Leveraging the TOD Community of Practice to Transform the Urban Space  FY19

Gerald Ollivier
TOD CoP Leader
World Bank Hub Singapore
### City Scale
- Land Use Polities and Strategy
- Legal and Regulatory Framework
- Integrated Land Use and Transport
- Modeling of TOD
- Leveraging Private Sector/Real Estate Review
- Improving Accessibility around Stations
- Capacity Building
- Governance

### Corridor Scale
- Understanding Transformation Potential
- Integrated Urban/Transport Development
- Legal and Regulatory Framework
- Design and Planning Guidelines
- Feasibility Study
- Operational Guide
- Accessibility Plan and Integrated Transport
- Financing Scheme/LVC
- Citizen Engagement
- Capacity Building
- Evaluation
- Social Housing

### Station Scale
- Feasibility Study for PPP and TOD/structuring
- Conceptual Design
- Accessibility Planning
- Case Studies
- Public space at local scale

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*Colors represent the following:
- Purple: No funding but interest
- Red: Funding identified, but not contracted
- Orange: Contracted but not done
- Green: Report available*
TOD Approach
What is Transit-Oriented Development?

- A planning and design strategy to ensure compact, mixed-use, pedestrian and two-wheeler friendly, and suitably dense urban development organized around transit stations.

- It embraces the idea that locating amenities, employment, education, retail shops and housing around transit hubs promotes transit usage and non-motorized travel.
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<th>WHY TOD?</th>
<th>More Competitive</th>
<th>Access and Mobility</th>
<th>Lower Transport and Housing cost</th>
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<td>High quality neighborhoods with lower infrastructure costs and lower CO2</td>
<td>Resilient to Natural Hazards</td>
<td>Partly self financing by capturing value created</td>
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Source: World Bank TOD COP
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<td>Public amenities and marketplaces</td>
<td>Efficient buildings</td>
<td>Live streets</td>
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<td>COMPONENTS</td>
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Access the full content of dôts CIDADES in Portuguese: [bit.ly/DOTSCidades](bit.ly/DOTSCidades)
TOD Tools

Enabling Factors

Physical and Technical Aspect

Political Leadership & Vision (PL)
Land (L)
Institutional Structure (IS)
Regulatory Environment (RE)
Design (D)
Financing (F)
Affordable Housing (H)
Infrastructure (Transit + Other) (I)

Social Aspect

Stakeholder Engagement (SE)

Institutional Categories

Infrastructure Categories

Tools for Land Assembly

Voluntary

Tool 1: Land Readjustment
Tool 2: Urban Redevelopment
Tool 3: Land Sharing

Involuntary

Tool 1: Eminent Domain
Tool 2: The Right of Preemption

Funding sources

Investment revenues
Service charges
Land value capture
Air right sales
Own source revenue

Investment incentives
Grants
Fiscal incentives

Revenues, and other non-reimbursable monetary support, that can be used to repay the costs of the investment components
TOD Program FY19
THREE CORE METRICS

[Stage 2- organize and experiment]
Number of WBG products being supported by COP through individual or community contributions

[Stage 3- Scale up]
How the COP is increasing awareness/changing perceptions about TOD within the WBG and with partners

[Stage 4 - Influence]
Number of projects on TOD or with dedicated project component on TOD
TOD COP IN ACTION

- Support Operations
- Leverage Engagement
- Deepen Knowledge Base
- Leverage Partnerships
- Broaden Core Group
Leverage partnerships

- Partnership with WRI and ITDP
- Partnership with UM GSG
- Partnership with Urbanscape KSB

Broaden Core Group

- Engage
- Interviews
- Expert inputs
TOD Toolkit (November)

GPSC (Singapore November)

TDD with UrbanScape (January 21-25)

GSURR Week (DC March)
PRIORITY TOPICS

- Equitable TOD
- Safe TOD
- Universal Accessibility
- Data driven TOD
- Impactful TOD
- Station redevelopment business case
- TOD Financials
- Urban Scheme
Composition of 147 CoP Members
(% by GP/CCSA, Region, DC/Country Offices)

- Urban
- Transport, T&C, Land, PPP, Cch
- Other
- EAP
- SAR
- LAC
- MENA
- AFR
- ECA
- Global initiatives
- DC
- CO

