selection process consisted of four stages. From the first stage to the third, 15 alternative sites were reduced to 4, which were Walicun, Dingfuzhuang, Fatou, and Yizhuang. Among the four locations, only Yizhuang is in one of the city’s southern districts, Daxing; the other three are all in Chaoyang District in the inner northeast. Walicun sits on the north extension of Beijing’s 7.8 km (4.85 miles) central axis that goes from Yongdingmen Gate in the central city to Zhonggulou in the northern city. In the last stage, only Walicun and Yizhuang remained as options, and the municipal government eventually chose the current location over Yizhuang.

The major reason was to “better impress the IOC” (Zhu 2008, Jia 2007). When bidding to host the 2008 Games in 2000, Beijing feared that Yizhuang would make the city a weak candidate. “...(the 2008 Olympic Games) was not only an international sport event, but also a chance to create a better city image...” said Zhimin Sun, planner and engineer of Beijing Institute of Architecture Design (BIAD), who was on the planning team for Beijing 2008 Olympic Games. “...It was the city’s dream to hold the Olympics, and it could not afford to risk losing the bid. At that time, from the city’s standpoint, the north city seemed a better choice. Walicun was in a neighborhood with a more robust economic environment; it was

better facilitated by public service; the culture was richer because of the central city location... ”

In fact, there were four major reasons to chose Walicun over Yizhuang: the city’s planning vision, economic considerations, infrastructure supply, and political propaganda. By having the Olympics located in the north city, it could extend and enhance to urbanization of the north end of Beijing’s central axis, thus conforming to the city’s master plan. Besides, located in a community well-connected to the central city, it could create a new center of public activities and a better city image. Third, the neighboring areas were highly urbanized and thus had sufficient public infrastructure and transportation service (Document of International Competition for Conceptual Planning and Design of Beijing Olympic Green 2002). Also, the event was considered political propaganda for the government.

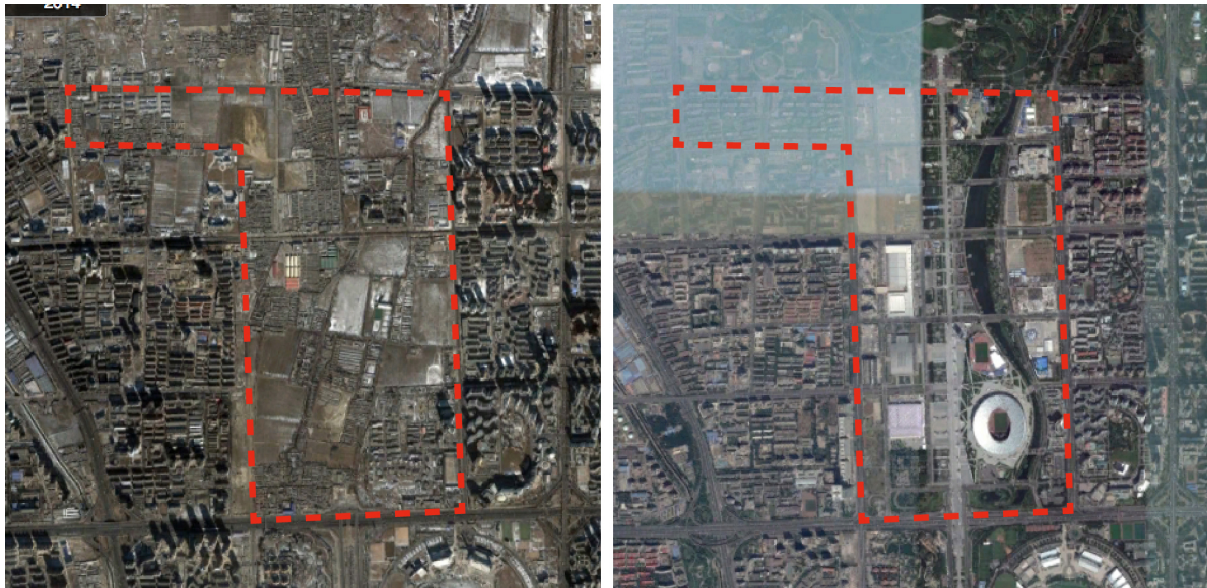
Four Reasons

The two locations in the last round of selection process were quite different from each other. The site where the Olympic Green now stands used to be called Walicun, a reserve zone for urban development. It belongs to Datunxiang community and Walixiang community, which was agriculture land until designated for science and research use in 1960 by the city. Several institutes affiliated with the Chinese Academy of Sciences settled their offices and labs on the perimeter of Walicun. In the following decades, the city could not decide what to do with the land, thus hardly any development plans targeted this place. After long-term

vacancy, it gradually became an urban settlement of immigrants and low-income workers (Li 2008) (Appendix: Figure 4).

Figure 4. Maps of Walicun (currently the Olympic Green) in 2001 (left) and 2014 (right).

Data source: Google Earth



At the same time, the surrounding communities became a middle-class residential area. In addition, it was located in the north part of Beijing, where urban development had always been favored, providing a well-connected road network and robust economic environment around the site. Although Walicun itself was a huge clog of urban village, it did have an advantage of sitting in a more economically vibrant context with potential of better-served transportation system. With the expected developments brought by the mega-event, the village could be opened up to the city road network and could catch up economically with the rest of the community.

Yizhuang, on the contrary, is in one of the southern districts, Daxing. Before 2000, Yizhuang was a town under Daxing District's administration on the outskirts of Beijing with small manufacturing industries. There was only one major road connecting it to the core city and public services were scarce. In 2000, the city designated Yizhuang as the Beijing Economic-Technological Development Area, which was directly under Beijing municipal council, standing parallel to Daxing District in terms of government hierarchy. The city strengthened Yizhuang as a manufacturing center, using it to attract Fortune 500 and large international brands. Although it was an example of a successful "technological park" development, at the time when Olympic site selection proceeded, Yizhuang was a suburban area lacking economic development and municipal infrastructure. Even after the designation, the Planning and Coordination Office worried that it was still too "manufacture" to look good as an Olympic site. Unlike the Queen Elizabeth Olympic Park that used to be manufacturing area in East London, Yizhuang was becoming a manufacturing center in 2000 which the Office considered unfit for IOC's vision for a green Olympics.

