Value Capture Techniques in Hong Kong and Tokyo: Strategic Transit Finance and Station Area Development

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Hong Kong
R+P Model
Hong Kong

- Total Land Area: 1,104 sq km
- Urban Area: 261 sq km (23.6%)
- Population: 7 million
- Urban Density: 26,700 people/sq km
- Private Vehicles: 60/1,000 residents

MTR is a “backbone” of Hong Kong’s urban development. Hong Kong’s “urban density” supports MTR’s ridership.

R+P Development


- 1980-2005: 38/82 stations

Railway Extensions, 1998-2006
Property Development Total GFA [sq m]

- 0 5 10 20 20 Kilometers
MTR Corporation

MTR Corporation, 2001-2010

![Bar chart showing Net Operating Income (HKD Millions) over the years 2001 to 2010 with categories for Transit Fare, Property Development, Station Commercial and Retail Related, Rental, Management and Other.]

Source: Murakami, Jin. 2012. Transit Value Capture

1 HKD = 0.27 BRL

Value Capture Mechanism

Integrated Development Package

Kowloon Station (1998-2010): 13.5 ha

Station Typology

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Site Area (ha)</td>
<td>12.44</td>
<td>5.97</td>
<td>6.28</td>
<td>7.15</td>
<td>7.34</td>
<td>4.08</td>
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<tr>
<td>FAR</td>
<td>0.40</td>
<td>0.57</td>
<td>0.62</td>
<td>0.67</td>
<td>0.74</td>
<td>0.43</td>
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<tr>
<td>Land Use [GFA %]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Office</td>
<td>78.7</td>
<td>65.5</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
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<tr>
<td>Residential</td>
<td>12.6</td>
<td>25.5</td>
<td>11.1</td>
<td>9.2</td>
<td>9.2</td>
<td>11.4</td>
</tr>
<tr>
<td>Hotel</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.3</td>
<td>0.3</td>
<td>0.3</td>
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<tr>
<td>Others</td>
<td>0.1</td>
<td>32.1</td>
<td>0.0</td>
<td>1.7</td>
<td>1.7</td>
<td>0.8</td>
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<tr>
<td>Miscellaneous [0-1]</td>
<td>0.391</td>
<td>0.421</td>
<td>0.217</td>
<td>0.237</td>
<td>0.237</td>
<td>0.248</td>
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<tr>
<td>Parking Lots [K/L GFA sqm]</td>
<td>0</td>
<td>50</td>
<td>254</td>
<td>30</td>
<td>36</td>
<td>57</td>
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<tr>
<td>Number of Stations</td>
<td>4</td>
<td>4</td>
<td>1</td>
<td>24</td>
<td>3</td>
<td>2</td>
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Source: Murakami (2010)
MTR Extensions & Incomes

<table>
<thead>
<tr>
<th>Year</th>
<th>HK$ billion</th>
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<tbody>
<tr>
<td>80</td>
<td>0</td>
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<td>81</td>
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<td>82</td>
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<td>0</td>
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<td>04</td>
<td>0</td>
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<td>05</td>
<td>0</td>
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</tbody>
</table>

Source: Cervero & Murakami (2009)

Early Generation

**Tin Hau Station (1989)**
- Site Area: **0.58 ha**
- Residential: **61,000 sqm (72.9%)**
- Commercial: **3,700 sqm (4.4%)**
- Others: **19,000 sqm (22.7%)**
- Parking: **650 lots**
- F.A.R.: **14.43**
Recent Generation

Tung Chung Station (1998)

Site Area: 21.7 ha
Residential: 935,910 sqm (90.8%)
Office: 14,999 sqm (1.5%)
Commercial: 55,862 sqm (5.4%)
Hotel: 22,000 sqm (2.1%)
Others: 2,063 sqm (0.2%)
Parking: 3,869 lots
F.A.R.: 4.76

Close Relations with Developers

e.g., MTR Tung Chung Station Property Package Diagram

<table>
<thead>
<tr>
<th>Residential Towers</th>
<th>Mall + Retail Bridge</th>
<th>Office</th>
<th>Hotel</th>
<th>Town Square</th>
<th>GIC (Post Office and Day Nursery)</th>
<th>Public Transport Interchange</th>
</tr>
</thead>
</table>

1. Construction
- Developer based on railway/development coordinated design; enabling works provided by MTRC (multiple packages)

2. Mechanism for sharing costs & profit
- Developer paid land premium and development cost
- Investment return split by up-front profit and end-profit sharing
- Part of the property design
- Conditions in land grant

3. Ownership of Asset
- Individual flat owners
- Developer
- Common area of the mall and PTI
- Government

4. Management
- MTRC
- Developer
- Hotel operator
- Developer
- Government delegated to operator

Source: Cervero & Murakami (2008)
Benefit Sharing with Developers

Investment Returns are spited by...
1) Upfront Profit Sharing
2) MTRC’s In-kind Asset Sharing
3) End Profit Sharing