Inner ring: GPs & CCSAs
Middle ring: regions
Outer ring: DC/COs
TOD KSB/CoP Core Administrative Team

Gerald Ollivier
Lead

Wanli Fang
Co-Lead

Chyi-Yun Huang
Co-Lead

Gunes Basat
Community Facilitator, Washington DC

Daniel Levine
Knowledge Partner Coordinator, Japan

Yuko Okazawa
Knowledge Partner Coordinator, Japan

Lincoln Lewis
GPSC Liaison

Felipe Targa
DC Connector, Washington DC

Valerie-Joy Santos
DC Connector, Washington DC

Sarah Xinyuan Linh
Knowledge Partner Coordinator, Singapore

Aiga Stokenberga
Africa Connector Washington DC

Shigeyuki Sakaki
TOD Content Expert

Hongye Fan
MFD and TOD Washington DC

Asako Sato
KSB Online Facilitator, Tokyo
What our members say about the TOD CoP?

“I take CoP as the go to person when I have any questions regarding ToD. They were very responsive when I sent a request on sample ToRs for a client. The practice leader quickly put together a set of study reports for me”  

_Wenyu Jia, Sr. Urban Transport Spec. (Washington DC)_

“The deep dive organized by the CoP helped me to shape the design of the TOD sub-component in my project and facilitated the Govt buy-in.”  

_Yonas Eliesikia Mchomvu, Sr. Transport Spec. (Dar es Salaam)_

“I have relied on the TOD COP substantially in the last years and have found the COP to be responsive, active, and technically on top of their game”  

_Joanna Mclean Masic, Sr. Urban Spec. (Serbia)_

“I have benefited from the resources in the OneDrive folder when writing ToRs for developing master plans for selected BRT station areas in Dar es Salaam”  

_Aiga Stokenberga, YP, (Washington DC)_
Leveraging & Developing Tools with other GPs
TOD Technical Deep Dive in Tokyo

Cross-sectoral cooperation and partnership within WBG and external partners bring comprehensive knowledge of best case studies and policies and provide new insights to client cities and ongoing projects as part of one week in-depth learning event.

Site visits and new knowledge products created through the partnership with TDLC.
FROM STUDY TO METHODOLOGY: 3V FRAMEWORK

Urban China Report (T+U)
China Metro Projects (T)
Training module (TDD) (U+T) and TDLC
3V Publication (T+U)
TF on integrated urban and transport planning (T+U)
Application to Quito, Buenos Aires, Mumbai (T+U)

Transforming the Urban Space through Transit-Oriented Development
The 3V Approach

Serge Salat and Gerald Ollivier

WORLD BANK GROUP
The main objectives of the toolkit include:

- Creating a comprehensive TOD knowledge product that strengthens the fundamental arguments with stronger emphasis on detailed design requirements and implementation mechanisms.
- Combining policy, best practices with design and financial case studies, with a focus on lower middle-income countries.
- Creating a set of new tools and checklists to assist city leaders, practitioners, private developers and citizens in understanding the implementation mechanisms and ‘pros and cons’ of TOD projects.

https://www.dropbox.com/sh/dxf25g8rche08n0/AADCSp2urqSgSx7LRHzqbqza/PDF/For%20Web/Consolidated?dl=0&subfolder_nav_tracking=1
TOD How-To Guides on Key Topics

Steps to Implement LVC in New Transport Corridors

LVC is a core component of TOD. Before implementing LVC, consider the following steps:

1. Define the corridor where LVC will be implemented.
2. Identify potential development sites and assess their market potential.
3. Prepare a detailed development plan that includes site analysis and design.
4. Engage stakeholders and community members in the development process.
5. Monitor the implementation process to ensure success.

LVC Conditions for Success

- Strong local support and commitment.
- Adequate funding.
- Effective public participation.
- Clear development framework.

LVC in Practice

Example: LVC in Tokyo, Japan

Tokyo's LVC is implemented through partnerships with local developers and the government.

For TOD projects, follow these key steps:

1. Define the corridor where TOD will be implemented.
2. Identify potential TOD sites and assess their market potential.
3. Prepare a detailed TOD development plan that includes site analysis and design.
4. Engage stakeholders and community members in the development process.
5. Monitor the implementation process to ensure success.

