

FINANCE

INTRODUCTION



The 'Finance' step of the TOD process outlines the processes for assessment of cost variables for transit infrastructure, cross-subsidization potential from revenue generating real estate developments, land value capture mechanisms & best practices, strategic private partnership advisory and financing tools.

ABOUT FINANCE

The ‘Finance’ stage presented in this section is applicable to large scale, mixed-use, urban transformative projects near transit stations and corridors that are typically financed by partnerships between public and private sectors.

TOD projects are generally associated with complex site acquisition and land assemblage processes, as well as high capital investments towards generous public infrastructure investments (including higher percentage of open spaces, multimodal facilities, affordable housing). From a public sector perspective, these high investment costs require innovation in combining diverse municipal financing tools with strategic private sector partnerships to include market-driven revenue generating components that often deviate from traditional single use development projects. This section provides tools available through traditional municipal financing systems and fundamentals of real estate, project structuring including cost estimation for capital investments. These financial tools are supported by, enabling regulatory tools, guidelines and development incentives to forge partnerships for successful financial closure of TOD transformative projects.

Over the last two decades, World Bank client countries have employed diverse financing strategies to enable land value capture mechanisms paving way for viable models to promote TODs. These financial instruments require supporting policies at the national level to also provide for coverage of

costs through recurrent revenues from alternate sources. Implementing these policies at the local level requires a detailed structuring of the project implementation parameters with strategic funding mechanisms, and ability to raise capital and allocate revenues. Phasing and timing for transit implementation and real estate development is generally asynchronous – for example, transit-oriented development projects take 10-15 years for implementation as opposed to a 3-5 year timeframe for real estate development projects. Therefore, devising a strategy for funding and aligning with overall project goals may be performed by a combining transit and real estate development processes from the inception of the transit project, including analysis of development potential, revenue earning potential, leveraging structure, risk sharing framework, from both public and private sector perspectives. This needs to be undertaken in a sequential format based on initial planning and then moving ahead on detailed analysis through the financial due diligence and implementation framework.

This section outlines the processes for assessment of cost variables for transit infrastructure, cross subsidization potential from revenue generating real estate developments, land value capture mechanisms & best practices, strategic private partnership advisory and financing tools.

REFERENCES

The following list of references were used to develop the “Assess” Knowledge Products:

- Suzuki, Hiroaki, Jin Murakami, Yu-Hung Hong, and Beth Tamayose. 2015. Financing Transit-Oriented Development with Land Values: Adapting Land Value Capture in Developing Countries. Urban Development Series. Washington, DC: World Bank
- Ardila-Gomez, A. and A. Ortegon-Sanchez. Sustainable Urban Transport Financing from the Sidewalk to the Subway: Capital, Operations, and Maintenance Financing. 2016. Washington, DC: World Bank
- Urban Growth Company, Value Capture Framework and Toolkit, Sept 2017
- James McIntosh, Peter Newman, Roman Trubka, Jeff Kenworthy. 2017. Framework for land value capture from investments in transit in car-dependent cities. The Journal of Transport and Land Use
- William Kohn Fleissig, Ian R. Carlton. 2009. “Convening on Transit Oriented Development: The Investment/Finance Perspective. Center for Transit Oriented Development (CTOD), Boston
- Amirtahmasebi, Rana, Mariana Orloff, Sameh Wahba, and Andrew Altman. 2016. Regenerating Urban Land - A Practitioner’s Guide to Leveraging Private Investment. Washington, DC: World Bank Group.

KNOWLEDGE PRODUCTS

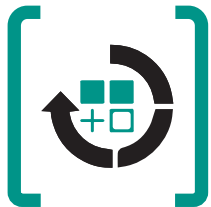
The Knowledge Products presented as part of the 'Finance' stage include:



ANALYTICAL

FI-A01 Infrastructure Capital & Operating Cost Estimates/ Ranges (*Spreadsheet + User Guide*)

FI-A02 Real Estate Development Pro-Forma (*Spreadsheet + User Guide*)



'HOW-TO' GUIDES

FI-H01 Land Value Capture Framework (*Step-by-Step Guide*)

FI-H02 Private Sector Participation Framework (*Ref. Doc*)



RESOURCES

FI-R01 Development Incentives (*Ref. Doc*)

FI-R02 Land Value Capture Mechanism Best Practices (*Ref. Doc*)

FI-R03 Municipal Finance Tools (*Ref. Doc*)



FI-A01

INFRASTRUCTURE CAPITAL & OPERATING COST ESTIMATES/RANGES



This Knowledge Product is intended to be used as a reference and an interactive Excel spreadsheet available online on the GPSC's TOD website and the World Bank's TOD CoP website.