Walicun was preferable from the planning perspective, because it is located on Beijing's south-to-north central axis that is not only an axis of the symmetrical physical structure of the city but also a corridor of urban development. The Beijing Master Plan envisions this area as the new center of economic development and cultural activities (Beijing City Master Plan 2004-2020, 2006). Building Olympic venues was believed to be an accelerator of the Master Plan by increasing the number of employers and property values. It was also envisioned to be

a local attraction by providing the public space, hosting big conference events and accommodating art performances. Locating the Olympic core site in Walicun would be in accordance with the city's master plan.

While it is on the outskirts of the city and may not fit into the city's vision for enhancing the central axis, Yizhuang actually is part of a bigger regional plan, the Beijing-Tianjin-Hebei Urban Development Corridor (Appendix: Figure 5). The Corridor aims at catalyzing urbanization along its route and extends from the suburbs of Beijing, passing Tianjin, which, because of relatively cheaper housing and booming service industries, is now more and more often seen as an alternative to Beijing, all the way to cities in the west of Hebei Province. In this sense, Yizhuang needed government incentives to be integrated into the bigger plan.

The second reason to choose Walicun is that it had a more robust economic environment. Compared to Yizhuang in the 2000s, the town with manufacturing factories, many of which were small workshops with low productivity, Walicun was in a more mature urban context with science and research institutes. It was surrounded by middle-class communities with clusters of high-end shopping centers, chain stores and local businesses. The major industries in Walicun in 2000 were institutional, retail and food (Li 2008). Such a combination could serve the mega-event. Plus, the Planning and Coordination Office proposed this area to be Beijing's new convention-leisure center with enhancement of commercial and cultural activities. This type of urban development plan was also encouraged by the IOC as sustainable planning.

Another argument the government made to justify Walicun is that it had better infrastructure than Yizhuang. The Olympic site is located in neighborhoods with well-connected road networks, adequate public transportation, sewage systems, and municipal service facilities. Before the 2008 Olympics, the site was surrounded by a commuter road to the south (North 4th Ring Road) and two collector road (Beichen East Road and Kehui Road), while Yizhuang was connected to the core city by only one arterial road. Besides, Yizhuang did not have an urban environment that could support the Games without having massive redevelopment projects.

Finally, designation of Walicun was more or less a political propaganda. At the beginning of the 21st century, China was trying to establish a positive image by presenting Beijing as an international modern city. The Olympics was a perfect opportunity. Before 2008, the number of foreign tourists who traveled to China had been constantly increasing from 16.9 million in 2004 to 26.1 million in 2007, almost 1.5 times of growth (The Yearbook of China Tourism Statistics 2013). With an influx of international travelers, the core site of the Games was considered more like a display of the city's culture and life. The current site is to the north of the China Ethnic Museum and the old stadiums of the 1990 Asian Games (Zhu 2008). The north is adjacent to the city's green belt and later transformed into the Olympic Forest Park to accommodate leisure and recreational activities. All factors together rendered Walicun as a perfect demonstration of Beijing's culture and life.

Impacts posed by the Olympic site

The selection of 2008 Olympic site induced a drastic land use change of Walicun, which impacted on the local community's and the city's economic development as well as infrastructure improvements. The plan faced two major disputes: 1) the venues were not located in places that most needed incentives and 2) the plan failed to function at its full potential. One can easily find Internet pictures of underperforming Olympic venues of Beijing, some in bad condition with low usage rates, others simply abandoned. Even stadiums kept in good shape, for example, the national stadium (also called the Bird Nest) and the national aquatic center, are only used for mega-performances or seasonal sport activities that have little connection with the local people (Lim 2012).

The IOC has long been promoting sustainability planning of Olympic Games as it realizes that the world-celebrated sport event can be catalyst of urban development and many host cities want the games to create long-term legacies rather than just 16 days of sports feasts. In doing so, the IOC has encouraged each host city to define and propose their objectives, long-term strategies and visions. Beijing proposed improvements in education, volunteerism, public health, accessibility, transport infrastructure, venues, cultural preservation, and environment (IOC 2013).

Theses goals achieved, the city as a whole would benefit from the games, however, whether the local community would receive any of the benefits remains a question. For example, venues are tourism attractions, and one cannot safely assume that local business

revenue has increased. In fact, local business owners expressed disappointment when talking about the effect of the growth of tourists on their revenues. Transport infrastructure has been improved to the site and in the surrounding neighborhoods, but failed to give its full benefit. Take transportation for instance, after building up a new road network that connects to the rest of the city, the operators of the Olympic venues shut down the roads in several blocks where mostly visited by tourists for safety reasons, thus creating an isolated island where no private vehicles can pass except for those of the staff.

Land Use Evolution

By locating the Olympics in Walicun, the land use of the site has been changed dramatically, creating new blocks with new forms of commercial uses. The area used to be designated a preserve zone for future development, but has been occupied by low-income residents since it was vacant (Appendix: Figure 6). Despite that it is located in the center of city, with well-developed urban surroundings, the place itself is isolated from the rest of the community. Walicun was enclosed with a clear boundary where all municipal roads stopped and only narrow streets constructed by Walicun residents led into the area. No public transportation linked it to the rest of the city; residents in the preserve zone traveled by bicycles or private motor vehicles. It was a huge mass in the center of Beijing, with small, low-profit businesses such as waste paper treatment stations (Li 2008).

As the plan for the 2008 Olympics was implemented, the place was reorganized into

superblocks that were much bigger in scale compared to the surroundings and that accommodated new commercial activities (Appendix: Figure 7). The core area became the Olympic Green; on each side there are office buildings, a convention center, franchised department stores, hotels and museums. Apart from commercial spaces, there were several cultural and educational facilities under construction in 2015, adding more institutional uses to the site. The new parcels are large commercial and institutional blocks whose targeted users are not necessarily the local residents, creating a clear boundary between the Olympic site and the surrounding neighborhoods (Appendix: Figure 8).

Local Economic Development

Beijing 2008 Olympics cost more than fourteen billion US dollars in total, including twelve billion US dollars in non-Olympic specific expenditure and two billion US dollars in sports venues and Olympic village (Brunet & Zuo 2008). As the most expensive Olympics in history, Beijing Olympics was considered by the city as main driver of Beijing's economic development for the coming years (Beijing Olympic Games Impact Abstract 2010). Since the city won the bid in 2001, Beijing's GDP has been driven up largely because the municipal government's investment in fixed assets and the trend was expected to continue after the sports event (Lu 2006).

