CHINA

INFRASTRUCTURE INFLUENCES LOCATION DECISIONS

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China has experienced a building boom in key infrastructure over the past two decades in everything from airports and high-speed rail to hospitals and housing.

Some credit China with leading the largest infrastructure build-out initiative in the world. In some cases, entire neighborhoods have seemed to materialize almost overnight.

The country has clearly come a long way with the biggest expenditures having been devoted to improving roads, power, rail and the country's water supply. That development is shaping growth patterns throughout the country and influencing location decisions for both national and multinational firms. To date, the focus of much of that infrastructure investment has been on coastal cities. However, since the post-global financial crisis stimulus in 2009, inland areas are beginning to get a bigger share of that infrastructure investment.

"When you travel to these cities, the hardware is really amazing in terms of the new airports, highways, buildings and subways," says Michael Klibaner, head of research for Greater China at JLL in Hong Kong. Although the investment in infrastructure has been both substantial and fast moving by Western standards, it has certainly not happened overnight. It has been a process that has been ongoing for years. Between 1992 and 2011, China invested about 8.5 percent of its GDP – hundreds of billions of dollars – on new infrastructure, according to a McKinsey & Company report.[1] That investment has brought needed advances, but there is still significant work needed to be done to match the standards of developed nations.

Beijing, for example, has seen ongoing improvement in infrastructure to accommodate its population of more than 20 million and its growing commercial center. In anticipation of hosting the 2008 summer Olympics, Beijing began investing heavily in its infrastructure more than a decade ago. The city has quadrupled the size of its subway system in the past 10 years to reach 456 km in 2013, according to a report by JLL. Beijing now claims one of the longest subway systems in the world for any one city. What is more notable is that about 280 km of that total opened after 2008, which highlights the government's ongoing efforts to improve the city's public transportation system. The current goal is to further expand Beijing's subway lines to more than 660 km by 2016, according to JLL.[2]

1. "Chinese Infrastructure: The Big Picture". Yougang Chen, Stefan Matziner, Jonathan Woetzel. McKinsey Quarterly. June 2013.
2. "Five Years after the Olympics". JLL. August 2013.

INFLUENCING SITE SELECTION

Developing infrastructure is a big topic for MNCs and nationals alike, because it influences a core issue for companies — location, location, location.

Basic infrastructure, whether it is reliability of the power grid or accessibility via planes, trains and automobiles, all influence those commercial real estate decisions for headquarters, manufacturing and R&D centers. Companies need to find locations with the necessary infrastructure. Areas where infrastructure is developing rapidly, and therefore fostering economic growth, also can be good for companies that are chasing new customers and new business.

Transportation infrastructure does play a role in corporate site selection decisions. Senior management in particular view ease of access as an important factor. Companies may need to choose a city with good accessibility to airports, as well as locating near airports that offer particular routes. For example, companies with a regional operation may need to locate near an airport that offers direct flights to Hong Kong or Singapore. Selecting locations for manufacturing facilities often requires companies to look at how transportation impacts logistics and supply chain management.

China's public transportation system, as well as traffic congestion, can impact where within a city a company might choose to locate. In some cities, it is not feasible to be outside of the downtown area. One exception is Shanghai, which has a very well developed metro system that has facilitated the development of high quality real estate outside of the CBD. The majority of the new grade A office stock in Shanghai is located in peripheral areas to the CBD. "These are really viable locations for big companies to locate, including multinationals, because there staff is able to get to the office. There is sufficient bus and subway access to these areas, and we have seen empirically that there is very little attrition when companies relocate out of the CBD. That wasn't possible five years ago," says Klibaner. "The build-out of that infrastructure certainly made these alternate locations very viable from a location perspective."

One of the new financial reforms that could influence future location decisions is the Free Trade Zone (FTZ). Shanghai officially launched the first mainland FTZ last fall. The district is aimed at freeing up key sectors of the Chinese economy from direct state control and allowing overseas companies greater access to China's domestic markets. The FTZ focuses specifically on a 29 sq km area along the eastern edge of the Pudong. On the surface, these market access opportunities appear to be a huge step forward. In fact, other cities are already following suit in their own bid for similar free trade zones. However, it is still unclear as to what the restrictions, rules and regulations will be for foreign companies operating in this area. So, while such FTZ's could represent opportunities for multinationals in the future, it remains to be seen as to the extent of the advantages and what industries might see the biggest benefits.[3]

3. "Shanghai Free Trade Zone: A Bold Work in Progress". Benesch Friedlander, Richard Gramps. Jan. 24, 2014. Lexology

IMPROVING TRANSPORTATION SYSTEMS

A key focus in China has been improving the transportation system to reduce travel times for both people and goods and create greater access between different regions of the country.

