

SUSTAINING TRANSPORT INFRASTRUCTURE INVESTMENT

A Value Capture Perspective for Asia's Cities

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- Asia will be home to nearly 200 large cities (> 1m people) by the year 2030, with almost 900 million people.
 - The top 40 cities will host nearly 70% of these people, ie. ~600 million people.

BANGKOK TOPS THE CHART AGAIN WITH THE WORST ROAD TRAFFIC CONGESTION

By BLPT - June 1, 2018 702 0



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Economics Sign In

Jakarta to Topple Tokyo as World's Biggest City by 2030

By [Thomas Kutty Abraham](#) Photographer: Dimas

- Population of Indonesian capital seen surging to 35.6 million
- Tokyo



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Manila is the most crowded city in the world — like

Chris Weller Aug. 4, 2016, 2:06 PM

ScoopWhoop ⌵ ⋮

Step Aside Mumbai & Bengaluru, Chennai Officially Has The ...

Manila: New projects are in the pipeline, but hefty price tag.



Source: Build.gov.ph, August 2018.

TOTAL COST OF NEW NCR RAIL PROJECTS: \$14.6bn (5% of GDP)

Value Capture?

“

A set of mechanisms used to monetize the increase in land values that arise in the catchment area of public infrastructure projects.

”

Transport for London

Value Capture: A Beneficiary Funding Perspective

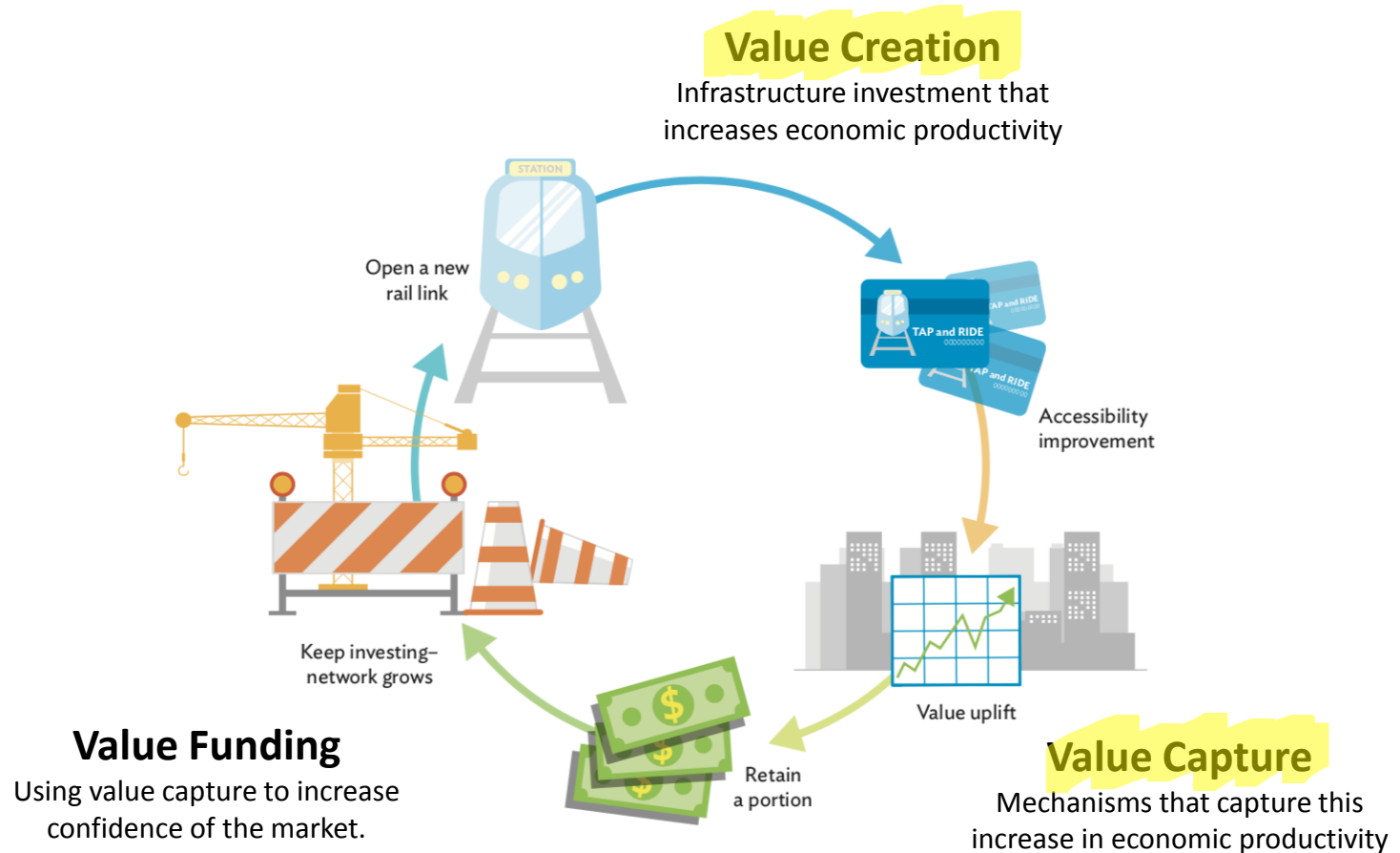


- **“Beneficiary Funding” mindset:** *those who benefit from an investment should contribute proportionately to funding it.*
- When doing this, one must take a holistic view of benefits—both user and non-user benefits.