One of the economic impacts of 2008 Olympics Games was that the property values increased. The city aimed at promoting real estate development in the area by creating public

goods: creating public open space in Olympic Green, upgrading public transportation, and adding street furniture. The city also leased out most of the commercial buildings around the Olympic site as hotels, offices and retail, which were used to accommodate Olympic-related staff such as the press media. Easy access to core city via roads and public transportation made the site preferable to investors. Apart from commercial buildings, the city resold the Olympic village housing as residential units to the public after 2008 (Figure 9). Immediately after being released to the market, the price of Olympic village nearly doubled within one and a half year from ¥15,000 per square meter (\$225 per square foot) to ¥30,000 per square meter (\$450 per square foot) (Zhang 2008).

Figure 9. The Olympic village housing resold as residential units

Photographed by the author

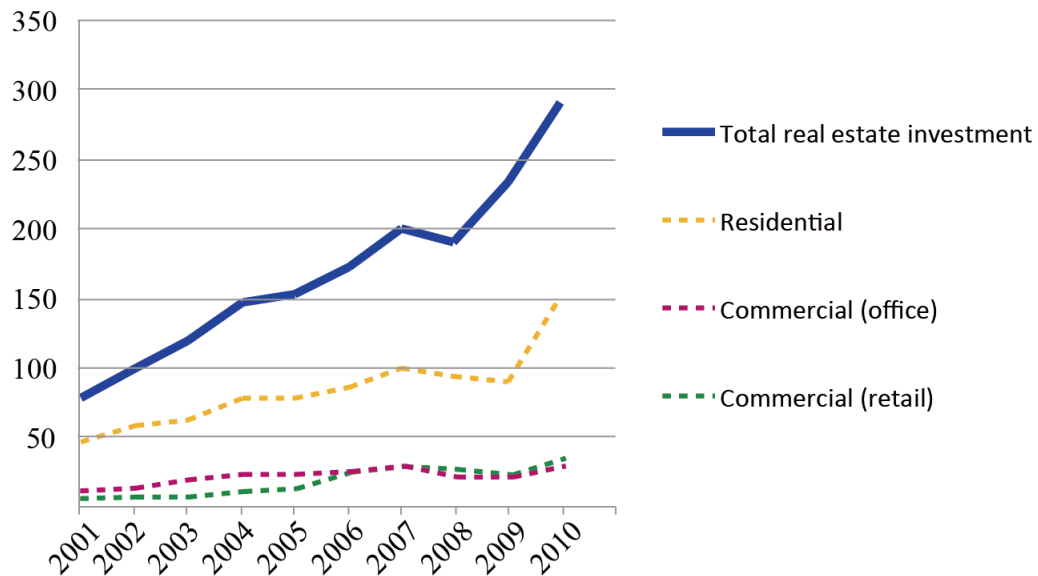


Beijing's overall real estate investment was rising since the early 21st century (Figure 10) and was accelerated by the planning and construction for the Olympic Games from 2001 to 2007, and continued to grow at similar rate in 2010 after two years of temporary stagnation (Beijing Municipal Bureau of Statistics 2011). Just as the city has expected, staging the

Olympics was a manifestation of the city’s fast growth of real estate development, however, due to the Post-Olympic Effect, which resulted from lack of investment, the real estate market cooled off for two years after 2008 (Tang & Yao 2012).

Figure 10. Real Estate Investment in Beijing from 2001 to 2010 (unit: ¥ billion)

Data source: Beijing Statistical Yearbook 2011



Another economic impact was on local businesses. There are three forms of commercial activities: local businesses that are scattered around Olympic Green, onsite retailing, and big franchised businesses (mostly hotels) on the perimeter of the site. Local businesses refer to those that are owned and run by those who live in the neighborhood. These forms of business are represented by food and drink stores (groceries and restaurants) and local service businesses (laundries). Onsite retailing is owned and operated by a contractor, Beijing Inno-Olympic Group CO.LTD (Inno-Olympic), who signed with the municipal government a lease of land entitlement. The main form of franchised businesses is chain hotels, accompanied by mixed-use commercial space with retail, offices and serviced apartments.

Although the Olympic Green is among the most visited landmarks in Beijing, it does not necessarily mean that the local economy is enhanced. Rather, it is the large franchises that benefited the most by locating themselves near the Olympics site after the new land use proposal was implemented. Beijing North Star Industrial Group Limited Liabilities Company (North Star) bought land entitlement of almost all the parcels in the north of the site. They also hold several southern parcels including one cluster of hotels and two office buildings (Figure 11).

Figure 11. Hotels (left) and office buildings (right) owned by North Star
Photographed by the author



Meanwhile on-site retailers are underperforming (Li 2011). The Beijing municipal government established Inno-Olympic that is responsible for maintenance and operation of onsite commercial spaces. Inno-Olympic created an underground shopping center inside Olympic Sports Center Station on subway line 8 that began to recruit tenants in September 2011. The shopping center was expected to be at full occupancy by the end of 2011. However, more than 80% of the retailing space was still vacant in 2015 (Figure 12). Part of the reason

is that most people come to the site for tourism, not for shopping; another reason is that because tourists (including day-trippers from other districts in Beijing and those from other cities) consist of visitors to Olympic Green, they create a demand for food industries and tourism-related retailing. The need is specific because most visitors don't spend extra time in Olympic Green except for visiting the stadiums, thus it is hard to keep people on site and spend more money on shopping.

Figure 12. Xin' Ao Shopping Center in Olympic Sports Center Station on subway line 8

Photographed by the author



Local business owners didn't see much improvement (Figure 13). During the interview with one grocery shop owner in the neighborhood next to the Olympic Green, he expressed discontent of his revenue, claiming that little increase was achieved. "Property value has been rising, but that has nothing to do with me." He said, "there have been more visitors, but they don't necessarily come to spend money in my shop... The major customers are still local residents who live nearby."

Figure 13. Local cigarette and liquor store

Photographed by the author



On-site Transportation

In the late 1990s, the city overhauled its transport system that was organized around three concentric arterial ring roads (the 2nd Ring Road to the 4th Ring Road) and two subway lines (Subway line 1 and 2) (Appendix: Figure 14). In preparing for the Olympics, all potential host cities were required by the IOC to demonstrate their ability to efficiently accommodate the need for movement of millions of incoming visitors, athletes and the press. Thus began a new story of Beijing's transport system (Ong 2004).

