

# The Analysis of Transforming Heavy Industrial District to Tourism

## Destination: A Case Study

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### 1. Introduction

In the framework of sustainable development, how does a formerly manufacturing dominated city restructure its industry and towards what direction? This question is often asked in China. The practice is extremely different across the country due to geographical and unbalanced development. This study focuses on the district of Shijingshan, a big contributor to both air pollution and industrial GDP of Beijing. When talking about Shijingshan, people often think of the large steel plant and the Babaoshan cemetery. The former is a complex of steel plant, power plant, machinery, and construction materials and stretches up to 5 km long and two 2 km wide. The latter is a selected cemetery for the central government to condole veterans of former revolutionary battles. The main so-called tourists to the district are peoples who offer sacrifices at and come to the ancestral tomb on the day of Pure Brightness, the 5<sup>th</sup> of 24 solar terms per year, the traditionally observed Chinese festival for worshipping the ancestral grave. The Shijingshan Recreation Center's completion attracted some kids and their accompanying parents to spend some time there. The complex of steel plant combined with power generators and other machineries contribute much to air pollution to the whole city and subsequently greenhouse effect in central Beijing and a long ignored area of economic development other than iron and steel.

With the rapid urbanization and globalization trend of the world, challenges emerged to both officials and local people. Some policies on restructuring of steel products and turning them into other products have been evolved, yet it takes a long way for the manufacturing to turn to other directions and gain ground. In the past, some debate on relocating the plant aiming at pollution alleviation. The residents in this area, even all of the citizen in Beijing, do hope that the situation will change rapidly. But it is difficult for the government to make the decision on relocating such a large plant complex.

Local government recently proposed to strategically shift from manufacturing dominated area to a tourism and leisure area. The authors were asked to join the expert team to examine the shift and give suggestion at both the policy and the practical level. This reminds us to borrow experiences of the successful turning of Pittsburgh from a manufacturing dominated city to an Eco-environment. The mayor and his friends in trade and commerce had developed a very clear eco-vision and played leading roles in the transformation process. For Shijingshan the way may be different, but the goal and vision are absolutely the same. Before any action there

should be a clear idea on what to do and how to do it and where to start the transformation. According to the Tourism Administration Agency of Shijingshan, the local government set it on the agenda to change this district from a manufacturing dominated district into an Eco-city as early as in 1984. However, no significant change observed until recently. Rethinking of the strategy came from the uprising of tourism booming across China since the adoption of long holiday arrangements, which are considered golden weeks by the tourism agencies. Now something has indeed changed. The steel plant complex begins setting up programs to show the history or the process of steel making and related items. Weekend travel this district starts to increase compare to the past. What lies in the way to the strategic shift and how to achieve it need a holistic study.

## 2. Study area and background

### 2.1 Geographic location

Shijingshan, one of the total eighteen districts, lies in the western part of central Beijing (Figure 1), the capital of Peoples' Republic of China. It is 16 km away from Tiananmen Square and situates in the western end of Changan Avenue, the longest street in the world. It covers an area of 86 km<sup>2</sup> with 64% as plain and 36% mountains. To the north and west there lies green bank of Beijing as a tourist resort along a range of Taihang Mountain. To the southwest there flows Yongding River that had ever been a source of water supply to the capital and now a drainage course from upper reaches and the boundaries to Hebei Province. To the north and east there is Haidian district, the soaring fly area in science, technology and