Source of Value Capture

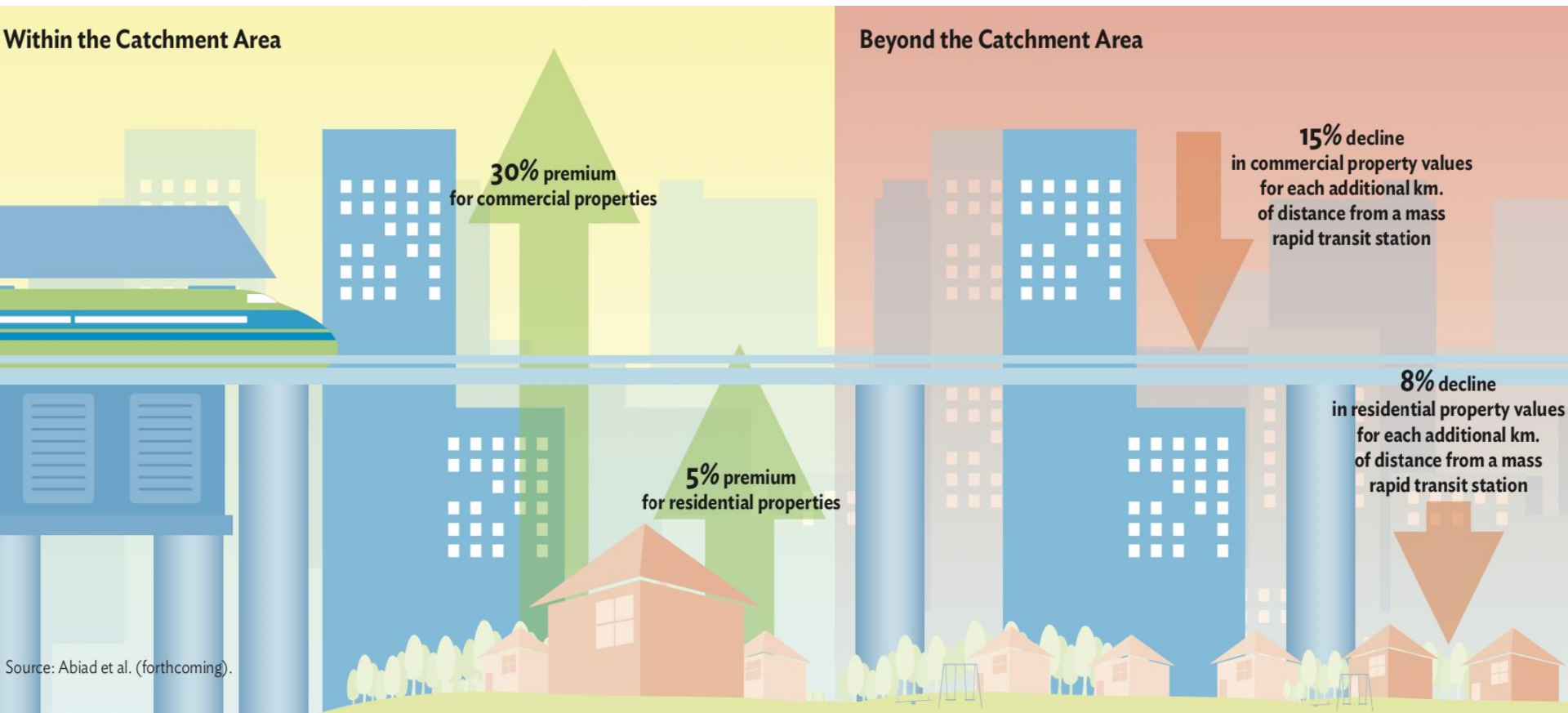
- **User Pays:** Usage-based charges (ie. Transit fares, toll charges, public utility charges)
- **Government Pays:** Through subsidies, upfront public funding, grants to balance increased collection of local, provincial and national taxes (increased productivity resulting in higher income taxes)
- **Beneficiary pays:** Landowners who benefit from improved access/better services

