

Financing Transit-Oriented Development with Land Values

-Adapting Land Value Capture in Developing Countries-



*Japan-OECD Policy Forum on Urban Development and Green Growth
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Hiroaki Suzuki, Urban Development Specialist*

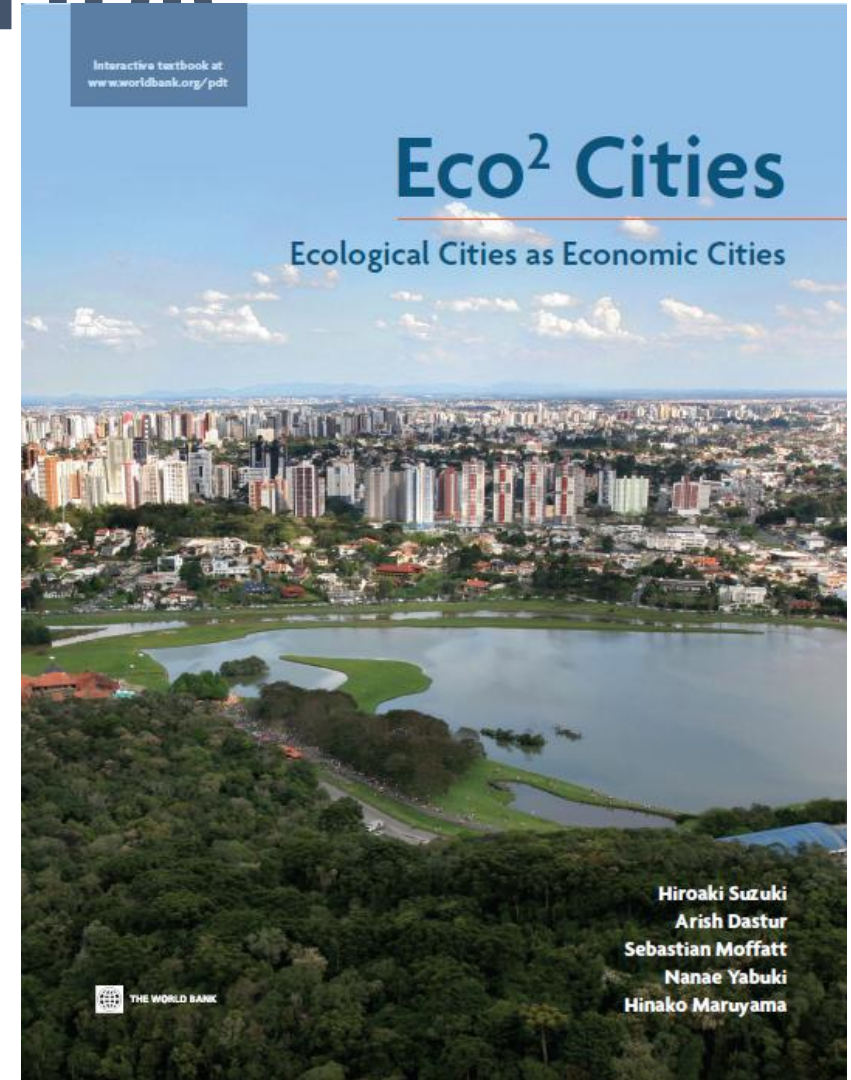
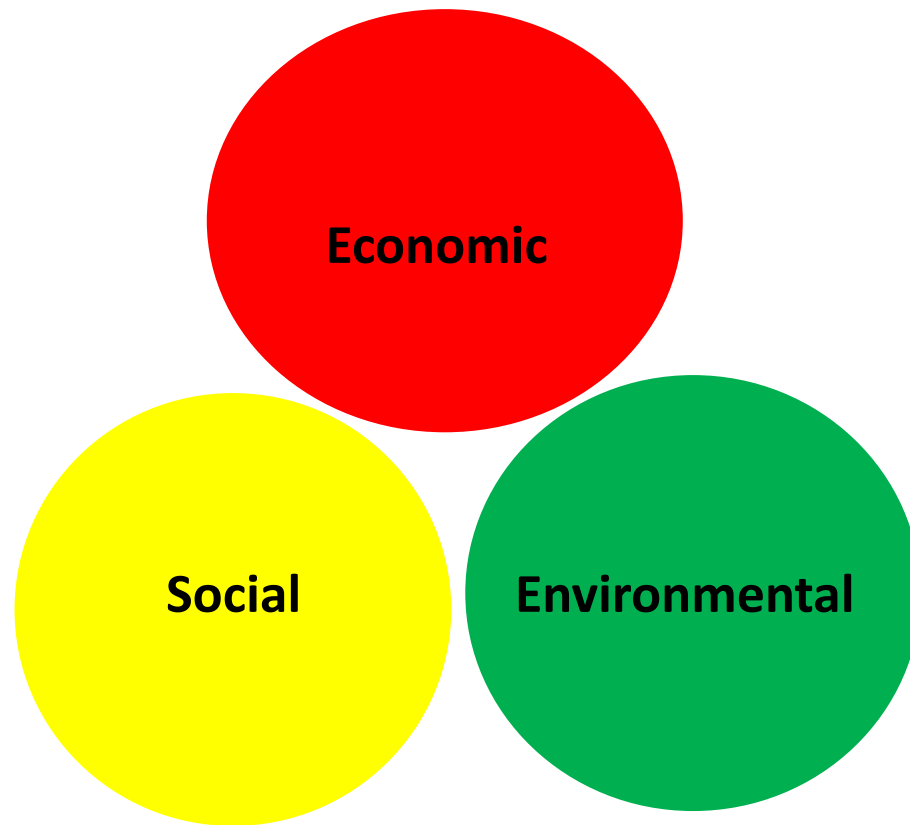
Outline

- ❑ Introduction: TOD, Urban Sustainability and Finance
- ❑ Concept and Theory of Land Value Capture and Its Instruments
- ❑ Hong Kong R(Rail)+P (Property) Program
- ❑ Tokyo Inclusive Multiple Integration Model
- ❑ Conclusion

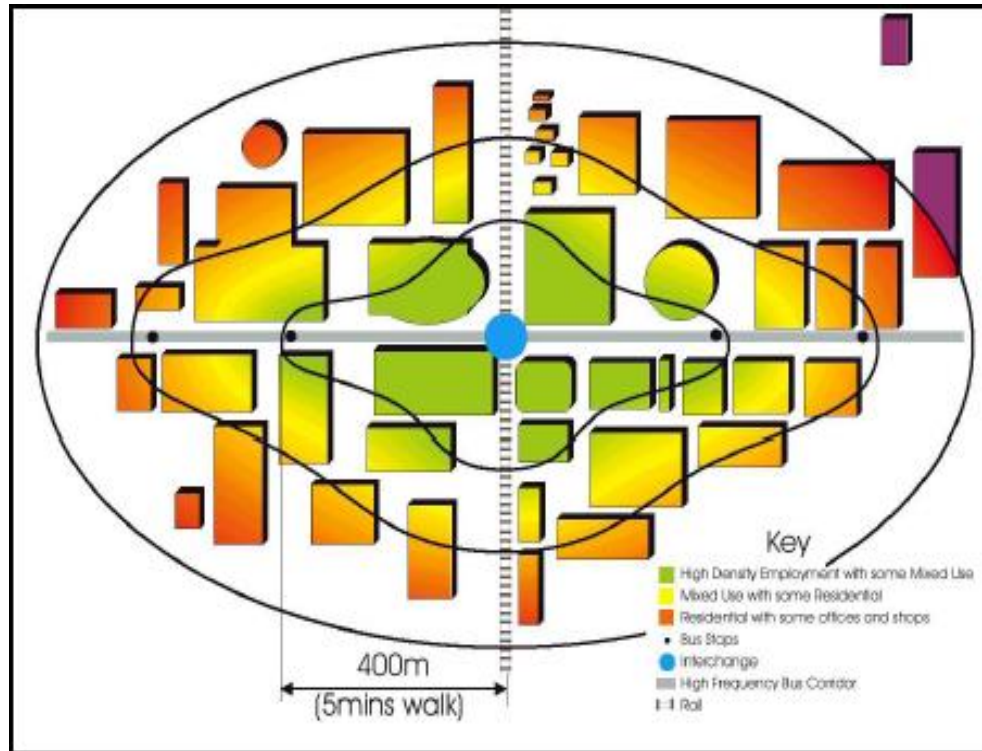
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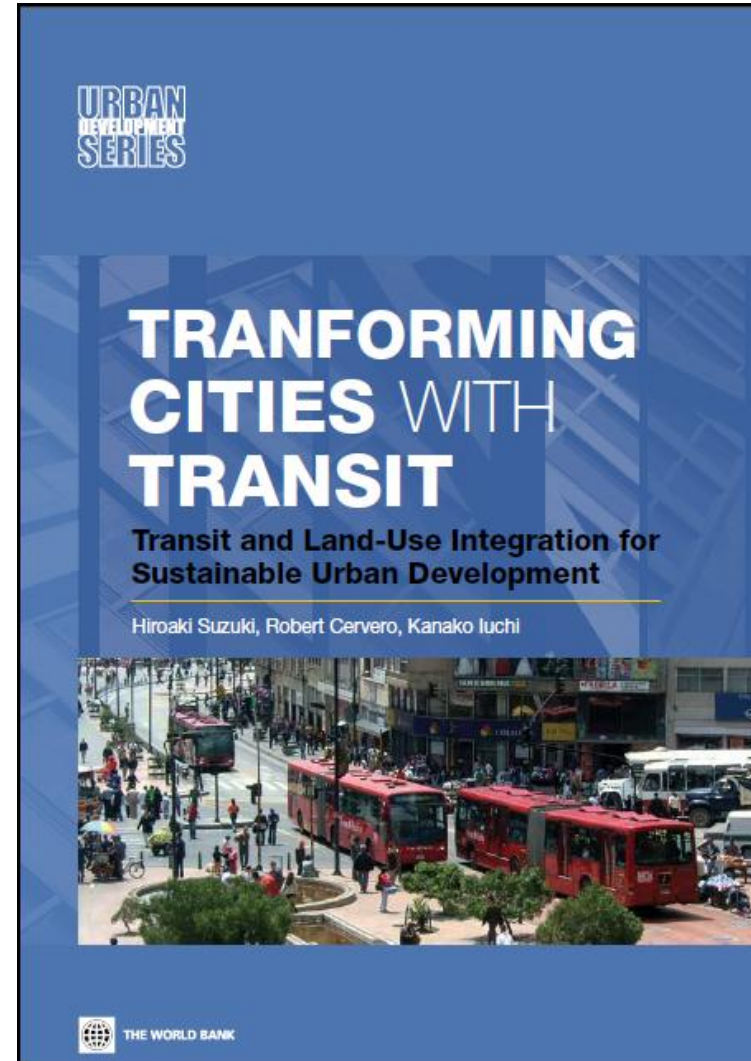
Sustainable Urban Development & Triple Bottom Line



