

Public-Private Partnerships Case Study #4

Land Value Capture Mechanism: The Case of the Hong Kong MTR

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This case study presents how a property development programme has been used to finance Hong Kong's public transport system and discusses whether this model is replicable in other countries.

LAND VALUE CAPTURE MECHANISM

Land value capture mechanisms follow the basic logic that enhanced accessibility to attractive and efficient transport systems adds value to land and real estate.

This value addition has been confirmed by several researches. For example, research indicates that housing price premiums in Hong Kong are in the range of 5 to 17 per cent for units in proximity to a railway. This premium can even exceed 30 per cent if properties incorporate transit-oriented design, such as structures that facilitate pedestrian access to commercial amenities or provide pathways that are connected with stations.¹

As this value premium results from public investments, it is reasonable for public authorities to try to capture the surplus. The surplus captured can then be used to repay part of the cost of the transport infrastructure. While various land value capture mechanisms exist, this case study will focus on the joint development model widely used for developing the Hong Kong metro network. Joint development is a type of public-private partnership in which a public entity collaborates with private developers on infrastructure projects, such as real estate properties, with both entities sharing risk, cost and profit.

BACKGROUND

Hong Kong, China is very densely populated, with a land area of only 1,104 sq km and a population of more than 7 million. Every day, over 11 million passenger journeys are made on the public transport system, which

includes railways, trams, buses, minibuses, taxis and ferries.² More than 90 per cent of all motorized trips are by public transport, the highest market share in the world.³

To achieve these impressive results, major investments had to be made in public transport systems. A key actor in the sector has been the Hong Kong Mass Transit Railway Corporation (MTRC), established in 1975 to provide metro services. Its entire system now stretches 218.2 km and has 84 stations and 68 light rail stops.

The sections below will describe how MTRC has managed to mobilize significant financial resources for its network development.

MTRC BUSINESS MODEL

While most metro systems worldwide depend heavily on public financial support, MTRC operates without government subsidy and is highly profitable. This success is only possible because of the profits MTRC makes from its real estate business.

Over the last fifteen years (1998 to 2013), property related operations have generated almost twice the amount of money spent on railway line construction (profit from property operations was more than HKD 88 billion, or approximately US\$11 billion).⁴

Revenues are derived from profit sharing with private developers (mostly for residential projects) in real estate sale, and from renting and managing MTRC-owned properties (in particular for commercial and office operations). An example of property development around the Hong-Kong metro station is described in Box 1.



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Only around 20 per cent of MTRC's profit are derived from transport operations

MTRC is now one of the major players in the property market in Hong Kong, China and its profit from transport operations accounts for barely 20 per cent of its total profit.

In addition to providing a stable and abundant source of income, developing property along the railway benefits MTRC by attracting residents to amenities and housing near the stations, which contributes to railway patronage.

PROPERTY DEVELOPMENT PROGRAMME

The general property development process is as follows:⁵

(1) When planning a new railway line, MTRC, in conjunction with the government, assesses the cost of construction and then prepares a master plan to identify property development sites along the railway.

(2) Having obtained all necessary approvals and having negotiated terms, MTRC purchases from the government the right for a period of 50 years to develop property above railway stations and depots, as well as on land adjacent to the railway (referred to as “development rights”). The “land premium” paid to the government for this right does not take into account the increased value resulting from the transport project (commonly referred to as the ‘before rail’ land premium).

(3) MTRC then prepares a public tender for allocating these property development rights to private developers (development rights are usually divided into lots that are more manageable, in terms of cost, for developers).

(4) The private developers selected usually pay all development costs, including the land premium, for acquiring the exclusive development rights from MTRC. The private developers then have to bear the construction and commercialization risks and costs related to the residential and commercial properties.

(5) Profit-sharing mechanisms are included in the agreements with the private developers. For the residential units, MTRC will receive an agreed portion of the profit generated by the sales if the private partner manages to sell all the units before the contractual deadline. Otherwise, MTRC will obtain the unsold units and then determine whether to sell or lease in the open market. For shops and office units, MTRC generates profits by leasing directly with developers or by keeping part of the assets developed to generate long-term rental income.

(6) While MTRC is not in charge of the construction of the properties, it nevertheless supervises the work, carries out civil works and enforces technical control standards and requirements for interfacing between its railway premises and the property development.