Virtuous Value Cycle



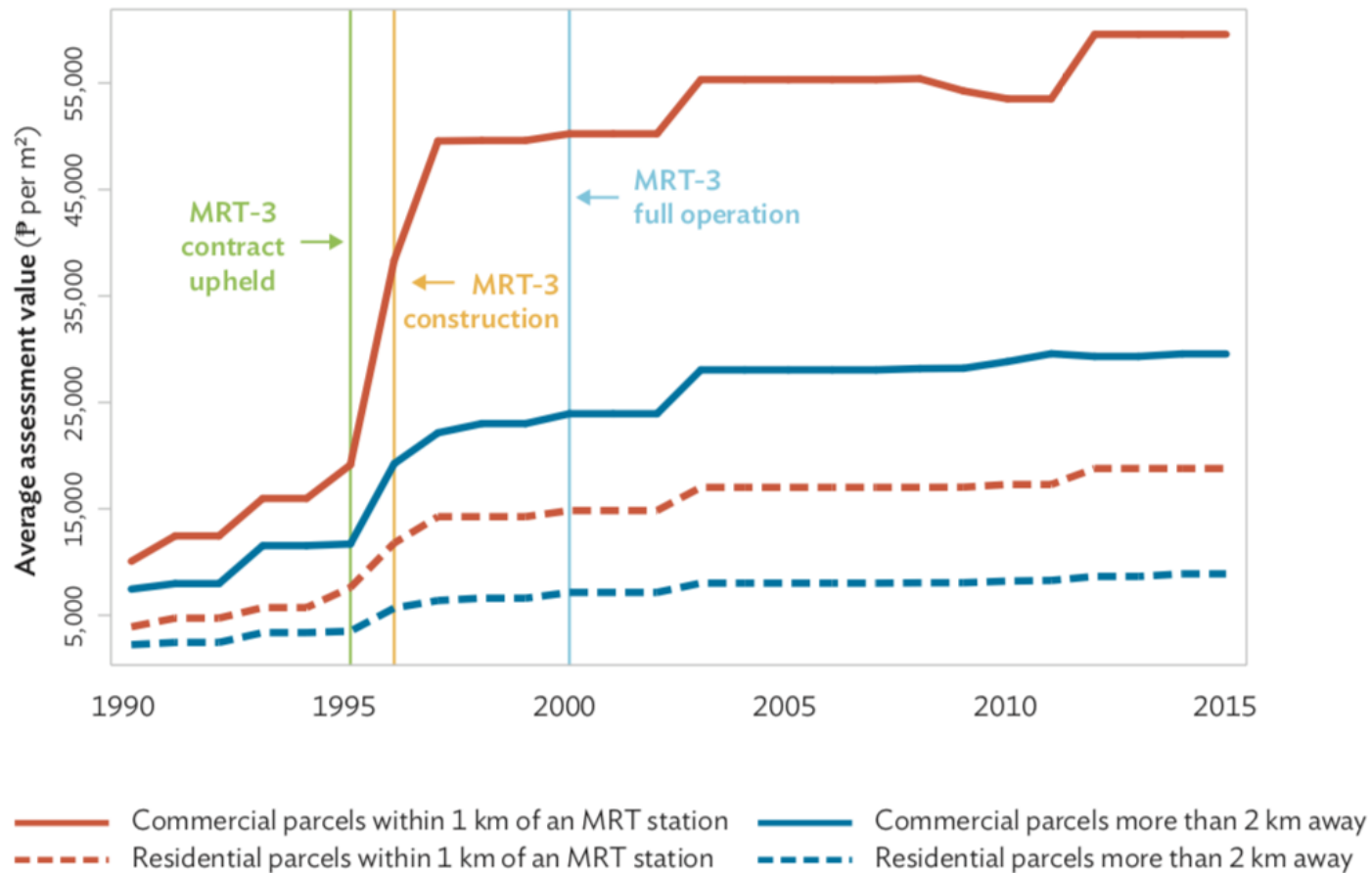
Value Creation: Does mass transit affect property values?

Figure 3.2: International Evidence on the Effect of Mass Rapid Transit on Property Values in Developing Economies



Value Creation: Evidence from Manila...