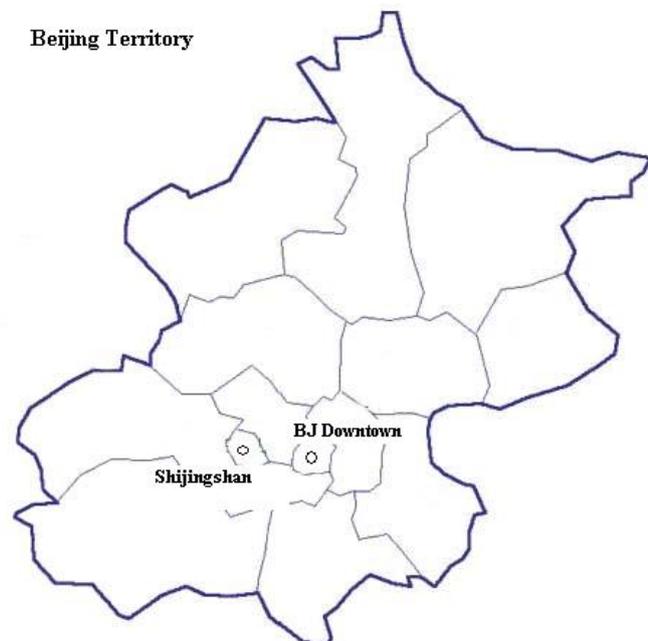


Figure 1 Location of Shijingshan District in Beijing Territory

education. To the west there lies the Mentougou district and the south Fengtai district.

### 2.2 Demographic situation

The total population in Shijingshan is 489,400 (the Fifth National Census, 2001), of which one third are migrants from across China. The population annual increment rate is 4.6% based on that in 1990 when the Fourth National Census was carried out. The sex ratio (percentage of total number of male divided by number of female) of the district in 2001 is 113.6. Among the total population, 97% are Chinese and 3% are forty minorities with Manchu as the largest. The population under 14 years old is 12% of the total, while the 65 years old above counts for 7.7%. The proportion of those who receive higher education in population is 18% and illiteracy (the people of 15 years old and above do not know any words or feel difficulty to read any

printed materials) rate is 4%.

There are 153,200 registered households in the district that are grouped into eight communities. There is also a community about 29,000 people in Qianan, a county of Tangshan city in Hebei province, where people are working in mining and selecting iron ore for the capital steel complex.

### 2.3 The Industries

As mentioned earlier, the main industry of Shijingshan is state-owned manufacturing such as steel, power generation, heating oven, machinery, cement and other building materials (Table 1).

**Table 1 Main enterprises located in Shijingshan District**

	Name	Funding date	Land area m <sup>2</sup>	Building area m <sup>2</sup>
1	Ruida Systematic Equipment Ltd.	1965	160000	80000
2	China Machinery and Equipment Ltd.	1975	45930	42545
3	Beijing Large Engine Company	1963	1510000	13000*
4	Steel Machinery Group	1958	850000	364500
5	Gas Buffer Company	1981	55334	5943
6	High Pressure Utilities Corp.	1980	20000	4220
7	Capital Steel Construction Company	1964	178788	220000
8	Beijing Boiler Plant	1958	220000	980000
9	The 2 <sup>nd</sup> Cement Pipe Corp.	1970	175000	59000
10	Beijing Beverage Ltd.	1975	9300	5600
11	Capital Steel Group	1919	10290000	1644000
12	The 2 <sup>nd</sup> Steel Refinery	1985	403200	78575
13	Special Steel Company	1958	1750000	690000
14	Daily Utilities Supply Corp.	1981	25000	13000
15	Electric Engine Plant	1960	122000	39000
16	The No. 7213 Plant	1951	520000	105000
17	Modern Building Materials Corp.	1970	210000	57000
18	Woolen Weaving Ltd.	1976	4500	3900
19	Beijing Spring Plant	1958	156000	11670

Source: Beijing Chronicle History

These industries occupy 16% of total land available in the district (Duan Bingren et al., 2001). There are 250 coal-firing boilers with a capacity over 1.4 megawatt and 111 kilns of all kinds that contribute much to the dark dust floating in the air of Beijing as supports for the steel plant.

A science and technology park is set up to attract the location of high-tech companies on microelectronics. Recently an energy saving appliances demonstration base was established. Cooperation with universities and research institutes, such as the Graduate School of China Academy of Sciences, located in this district not only fostered the transfer of technology but also contributed to boom local service industry. Commercial and retailing are fields that the local government attaches much importance to in order to boom economy and employ more people than others. Private enterprises, encouraged by lifting restriction on setting-up and management, amount to one third of the total companies resided in this district now (Duan Bingren et al. 2001).