Beijing vastly expanded its transportation infrastructure to improve local, regional, national and international connections. The Plan emphasized local transport improvements on connecting roads that were once cut off by Walicun and enhancing public transportation systems (Beijing Olympic Action Plan 2002).

There are three arterial roads and four collector roads that run through the Olympic

Green, consisting of a new street grid. All arterial roads are beneath the site, and the four collector roads are above-ground. The purpose was to facilitate the traffic within the, which defines the urbanized area in Beijing (Bai 2008). However the above-ground roads are fenced to keep private vehicles outside the Olympic site for “security reasons”. “The Inno-Olympic is the operator (of the Olympic Green). It closes the road access and puts security check station at several gates.” Said Mr. Zhimin Sun (Appendix: Figure 15). The National Stadium S Road, National Stadium Road and National Stadium N Road are restricted to staff vehicles only. Although the site is gridded in the same pattern with the road network off-site, there is no traffic through the site.

Figure 15. On-site road ends closed and the security check point

Photographed by the author



The same situation applies to the 4.5-meter (2.8-mile), three-lane underground circuit around Olympic Green connecting surroundings buildings underground space and the north and south arterial roads. Initially the circuit was planned to channel traffic from arterial roads to collector roads, and then lead to the structures and stadiums inside the Olympic Green so

as to least interfere with pedestrians. The plan was never realized because the property rights and management rights belong to Inno-Olympic, the builder, not the municipal government. Therefore, the city is not authorized to open the tunnel circuit (Zhang 2012). As a result, the area still retards traffic flows like it did before 2008.

Public transportation has been greatly improved due to the city's efforts in constructing subway lines and light rails (Shen 2014). The city had only two subway lines before 2000 (Subway Line 1 and 2). In 2003, a Line 13 that linked the northern residential areas to the central city was put into service. Years before 2008, Beijing Mass Transit Railway Operation Corporation Limited, a city-owned company that operates Beijing subway lines, continued to build new subway lines and renovate previously established stations (History of Beijing Subway 2011). In 2008, Subway Line 8, a new line that makes stops at the Olympic Green, began to operate. Initially the new subway line was opened to meet the specific need of the Olympics, with only a section of the line in operation, while, after the Olympics, Line 8 was extended at both ends to 26.6 kilometers (16.5 miles) with 17 stops, turning from Olympic Line into a subway line that links the north and south city. In 2017 Line 8 will be extended to 45.6 kilometers (28.3 miles) with 35 stops, connecting to Daxing District. The number of Beijing subway lines increased from two in 2001 to eight in 2010 (Appendix: Figure 16). To increase ridership, the municipal government put price controls over subway tickets, which ceased in January 2015.

Public Open Space and the Reuse of Venues

The construction of the Olympic venues brought public open space that was missing to the neighborhood (Figure 17). The Olympic Green is designed with a 50-meters (164-feet) wide open space from the south end to the north end of the site, symbolizing Beijing's central axis (Beijing 2008 International Competition for Landscaping of Forest Park and Central Zone in Olympic Green 2004). With an enormous scale, the 1.3-kilometer (0.8-mile) axis is both beneficial and problematic.

Figure 17. The south-north open space
Photographed by the author



The benefit is the provision of huge public open space in the center of the city. Most of the surrounding neighborhoods are poorly supplied with open space, which makes the Olympic Green especially valuable. Within a 5-kilometer (3.1-mile) distance to the east lives a population of 400,000 to 500,000, only a few of which has access to public sport facilities and green spaces (Wu 2006). The site instantly became popular among local residents and day-trippers who visit the convention center on-site and for sightseeing.

However, it has been argued that the design is out-of-scale, greatly retarding visitors from enjoying the open space. "... The scale is massive. You can hardly walk from one end to the other with comfort." Said Mr. Sun. Along the central axis street furniture such as public seats is insufficient, making it even more difficult for pedestrians to walk around. According to *Beijing 2008 International Competition for Landscaping of Forest Park and Central Zone in Olympic Green*, the scale was decided by the estimated amount of visitors in 2008; after the Olympics the open space could be used to stage mega-performances. Human-scale planning and design was absent from the beginning.

Another legacy is the venues. Beijing Olympics utilized 37 stadiums, 31 of which are located in the city. Except for Wukesong Baseball Stadium that was demolished, Laoshan Bicycle Moto Cross (BMX) Venue and Chaoyang Park Beach Volleyball Ground that were abandoned and await future disposal, most of the stadiums are struggling with low usage rates and low-profit performance.

The National Stadium (the "Bird Nest") and the National Aquatic Center (the "Water Cube"), for example, gained sizable profits in the years following the Games from entrance fees paid by visitors. After 2010, however, these profits gradually became insignificant compared to the costs of maintenance and operation. The size of the stadiums prevents them from being rented for medium and small events because profits collected by small-to-medium size performance and sport events will not cover the high rental fee. The "Bird Nest" hosts annual recreational sport event, the "Bird Nest" Snow Festival (Figure 18), and occasional

concerts and performances, but it is far from being profitable. All events the stadiums stage are short-term events that barely generate long-term, stable cash flows (Shen 2014).

Figure 18. The annual “Bird Nest” Snow Festival

Photographed by the author



Conclusion

The Beijing 2008 Olympics was planned to enhance and address the city's master plan, accelerating urban development of its metropolitan area. However, it may not have much impact on the city's urban development- Beijing was heading toward it anyway, with or without the Olympics. The 2008 Olympic legacies are the most beneficial to the city but less so to the local community, as the mega-event failed to site the venues in the area that most requires economic incentives from the government. The planning process excluded public participation, with the Municipal Planning Commission as the only player. Another problem caused in the planning process is the out-of-scale superblocks with new uses that do not necessarily target at local residents.

The site is troubled by post-Olympic effect: the under-performing of on-site retailers and the stagnated local businesses. Despite that the surrounding franchised businesses were thriving, on-site commercial spaces are having a difficulty recruiting tenants. Local businesses owners in the surrounding neighborhoods are not able to reach out to the growing population of day-trippers and tourists.

On-site transportation infrastructure was largely improved, but does not necessarily benefit the local residents. A road network that is supposed to alleviate the traffic pressure of the arterial road nearby is closed to private vehicles, leaving the traffic condition around the Olympic Green not much better than before 2008. The greatest improvement is the construction of subway lines that connect districts of the city and regional transport hubs. But it may not be solely related to the Olympics because the city was pushing forward public transportation agenda since the late 1990s.