Figure 3.12: Evolution of Commercial and Residential Land Values

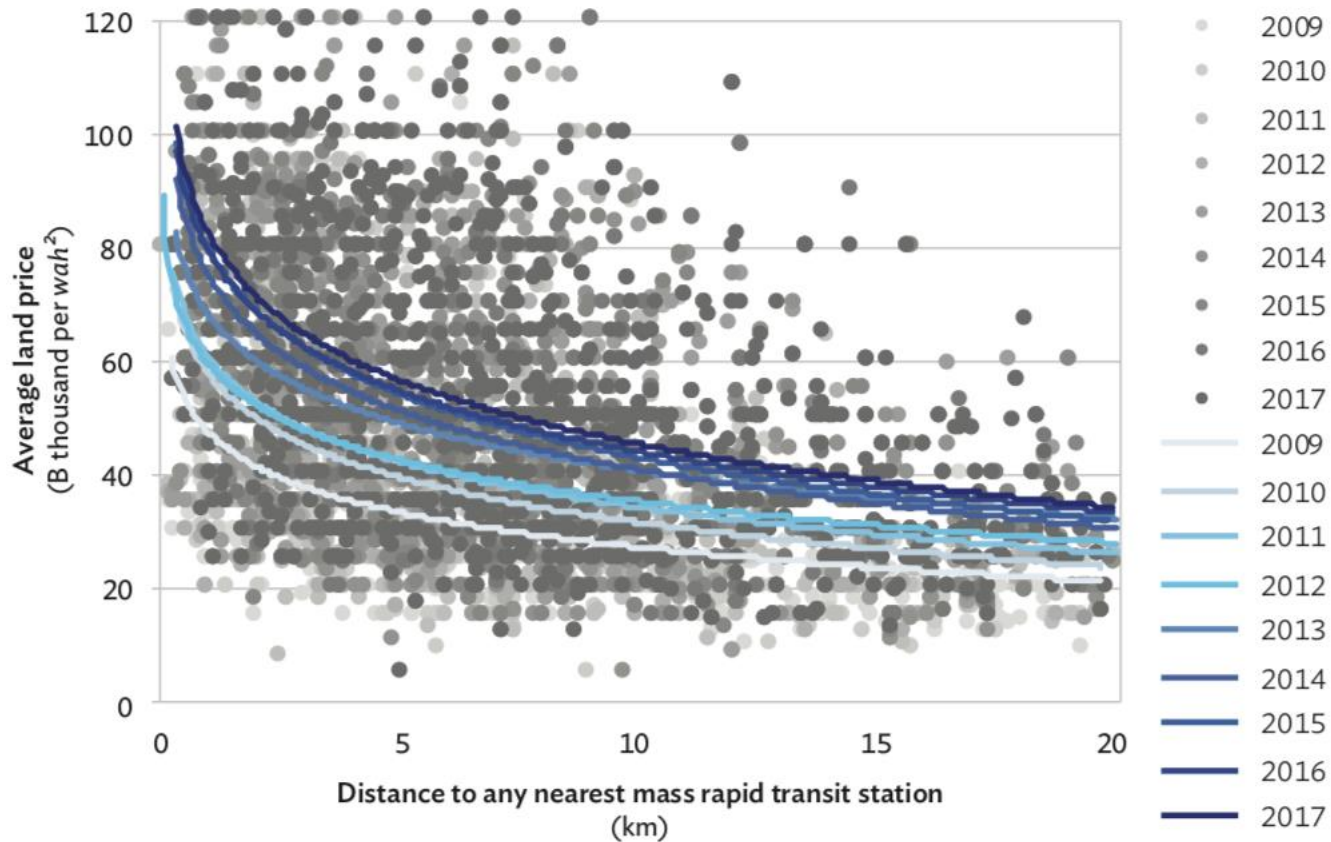


m² = square meter; MRT = Metro Rail Transit.

Source: Abiad and Adona (forthcoming).

Value Creation: Evidence from Bangkok...

Figure 3.5: Average Land Price of Residential Projects in the BMR and Distances to the Nearest Mass Rapid Transit Station, with Logarithmic Trendlines, 2009-2017

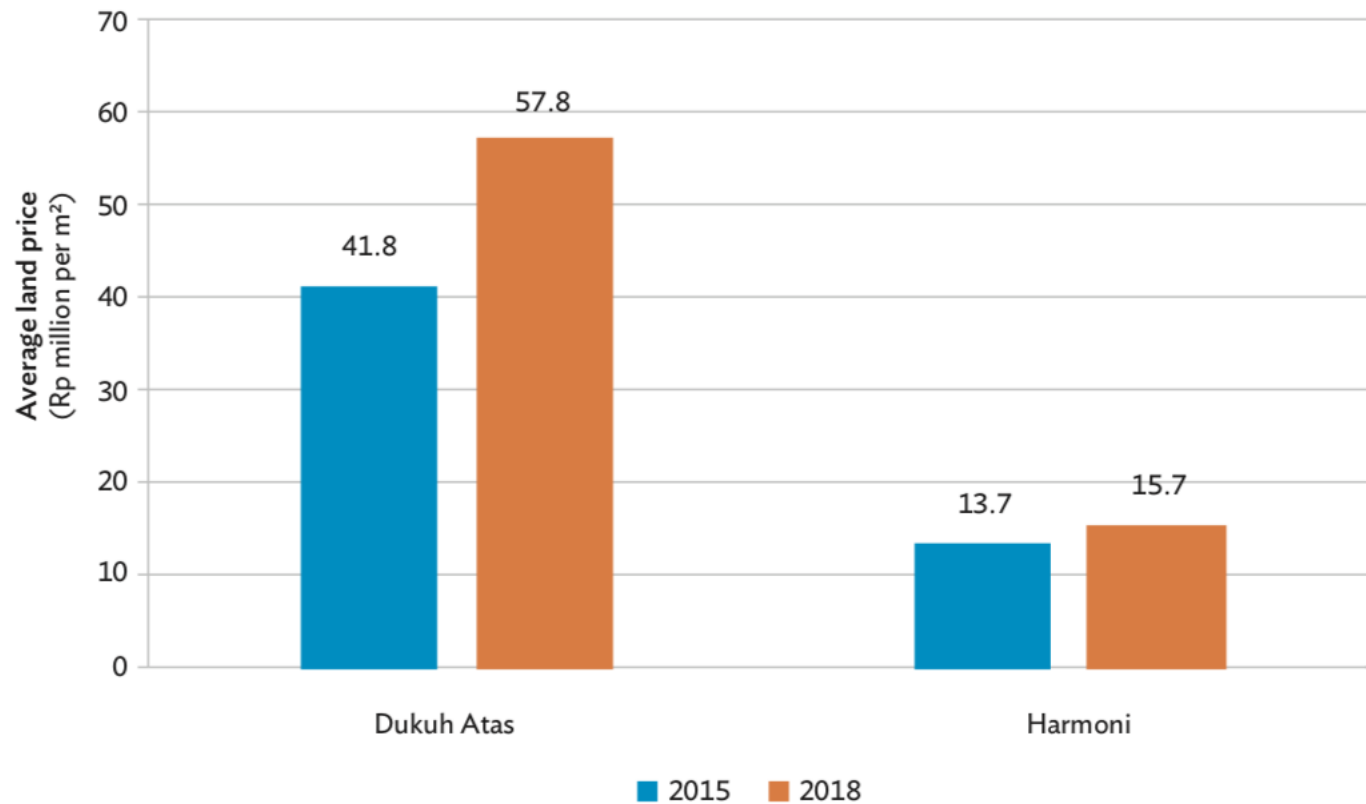


B = baht; BMR= Bangkok Metropolitan Region; km = kilometer; wah² = 4 m².

Source: Anantsuksomsri et al. (forthcoming).

Value Creation: Evidence from Jakarta...