#### **2.4 The cultural resources**

This district is famous for its Buddhist resorts embracing some ancient temples such as Lingguang Temple, Zhengguo Temple and Xiangjie Temple etc. Badachu itself contains three mountains, 8 temples, 12 scenic spots and 27 villas. The three mountains enclose a layout in the light of Fengshui theory that is regarded concert with Chinese the traditional settlement planning rule. The 8 temples on the three mountains symbolize the glory of Buddhism here in the past. Actually, the temples can be dated back to Sui Dynasty (586-618 A.D.), and 43 temples were built since then according to documents. Till Ming Dynasty (1368-1644 A.D.) only 8 temples were left. The world famous temple is Lingguang Temple, where one teeth of Sakyamuni, the funder of Buddhism (565 B.C.-486 B.C.), is kept and worshipped since the Liao Dynasty (907-1125 A.D.). The 18 arhats of Chinese Buddhism kept by the temple are the only precious relics in Beijing. Twenty-seven villas, in fact 34 originally, were built in the Republic of China (1912-1949 A.D.). A Daoism temple was also left in this district that indicates all strands of religion that ever boomed here. Some high quality stone inscription left there now attracted scholars to study calligraphy and the style of culture. The abundance of culture reserve is not aware by the citizens let alone travelers from outside Beijing. Some historical persons like Zhang Jiushi, Premier of Yuan Dynasty, were buried at the foot of the mountains, and so were the relatives of the emperor of Ming Dynasty, which is symbolized by temples or other buildings.

The cemetery for contemporary veterans is also a benchmark of this area. Babaoshan Revolutionary Cemetery was chosen by the central government as an ideal place to memorize past contributors for revolution of People's Republic of China (PRC). Since the establishment of PRC, veterans dying in revolutionary battles and passed away high rank officials find their permanent place to enjoy their quiet life. The surroundings are mainly trees and grass growing on hills up and down and form a very beautiful place.

### **3. Driving forces for transform**

If looking up in dictionaries, we may find that there are two words end up with "ealth", i.e. health and wealth. Examining the history of human life, we may happen to find that only the two words, health and wealth, represent the long lasting pursuing of the human kind. Life is depended on how to balance the two sides. However, it takes a long time and huge suffers to realize it and to start doing something on it as in this case.

#### **3.1 Economic aspect**

For the people in Shijingshan, even for the people in Beijing as a whole, they have no choice

but suffer from the past. The steel industry in Shijingshan began in the early of 20th century when the Republic of China needed weapon making for the wars. The People's Republic of China just continued the industry, and enlarged it furthermore to the biggest iron and steel plant in the whole mainland after taking over. Mao Ze-dong ever showed his proud to see the hot melting iron poured down with bright red light and forest of chimneys in poem. At that time even till now the plant is state owned enterprise. Before the contract taxation of central and local governments, residents live in Shijingshan can only 'enjoy' the air pollution but no economic benefits. After the contract taxation the local agencies and the state owned enterprises began cooperation. With the rapid economic development of the whole China, wealth of citizens in Shijingshan is increasing. With the wealth accumulating, the residents realize that the dust comes from the plants and the dirty air drifting above in the sky would endanger their health, let alone the economic is not so strong compare to other parts of Beijing.

From Table 2 we may conclude that the economy of Shijingshan is far behind the average of Beijing. The permanent population in Shijingshan is about 2.82% of the total in Beijing, while the GDP is only 0.58% of those of the capital. Although the GDP annual increasing rate is approximately 3% higher than the capital as a whole, the income increment is about 15%

**Table 2 Index comparison of Shijingshan to Beijing**

	Beijing			Shijingshan			Shijingshan/ Beijing
	2000	1999	2000/1999	2000	1999	2000/1999	2000
Population (millions)	11.70 <sup>*</sup>	11.00	106.4%	0.33 <sup>*</sup>	0.32	103.1%	2.82%
GDP (billion Yuan)	247.88	217.45	114.0%	1.44	1.23	116.8%	0.58%
revenue (billion Yuan)	39.84	32.04	124.3%	0.60	0.55	109.1%	1.51%
Expenditure (billion Yuan)	49.03	39.85	123.0%	0.74	0.59	125.4%	1.51%
Agricultural labor (million)	729000	745000	97.3%	7007	7638	91.7%	0.75%
Green coverage	36.50%	36.30%	101.0%	38.80%	-		
Arable land				376.1	396.1	95.0%	

Sources: <http://www.bjstats.gov.cn/xxcx/qxxf.qxxf-201.htm>

<http://www.bjstats.gov.cn/tjyl/tjgb/200209290007.htm>

Beijing Almanac (2001)

slower than the average of Beijing. The contribution of the local revenue to the whole city is 1.51%, nearly half of the proportion of population, which is 2.82% of the whole Beijing. In 2001, according to Beijing Tourism Administration Bureau, Beijing's total revenue from tourism was 113.33 billion RMB Yuan, 30.71% increase than the year before. In the same year, released by the Tourism Administration Agency of Shijingshan, the tourism revenue of Shijingshan district was 0.39 billion RMB Yuan, 13.5% increase than the year before, almost half of the increasing rate of the total Beijing. So the local officials carry a heavy burden on their

shoulders and are eager for local economy booming.

