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SUSTAINABLE URBAN DEVELOPMENT IN THE PEOPLE'S REPUBLIC OF CHINA*

Urban Public Transport—A Case Study of Public–Private Partnerships (PPPs) in Beijing

Urbanization in the People's Republic of China

Urbanization in the People's Republic of China (PRC) has been on an extensive and accelerated path. In 2008, more than 600 million people were residing in 655 cities, pushing the urbanization level to 45.7%. Based on current trends, the urban population in the PRC is projected to cross the 1 billion mark in 2030 and eight megacities—each with population of over 10 million—would be existing in the country by 2025 (Woetzel et al. 2008).

However, the rapid rate and sheer scale of urbanization are associated with increasingly pressing social, economic, and environmental problems. Clearly, new models of sustainable urban development are needed to cater to this phenomenal urban growth for the coming decades.

Delivering Urban Public Transport in the PRC

Rising incomes and increasing urbanization tend to bring about increased demand for mobility, often in the form of personal mobility, such as cars, as well as increasing motorization. Coupled with reduced car ownership restrictions in the PRC, conditions are ripe for worsening congestion and traffic conditions as well as deteriorating air quality in urban areas. This is already happening in several large cities such as Beijing, Shanghai, and Xiamen. Large investments in roads capacity and viable public transport systems, such as subway systems, as alternatives to car travel are clearly needed.

Subway systems have already been built in several metropolitan areas in the PRC—such as Beijing, Guangzhou, Nanjing, Shanghai, Shenzhen, and Tianjin—and are being constructed or planned in other cities including Chongqing, Hangzhou, Harbin, Kunming, Shenyang, Qingdao, and Xi'an. According to a PRC National Development and Reform Committee report, subways will be constructed in more than 30 cities in the PRC over the next decade or so. These projects are estimated to require investments of more than CNY600 billion (cited in Jong et al 2010).

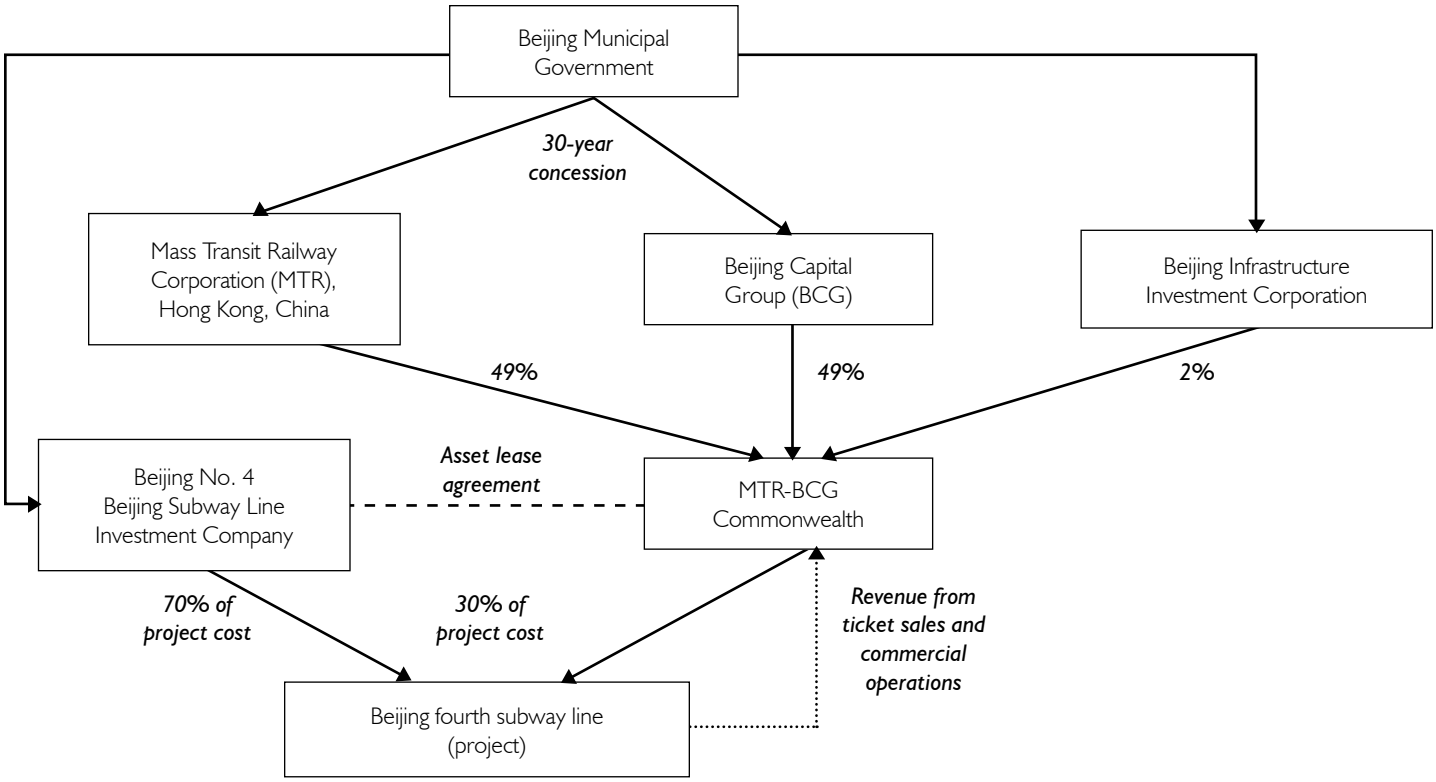
The Beijing Infrastructure Investment Corporation compensates joint-venture partners if the ticket fares and actual passenger trips turn out to be substantially lower than expected, but would absorb excess profits made on behalf of the Beijing municipal government.