TOD Promoting Urban Sustainability

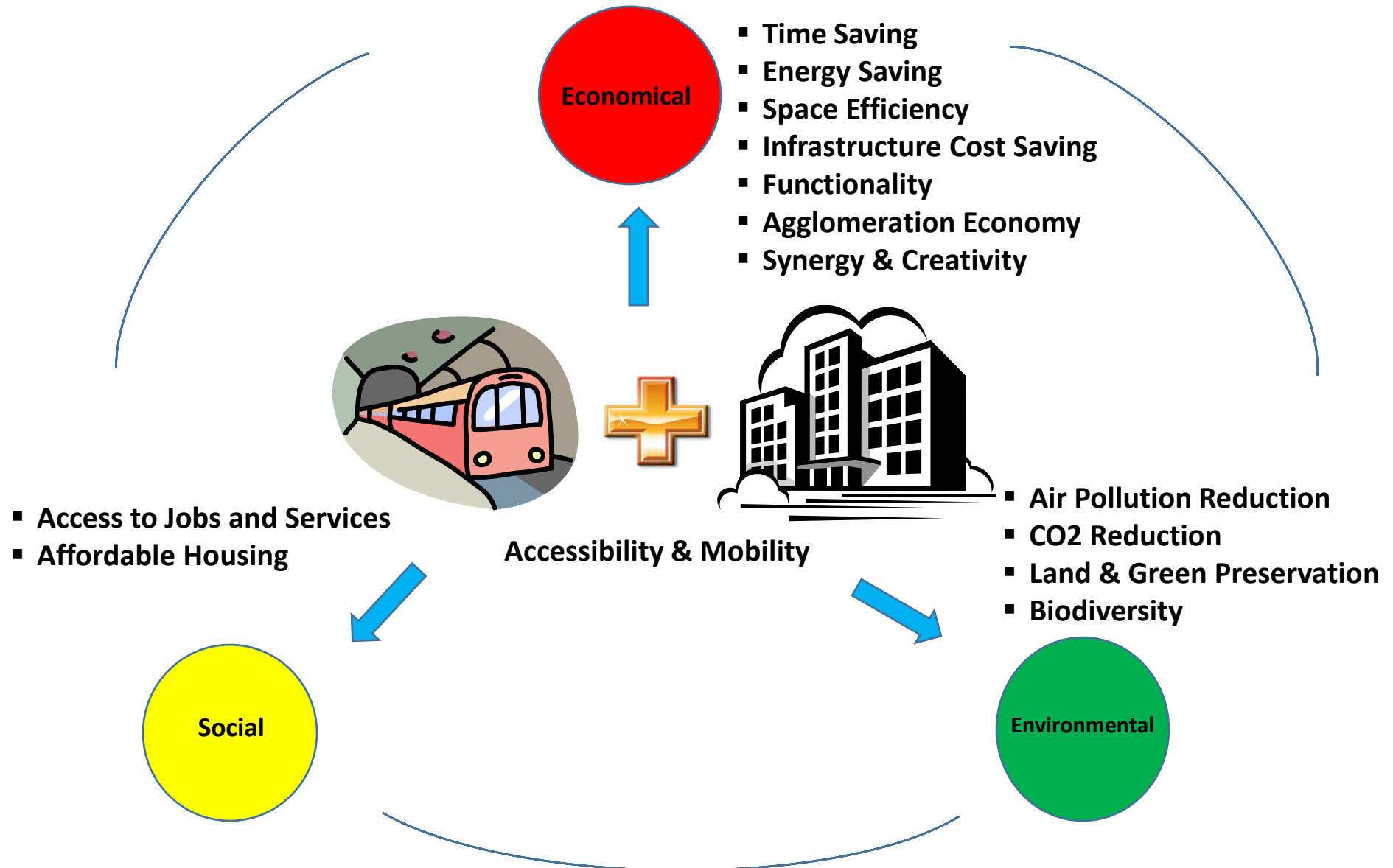


Source: GIZ/World Bank



<https://openknowledge.worldbank.org/handle/10986/12233>

TOD & Triple Bottom Line



How to Finance High Transit Construction Cost?

Tokyo Metro Construction Costs

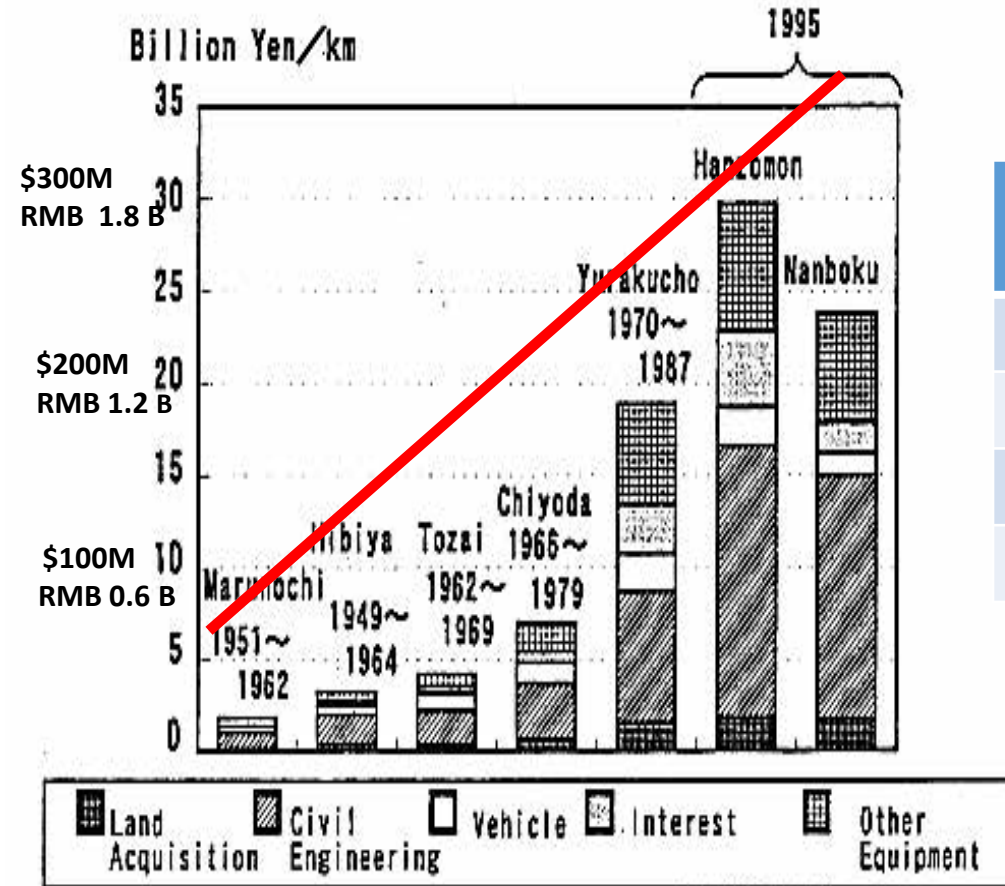


Fig. 7. Construction cost of underground railways in Tokyo (nominal values).

Source: Hitoshi Ieda

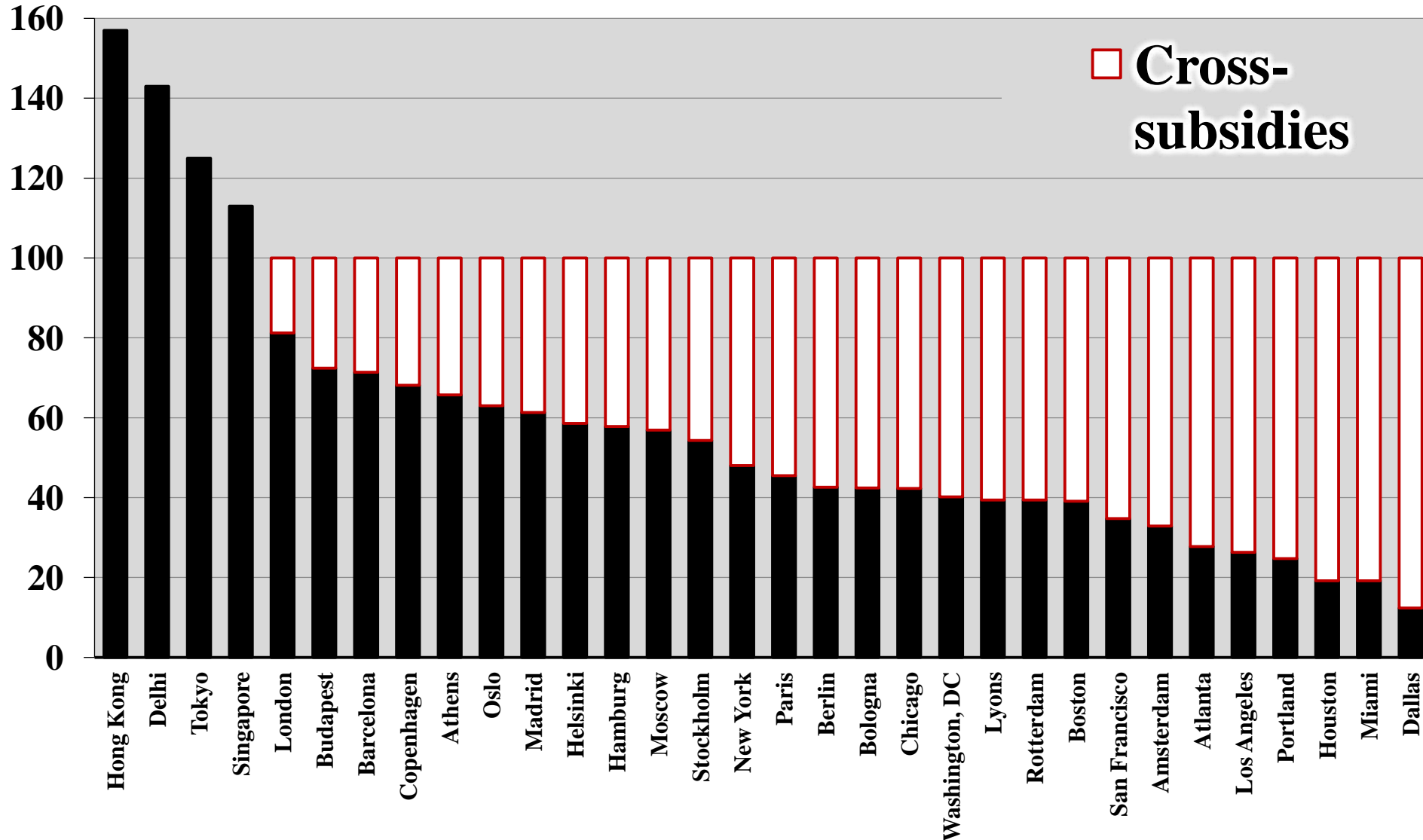
Metro in Developing Countries

Cities	Cost Billion	Length Km
Nanchang Line 2	\$2.6	24Km
Hyderabad	\$2.6	72 Km
Delhi	\$11.7	120Km
Sao Paulo	\$30.0	100Km