Box I: PROPERTY DEVELOPMENT AROUND THE HONG-KONG METRO STATION



The picture depicts the Hong-Kong Metro station where 415,900 sq.m. of fully integrated offices, retail and hotel facilities were developed by MTRC using joint property development programmes. This comprises notably the two International Finance Centre (IFC) towers.

Success?

As shown in Figure 1, these development programmes have been considerable in size. Since 1995, more than four million square metres of residential units have been awarded, which corresponds to approximately 100,000 residential units. These programmes have, however, declined in intensity over time, and no new development programmes have been awarded by MTRC since 2010.

The decline in activity may be explained by expensive land premiums, which hinder the participation of private developers in property development programs. For example, the nearly HKD 2.7 billion (approx. US\$ 0.35 billion) of land premiums might have caused the failure of the second tendering of the Tin Wing Light Rail Transit Station development project in 2014.⁶

MTRC is also dependent on development rights granted by the government. However, MTRC did not receive any new rights in the period 2000-2010.⁷ In 2011, MTRC received development rights to finance two of the current five strategic rail extensions, which will add 56 km to the network by 2020.⁸

These two projects are the construction of the South Island Line (East) and the Kwun Tong Line Extension.

These two projects could give a new momentum to joint development programmes. The other three extension projects will be funded through other mechanisms, such as capital grants in which government is responsible for filling the funding gap between revenue and cost, or alternatively through service concession where railway construction cost is undertaken by the government and MTRC must pay an annual fee for the railway operating right.⁹

Opportunity cost?

All the land in Hong Kong, China is leased from or otherwise held by the public authority.¹⁰ With such land control it may seem as if the government should grant development rights directly to private developers after the construction of the railway infrastructure. The government could then collect land premiums at the “after rail” price instead of selling development rights to MTRC at the “before rail” price.

This approach, however, would incur additional costs related to the coordination with and possible claims from the railway operators due to operational and technical considerations.¹¹ Also, as the government is the majority shareholder of MTRC with 77 per cent ownership, it benefits indirectly from the profits made by MTRC. For instance, MTRC has distributed close to HKD 40 billion of dividends (approx. US\$ 5 billion) since its Initial Public Offering (IPO) in 2000 and the government has not provided subsidies that would have been required without the granting of development rights to MTRC. The market value of MTRC has also increased significantly with its stock price more than doubling since the IPO.

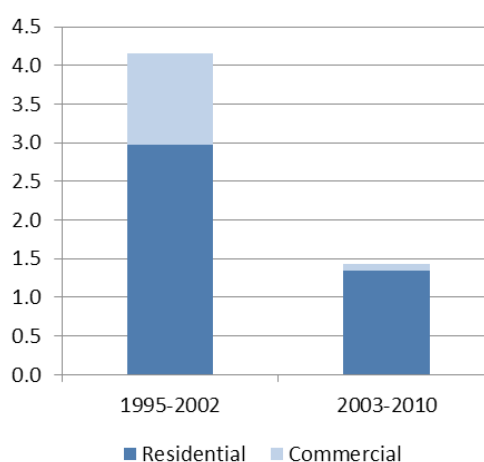
Meanwhile, the “rail+property” model satisfies the government’s intention to spearhead the growth of local communities along the railway. Take Tseung Kwan O Extension Line as an example: after its construction in 1999, the region has witnessed a significant population growth (from 328,000 to 437,000) and a swift development of commercial areas.¹²

Potential risks

MTRC is more and more dependent on the revenues generated through real estate activities. This reliance could become an issue if the real estate market were to decline. Additionally, the importance of real estate activities could potentially distract MTRC from its core business of transport services. The question is then whether it would be appropriate to segregate the two type of business or whether a transport company is best equipped to manage real estate operations.