R+P Model: Justification

GOVERNMENT

SYNERGY

SOCIETY & ECONOMY

Property

Railway

Financial Gain
Improve accessibility & land value
Sustainable urban living & growth generation
Finance construction & improve ridership
Key Instrument (1): Master Plan

“Hong Kong 2030” Planning Vision & Strategy

Key Instrument (2): Zoning

Comprehensive Development Area (CDA) Zone around MRT Stations

Flexible Coordination for Complex & Dynamic Mixed-Use Development
Key Instrument (3): Master Layout

Key Instrument (4): Legal Requirement

"Deeds of Mutual Covenant (DMC)"

The vast majority of development in Hong Kong comprise high-rise buildings and mixed user developments within commercial uses in the podium and residential and office above. Thus, the purpose of the DMC is to ensure that a fair balance is struck between the interests of all parties, including future purchasers with regard to responsibilities and costs for the long-term management and unkeep of the building. All DMCs have to be submitted to and approved by the Legal Advisory and Conveyancing Office (LACO). BTW, when government, institutional or community facilities (GIC) are included, there are considerable delays in getting the DMC approved.
Tokyo
Multiple Integration Models

Tokyo Metropolitan Area
Population: 36.93 million
Land Area: 13,368 sq. km
Railway Network in Tokyo

- About 3,500 km
- About 2,000 stations
- 48 Operators
Three Examples

Example 1: Tokyu Corporation (1)

Tokyu Corporation, 2001-2009

![Graph showing net operating income in JPY for Tokyu Corporation from FY1998 to FY2009]

- Transportation
- Real estate
- Retail
- Leisure and services
- Construction and other

1 JPY = 0.021 BRL

Source: Murakami, Jin. 2012. Transit Value Capture
Example 1: Tokyu Corporation (2)
Privately Develop & Operate
Total 105 km Rail Network

Example 1: Tokyu Corporation (3)
Garden City Line & New Town Development 2,983 ha (1960-1980s)
Example 1: Tokyu Corporation (2)

Privately Develop & Operate
Total 105 km Rail Network

Garden City
Shibuya

Example 1: Tokyu Corporation (4)

Tama-Plaza Station Redevelopment 5.1 ha (2005-2010)

Source: Nikken Sekkei Corporation
Example 1: Tokyu Corporation (5)

Futagotamagawa Station Redevelopment 11.2 ha (2000-2015)

Source: Tokyu Corporation 2013

Example 1: Tokyu Corporation (6)

Corporate Ownership & Stewardship Model

High percentage of the key station areas are owned by Tokyu Corporation

Very High Ridership

Group’s Intergenerational Resource Allocation
Example 2: H-R Integration (1)

Tsukuba Express (1998-2006)

- Rail Construction Costs
  - US$ 9.4 billion

- Integrated Housing-Rail Development Act of 1989
- Land Readjustment Projects
  - 19 Districts
  - Total 2,908 ha

Source: Chiba Prefecture 2012

Example 2: H-R Integration (2)

Integrated H-R Land Readjustment: Mechanism

<Local Governments, Housing Agencies, Land Owners>

Source: Chiba Prefecture 2012
Example 2: H-R Integration (3)

Example 2: H-R Integration (4)
Example 3: Depot Redevelopment (1)

Source: JNR Settlement Corporation 2008

Example 3: Depot Redevelopment (2)

JNR Yard: National Land Sales

Shinagawa Station 16.2 ha (1992-2008)
Redevelopment Instrument (1)

“Land Readjustment”
Access Road, Public Open Space, Pedestrian Network, etc.

Private Land Reduction 40.8%

Project Costs
US$ 350 million
(Reserved Land Sales, No Subsidy)

Source: JNR Settlement Corporation 2008

Redevelopment Instrument (2)

Civic Space Provision & FAR Bonus
(e.g., Case of Shinagawa Station Area)

FAR Assessment
Before
(Industrial Site)
After
(Office Site)

4.0
7.0

Base
FAR

+0.6
+1.9

Greenspace, Underground Access
Road & Pedestrian Network
11,480 sq.m.
Civic Open Space
12,167 sq.m.
Joint Housing Provision
35,433 sq.m.
Redevelopment Instrument (3)

Urbanized Area Redevelopment Scheme in Japan

New Zoning & Higher FAR

Sale $ Subsidy

Social Infrastructures

Public

Developable Land Assembled

Lessons
Lessons

• LVC has evolved from simple rail transit finance into complex transit-oriented development (TOD);
• There are three important instruments to be arranged around target stations: (i) public land lease/sale; (ii) private land assemblage; & (iii) air right sale/bonus;
• Transit-supportive policies must be consistent across multiple governmental entities (national-metropolitan-city-district & transportation-urban development);
• LVC formulation and TOD planning depend principally on diverse & dynamic market demands;
• Project implementations need to involve experienced private developers as well as local residents; &
• LVC + TOD approach requires a new set of planning instruments & legal frameworks to ensure “win-win” situations for all stakeholders.

Questions & Discussion

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