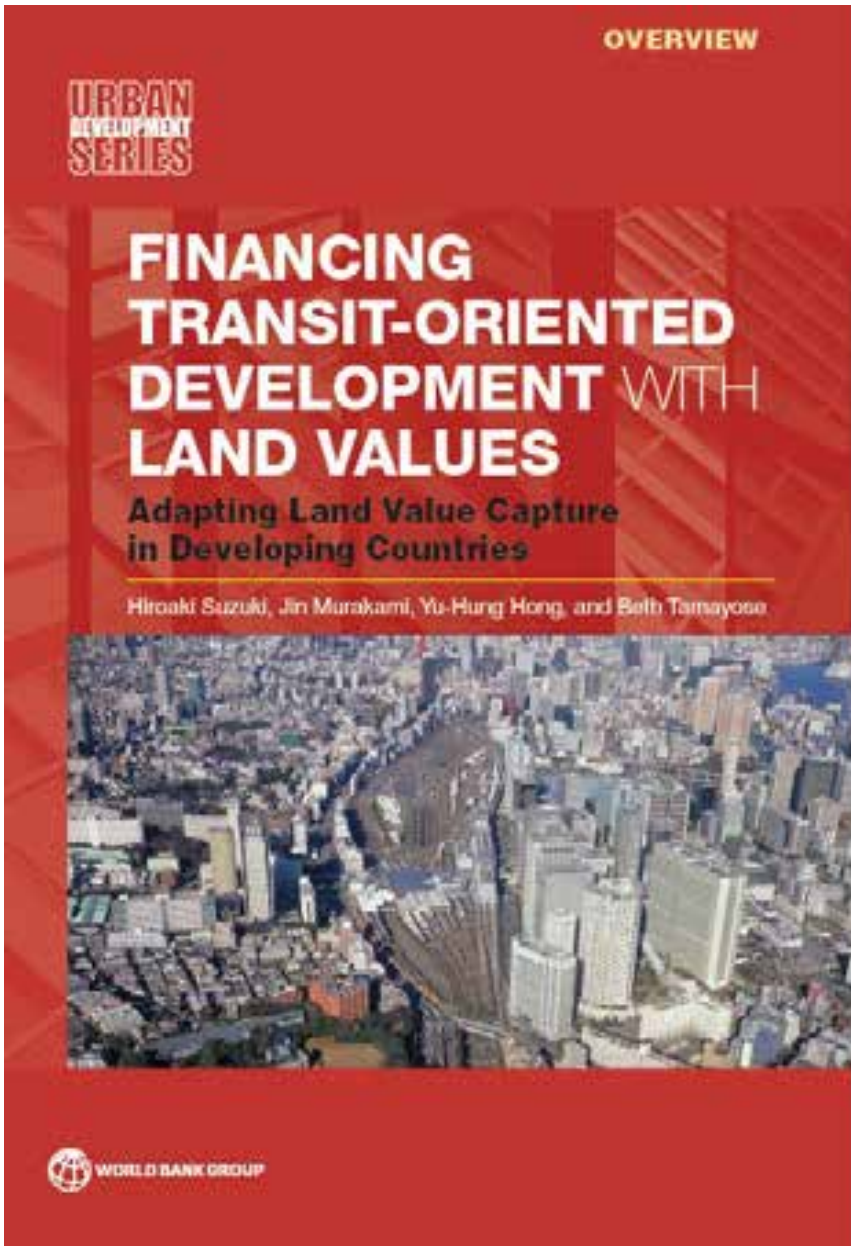
Source: World Bank LVC Case Studies

Fare-box Recovery Ratio

Fare Revenues/Operation Expenses (%) – 60 Global Cities



Focus of the WB's New Book

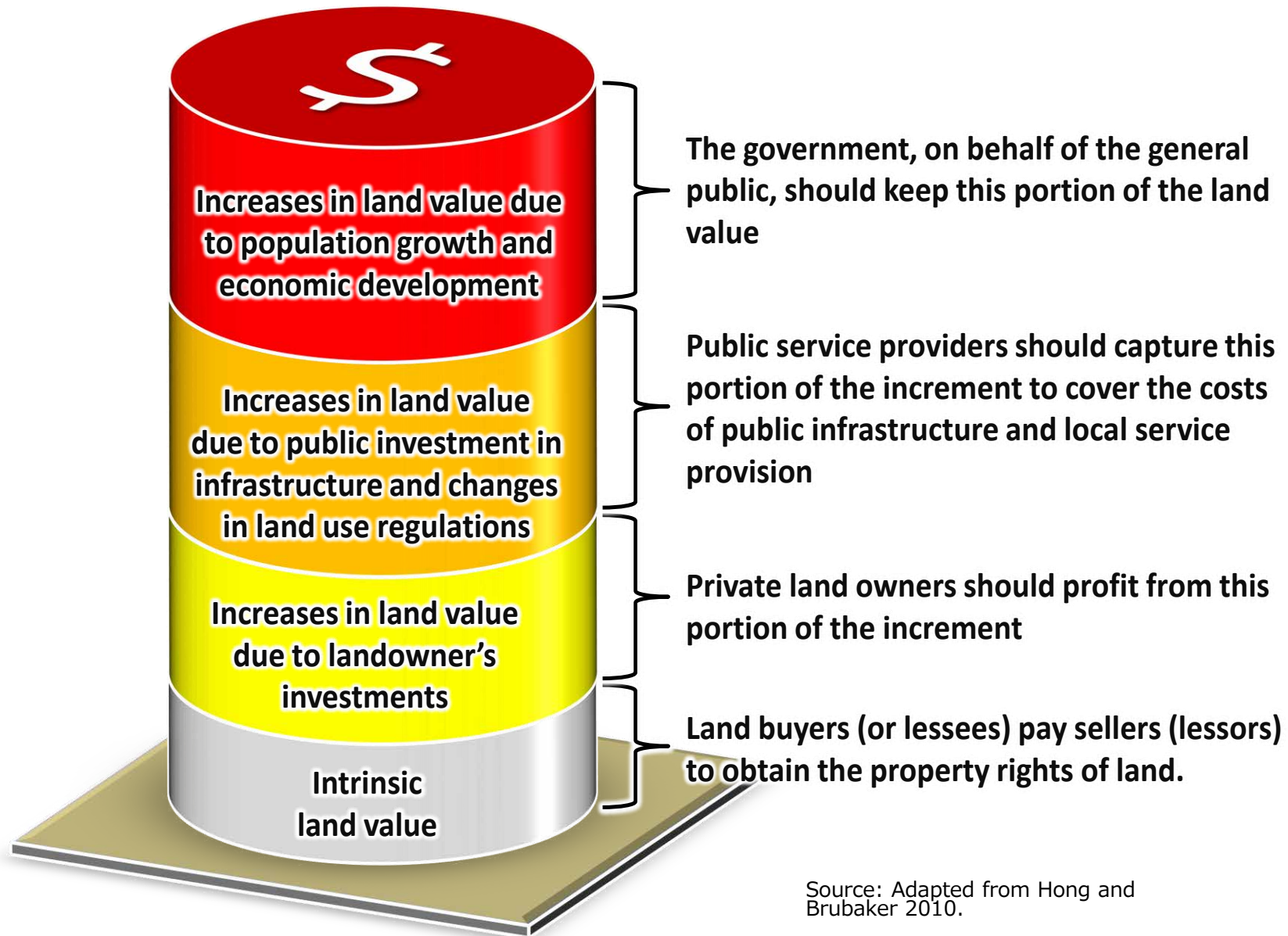


- ✓ Focusing on Development based Land Value Capture (DBLVC) practices in HKSAR and Tokyo as global best cases
- ✓ Seeing DBLVC as a strategic model of both urban finance and planning
- ✓ Discussing how to adapt DBLVC in cities of the developing world

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Concept of Land Value Capture



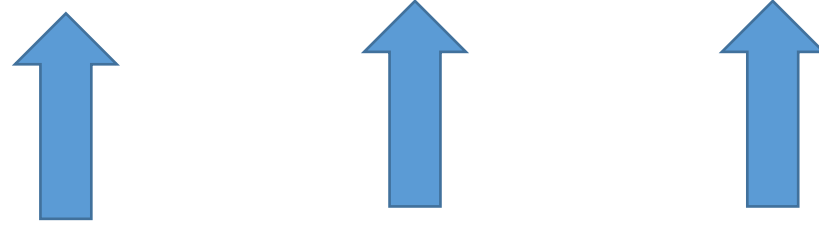
Categories of LVC Instruments

“Tax or Fee based” LVC & “Development-based”

	Instrument
Tax- & Fee-Based	Property and Land Tax
	Betterment Levies and Special Assessments
	Tax Increment Financing (TIF)
Development-Based	Land Sale or Land Lease
	Air Right Sale
	Land Readjustment
	Urban Redevelopment Financing

Underlying Principle of DBLVC

開発利益還元



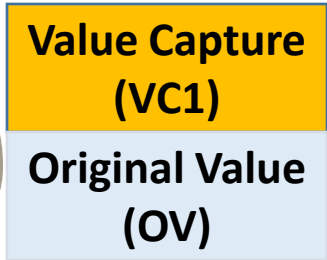
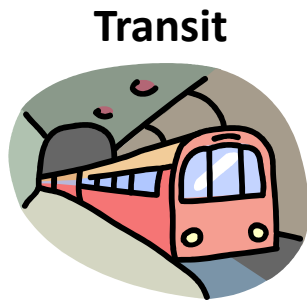
Development Profit Return

VS

Land Value Capture

How to Maximize Revenues from Transit-Oriented Development (TOD)?

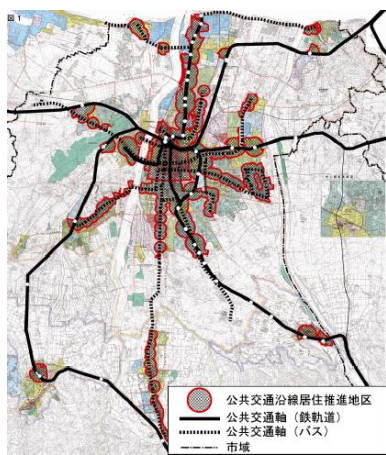
Business As Usual Vertical & Horizontal TOD



Quantity - Density

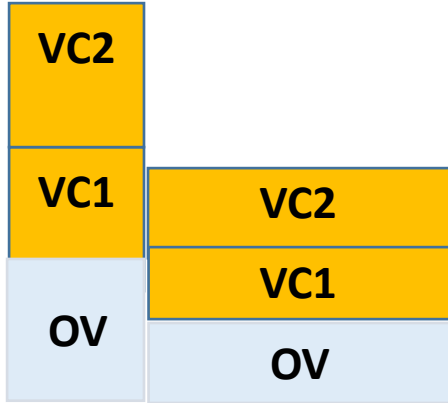


Quantity - Catchment



Tools

- FAR Increase
- Transfer of Development Right
- Land Adjustment
- Urban Re-development, etc.



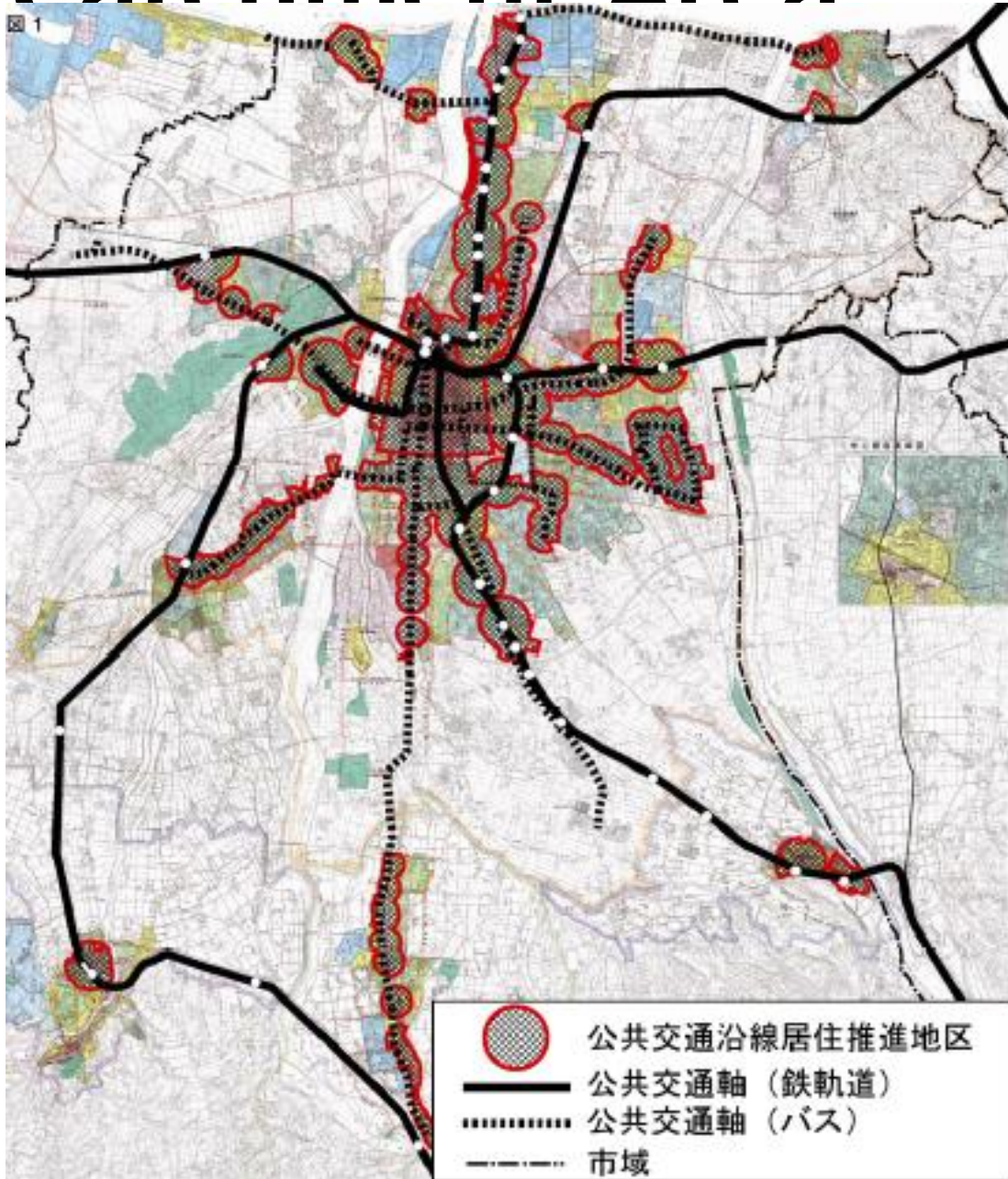
Tools

- Transit Feeder
- Bus Terminal
- Bicycle Lanes, etc.

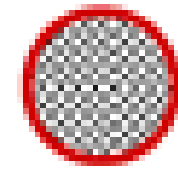
GROW HIGH: Increasing Densities



EXPANDING. Rail & Bus Catchment Area



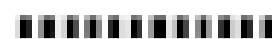
Toyama LRT & Bus
Catchment Area



Catchment



Rail



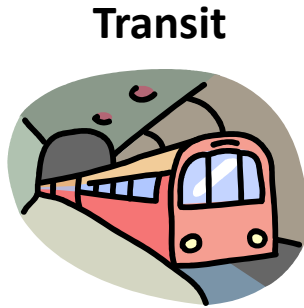
Bus

Rail enjoys
Economies of Scale
Bus enjoys
Economies of Scope

Source: Toyama City

How to Create Land Value Increments in TOD Areas? Quality Matters.