Figure 3.10: Average Land Values in Dukuh Atas and Harmoni Areas, 2015 and 2018

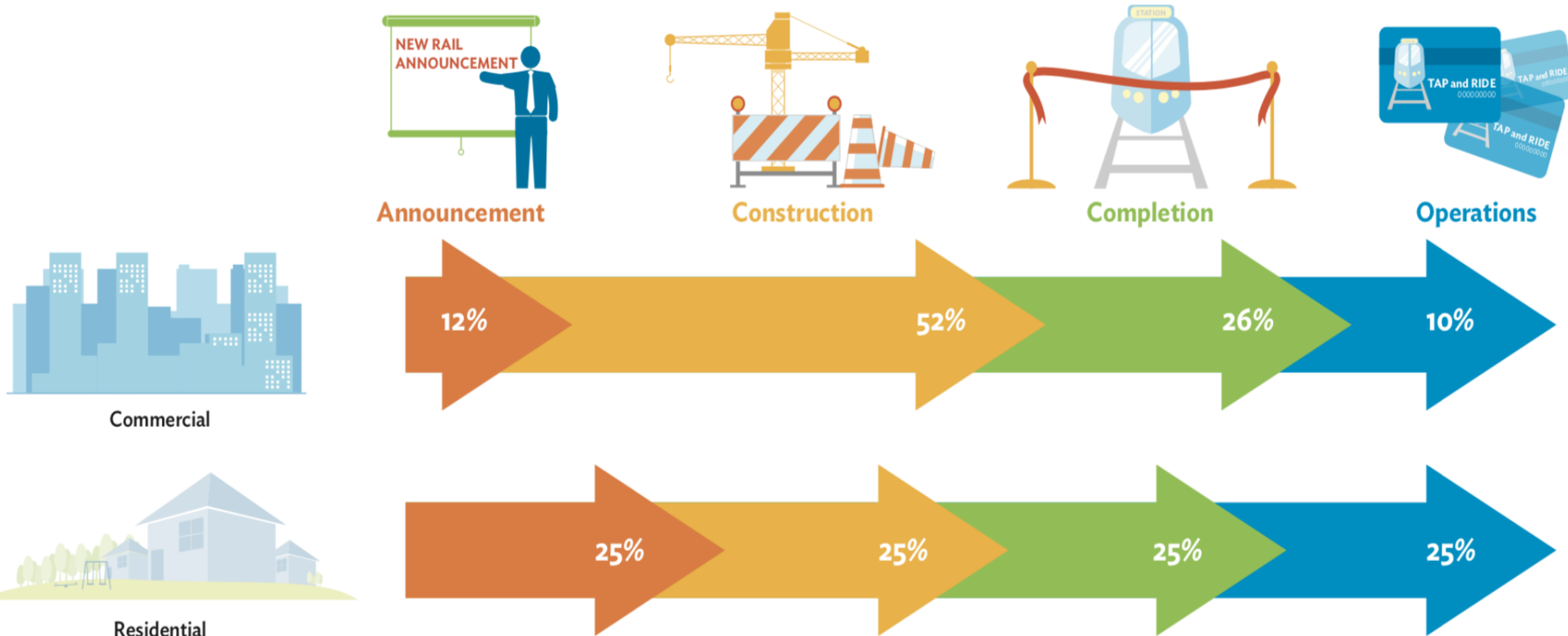


m² = square meter; Rp = rupiah.

Source: Syabri and Winarso (forthcoming).

When does the value creation happen?

Figure 3.13: Project Phasing and Value Impact: Evidence from Manila's MRT-3



Source: Abiad and Adona (forthcoming).

Value Capture Mechanisms...

How do we capture the value created to finance existing and future mass rapid transit in cities?

There are two main modalities through which this can occur:

1. Value-capture through Development
2. Value capture through Tax or Fee.



1: Value Capture Through Development

LVC Instrument		Description
Development-Based	Land Sale or Lease	Government sells developers land or land use right for either an upfront payment or longterm lease
	Joint Development	Well-coordinated transit-oriented development where transit agency contributes land and developers bring capital and expertise, and both benefit from increased property value
	Land Readjustment	Landowners pool their land together for reconfiguration and contribute a portion of their land for sale to raise funds to partially defray infrastructure development costs
	Urban Redevelopment Financing	Landowners, developers and local government work together to maximize value from development around transit stations

Hong Kong's Rail + Property Joint Development

In 2014: 221 kms of track, Ridership of 5 million/day, Average fare < \$1, Annual Profit: \$1.5 billion.

MTR enables greater value creation and capture potential

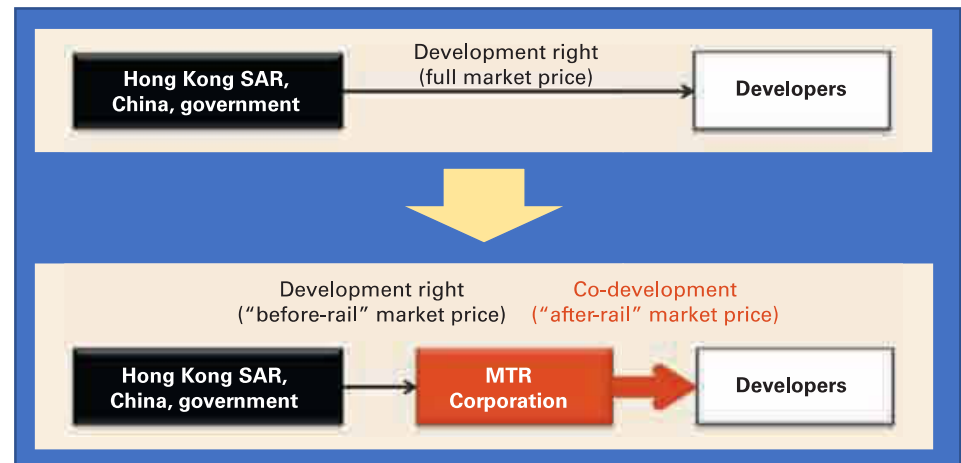
- Lowers the costs and risks by coordinating the design of metro system and properties above.
- Negotiates for more favorable zoning code just as a developer would