Many large transport infrastructure projects have been financed by public funds at the national, provincial, or local levels, or through bank borrowings by state-owned enterprises. Many continue to use this traditional public procurement model.

City governments, however, face competing demands on a limited public purse, and the public–private partnership (PPP) model has been finding greater acceptance in the PRC in recent years as an acceptable funding model. Benefits associated with PPP projects include greater transparency, improved operational efficiency and professionalism, lower costs, and stronger incentives for innovation.

* This is one of a series of case studies in sustainable urban development in the PRC.

Figure 1: Public–private partnership structure of Beijing's fourth subway line



Building and Running Beijing's Fourth Subway Line

At present, Beijing is scheduled to have 11 subway lines covering 270 kilometers (km) by 2010. The city government plans to build more subway lines, increasing the total length of the city's subway system to 560 km by 2015. The expansion over the 5 years to 2015 is estimated to cost CNY268.2 billion.

The fourth Beijing metro line runs through the north and south of the city, from Haidan district (Anheqiao North station) in the north to Majialou (Gongyixiqiao South station) in Fengtai district in the south. Serving the north–south artery in the western urban areas of Beijing, the line stretches almost 28 km and has 24 stations. It was partially opened in time for the 2008 Beijing Olympics.

Structure of the PPP

The Beijing municipal government obtained approval from the State Development and Reform Commission in 2004 to open up participation in the building and operation of Beijing's fourth subway line to companies outside of the PRC. A small group of prequalified bidders were invited to take part in the tender process. The Hong Kong, China Mass Transit Railway Corporation (MTR), which is wholly owned by the Government of the Hong Kong Special Administrative Region of the People's Republic of China, and the Beijing Capital Group (BCG) were awarded the project contract. BCG is a large state-owned enterprise affiliated with the State-Owned Assets Supervision and Administration Commission of the Beijing municipal government. The winning bidders signed a concession agreement in 2005 for the fourth Beijing subway line with a concession period of 30 years (including the construction phase).

A special purpose vehicle, MTR-BCG Commonwealth (MTR-BCG), was set up for this project, in which MTR and BCG each own 49%, while the Beijing Infrastructure Investment Corporation (BIIC) has a 2% stake. BIIC is a wholly state-owned company under the State-Owned Assets Supervision and Administration Commission of the Beijing municipal government. It focuses on investment, financing, and capital operation of infrastructure projects in Beijing.

The project was divided into two parts. The Beijing municipal government, through the Beijing No. 4 Beijing Subway Line Investment Company, funded 70% of the project cost to cover

the civil engineering and infrastructure of the project. The second part of the project, which covered operational aspects (such as vehicles, ticket machines, signaling systems, air-conditioning, fire protection, escalators, elevators, control devices, and power supply facilities, etc.), would be undertaken by MTR-BCG at 30% of the total project cost. An asset lease agreement was also signed between MTR-BCG and the Beijing No. 4 Beijing Subway Line Investment Company to allow MTR-BCG to use the infrastructure. The final project cost was CNY15.38 billion (Xinhua 2009a).

MTR-BCG would be financed by ticket sales revenue and the commercial operation of the subway stations. At the end of the 30-year period, MTR-BCG would transfer its portion of the project to the Beijing municipal government, while the facilities under the asset lease agreement would be returned to the Beijing No. 4 Beijing Subway Line Investment Company. The PPP structure is outlined in Figure 1.

Another interesting aspect of the PPP model is that, while MTR from Hong Kong, China manages the operations of the subway line, BIIC's role is to monitor assets, quality, and safety management. BIIC also plays a role in guaranteeing a certain level of profits for the joint-venture partners. BIIC compensates the joint-venture partners if the ticket fares and actual passenger trips turn out to be substantially lower than expected, but will absorb excess profits made on behalf of the Beijing municipal government.

The Beijing municipal government retains control over ticket fares. These are regulated based on a mileage system and the government reserves the right to adjust them. The municipal government also oversees the operation of the fourth subway line based on a set of operational and safety standards.

Outcomes

The project commenced in 2004 and started trial operations in September 2009 with a capacity of 400,000 passengers daily. The subway line was reported to cut travel time from 2 hours by car to 48 minutes (Xinhua 2009b).

The Beijing metro has been running at a loss since it started operations in 1969. At this stage it is still too early to determine whether the fourth subway line will be self-financing.

Considerations for PPP projects

Since PPPs were introduced in the PRC with the economic reforms in the late 1970s, such projects have faced a number of constraints that hinder more successful and widespread implementation. Some of the key issues are outlined below.

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Xinhua. 25 September 2009a. Beijing's new subway line to open Monday.

Xinhua. 28 September 2009b. New subway line in Beijing starts operation.

Legal and regulatory risks

The legal and regulatory infrastructure in the PRC for PPP activities presents a risk to private investors. For example, laws which govern PPP activities are not always consistent with one another, or government policies may be revised with little consideration for the impact on private partners.

Tariff pricing policies

The slow pace of deregulation of tariffs for public services can impact project profitability for private investors.

Lack of transparency in bidding process

Most PPP projects in the PRC remain hampered by a lack of transparency in the bidding and project supervision processes.

State-owned enterprise participation

State-owned enterprises in the PRC have been involved in several PPP infrastructure projects, creating a category of public-SOE partnerships. SOEs could increasingly crowd out local private sector firms as well as foreign participation.

Access to capital

While build–operate–transfer projects and others of similar scale generally have a long-term horizon of up to a few decades, long-term financing options in the domestic financial markets in the PRC are limited.