### **3.2 Preparing for the Olympic Games**

Large events are playing important roles to foster local economy and environment protection. The successful winning the bid for the 29<sup>th</sup> Olympic Games in 2008 is just a trigger to the practical shift of overall strategy in Shijingshan district. The game is pronounced to be a green game. A sub-center of the basketball sports game was selected to site in this district, which enables the officials and residents to cut out a place to flourish local economy and protect environment as well.

Amongst others the above two main elements are the driving forces to ignite the transformation, during which to balance wealth and health development.

## **4. Feasibilities of the transformation**

Although the Shijingshan district is dominated by manufacturing industry, the shift is thought possible by gradually restructuring of industries including the introduction of high-tech industry, tourism, and other tertiary industries, especially with the events that are different from others.

### **4.1 High-tech industry**

A high-tech park has been set up to attract investors residing in the district and did have gotten some achievements such as the establishment of Northern Microelectronic Base. Restructuring of the capital steel plant per se will evolve some high-tech enterprises while promoting the shift. Actually, the capital steel group has turned to new products other than steel, for example, robot man design for high risk operation. Cooperation with the graduate school of China Academy of Sciences will lead to a brighter future as long as basic facilities mechanism is available. At present, there are 35 high-tech enterprises identified and appraised in the district. Although the research is carried out in the steel complex paralleling with the local forces, cooperation between them needs just a bridge.

### **4.2 Tourism**

Tourism is just on the high peak of China. So does it in Shijingshan district. With many people rush to resorts across China during Golden Week, a long holiday in China starting two years ago, some people prefer staying not far away from home to avoid traffic jams and scenic spots crowding. The Beijingers find Shijingshan, Yanqing, or Mentougou as ideal places to play with friends or family. They usually spend tow days out practicing farming with their kids and preparing food as traditional farmers did. Shijingshan has 58 villages that could be converted to typical farmland where city residents like to practice farming and enjoy nature instead of urbanizing it. Urbanization made the countryside and nature more valuable.

The steel plant has also transformed some workshops into museums showing the history of ore mining and selecting, iron and steel making, or flowcharts of the whole system of steel production. Some used to be dust dumping hills are afforested turning into gardens to let tourist relax in. Some special chambers could be made to allow tourist observing real producing flow diagram over glass.

Statistics show that Shijingshan has the highest green coverage rate and green area per capita. It has a rich culture bank as detailed above, abundance of folk arts and legends that will leave deep impression to tourists by experiencing Ming and Qing Dynasties relics and folk

tales. The culture remains of Buddhism make it closer of religious people came from over the world. All these could capture tourist's eyeballs and get extraordinary experiences.

#### **4.3 Transportation network**

Convenient transportation is very important for tourism, ad hoc the public transit. Shijingshan is the first district in Beijing to be connected with metro system to the center of downtown. The tourism boomed recently albeit, the metro system's contribution to housing and real estate is hard to ignore. Almost all the housing developed in this district was sold out. Traffic convenience and fast transit are two fundamentals for tourists. The more alternatives the district offers, the more choices the tourists make to secure speed and convenience. Two railway lines go through this district to the west provinces beyond and the fifth loop line expressway of Beijing cuts through the east part of the district. The main road from Fucheng Gate, a traditional port as part of city wall from Ming Dynasty, to Shijingshan goes west into the plant of Capital Steel Group keeping abreast with the western prolonged Changan Avenue.

### **5. Some debates**

Debates on the transformation were seeing fierce during a development forum recently held in Shijingshan. Main focuses could be summarized as three streams: project or process, renovate or reserve, resources or restrict.