Structure/scale mobilizes private investments

- Large value creation potential
- Clear rules around profit sharing

Eliminates significant transaction costs/delays

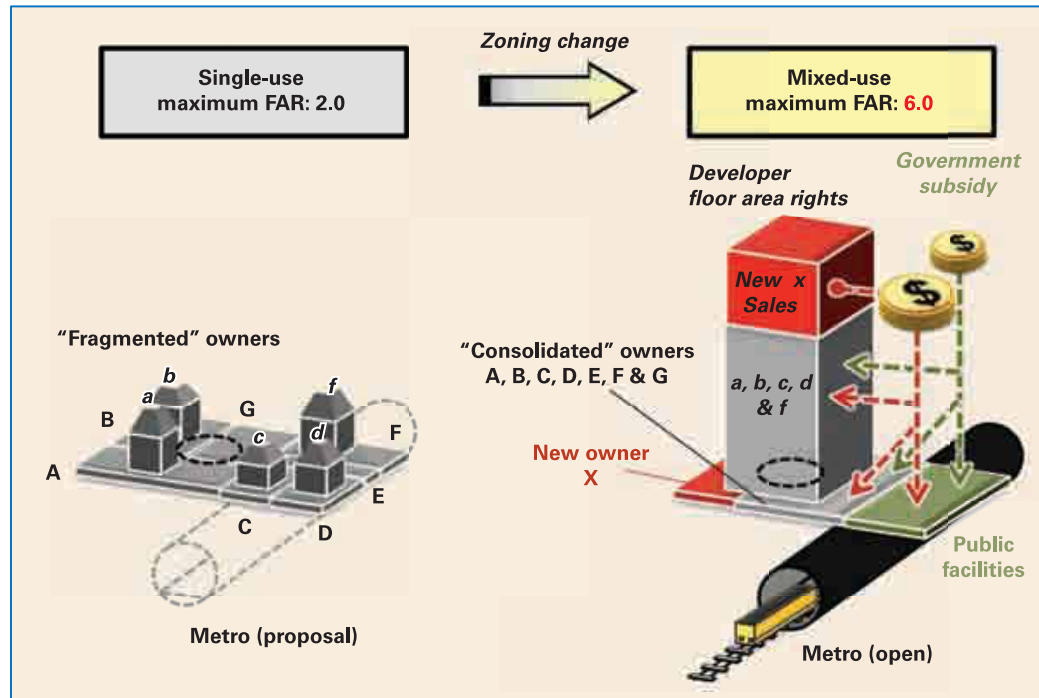
Save the legal procedure for property registration, value appraisal, and enforcement



Source: World Bank (2015)

1: Value Capture Through Development

Tokyo's land readjustment and urban redevelopment around transit stations



Source: World Bank (2015)

Construction of taller, higher quality transit-oriented redevelopment by assembling "fragmented" owners

Capturing value through such integrated/comprehensive redevelopment along transit stations requires:

- 1. a clear and collective vision,**
- 2. detailed data and planning, and**
- 3. strong collaboration between landowners, developers, transit agency (local + national govt)**

1: Value Capture Through Development



Infrastructure Cost of HYIC	Phase 1	
		Cost
	No. 7 Subway Extension	\$1.763 bil
	Eastern Railyard platform	\$351 mil
Open space & streets	\$361 mil	
Phase 2		
No. 7 Subway 41st Station	\$250 mil	
Midblock boulevard & parks	\$271 mil	
Total		\$3 bill

Identify Demand

- Need for office space to cool the market and remain competitive with other global centers

Placemaking

- Design, design, design.
- Mixed use spaces
- Parks
- Social diversity
- Improved accessibility