Quality Urban Design Enhancing TOD



Efficient



Pleasant



Functional



Vibrant



VC3

Quality

VC2

Quantity

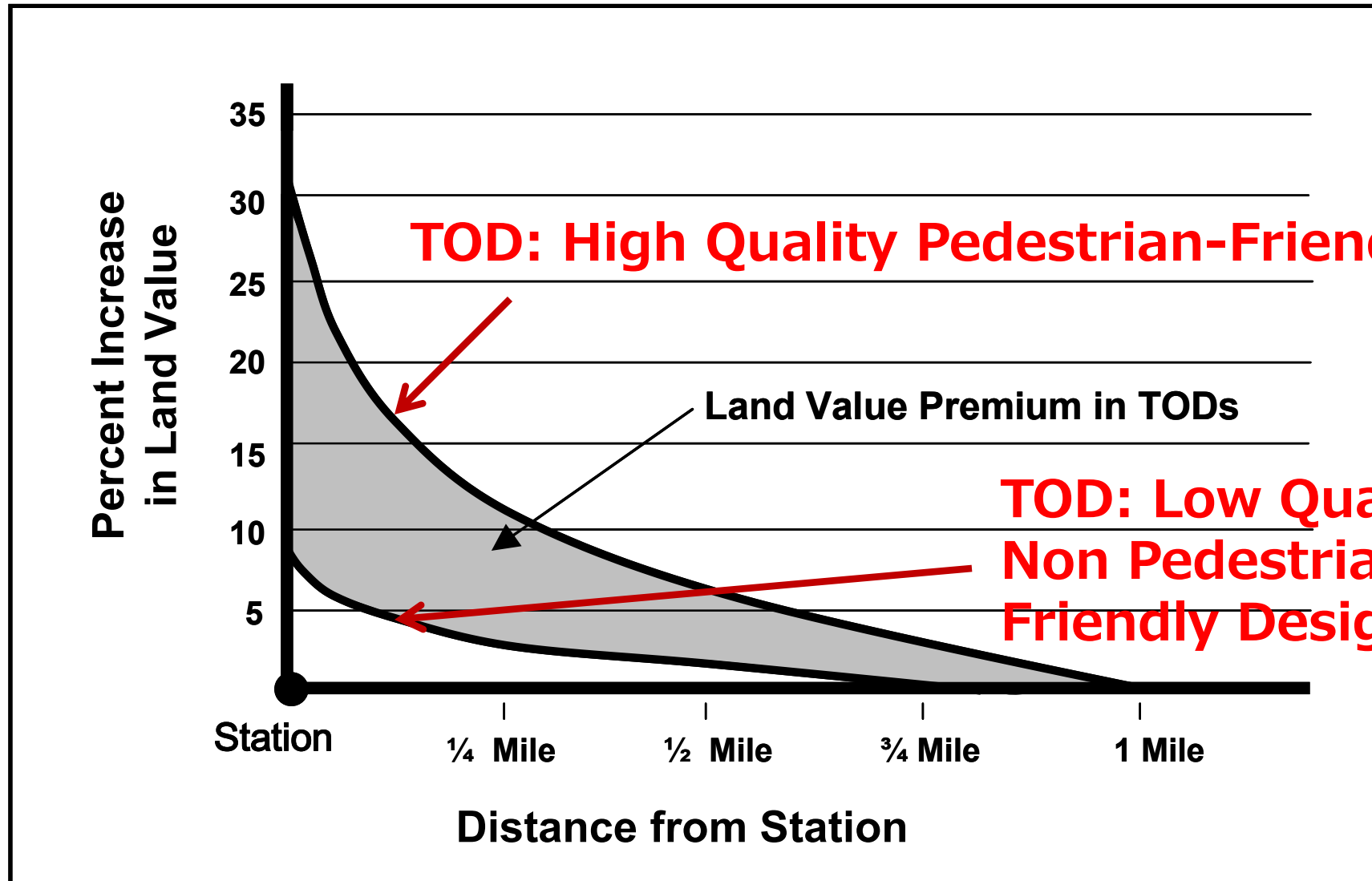
VC1

B as Usual

OV

Original V

Land Value Premiums of TOD in U.S.



TOD: High Quality Pedestrian-Friendly Design

TOD: Low Quality Non Pedestrian-Friendly Design

Land Value Premium in TODs

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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

HK SAR: R+P Program (1)

a. Usual government land leasing program



b. Rail Plus Property (R+P) program



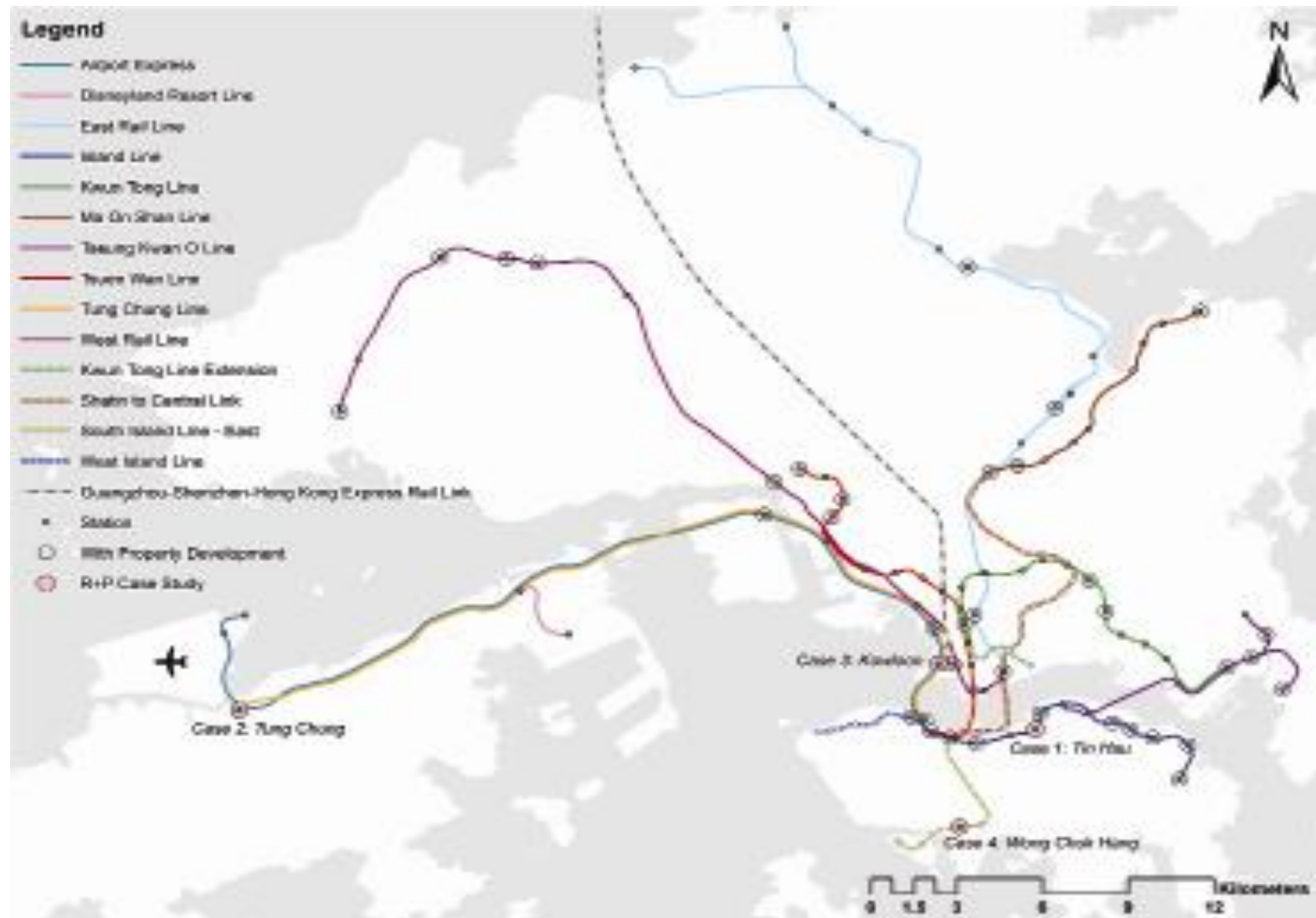
"Profit sharing"

- Profits in agreed proportions
- Assets in-kind
- Up-front payments

Sources: Based on Cervero and Murakami 2009.

Note: MTR = mass transit railway.

HK SAR: R+P Mechanism (2)



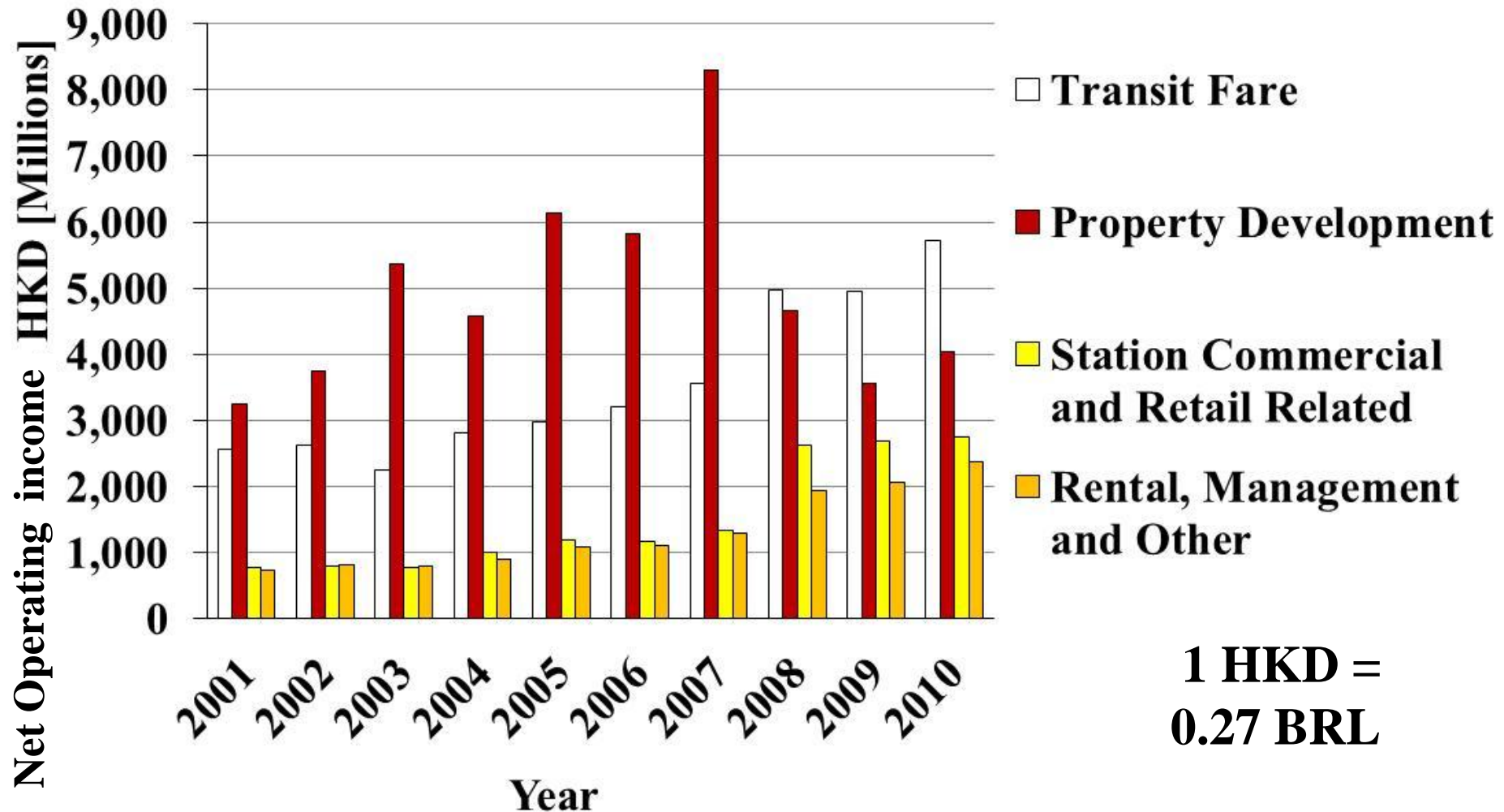
Source: Based on Hong Kong SAR, China, Mass Transit Railway (MTR) route maps and other maps.

Note: R+P = Rail Plus Property.