One high-profile effort is the rapid expansion of China's inter-city high speed rail system. Traffic in terms of ridership jumped from 250,000 in 2007 to 1.3 million in 2013. Trains run as often as every 15 minutes on the Shanghai-Nanjing line. There are nearly 9,000 km of operational lines, and that volume is expected to double by 2015, according to a McKinsey & Company report.[4]

The Shanghai-Beijing high speed rail line first opened in 2011 and is now a 4.5 to 5-hour trip, which is a competitive alternative to flying. An airline flight between the two cities is about two hours, not including added time traveling to the airport, arriving early for check-in and security and the possibility of flight delays. From Shanghai, people can now take high-speed trains to get to Hangzhou in 20 to 30 minutes or Nanjing in a little more than 1 hour. That has real benefits for companies, particularly for regional managers who have responsibilities for factories or operations in satellite cities and provincial capitals, says Klibaner. For example, going from Shanghai to Nanjing is now a viable day trip reducing travel time from 2.5 to 3 hours to a little more than 1 hour, he adds.

Different regions of the country are benefiting from that high-speed rail system. For example, there is now a high speed rail link from Guangzhou in South China to Changsha in Central China. Coastal areas such as Guangzhou have seen a significant increase in wages over the last five years due to government policy increasing minimum wages, industry growth and short supply

[6]

of labor. That has created a big labor arbitrage with Central China. The infrastructure development has enabled more and more cities in Central China to emerge as viable locations for manufacturing, and companies are now moving manufacturing facilities inland, notes Klibaner. An estimated 150 million people live along these metro lines in about 35 cities.[5]

That connectivity does facilitate economic development, but it is not going to have the same impact on every type of business. It is going to mean different things for manufacturing or a consumer goods or service company. "I do

4. "What Could Happen in China in 2014?" Gordon Orr. McKinsey & Company. January 2014.
5. "China's Next Chapter: The Infrastructure and Environmental Challenge". McKinsey & Company video. http://www.mckinsey.com/insights/asia-pacific/chinas_urbanization_imperative
6. China High Speed Rail Map, chinadiscovery.com

think that it can, in many cases, significantly increase the competitiveness of a given city. But that competitiveness is not necessarily going to have universal appeal," says Klibaner.

Most of the train stations that exist today in major metros such as London, Paris and New York have existed for 100 years. China is building numerous metro and train stations that in turn are fueling residential and commercial growth around these new transportation hubs. Shanghai is the perfect example, notes Helmut T. Weih, executive director, Global Corporate Services China for CBRE in Shanghai. The government has created the largest transportation hub in the country in the western Shanghai suburb of Hongqiao. The Shanghai Hongqiao Railway Station was built next to the Shanghai Hongqiao International Airport. The combined facility integrates train, plane, subway, city-bus, and long-distance bus. The former industrial area surrounding that transportation hub is emerging as a new city with significant residential and commercial growth, as well as a hospital, adds Weih.

Locating close to those transportation hubs has become very desirable. People can take a high speed train and in one or two hours be in a city that is 300 to 400 km away. "That is why I believe the train stations and the high-speed rail will drive a lot of real estate development in the future," says Weih. It is no surprise that the transit hubs are already attracting considerable growth. "You can already see how much the area has changed around these train stations," he says. Streets and metro lines are being built. Malls and commercial buildings also are being built in what is essentially new suburbs being created around these train stations.

Certainly, it is not all about transportation. Both national and multinational firms are emphasizing effective communications, which places a priority on high-speed and more reliable and cheaper fiber networks. In the wake of the global recession, companies are trying to reduce overhead by cutting occupancy costs, laying off employees, and freezing business travel. Instead of business travel, the emphasis is on IT communication via telecom, video-conference and webinars, says Johnny Gou, Real Estate, Corporate Services at China International Capital Corporation Limited (CICC) in Beijing. "It changes people's way of life and corporate culture. We still prefer a city center shinning buildings but we love effective communications more," he says.

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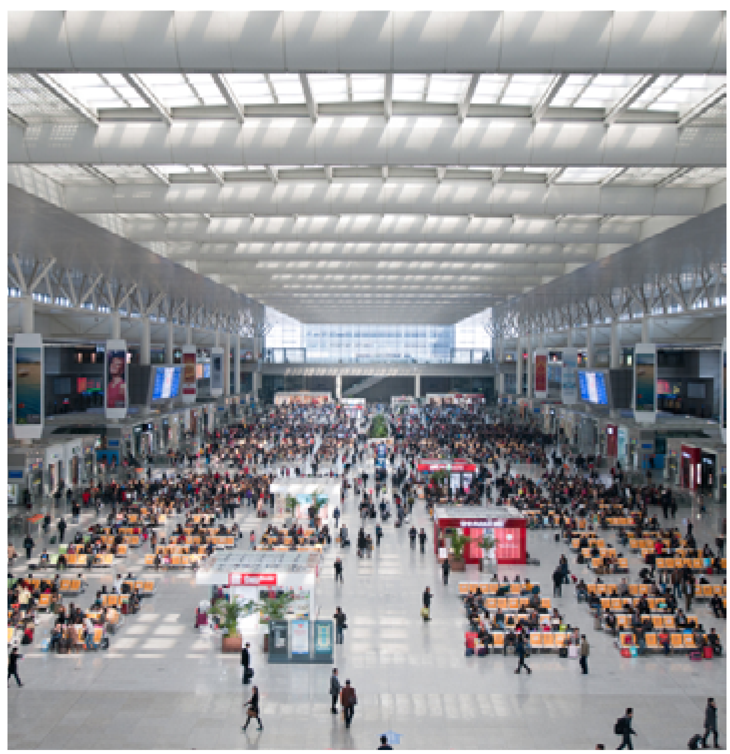