Value Creation

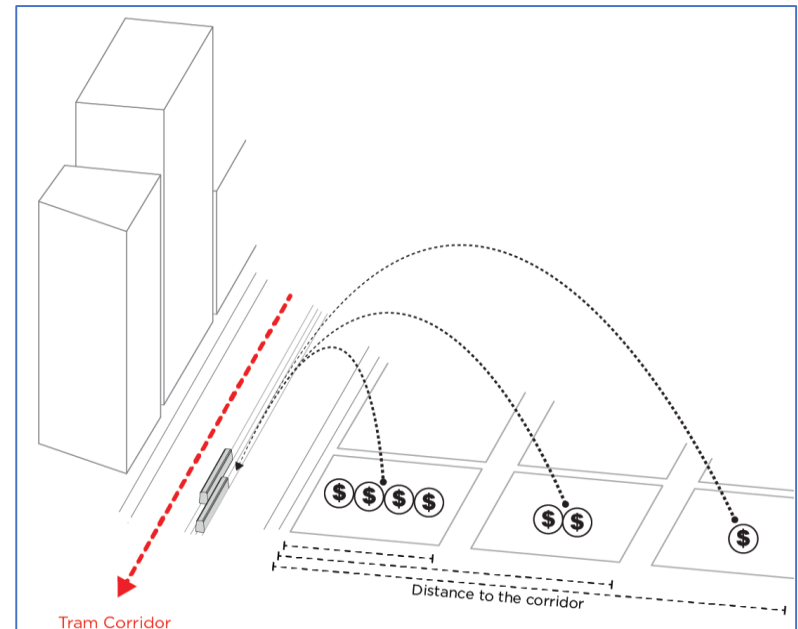
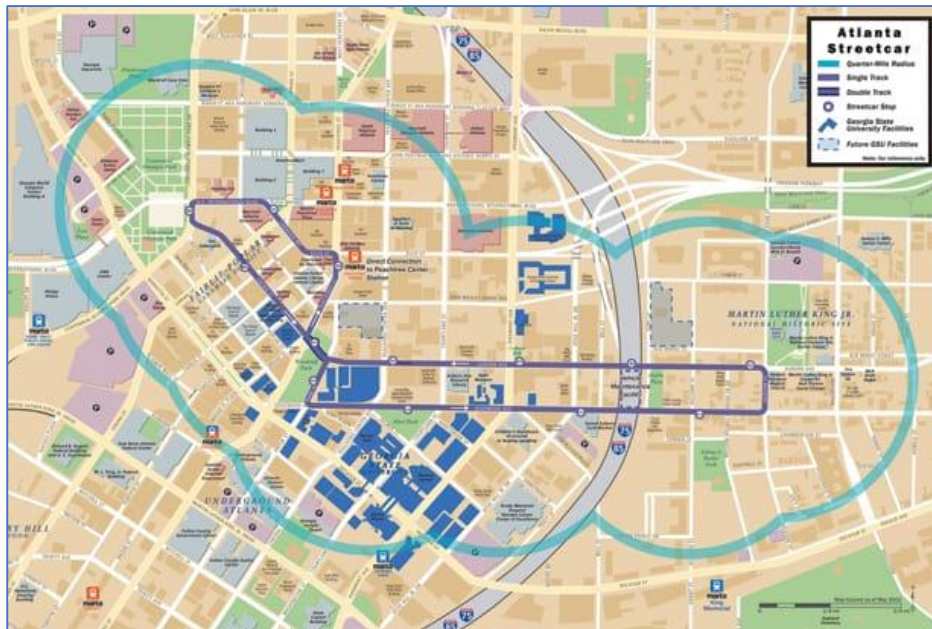
- Marketing as one of the three emerging CBDs of New York
- Rezoning from low-density manufacturing to high density mixed-use and long-term leasing.

Value Capture

- \$19b annually to New York's GDP
- \$500m in taxes and payments annually
- 55,000 new jobs.

2: Value Capture Through Tax/Fee

LVC Instrument		Description
Tax- or Fee Based	Property and Land Tax	Tax that is levied on estimated value of land (or land and buildings combined). Revenues usually go into budget for general purposes.
	Betterment Levies and Special Assessment Districts	Surtaxes imposed on properties expected to benefit from new or upgraded infrastructure services, equal to the estimated benefits created by public investments.
	Tax Increment Financing (TIF)	Ring-fenced surtaxes on properties within an area that will benefit from public investment used to finance municipal bonds against the expected increase in property tax.
	Developer Impact Fees	A one-time and up-front charge (or in-kind contribution) collected from private developers to pay



Implementation Opportunity: Broader catchment area

Implementation Challenge: equitable tax?because not everybody benefits equally

2: Value Capture Through Tax/Fee

Rosslyn-Ballston Corridor, Washington DC Region
1979



Arlington, a suburb of Washington DC, successfully lobbied for an underground alignment along the Rosslyn-Ballston corridor in center of the county rather than along the highway in the 1960s.

2: Value Capture Through Tax/Fee

Rosslyn-Ballston Corridor, Washington DC Region
2009



Arlington's transit-oriented land use policy has spurred almost \$8 billion of real estate investment along Rosslyn-Ballston corridor, generating significant taxes and development impact fees to finance the additional costs

**Sudirman Baru
Station (Airport
Railway)**

**MRTJ Dukuh
Atas Station**

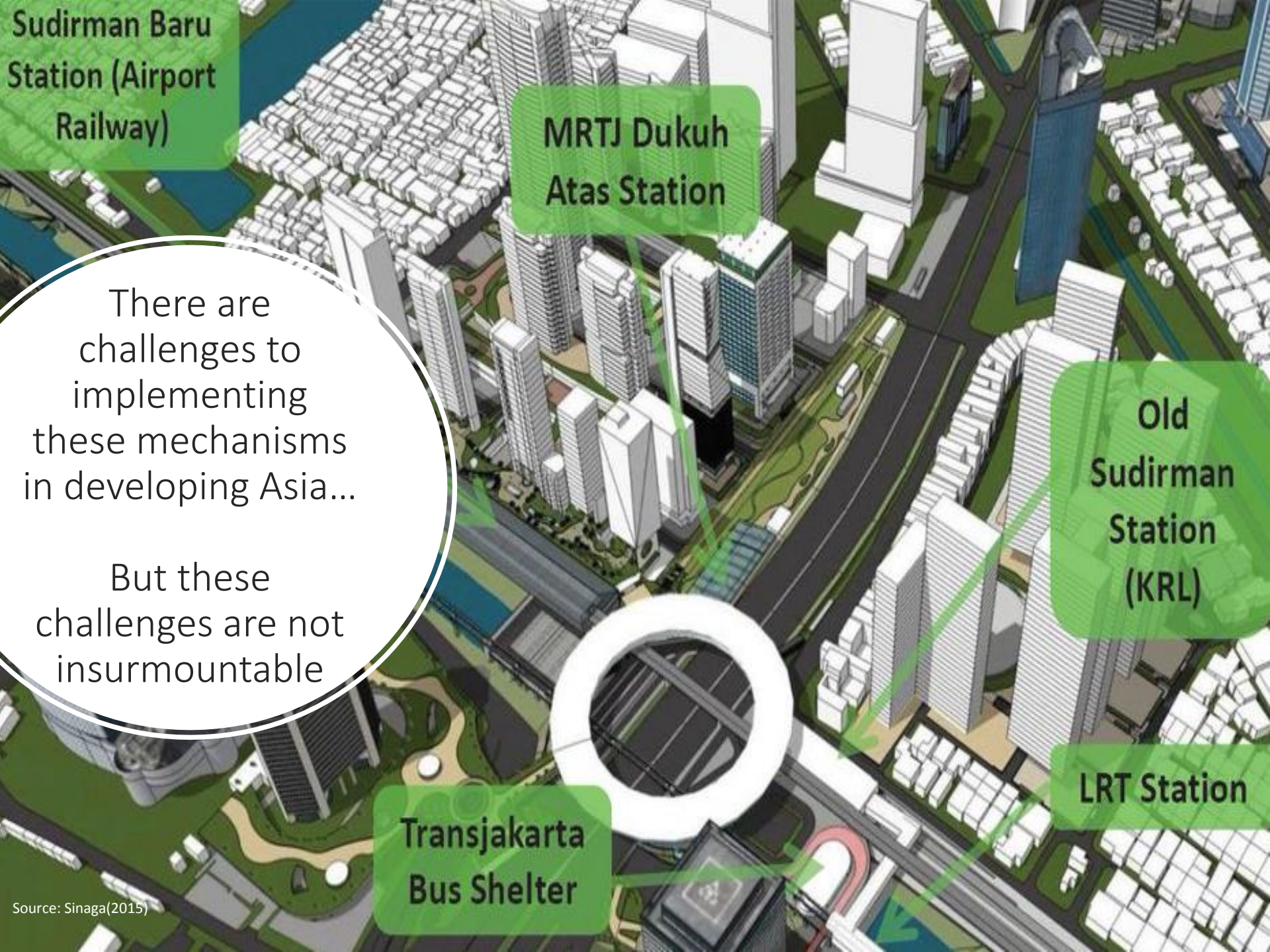
There are
challenges to
implementing
these mechanisms
in developing Asia...