#### **5.1 Project or process**

Most of the officials and some experts thought that the transformation is a project that needs lots of money. Greening, museums, attraction sites all need money to build for tourism. Infrastructure provision and updating for both production and living need investment. Relocate the steel plant will involve redevelopment of both underground facilities and surface utilities. To establish the tourism route money is needed to decorate the sites or even rebuild the tombs and temples. Some people think that green relax need high quality hotels to accommodate tourists from far. This group of people is more likely inclined to set up projects to deal with the transformation.

Nonetheless some others envisioned the transformation as a process in an opposite way to project. It indeed needs more investment to upgrade infrastructures for tourism convenience, but some other projects need not money but ideas. For example, the museum of iron and steel could be transformed from a workshop with little investment. Take the process to culture ideas can save more money than expected. The very popular turf grass in Beijing is witnessed wide spread. However, more and more experts advocate replacing them with natural grown local species. In Haidian district there is a Bai Stone Bridge at the south end of Zhongguancun High-tech Park. There used to be a two-lane road from the bridge to Peking University. Alongside the road and between the two lanes there were two lines of very tall poplars. Between the two lines of poplars strong wild grass was growing. Riding under the poplars and alongside the wild grass, the stress from work melted into nature. The feelings can only be recalled from memory now. All the poplars were cut off in an early morning in the name of upgrading drainage and widening street when most of citizens were still asleep. Although cutting off the poplars had aroused much debate among citizens, officials and academics, rooting up the natural grass went without any attention.

If the way to build roads and planting grass is changed, more money will be saved and more ecological assets reserved. It is a common sense more money is needed to nurse planted grass than keeping wild one. Planting trees also confront misunderstanding like favoring imported species rather than local species. So the transformation to some extent is a project that needs more money, but it is rather a process of idea change.

The green Olympic Games will promote the strategic change from both spiritual level and financing side. Some of the 180 billion RMB Yuan investment could be in Shijingshan with the sports sub-center and the cleaning of air and water in this district. Some experts hope that this money could help the district more than it arithmetically worth.

### **5.2 Renovate or reserve**

Situation is the same to culture relics unveil. The above mentioned culture site is only a handful of the deposit in this district. Some experts and officials are very excited to know the abundance of culture relics and suggest rebuild the architecture and restore the old neighborhoods that need much money. Others prefer to keep them as they were, vividly reflecting the historical events with time chain. They believe that modern human being can never restore the heritages to the original. Not all the experts attending the forum know about the tombs scattering in the foot of the three mountains, let alone to restore them into exactly the old times it originated.

### **5.3 Resources or restrict**

Whether the tomb is a kind of culture resources or a restriction to the district is another hot topic. Traditional Chinese believes set the dead and the alive clearly opposite. In the night people avoid talking about dead people or things relating to death because they are afraid. If, normally, one person goes into a graveyard alone, to make his hair stand on end is the common word to express his feeling. So in the daily life, people usually do not accept the popular western concept that the dead and the alive can live together peacefully.

But the fact is changing. With urbanization and urban sprawl, the past graveyards are changing to housing sites. People have no idea on whether there a dead person lays beneath his house or not. Moreover, some public graveyards are identified as parks with high coverage of trees and grass. Their beauty and fresh air attracts more and more people to relax there. If combined with paying tribute to some ancestors, the cemetery will be an ideal place for cultural and natural experiences. Shijingshan has the largest and the most famous cemetery in China, where Chinese veterans were buried and trees were planted upon them. In the traditional parts of Shijingshan, there are several layers of tombs of high rank officials in different dynasties alongside the foot of the three mountains. These are both cultural and natural masterpieces that are essential for tourism. But it will take a long time to get popular at present for the alive to get along with the very near recent death. Pull off the wall between the dead and the alive will be harder than that between the artificial and the wild.

## **6. Further studies**

This is only a primary summary of the basis for the transformation for the Shijingshan district. A holistic approach is needed to involve a large-scale survey to identify entities of local, municipality, central government, global actors, and local residents and their reconciles rendering to harmony of nature and the human well-beings. Ecological impacts of the nearly

hundred years iron and steel plant onto the district, for example, needs more detailed study to understand the ecosystem. The analysis of material flow and identification of economic benefit with the ecological assets need to be carried out once funding available.

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