LVC / TOD Projects and Resource Documents Related to LVC

- World Bank: "TOD How-To: How To Guides on Key Topics" (2020)
TOD Toolkit Framework

KNOWLEDGE PRODUCTS

IMPLEMENT
The ‘Implement’ stage ties the diverse interventions needed to ‘Make TOD happen’ from prioritizing projects, capacity building, and monitoring.

ASSESS
The ‘Assess’ stage is to help determine how ready is the city for TOD.

FINANCE
The ‘Invest’ stage focuses on the dynamics of real estate financing, infrastructure investments and role of private developers in TOD.

ENABLE
The ‘Enable’ stage highlights policy, barriers and mechanisms that cities can use in enabling TOD planning process.

PLAN+DESIGN
The ‘Plan+Design’ focuses on formulating context specific solutions & priorities.
**TOD Framework**

**STEP-1 ASSESS**
1. Review nature of transit and station areas
2. Conduct a review of current institutional support, plans, policies and programs
3. Define scale and scope of TOD planning area
4. Identify funding opportunities to undertake TOD related studies
5. Gauge in-house technical capacity
6. Identify stakeholders early-on in the decision making process

**STEP-2 ENABLE**
1. Establish leadership support and project champions
2. Develop Transit-First goals in promoting integrated land use and transportation
3. Establish partnerships at state and regional levels to empower local governments
4. Identify and address policy level and regulatory barriers
5. Define TOD project methodology and delivery tools
6. Undertake capacity building

**STEP-3 PLAN+DESIGN**
1. Prepare data inventory
2. Delineate boundaries for TOD study area
3. Conduct stakeholder workshop/meeting(s) to revalidate vision, issues and opportunities
4. Formulate context-specific plan and strategic priorities
5. Identify a pilot/demonstration project
6. Identify a phasing and implementation strategy including catalyst projects

**STEP-4 INVEST**
1. Identify capital costs for critical improvements
2. Introduce innovative funding tools
3. Enhance development potential and attract investors through appropriate incentives

**STEP-5 IMPLEMENT**
1. Formulate a phasing strategy
2. Establish clear roles and responsibilities to empower key players for implementation
3. Establish statutory relevance
4. Adopt a flexible planning approach to accommodate growth and change
5. Develop a communications, outreach and marketing strategy
6. Develop monitoring and evaluation benchmarks to measure success of TOD
Examples of projects that are benefiting from the CoP resources

**Dakar BRT (Transport GP)**

*station scale* pilot projects

- Participation in TOD Deep-Dive in Tokyo (2017) helped develop an initial plan for introducing TOD thinking in selected station areas

**Dar es Salaam BRT (GPSURR & Transport GP)**

*corridor scale* land use strategies and development of individual hub stations

- Learning from experts and peers and sharing experience on BRT Phase 1 corridor development at the TDD (2016 and 2017)

- OneDrive resources – examples from other cities – helped in the preparation of ToR for transaction advisory services for key station hub development
Moving Forward
**Current TOD Engagements by Type**

**Awareness Raising (14 cities)**
This type of project raises the concept of transit-oriented development and the need for integrated transport and land use planning to city leaders, as groundwork for more action in the future.

1. **Belgrade** Early TOD awareness for station redevelopment projects & comprehensive redevelopment
2. **Buenos Aires** Early TOD awareness for regional planning
3. **Cape Town** Early TOD awareness for land value capture and transaction advice
4. **Cebu** Early corridor planning for upcoming BRT and TOD awareness
5. **Chittagong** Early corridor planning and TOD awareness
6. **Dakar** Early corridor planning for upcoming BRT and TOD awareness
7. **Ho Chi Minh City** Ho Chi Minh City Green Transport Development Project (P126507)
8. **Nairobi** Early TOD awareness for station development program
9. **Recife** Early awareness for TOD master planning
10. **Rio de Janeiro** Upgrading and Greening the Rio de Janeiro Urban Rail System (TOD workshop held to raise awareness in November 2016)
11. **Sao Paulo** Brazil Energy Efficient Cities Program (P150942)
12. **Semarang** City Planning Labs (P158752) for data gathering and capacity building
13. **Sincelejo** Early TOD awareness for bus transfer/terminal station
14. **Thessaloniki** Early TOD awareness for corridor planning & redevelopment

**Solution Formation (14 cities)**
In these studies, the World Bank works with cities on identifying the specific strategies and design possibilities for land along a rapid transit corridor (or sometimes city-wide), with the aim to prepare for TOD implementation.