But these
challenges are not
insurmountable

**Old
Sudirman
Station
(KRL)**

LRT Station

**Transjakarta
Bus Shelter**



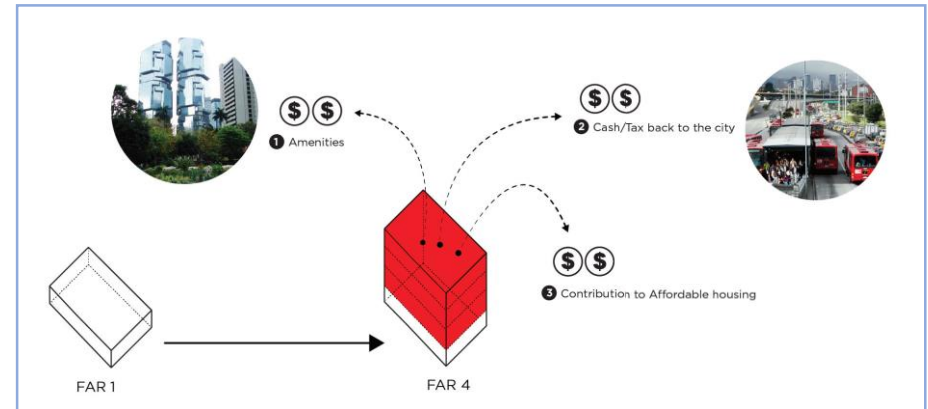
Application of LVC Strategies in Asia

Strengths:

- Strong macro-fundamentals to apply LVC in Asian Cities
 - Strong economic growth and demographics
 - Housing and commercial demand along corridors supporting 16-18 hour transit use

Weaknesses:

- Lack of clear strategy on how to use land value capture
- Lack of Macro → Micro planning continuum limits opportunities for inclusive land value capture.
Visionary masterplans → Flexible Zoning → Site Layout planning
- Political-economy: Windfalls for private owners countered with development fees and increased property taxes.



Application of LVC Strategies in Asia

1. Development-based LVC Instruments

- Public land ownership is important but not essential
 - Governments are realizing they can “create” land through planning tools
 - Transferable development rights (moving space around)
 - Air rights over transit corridors (creating land from space)
 - Increased FAR in TODs (creating land on rooftops)
- Development-based LVCs require entrepreneurial planning and transit agencies
 - Joint developments requires mainstreaming property development and asset management
 - Strong valuation and management principles

Application of LVC Strategies in Asia

2. Tax- or fee-based LVC Instruments

- Strong municipal financial management is critical to maximize value capture
 - Ability to correctly assess property value and incremental benefits from infrastructure investment
 - Ability to enforce
 - Ability to ring-fence incremental value to support
- Tax-based LVCs require entrepreneurial planning and transit agencies
 - Understanding real estate development and property cycles
 - Integrating macro- and micro-planning to support increase in property value

Going forward: LVC Strategies in Asian Cities

- Short-term view of LVC as a quick-fix to funding problems prevents maximization of value capture and reinvestment potential.
- Some common principles exist for maximizing value-creation
- Value capture can be used by cities to fulfil:
 - Social objectives: Improve affordable housing, deliver community benefits
 - Environmental objectives: Increase transit share, reduce carbon emissions
 - Financial objectives: Maximize transit investment efficiency, reduce unsustainable dependence on land sales
 - Economic objectives: Increase economic use of land, improve productivity and growth

A nighttime photograph of a city skyline, likely Singapore, featuring several prominent skyscrapers with illuminated windows and facades. The sky is dark with some light clouds. The text is overlaid on the left side of the image.

Thank you!

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