The massive scale of open space and the low usage rates of stadiums are problematic although the site provided valuable open space in the busy central city. An unfriendly walking environment and lack of street furniture prevents pedestrians from enjoying the site comfortably.

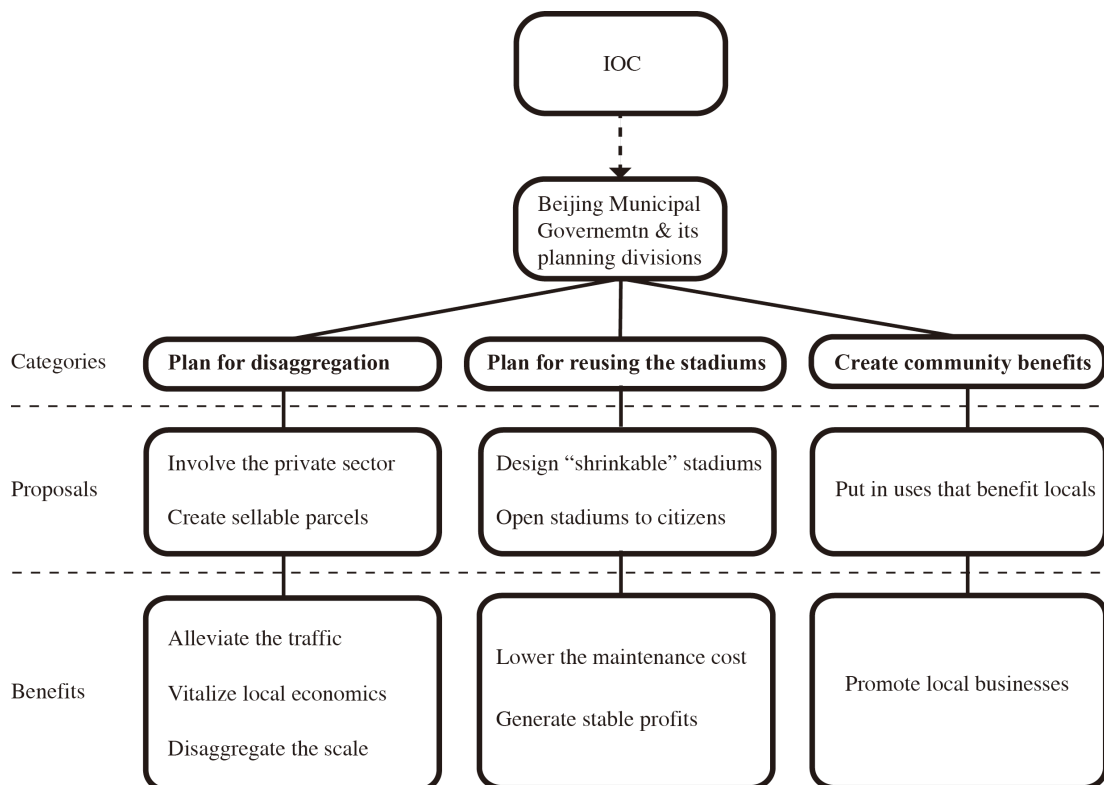
Potential Recommendations

It is highly recommended that, during the application phase, the IOC should emphasize the post-Olympic agenda by pushing candidate cities to come up with feasible post-Olympic

plans. The IOC could organize short-term and long-term analysis reports on previous host cities, which could be 2 years and 5 years after the Games. Keeping records of past hosts' post-Olympic performance informs the IOC and future candidates of good practices, thus alleviating the impacts and maximizing the benefits brought about by the mega-event.

In the case of Beijing 2008 Olympics, the Municipal Planning Commission was majorly responsible for the planning. Due to the highly centralized planning power, suggestions are proposed to the municipal government and its planning department. Recommendations are divided into three categories: plan for disaggregation, reusing the stadiums, and creating community benefits (Figure 19). The recommendations address the problems imposed by the 2008 Olympics and aim at promoting local benefits.

Figure 19. Possible suggestions to the municipal government of Beijing



Plan for Disaggregation

One of the problems of the 2008 Olympics planning is the superblocks that are completely out-of-context. Visually, there is a clear boundary between the Olympic site and surrounding neighborhoods with drastically contrasting looks of buildings. Physically, fenced against the adjacent neighborhoods, the Olympic Green forms a huge space that blocks the traffic, lacks locally beneficial functions (except for the open space) and does not provide a comfortable walking experience.

The municipal government should have planned for sellable parcels that could be sold to the private owners after the Games. Although it is argued by Mr. Sun from BIAD that the city occasionally needs vast open space for big events such as the installation of an art exhibition, the case is rare and the Bird Nest, with its surrounding spaces, can easily accommodate such events. The city could have planned the rest of the Olympic Green into parcels that could be taken apart when it does not need to be unnecessarily big. When the city no longer needs the space, the land entitlement of each individual parcel could be sold to private owners who could better cope with the market.

The benefits are obvious: selling unneeded parcels to the private sector helps with vitalizing the local economics. Looking back to the thriving franchised businesses around the venues and the highly vacant on-site commercial space owned by the public contractor, Inno-Olympic, selling the land entitlement to the private companies might help the site

generate more profits, thus increasing the local tax base. Due to the public ownership of the land, assigning private contractors could be difficult. As a temporary alternative, the Inno-Olympic could introduce public-private partnerships in operation of the parcels: the private sector runs the businesses while the Inno-Olympic owns the land entitlement and monitors the operation.

Another benefit is that, by disaggregating the site, the scale of the space is downsized and the impacts of the massiveness can therefore be dismissed. To preserve a reasonable portion of open space on each parcel, the city could require that each private buyer retain certain areas as desirable public open space and add properly designed street furniture. Provision of seats is highly recommended. For the open space in the southern portion near Bird Nest, where massive scale might be useful, more uses could be added to the empty open spaces such as weekly local farm market.

Smaller scale spaces with properly installed street furniture could also enhance walkability on-site and around the Olympic Green, which could benefit the local businesses. Poor pedestrian environment hinders visitors from going off-site, thus constraining all benefits on-site. A friendly walking environment could introduce visitors to the surrounding neighborhoods, encouraging them to spend money on locally owned businesses.

Sidewalks should be integrated into a network instead of scattered around the site. Medians and safe islands in the middle of the roads should be implemented in a friendlier manner (for example: providing street furniture). In addition, the intersections could have

shorter intervals between red and green lights, making it easier for pedestrians to cross. This may result in slower traffic flows, thus should be considered together with alleviation of the traffic by opening more roads to private vehicles.