MTR Corporation



MTR Corporation, 2001-2010



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%)

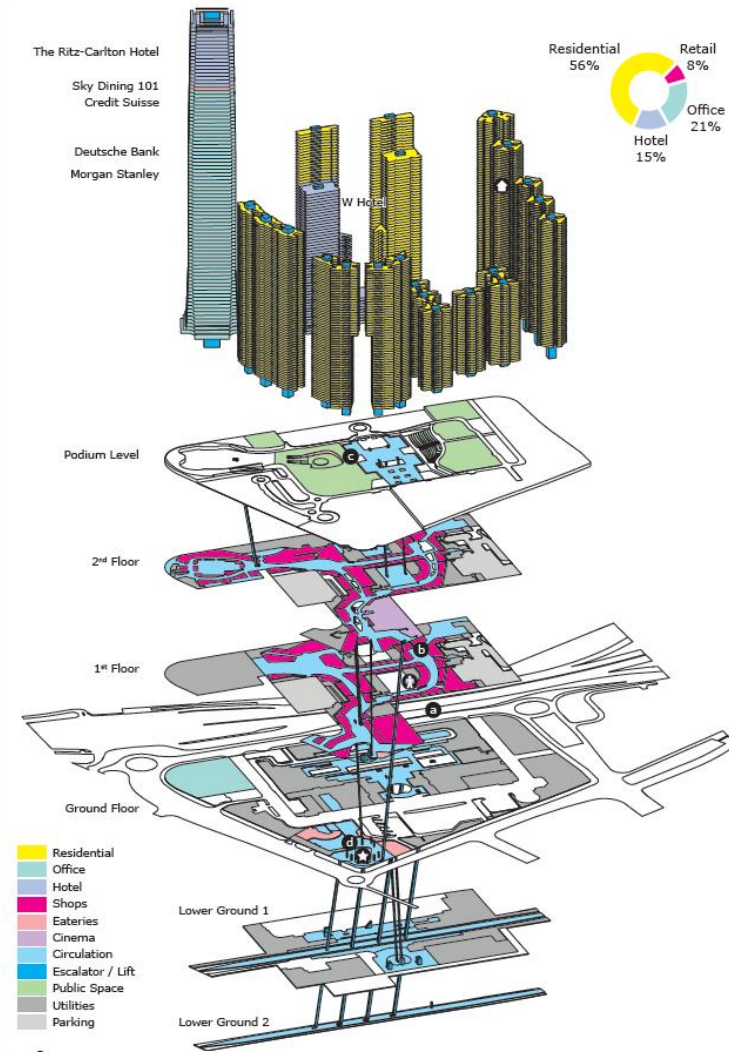
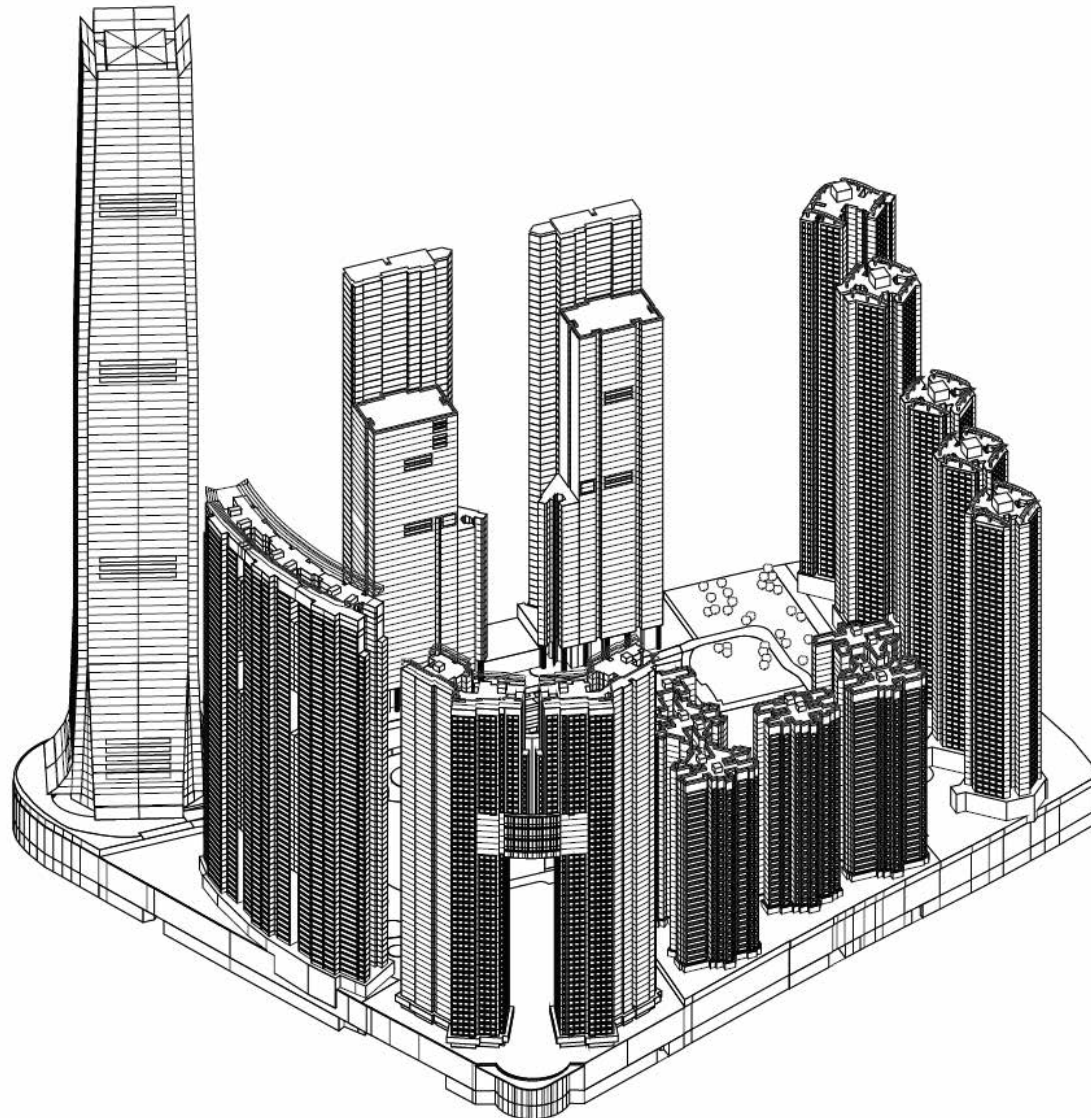
Parking... **650** lots

F.A.R... **14.43**



Integrated Development Package

Kowloon Station (1998-2010): 13.5 ha



Source: AL Stephan (2013)

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%)

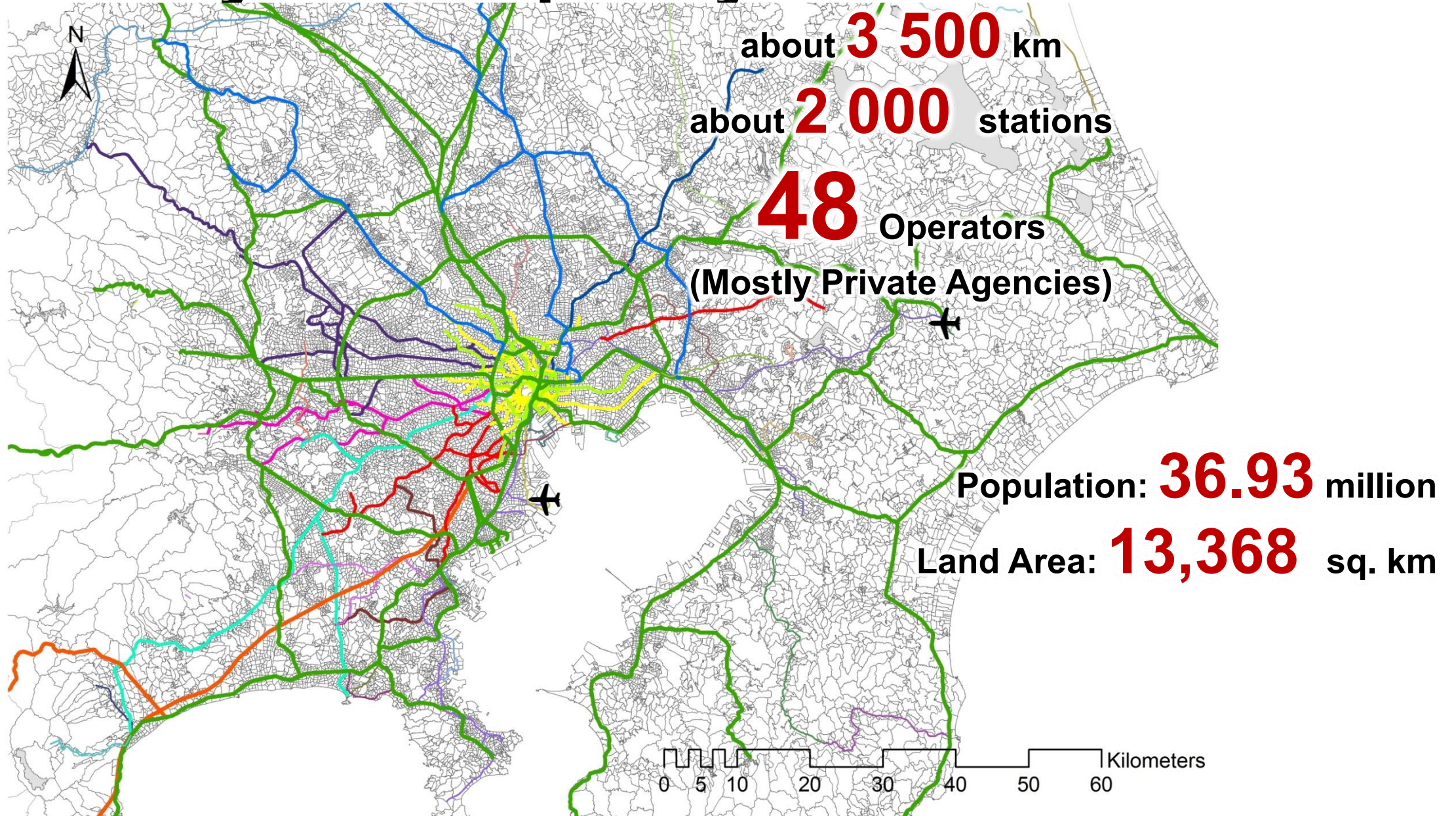
Parking..... **3,869** lots

F.A.R... **4.76**

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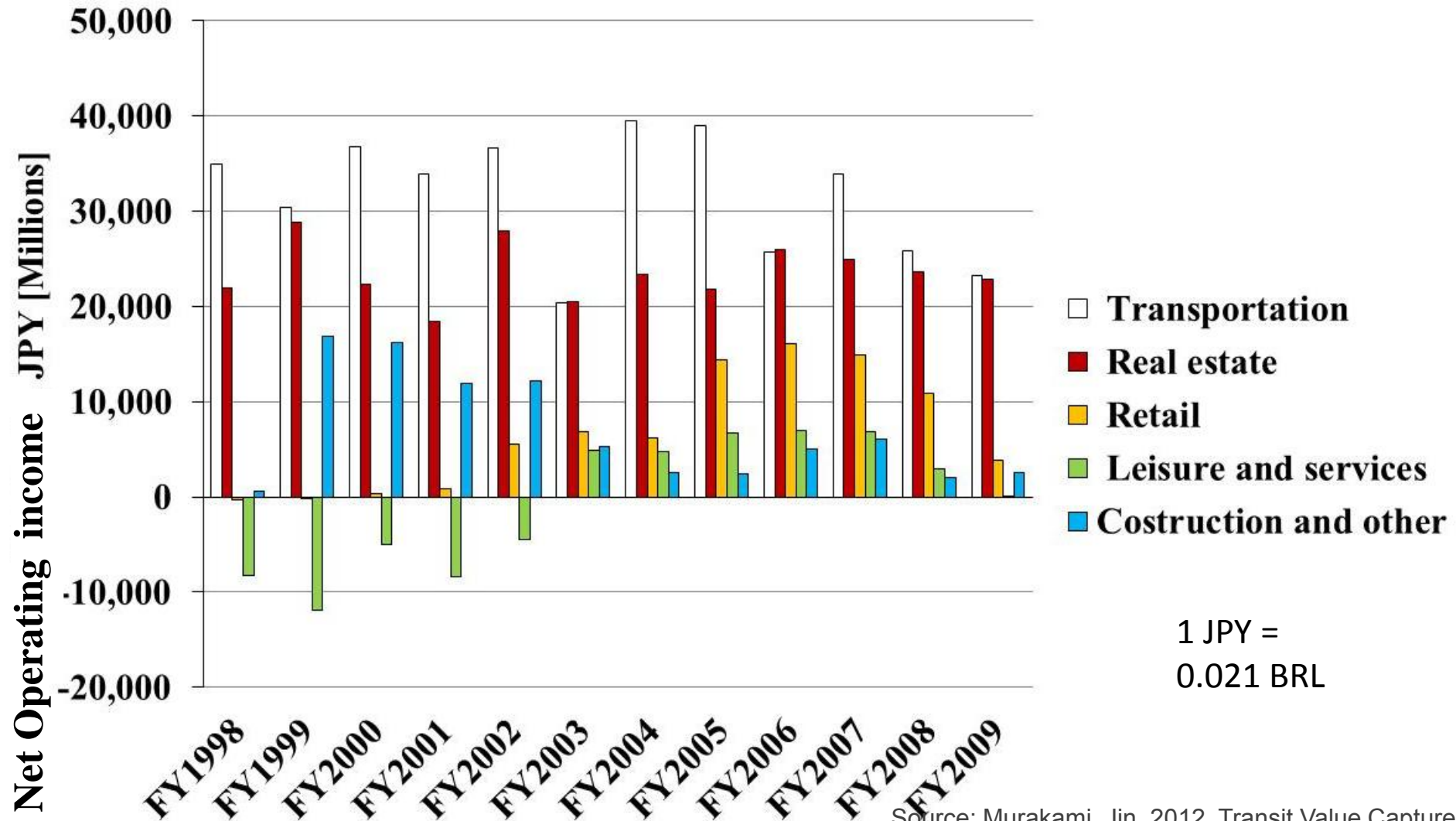
Tokyo: Multiplicity