DEVELOPING CITIES

Improvements to the transportation infrastructure and greater connectivity are helping to fuel China's continued urbanization.

China's City Hierarchy[7]

- **Tier 1 (Core):**
  Beijing, Shanghai, Guangzhou, Shenzhen
- **Tier 1.5 (Transitional):**
  Chengdu, Chongqing, Shenyang, Hangzhou, Tianjin, Dalian, Wuhan, Suzhou, Nanjing
- **Tier 2 (Growth):**
  Qingdao, Xiamen, Xi'an, Ningbo, Changsha, Hefei, Zhengzhou, Wuxi, Dongguan, Jinan
- **Tier 3 (Emerging):**
  Fuzhou, Kunming, Changchun, Harbin, Foshan, Shijiazhuang, Nanning, Changzhou, Nanchang, Hohhot, Wenzhou, Yantai, Nantong
- **Tier 4 (Early Adopter):**
  Zhuhai, Guiyang, Taiyuan, Urumqi, Shaoxing, Zhongshan, Jiaxing, Weifang, Tangshan, Xuzhou, Jinhua, Quanzhou, Luoyang, Lanzhou, Haikou, Jilin, Xiangyang, Shantou

Three years ago, China passed the 50 percent mark of people who are living in cities versus living in the country. Right now, China is about 51 percent urbanized and will go up to about 65 percent, or 650 million people going to 1 billion, according to McKinsey & Company.

Certainly, the Tier I cities in China have been the focal point for many companies in China. But that attention is shifting to the emerging Tier II cities that are already formidable in size in their own right and are rapidly developing. Tier I cities include the likes of Beijing and Shanghai, along with cities on the southern coast that include Hong Kong, Macau, Guangzhou and Shenzen. The notable list of high-growth cities has expanded significantly over the past five years. In fact, in a recent report, JLL ranked those up-and-comers as Tier 1.5 cities, which include the likes of Chengdu, Chongqing, Shenyang, Hangzhou, Tianjin, Dalian, Wuhan, Suzhou and Nanjing.[8]

"I do think it is a trend that we had identified in 2009, 2010 and 2011 that it was increasingly apparent to us that these cities, particularly the Tier 1.5 cities, were really beginning to separate themselves," says Klibaner. They are large cities that are economically significant, and they were successful in attracting company locations.

Certainly, there is a correlation between the rate of development and the connectivity and infrastructure that exists in these cities. Chengdu, for example, was one of the first of any Tier II city in China to start building out that infrastructure more than a decade ago.

7. Source: China50: Fifty Real Estate Markets that Matter. JLL. 2012.
8. China50: Fifty Real Estate Markets that Matter. JLL. 2012.

“That was a mayor that really understood the importance of building the infrastructure in transforming the city,” says Klibaner. Most of those developing Tier 1.5 cities now have a metro system under development with one or two metro lines already operating. That is very important in terms of opening up new areas of the city for real estate development.

Infrastructure is an important component in driving economic growth in these cities. These big provincial capitals are building themselves out for the first time – ring roads, highway systems and metro systems. “Their starting point was an infrastructure that was really inadequate for the modern world. They had not had significant infrastructure investment in decades,” says Klibaner. “So, these were really vital infrastructure projects for them to be competitive, and I am fairly confident there will be an economic pay off for much of this infrastructure. Even if it isn’t that these roads are toll roads and generate income, they do facilitate greater economic development.”

CoreNet Global in China

CoreNet Global is one of several industry associations that are expanding its efforts to deliver education and information in China. One CoreNet Global initiative is the "CoRE Fundamentals" program, which is an online program aimed at providing needed education on basic corporate real estate fundamentals. CoreNet Global will offer online informational courses, as well as a fee-based certificate level program in CoRE Fundamentals for the Chinese market. CoreNet Global is translating its educational materials into Mandarin with courses available beginning in 2014. CoreNet Global also offers its Senior Leader of Corporate Real Estate (SLCR) and Master of Corporate Real Estate (MCR) certificate programs to the Chinese market.

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