Property development programmes led by MTRC resulted in the construction of approximately 100,000 residential units

FIGURE 1: GROSS FLOOR AREA OF PROPERTY DEVELOPMENT PROGRAMMES AWARDED FROM 1995 TO 2010 (MILLION SQUARE METRES)⁶



SOURCE: ESCAP BASED ON DATA FROM ANNUAL REPORT OF MTRC

In terms of financial risks, MTRC has to finance significant costs during the railway operation period before receiving profits from property development. As real estate development cannot start until railway construction has completed, MTRC, as opposed to the government, has to bear long-term risks in property market fluctuation and project financing.¹³

CONCLUSION AND OUTLOOK

Other cities have similar development patterns and could envisage applying the same model for financing their public transport systems

By using land value capture mechanisms, Hong Kong, China has enjoyed a world-class level of railway service with limited public financial input. To understand whether the model used could be replicated in other cities, it is worth considering the specific factors that have made this property development programme possible.

First, the scarcity of land in Hong Kong, China has clearly contributed to the success of the programme. Despite the additional costs and constraints of developing property above a railway station, private developers have been attracted due to limited alternatives. In addition, real estate prices have been skyrocketing, making most real estate projects profitable (house prices are 15 times higher than in 1980).¹⁴ Private developers are therefore willing to participate in public tender and take all development costs and risks as they have optimistic expectations for the property market in Hong Kong, China.

Second, traffic volume creates huge commercial potential for the properties connected to the railway network (on average every weekday 4.5 million passenger trips are made on Hong Kong's metro lines).¹⁵ However, this traffic volume can also increase the technical complexity associated with these land value capture projects.

Third, the close relationship between MTRC and the government, as well as the land policy in Hong Kong, China, has facilitated the planning and granting of development rights along railway lines. For private developers, having MTRC as a partner has also made it easier to address technical issues.

Fourth, MTRC has developed strong internal expertise in property management and development. Such expertise, however, would be difficult to replicate in one-off projects or for cases with limited market potential.

Given these specifics, one might argue that Hong Kong, China represents an extreme case difficult to copy in other parts of the world. However, many coastal cities in mainland China have recently mimicked Hong Kong's development pattern (high-rise, mixed-use development). Urban rail systems, operated and maintained with help of MTRC's experience, are currently found in several mainland Chinese cities like Beijing, Shenzhen and Hangzhou, by means of revised financing approaches due to different land policies.¹⁶

Plans call for expanding and upgrading these current systems as well as building new rail transit systems in 15 other Chinese cities. Given economic and spatial restructuring throughout urban China, which is similar to that occurring in Hong Kong, there are tremendous opportunities to create sustainable urban infrastructure by bundling land development and railway investments.¹⁷

End Notes

¹ **R. Cervero and J. Murakami (2009):** Rail and Property Development in Hong Kong Experiences, Impacts, and Extensions

² **Government of the Hong-Kong Special Administrative Region,** Transport Department - http://www.td.gov.hk/en/transport_in_hong_kong/public_transport/introduction/index.html

³ **Lam, W.H.K. (2003).** Advanced Modeling for Transit Operations and Service Planning.

^{4,6} **MTRC,** Annual Reports

⁵ **IPO Prospectus of MTRC (2000)**

⁷ **Legislative Council Query No. 6 2012.04.25.**

⁸ **MTRC website** - http://www.mtr.com.hk/eng/projects/projects_new_index.html and **Annual Report**

⁹ **Legislative Council Information Note** on Funding Arrangements of Railway Projects: 2011.06.17

¹⁰ **Yu-Hung Hong and Alven H. S. Lam (1998):** Opportunities and Risks of Capturing Land Values Under Hong Kong's Leasehold System

¹¹ **BS Tang, YH Chiang, AN Baldwin and CW Yeung(2004):** Study of the Integrated Rail-Property Development Model in Hong Kong

¹² **Census and Statistics Department of Hong Kong:** Population Census, 2001 and 2011

¹³ **Legislative Council Query No. 7 2014.04.30**

¹⁴ **Census and Statistics Department of Hong Kong SAR:** Hong Kong Monthly Digest of Statistics, December 2013

¹⁵ **MTRC website** - <http://www.mtr.com.hk/eng/investrelation/patronage.php>

¹⁶ According to Land Law in mainland China, state-owned land must be granted through public tender in the open market under certain conditions set by the government. In this respect, the situation differs from Hong Kong, China.

¹⁷ **R. Cervero and J. Murakami (2009):** Rail and Property Development in Hong Kong Experiences, Impacts, and Extensions (EPC). Driving growth efficiently.