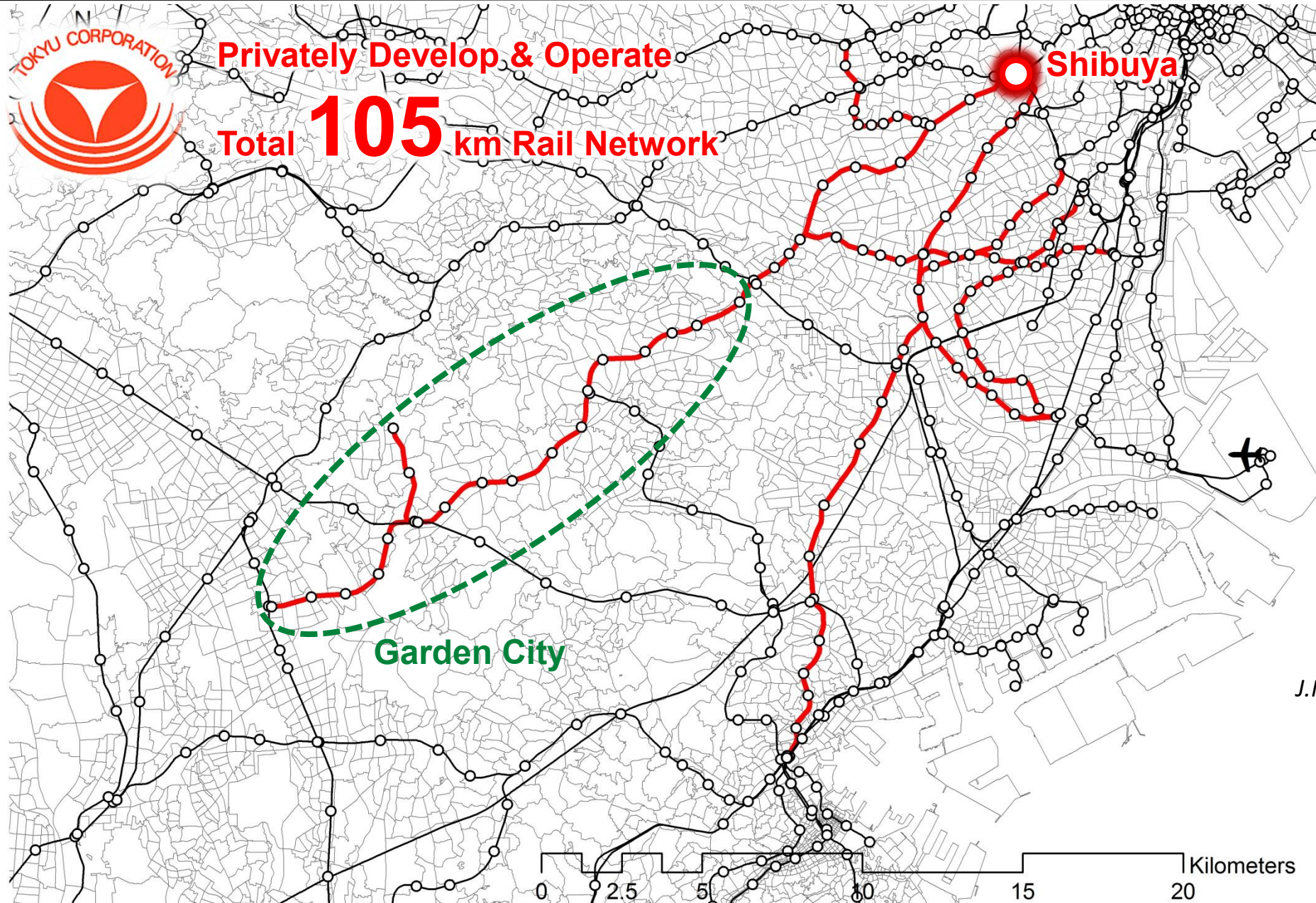
Example 1: Tokyu Corporation (1)



Tokyu Corporation, 2001-2009



Example 1: Tokyu Corporation (2)



Example 1: Tokyu Corporation (3)

Garden City Line & New Town Development 2,983 ha (1960-1980s)



Tokyu Corporation

Example 1: Tokyu Corporation (4)

Futagotamagawa Station Redevelopment 11.2 ha (2000-2015)



Tokyu Corporation

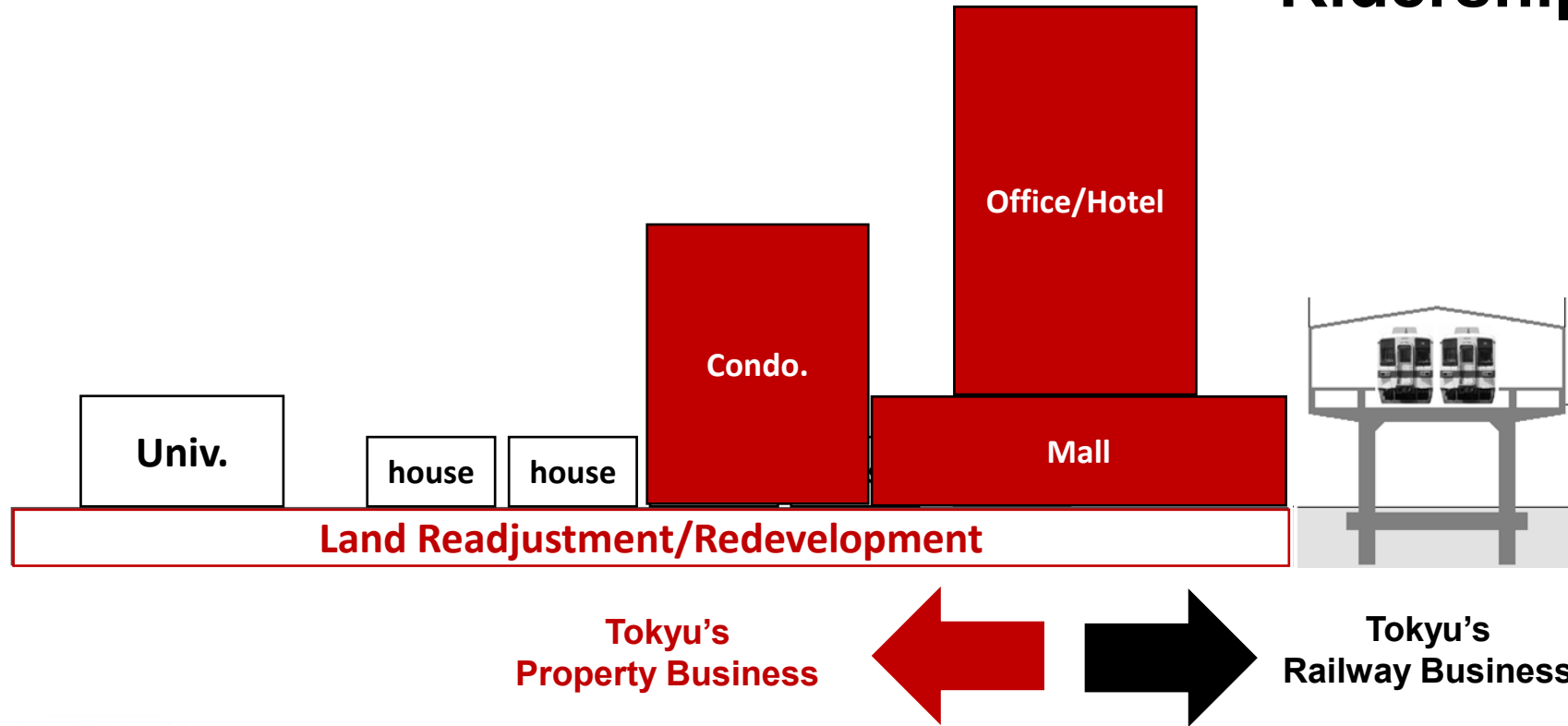
Source: Tokyu Corporation 2013

Example 1: Tokyu Corporation (5)

Corporate Ownership & Stewardship Model

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

Very High Ridership



J.Murakami



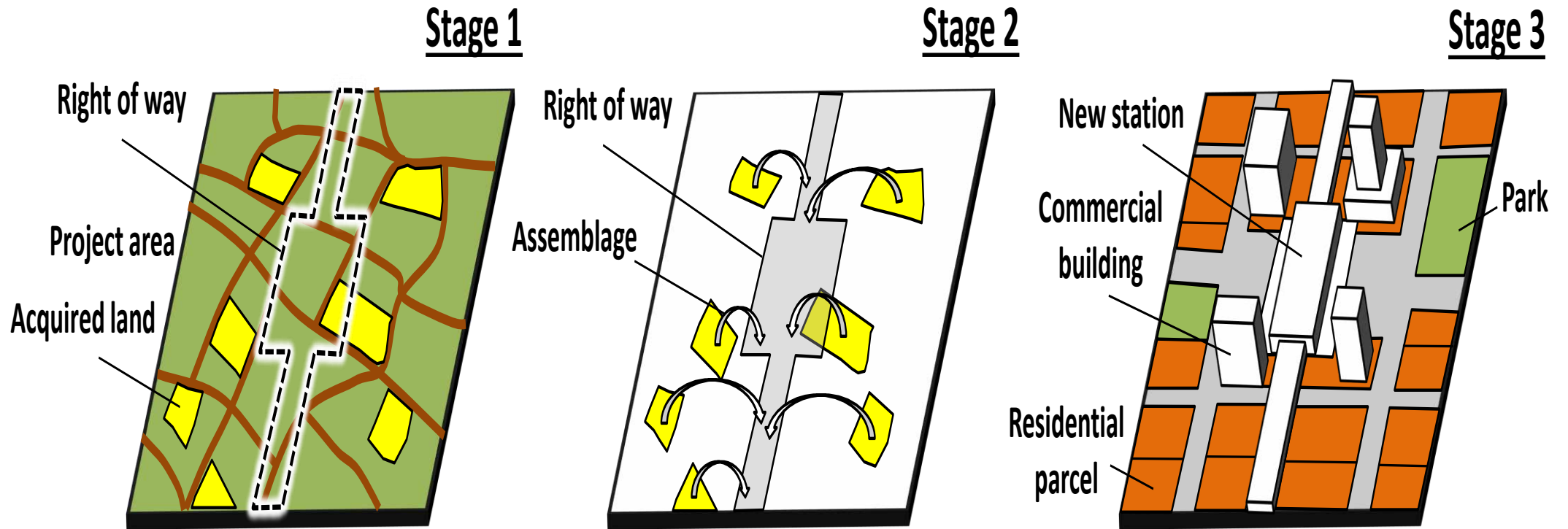
Group's Intergenerational Resource Allocation

Example 2: H-R Integration (2)