1. **Addis Ababa** Addis Ababa Urban Land Use and Transport Support Project (P151819)
2. **Bogota** Bogota TOD Implementation Strategy Along SITP Network (P156821)
3. **Da Nang** Danang Sustainable City Development Project (P159049 & P123384)
4. **Dar es Salaam** Dar Metropolitan Development Project (P123134) & Urban Transport Improvement Project (P150937)
5. **Fortaleza** Urban Transport Infrastructure and Redevelopment Financing through Land Value Capture (P164683)
6. **Kunming** Kunming Urban Rail Project (P117656)
7. **Lima** Technical Assistance for Structuring and Integration of Metro Projects in LCR (P153851)
8. **Mecca** Planning for Transit Oriented Development (P154965)
9. **Mexico City** Mexican Engagement on TOD Policy Changes (P159989)
10. **Mumbai** Mumbai Urban Transport Programme Phase 3 (MUTP3) (P159782)
11. **Naya Raipur** TOD Naya Raipur: A Proactive Approach
12. **Quito** Quito Line 1 Metro Project (P144489)
13. **Surabaya** Surabaya Urban Corridor Development Project (P148821)
14. **Zhengzhou** Zhengzhou Urban Rail Project (P128919)

**Implementation (7 cities)**
In these cities, transit-oriented development is being taken beyond initial study to be implemented within the development policies and governance of the cities, incorporating reform in land use planning, land value capture, and introducing catalytic projects in TOD focus areas.

1. **Beijing** GEF China Sustainable Cities Integrated Approach Pilot (P156507)
2. **Guiyang**
3. **Nanchang** Summary: After the Ministry of Housing and Urban-Rural Development (MoHURD) released urban design guidelines that aim towards TOD, this project will customize these general recommendations for application in China’s fast-growing cities. The project will incorporate TOD principles in city planning processes and into future urban and transit plans for the cities at left, and create a national-level TOD platform for sharing data and best practices.
4. **Ningbo**
5. **Shenzhen**
6. **Shijiazhuang**
7. **Tianjin**
WB’s new Environmental and Social Framework (ESF)

• Broader coverage of social issues, including:
  • Inclusion and non-discrimination: explicit protection for disadvantaged and vulnerable groups
  • Clearer and broader focus on gender issues
  • Expanded community health and safety provisions, including road safety
  • Introduction of loss of ecosystem services as a social impact

• Better integration of environmental issues, including:
  • Estimation of project GHG emissions

• Greater emphasis on stakeholder engagement and meaningful consultation through enhanced requirements for transparency and stakeholder engagement throughout the project cycle
WB’s new ESF & TOD

- **Disadvantaged or vulnerable** groups, non-discrimination and inclusion

- Concept of **universal access**

- Evaluate and monitor traffic and **road safety** and conduct road safety assessments

- Avoid or minimize project-related **emissions of climate pollutants, GHG and black carbon**

- Avoid or minimize involuntary **resettlement** by exploring project design alternatives

- Enable **stakeholders’ views** to be taken into account in project design

**New ESF**

**TOD**

- Take it into account when designing transit stations surroundings:
  - **Universal accessibility**: children, elderly, people with mobility and other impairments (disabilities), and other special needs
  - **Road safety**. Ensure safe access to stations (bike lanes, walkways, crossings)
  - **Security & GBV**. Social interaction and feeling of security; design for personal security of *female transit users* walking or cycling to and from stations, including street harassment and other forms of GBV

- Quality of **public spaces** around stations and neighborhoods

- TOD concentrates higher passenger volumes on a **less energy-intensive modes** (mass transit + NMT): lower emissions

- Last-mile connectivity: **pedestrian and bicycle**, further modal shift

- Inclusionary housing zoning + LVC to reinvest in **affordable housing**

- Neighborhood redevelopment with input and support from **local community**; participatory planning with special interest groups

**Improve accessibility, sustainability, social inclusion, economic vibrancy, and livability of station surroundings**
Bogota’s Metro Line 1 TOD & the new ESF