Finally, disaggregation of land parcels alleviates the traffic pressure. The Olympic Green is currently fenced against private vehicles. The on-site roads are planned to be integrated into the city's street grid but have not been opened yet for security reasons. If the Olympic Green was planned to be taken apart after 2008, the on-site roads could welcome private vehicles, alleviating the traffic on arterial roads surrounding the site. The opening-up could be in phases, accompanying the purchase of land parcels. The city could also open up the aboveground collecting roads in early phases and the underground circuit in later phases.

Plan for Reusing the Stadiums

The current venues are having difficulty living on the incomes from entrance fees and big event rental fees. The stadiums are either too big to be used by small and medium events or too “nationalized” to stage local sport games. Lack of long-term users leaves the stadium in a tough situation where they cannot find stable income sources that support the high maintenance and operation expenses.

There are two ways to ease the financial pressure: one is to design the stadiums as “shrinkable”; the other one is to open stadiums to citizens. A “shrinkable” stadium is one that can be partly demolished after serving its purpose. The Bird Nest could accommodate as

many as 100,000 people during the Beijing Olympics and 80,000 after the Games. The stadium has been rarely full since 2008. If, during the planning phases, the city could have applied a design that enabled the stadiums to downscale itself, it could largely reduce the maintenance and operational expenses, therefore minimizing the rental fees. It would not only cut down costs but also welcome more users when they are not intimidated by the high rental fees.

The stadiums could be used for various activities. If open to local residents, the spaces inside stadiums could be used for sport and recreational purposes such as community meetings and small-scale local art performances. The city can sign long-term contracts with local communities and private groups to cover the expenses. The stadiums are envisioned as national level sport facilities, which prevent them from being rented by city and region sport teams. However, if the stadiums could be used for local and regional sport events, it could considerably increase the usage rates and financial profits. The stadiums could be self-sufficient by introducing local users.

Create Community Benefits

The city could have planned for uses that could bring more benefit to the local residents. The China National Convention Center and the Confucius Education Center under construction mainly attract day-trippers. The National Convention Center is not open to local users, who live in the neighboring residential area and could visit the site most frequently.

Instead of merely introducing large-scale institutional and commercial uses, the Municipal Planning Commission could have mixed them with small retailing spaces and sport facilities that are more desired by the local residents.

Another way of creating community benefits, and probably a more efficient way, is leave the negotiation to private buyers of land parcels and local residents. Instead of being the decision maker, the city's (and its planners) role becomes a provider of a platform where the private sector and the local residents together work out a community benefit agreement that decides what are the givebacks and what uses the residents desire. Planners, and the Beijing municipal government should offer consulting services to local residents, encouraging their efforts to strengthen local businesses and inspiring them of innovative ways to do so.

Appendix

Figure 1. Location of Beijing 2008 Olympics Venues

Source: Sasaki Architects:

<http://www.sasaki.com/project/96/2008-beijing-olympics/>

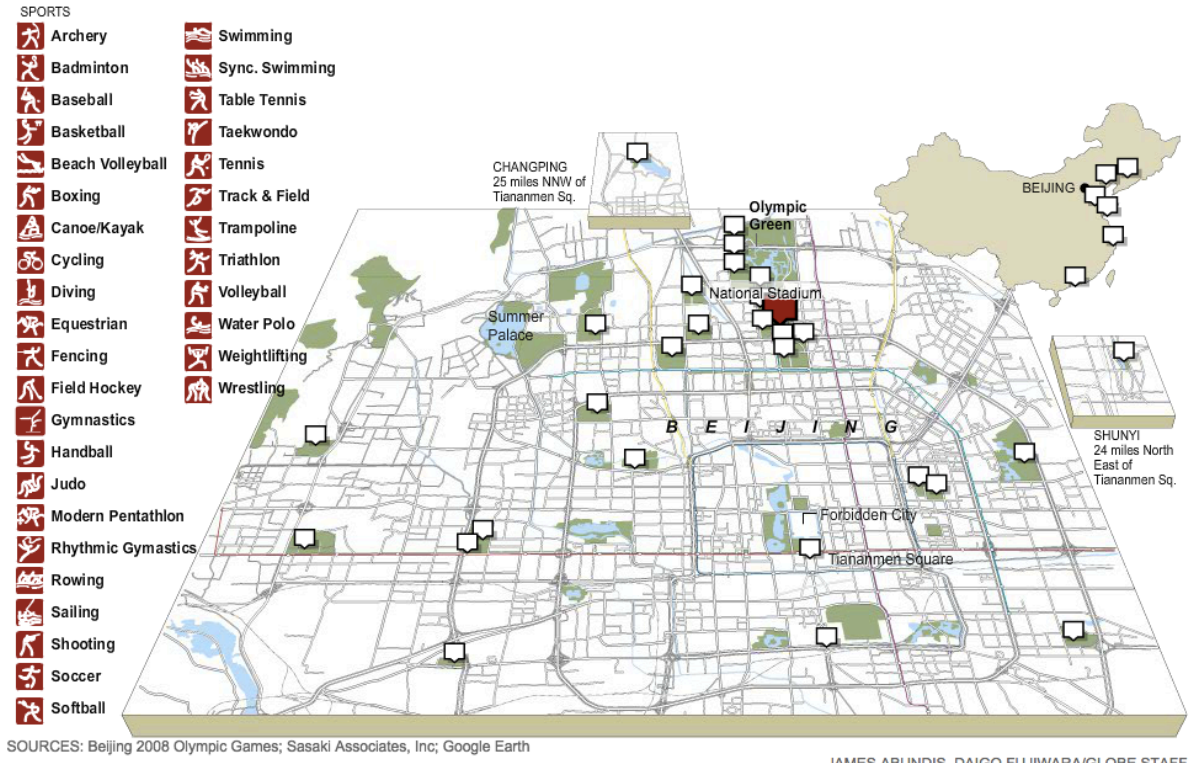


Figure 2. Beijing administration districts and potential sites for the 2008 Olympics



Figure 3. Land use map of Chaoyang District and the planned commercial centers
Source: the Beijing Master Plan: land use map of central city (2004-2020)