Mistui Fudosan

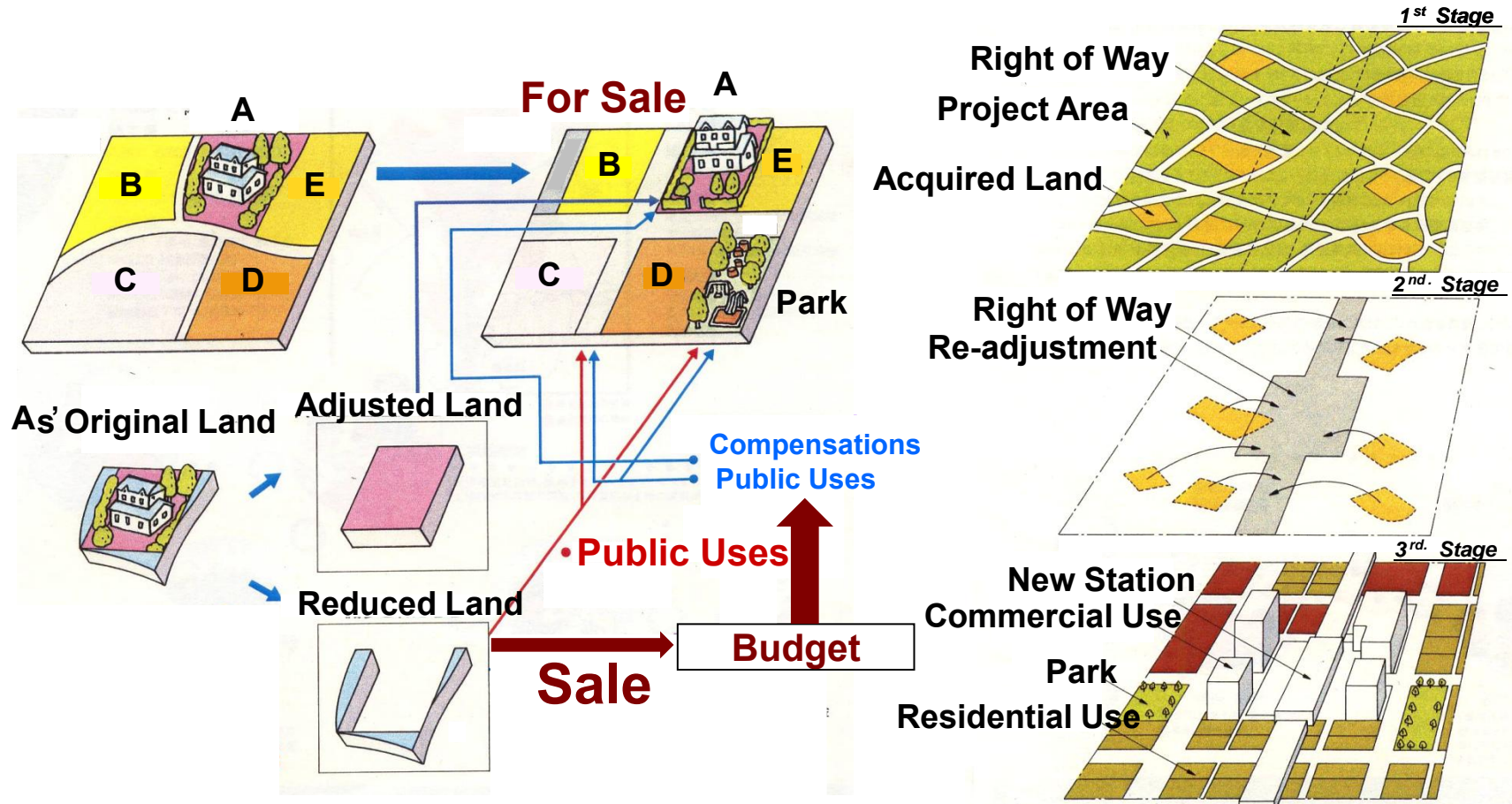
Application of Land Readjustment to Transit Project



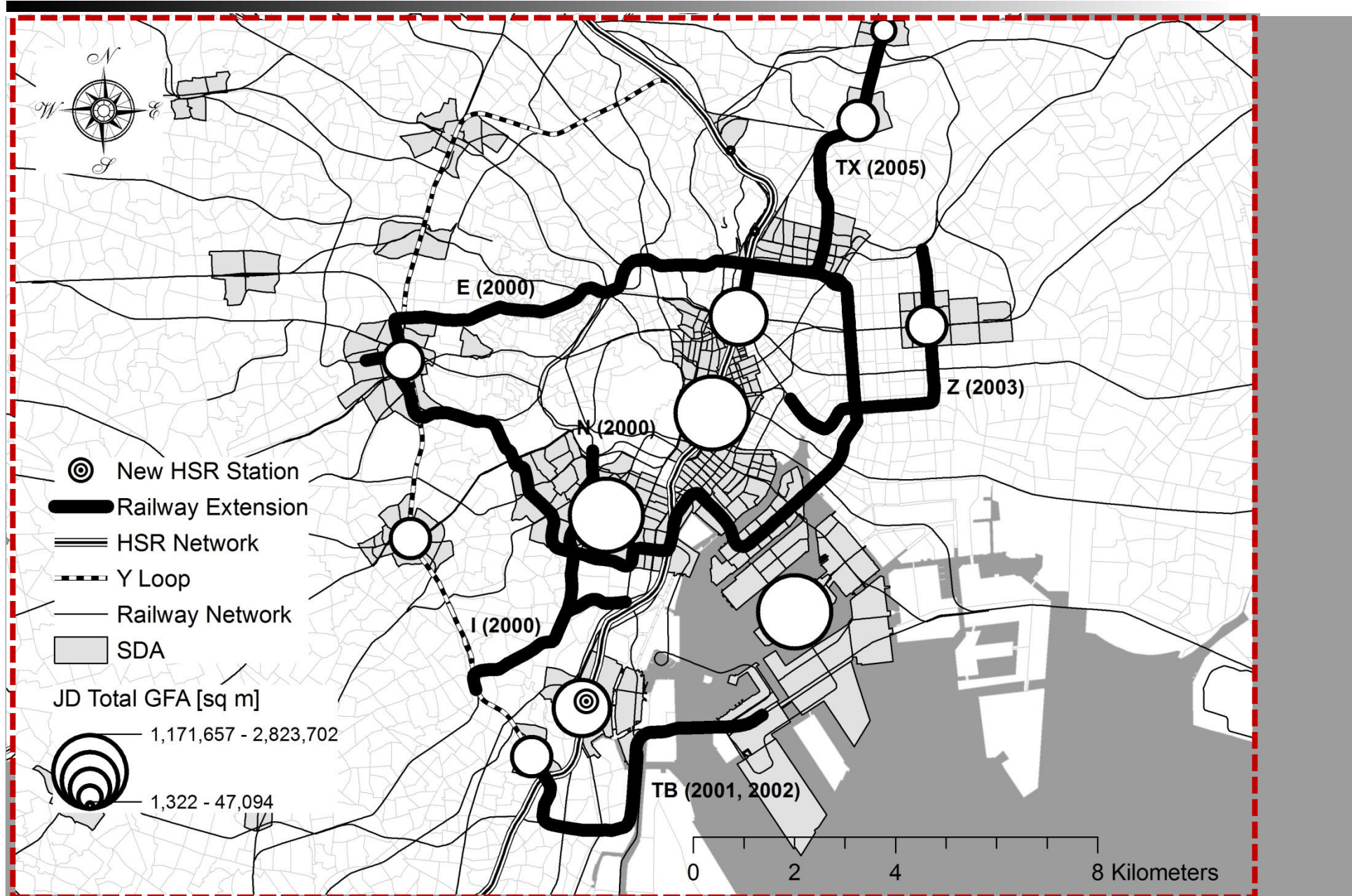
Example 2: H-R Integration (2)

Integrated H-R Land Readjustment: Mechanism

<Local Governments, Housing Agencies, Land Owners>



Example 3: Depot Redevelopment (1)

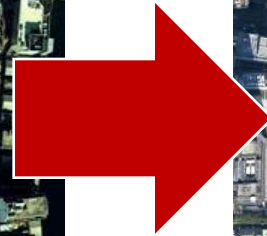
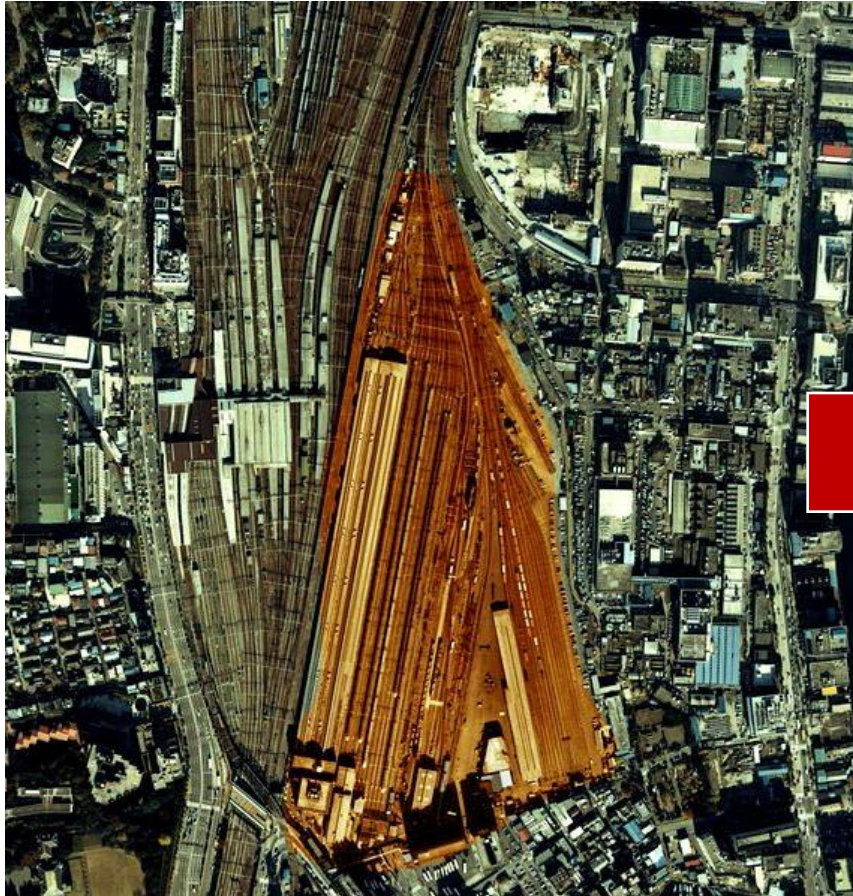


Jin Murakami

Example 3: Depot Redevelopment (2)

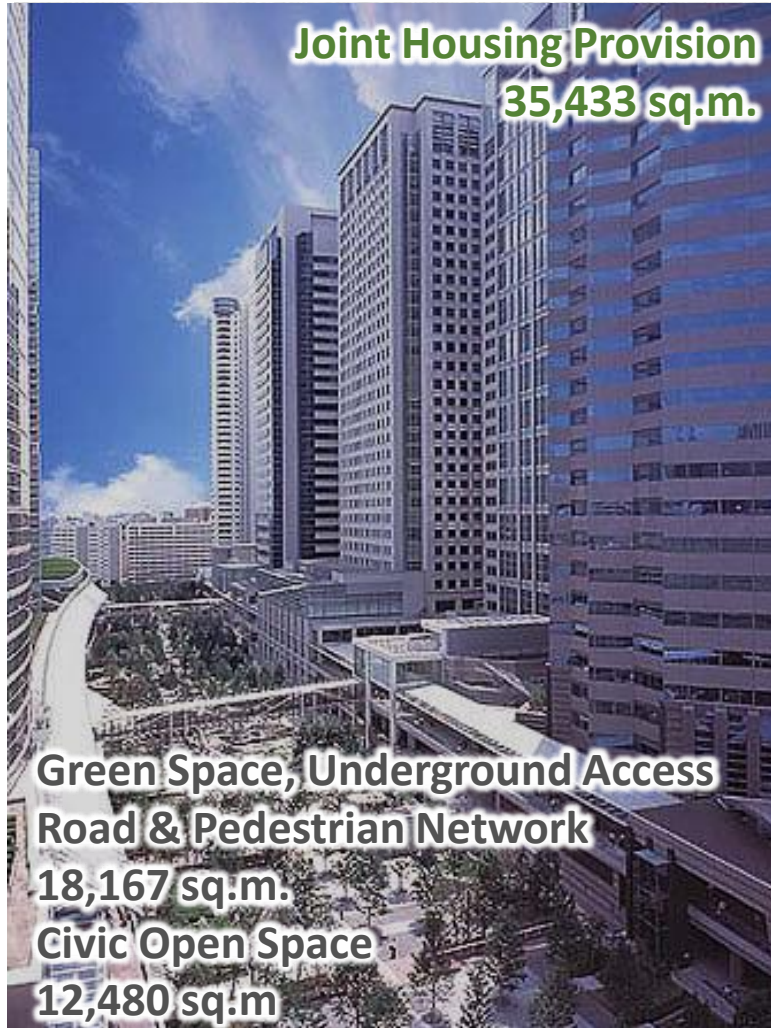
JNR Yard: National Land Sales

Shinagawa Station 16.2 ha (1992-2008)



Example 3: Depot Redevelopment (3)

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



FAR Assessment

Before
(Industrial Site)

4.0

4.0

Base
FAR

After
(Office Site)

9.5

+0.6

+1.9

7.0

Example 4: Tokyu Shibuya Station District Redevelopment (1)

Consecutive Urban Redevelopments
Through Restructuring Station-related
Infrastructure

HIKARIE Data

[Completion of construction] 2012

[Owner] Tokyu Corporation and others

[Total floor area] 144,000m² approx.