$450k: Planning and financing gender-informed last-mile NMT connectivity infrastructure using TOD and LVC
Key Takeaways

- Relevant
- Client-focus
- Broaden perspective
- Modular/Reuse
- How to/Checklists/Cases
- Systematic reviews
- Sustainable budget wise
- Pool resources
- Common consultants
EXAMPLES
FROM SMALL-SCALE DESIGN TO CITY-WIDE STRATEGY

**Station-level:**
fine-grained urban design and specific parcel-level phasing and feasibility

**Corridor-level:**
comprehensive examination of land use strategy along a specific transit corridor

**City-level:**
policy and strategy for metropolitan implementation of TOD concepts
In anticipation of a potential metro transit line, city is working on a strategy to revitalize a major corridor along a new tramway and tie into the traditional/historic urban fabric.

Project Objective:
A feasibility study to support the development of a metro system in Surabaya, aiming to facilitate improvements in accessibility and mobility, and to strengthen the capacity for integrated urban transport planning and management in Indonesia.

Key Insights:
- Improved information and data is key to successful planning of the corridor.
- Regulatory planning tools such as policies and guidelines are central for land value capture.
- Practical capital works projects and urban design/public space improvements in corridor have a considerable impact on the image, identity and usage of the MRT.
Detailed parcel-level analysis, with expected building areas and real estate value generated.
Lima / Metro Line 2 Study

Context:

In a fast-growing a congested region, Lima is expanding its metro system. Line 2 connects the coastal port with a river valley between mountains on the urban fringe, a primarily residential area.

Project Objective:

Comprehensive engagement for integrated planning along the new metro corridor, to identify specific parcels for development, recommend urban design and public space changes, and financing arrangements/options.
LIMA: RECOMMENDATIONS FOR LAND USE & PUBLIC SPACE

Key Insights:

- Integrated transit connections can assist in multi-modal transit operations and urban planning, and can help more cohesive urban districts around future stations.

- Vertical spaces should also be leveraged to provide access and public space, and can be created during initial metro excavation work.

Small transit nodes & centralities can be created with good infrastructure design.

Need to combine proposed land uses with investment in road network and public space network.
EXPLORING VERTICAL SPACES ALONG LIMA METRO LINE 2

Connected network of public spaces

Underground expressway, bus interchange & parking

Vertical commercial and residential development

Metro Line 2
Context:

Fast-growing Tanzanian capital city is building a network of bus rapid transit (BRT) corridors within existing urban fabric along three major corridors.

Project Objective:

Create a Corridor Development Strategy (CDS) to develop an integrated land use and transport plan and guidelines to guide the detailed development and appropriate densification along the BRT corridor.

Provide TOD guidelines and pedestrian oriented development solutions for future BRT corridors.
INITIAL RECOMMENDATIONS & FEEDBACK FOR DAR BRT CORRIDORS

For first BRT line, looking at surrounding urban fabric allows planners to determine appropriate station design typology at each node along corridor.

Workshop Insight: specific real estate mgmt. decisions (such as parking design and retail tenancy) play a key role in how people perceive the corridor.
Project Objective: As part of a large urban infrastructure project, aim to develop a BRT corridor in Da Nang, provide new urban connecting roads, and provide technical assistance and capacity building.

Context: To connect with upcoming relocated rail station along mainline, a targeted BRT corridor development to extend from existing city center to major new commercial node to be developed at new station.
Key Insights:

✓ Need for a formal coordination structure between central government, city government, and investors, given large amounts of investment

✓ Need to formalize land value capture (LVC) arrangements

✓ Need a platform for sharing information and getting feedback from project stakeholder
Raipur / TOD Strategy for Naya Raipur District

Context:

Naya Raipur is a master-planned greenfield district being developed about 10km east of the current city, with new transit and road infrastructure, with the vision of “mobility of all, affordable, equitable, and safe” (including BRT/LRT/railway/NMT infra)

Examples of Naya Raipur land use planning concepts
INSIGHTS FOR GREENFIELD TOD PLANNING IN INDIA

Project Objective:

Refine the plan for Naya Raipur with a baseline study and evaluation with international planners through a charrette and workshop. Establish the TOD policy and provide capacity building for implementation, and carry out needed modification in the statutory development and road plans.