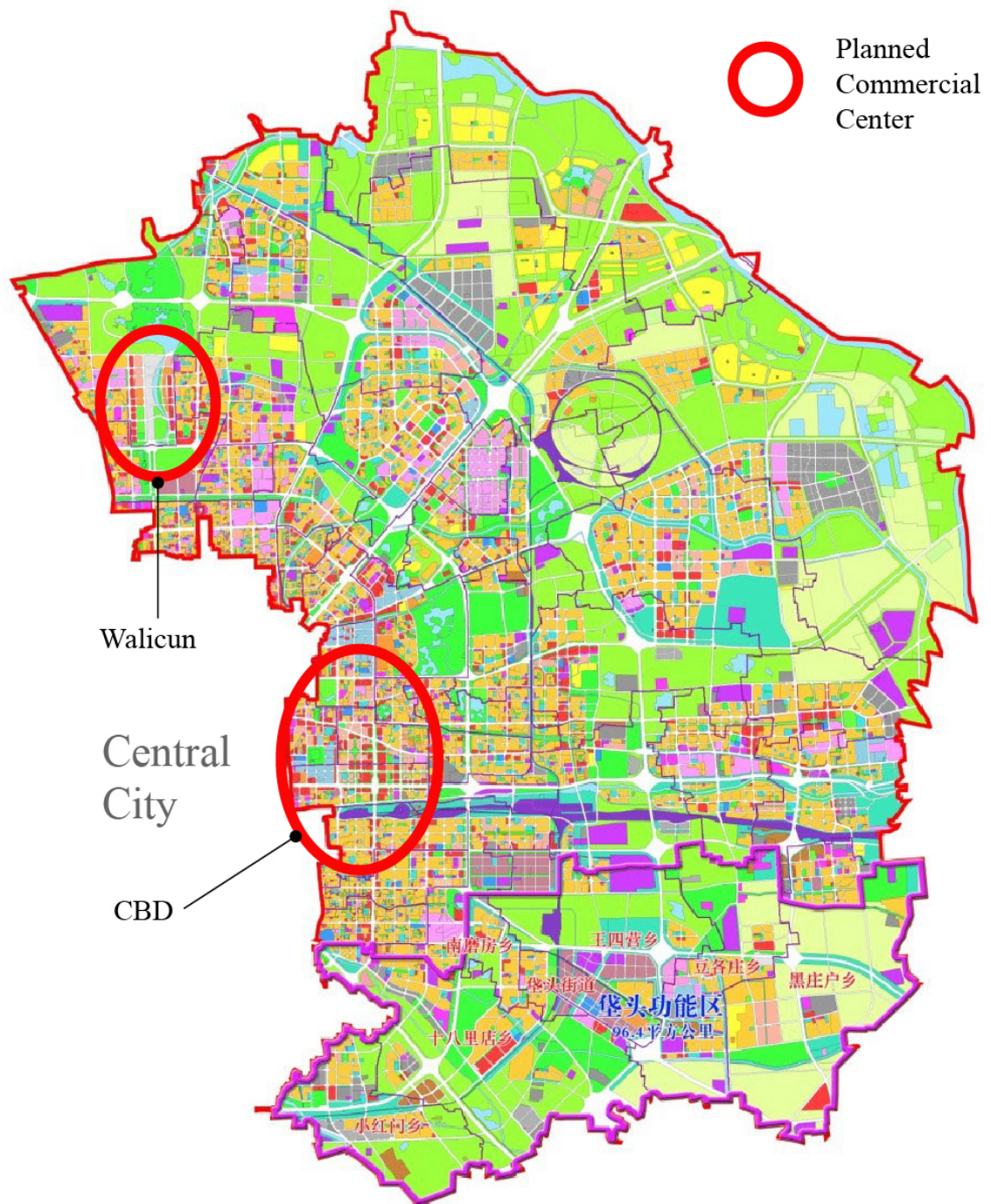


Figure 5. Beijing-Tianji-Hebei Urban Development Corridor

Source: China Regional Economics:

<http://www.cre.org.cn/index.php?m=content&c=index&a=show&catid=40&id=613>

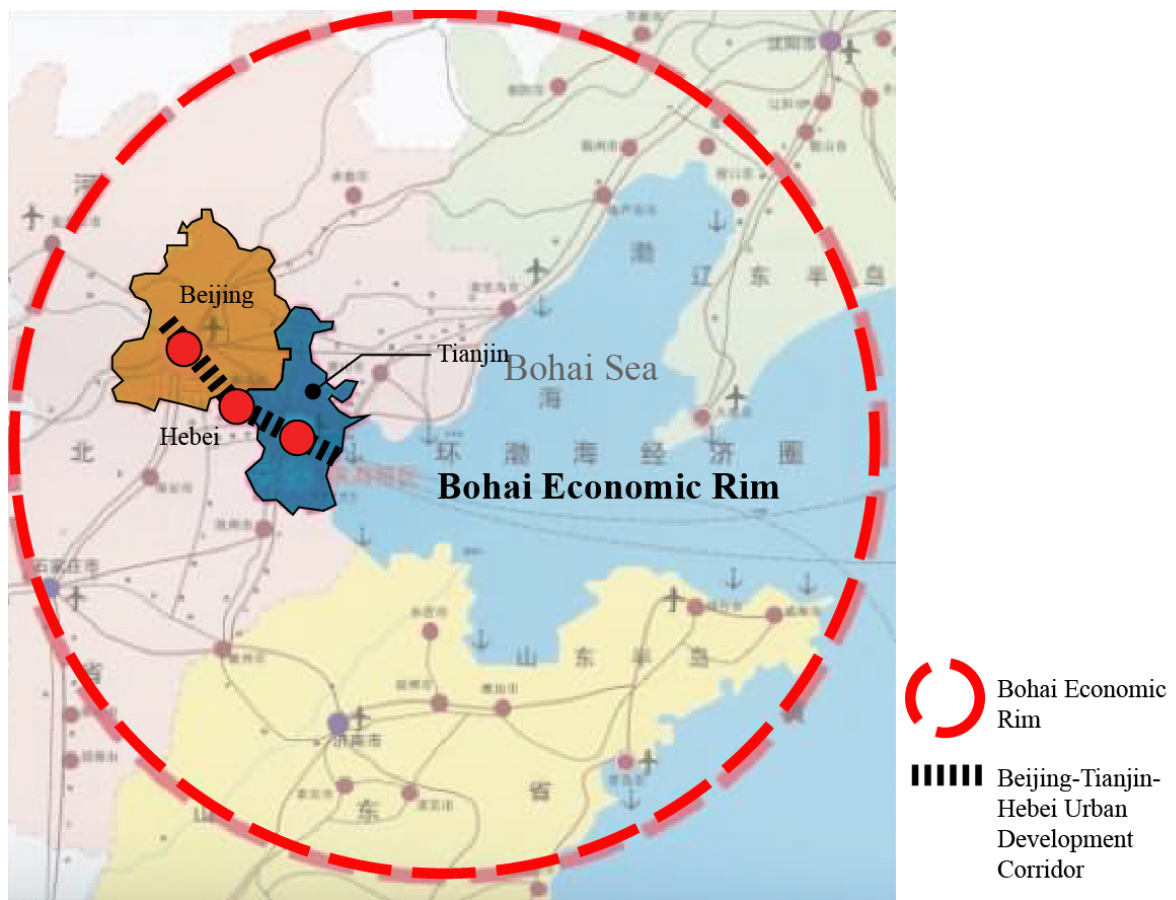


Figure 6. Land use map of Walicun (2001)

Data source: Google Earth

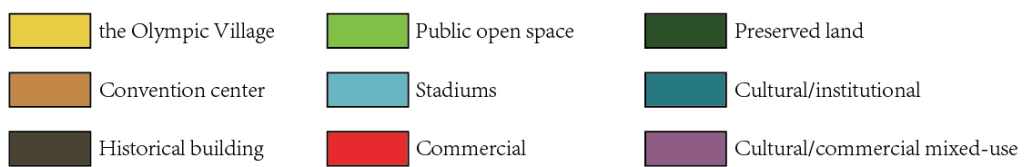


Figure 7. Land use map of the Olympic Green (2014)

Data source: Beijing 2008 International Competition for Landscaping of Forest Park and Central Zone in Olympic Green, Google Earth.



Figure 8. Site plan of the Olympic Green (by Sasaki Architects)

Source: Sasaki Architects:

<http://www.sasaki.com/project/96/2008-beijing-olympics/>



Figure 14. Beijing subway lines (2001)

Data source: Beijing subway official site: bjsubway.com

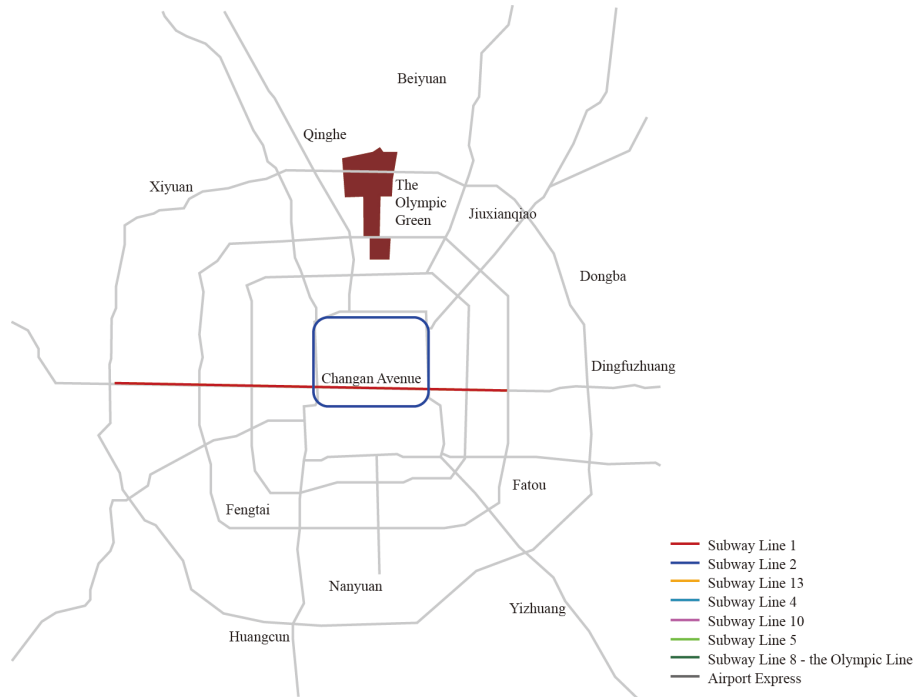
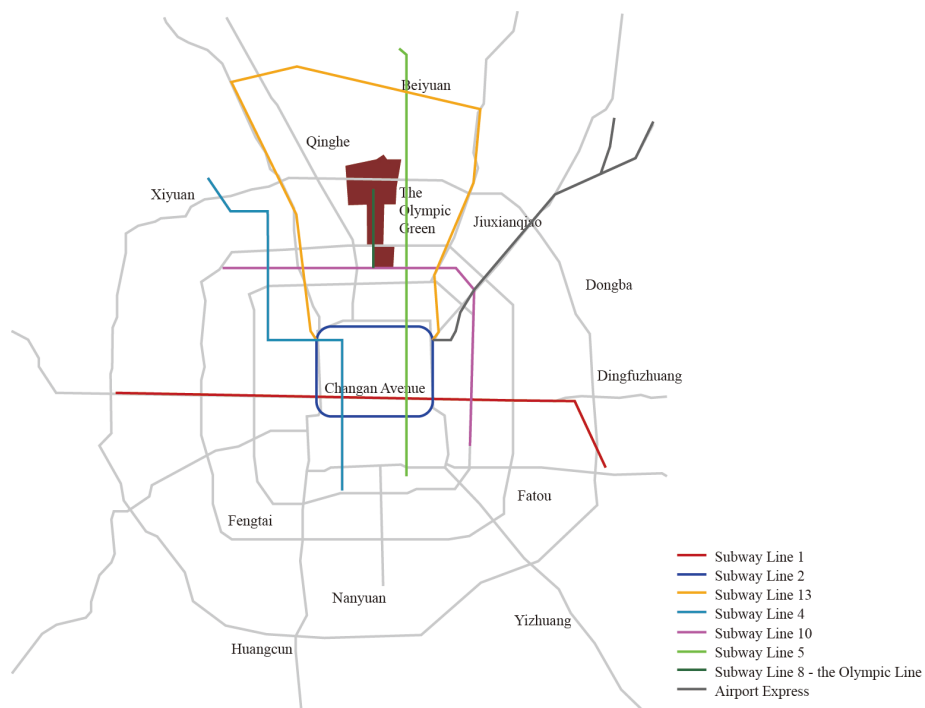


Figure 16. Beijing subway lines (2010)

Data source: Beijing subway official site: bjsubway.com



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