[Number of lines] 8 lines, 6 stations

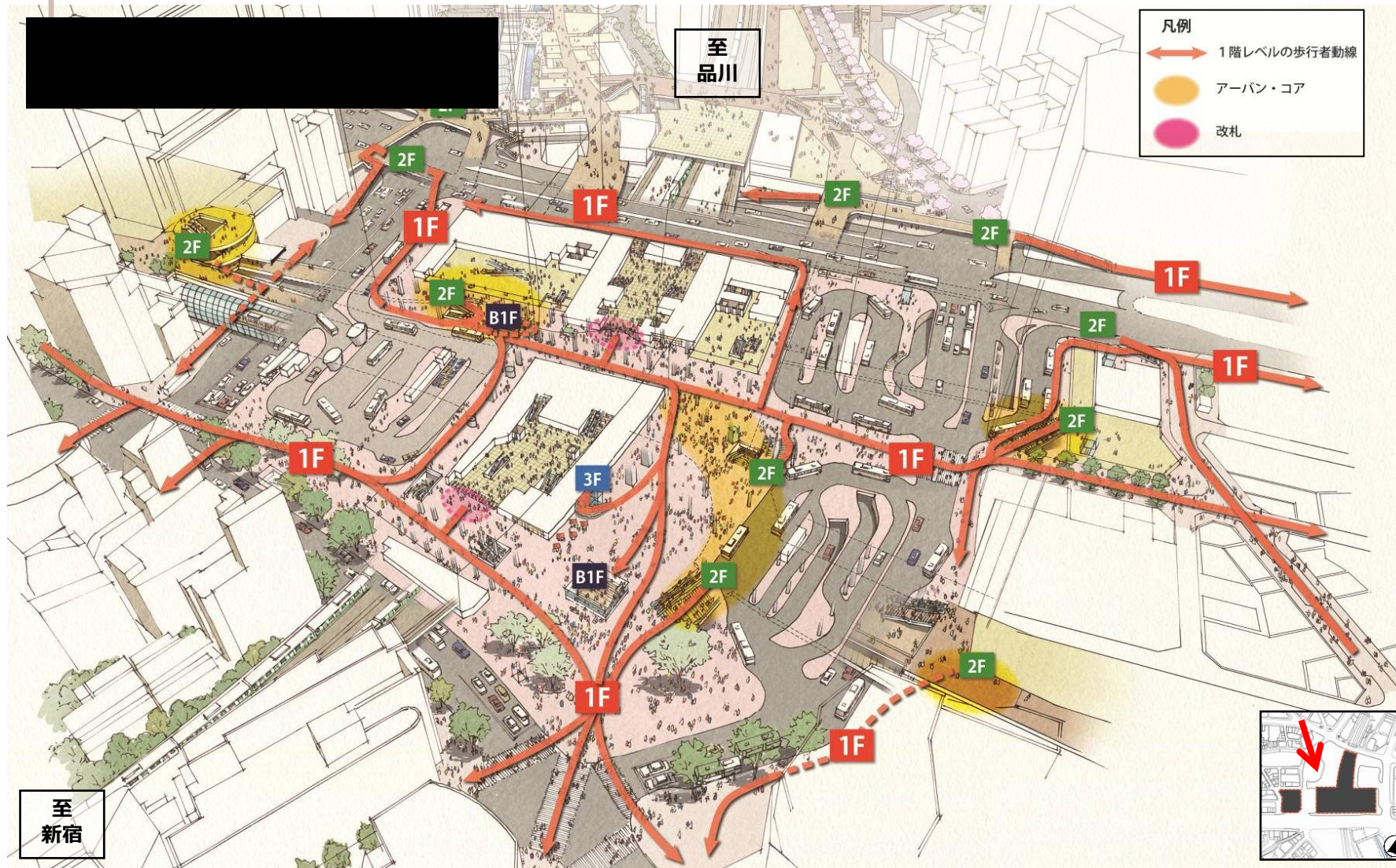
[Number of passengers] 3,000,000 persons per day approx.

Source: Nikken Sekkei Corp.

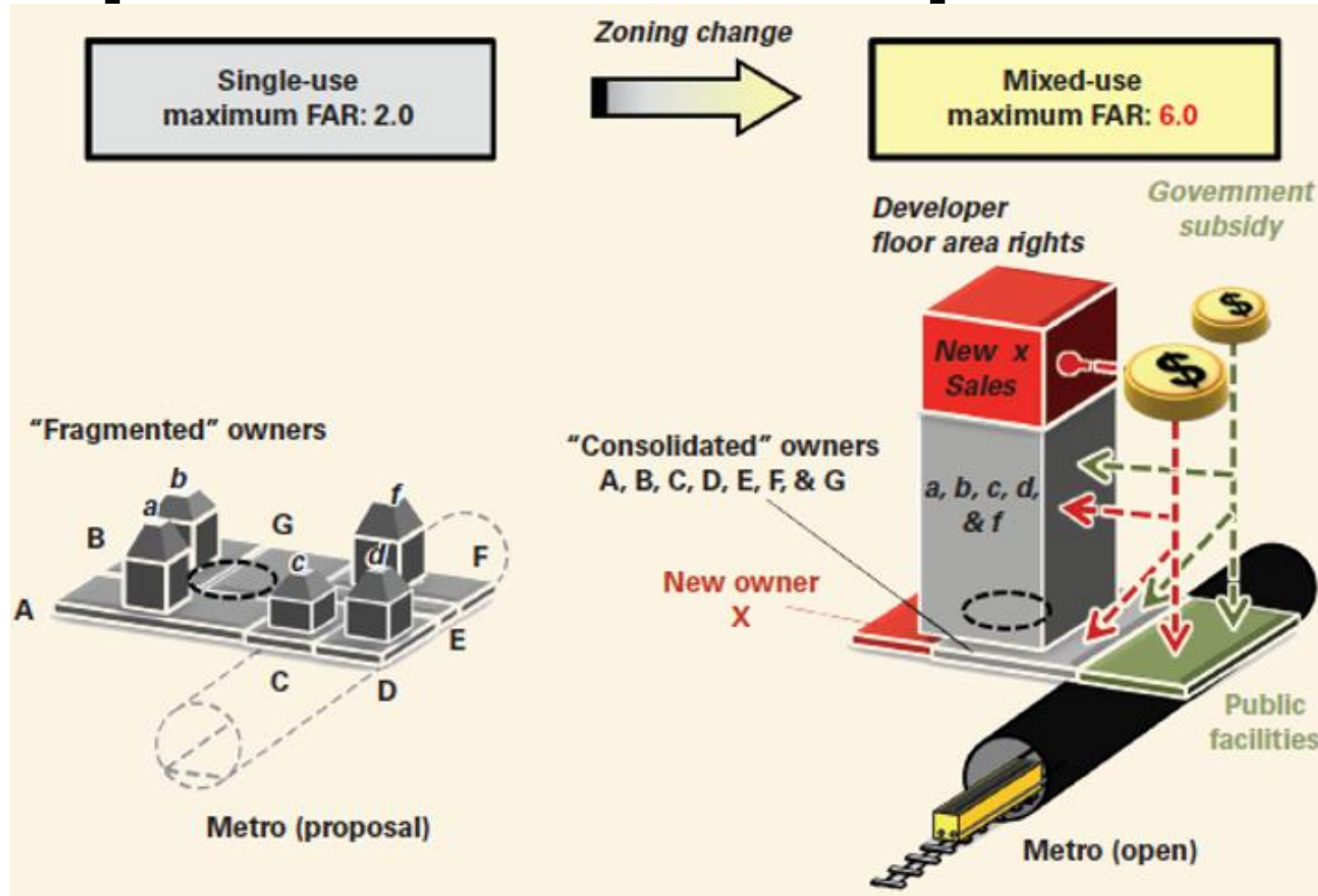


Example 4: Tokyu Shibuya Station District Redevelopment (2)

Shibuya Station



Tokyo: Strategic Inclusive Urban Redevelopment in Built-Up Areas



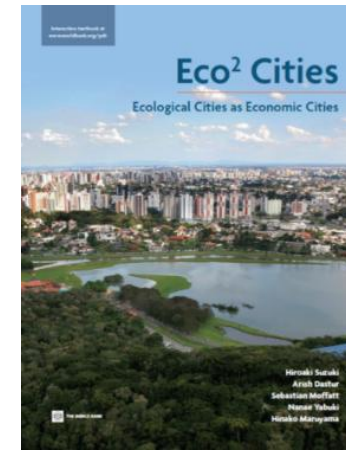
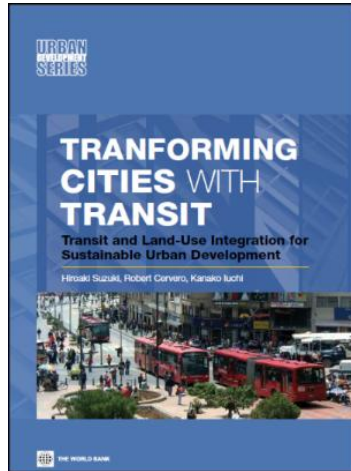
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Conclusion

- - ❑ TOD which creates articulated densities around transit hubs by locating amenities, employment, retail, and housing in close proximity—is one of the most effective ways to achieve sustainable urban development.
 - ❑ Collaborative efforts of municipalities, transit agencies, developers, landowners, and communities can maximize LVC premium. In this joint value-creating and sharing exercise, municipalities and transit agencies can contribute significantly to value creation either through zoning changes (FARs and land use) or through transit investment.
 - ❑ The rapid population increase and robust economic growth in rapidly growing cities in developing countries, particularly in middle-income countries, are certainly favorable for development-based LVC.

THANKS

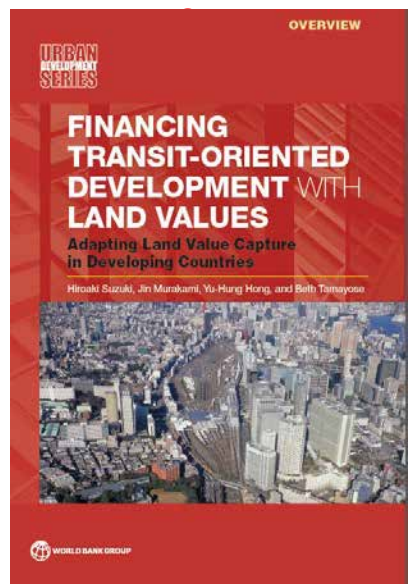


TOD

LVC

New Book

Sustainable Urban Development



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<https://openknowledge.worldbank.org/handle/10986/2453>

Spare Slides

- Introduction: TOD, Urban Sustainability and Finance
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- Key Findings and Enabling Factors for Adapting DBLVC in Developing Countries

Key Findings

Inclusive Value Creation

The rationale behind development-based LVC is creating and sharing incremental value among the governments, transit agencies, developers, businesses, and residents in and around stations.

Public Land Ownership Is Important but not Absolutely Necessary

Development-based LVC is a value creation exercise rather than a simple sale of public land or lease of land use rights.

Sound Planning Principles

DB LVC should be based on sound planning principles that increase the benefit of society as a whole.

Enabling Factors (1)

❑ ***Macro Fundamentals***

Demographic and economic fundamentals are paramount when applying development-based LVC. But even under slow economic growth, municipalities and transit agencies can adapt it to maximize accessibility and agglomeration premiums around selected station areas where the economic potential has not yet been fully realized due to inadequate land uses and outdated zoning codes.

❑ ***Visionary Master Plans***

Policymakers must emphasize transit infrastructure as the spine of spatial development strategies in their visionary plans, helping guide planning, funding, construction, and operations in a way that supports transit.

❑ ***Flexible Zoning***

Development-based LVC facilitates negotiations among planning authorities, transit companies, developers, landowners, and local stakeholders for mutual interests and benefits. So zoning codes and site design parameters around stations should be flexible enough to meet changing market demands and diverse local needs.

Enabling Factors (2)

❑ ***Multiple Funding Sources Needed***

Development-based LVC should not be regarded as a single funding source to fill any funding gaps.

❑ ***Intergovernmental Collaboration***

Development-based LVC requires multiple government entities to work together to deliver innovative transit-related projects and programs, and that is one of the biggest challenges in many cities of developing countries. A single local government body—which includes transit agencies—could coordinate planning, design, land acquisition, construction, operation, and asset management to sustain collaborative relationships and actions.

❑ ***Entrepreneurship***

Transit agencies need to become entrepreneurial as they manage development-based LVC's evolving process from a simple tool of short-term corporate or project finance to a strategic model of long-term urban finance and development—mainstreaming property development and asset management around stations as a part of their businesses.

❑ ***Clear, Fair, and Transparent Rules***

The underlying principle of development-based LVC is the joint creation and sharing of land value increment. Creating development opportunities among voluntary public-private contributors in a collaborative effort can generate additional values and greater synergies. Thus, it is essential to establish clear and fair rules for sharing costs, benefits, and risks among stakeholders.

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- ❑ Key Findings and Enabling Factors for Adapting DBLVC in Developing Countries
- ❑ **Summary**