Key Insight:

TOD planning should be done by buffer distances from rapid transit stations, and not by city sector, which is the traditional approach for city planning in India.
China-GEF Integrated Cities Pilot Project

Context:

*Customizing recently released TOD urban design guidelines by Ministry of Housing and Urban-Rural Development (MoHURD) for application in city planning processes, for application in China’s fast-growing cities*

Project Objectives:

• In Beijing, Tianjin, Shijiazhuang, Ningbo, Nanchang, Guiyang, and Shenzhen, to incorporate transit-oriented development principles in their policies and into future urban and transit plans

• Create national-level TOD platform for sharing data and best practices
TOD WITH CHINESE CHARACTERISTICS: INITIAL INSIGHTS

• Adopt, adapt, or abandon international TOD guidelines
• Localizing TOD for each city’s context is the rule rather than the exception

What urban design makes sense for each Chinese city based on history and context? (not blindly accepting USA TOD norms)

How do ubiquitous shared bikes extend the transit station area and affect accessibility planning? What assumptions change?
Emerging Trends and Tools to Plan TOD

- New forms of big data on movement patterns allow finer-grained planning of station area and accessibility
- Evolving research on land value can help build case for land value capture

*Beijing: Information from stationless bicycle sharing helps to understand station usage and movement patterns*
4. Key Lessons & Next Steps for WB TOD
KEY LESSONS
➢ TOD in existing built-up area or greenfield land?

➢ Which agency sponsors project? How do they relate to other government agencies?

➢ Current status of real estate market demand? New transit corridor in a growing or stagnating area of city?

➢ Are incentives aligned to encourage cooperation between public and private sector?

➢ Funding sources for infrastructure?
A NETWORK FOR JOB ACCESSIBILITY

Source: The 3V Framework (World Bank)

Zhengzhou
- Population: 6.4 million
- GDP per capita: US$11k
- Peak hour accessibility

Percent of jobs accessible within 45 minutes by public transit

a. Line 1, 2, and 3 and walking: 12%
b. Scenario a plus bus: 28%
c. Scenario b plus TOD: 39%
d. Scenario c plus bicycle: 46%
LAND READJUSTMENT OFTEN DIFFICULT IN BUILT-UP AREAS

➢ In developing countries, land tenure is often not well-established, limiting possibility for redevelopment

➢ Formalization of title and adjustments of parcel configuration often necessary, as well as reform of property taxation system
UPFRONT INFRASTRUCTURE DESIGN COORDINATION ALLOWS FOR BETTER INTEGRATION WITH TOD PROJECTS

Examples of integrated design from Lima
TOD PROJECTS INVOLVE COMPLEX MIX OF PUBLIC, PRIVATE SECTORS

Pre-consultation & strategy development

- Economic development officials
- Urban planners
- Transport planners

1. Determine transit tech
2. Finalize cost estimates for transit infra
3. Operations plan for transport integration
4. Refine station designs for transfers & NMT
5. Finalize transit service changes for integration
6. Confirm street infra to be changed
7. Create branding strategy & market corridor
8. Refine station area plans with stakeholders

Inventory potential redevelopment sites

Assess economy & potential growth areas

Developers assess potential real estate projects in corridor

Finalize route and stations

Estimate financing gap & propose funding mechanism

Discuss high-potential redev sites at stations

Discuss phasing of dev & contribution to infrastructure/incentives needed

Implementation of TOD corridor
PARTNERSHIP WITH PRIVATE-SECTOR DEVELOPERS IS LIKELY NECESSARY FOR TIMELY IMPLEMENTATION

• Need to gauge interest in development opportunities, to determine level of public involvement for infrastructure development

• Developers need to understand new design standards, to ensure that standard practices are phased out (e.g. barrier walls, super-blocks, etc.)
INFRASTRUCTURE FINANCE OPTIONS & LAND VALUE CAPTURE MUST BE EVALUATED EARLY

Transit feasibility phase
- Need to gauge what level of infrastructure investment is necessary:
  - For transit capital investment & operations
  - For supporting infrastructure to enable densification

Corridor development/TOD analysis phase
- What value is likely to be generated?
- What are the tools and enabling policies in place to capture value?

(changing tools may require legislation, which takes time)