The reader should first review the summary presented in this section before using the spreadsheet tool.

Type: Spreadsheet + User Guide



INTRODUCTION

This tool has been structured to provide a broad reference for arriving at initial cost estimates of a transit infrastructure project. The costing has been considered for integrated developments with transit infrastructure comprising of allied real estate or other developments. The costing is calculated in three major portions as mentioned i.e:

- ➔ **Preparatory Activities** mainly comprising of engagement of consultants, etc.
- ➔ **Capital Cost** comprising all development costs, including land cost, if any;
- ➔ **Operations Cost** - broadly calculated based on the capital cost.

The tool provides a brief description of each item and a broad range of associated cost for development of infrastructure. The local requirements and conditions define the cost applicable, and accordingly, the appropriate cost may be selected for each of the components.

The land cost has not been provided considering the range for this component to be large, depending on the local conditions. Therefore, the applicable rate of land may be provided in the yellow box against the component.

The tool also includes a reference sheet containing details of transit infrastructure cost for various cities across the world.

Disclaimer: *The Transit-Orientated Development Implementation Resources & Tools knowledge product is designed to provide a high-level framework for the implementation of TOD and offer direction to cities in addressing barriers at all stages. As the context in low and middle-income cities varies, the application of the knowledge product must be adapted to local needs and priorities, and customized on a case-by-case basis.*

© 2021 International Bank for Reconstruction and Development / The World Bank

PURPOSE

It is essential to understand and estimate the cost investments that are primarily required for transit infrastructure. The cost of transit infrastructure depends on the mode of transit and terrain of the development area. In the case of requirements for earth cutting and tunneling for network connectivity the transit infrastructure cost increases significantly.

The cost of infrastructure is also dependent on other factors like mode of funding, interest costs, ancillary studies, overall Programme management, land preparations etc. These can be assessed as a derivative of the capital costs for the main network and infrastructure. This section describes the cost of capital investments, as well as allied expenditures expected towards other factors as listed. The sheet “AS-04 Threshold for Rapid Transit” analyses the operational expenditure of transit on Passenger Kilometer Travel (PKT) basis.

The revenue from the transit operations is principally dependent on the ridership and the fares chargeable for the use of the facility. Generally, the charges are directly proportional to the average per capita income of the region and hence, in most cases of World Bank client countries, does not suffice to recover the operational expenditure.

ASSUMPTIONS AND LIMITATIONS

- The tool utilizes per km average cost of transit infrastructure development based on type and category to arrive at total cost.
- The average per kilometer cost was available for the year 2013. The values have been adjusted with reference to the global inflation rate to arrive at rates for the year 2018.
- The ancillary costs listed in the tool are based on broad parameters as a derivative of the total cost of transit arrived at through above methodology.
- A reference to public transit fares has been provided based on available secondary data. No inferences have been drawn with respect to the fares data.

INTENDED OUTCOMES

- The tool aims to provide a block estimate for the transit infrastructure planned for city-wide, corridor or station area development, knowing the length and type of transit network.
- A reference sheet of transit fares across major cities in the world to assist in assessing approximate revenue from commuter/user fees based on the ridership estimates.
- Provide assistance in analyzing the mode of transit infrastructure with reference to the cost of such development.

HOW TO USE THIS TOOL?

First, the user should read the User Guide Tab before using the spreadsheet. The application of the Infrastructure Capital and Operating Cost Estimates tool consists of five basic steps:

01 STEP 1



Decide on the type or mode of transit infrastructure intended to be developed as part of the initial assessment plan.

02 STEP 2



Based on the transit type, the required length of transit infrastructure essential for the TOD needs to be ascertained.

03 STEP 3



The details on type and length of the transit shall have to be provided in **Cost Assessment tab**. The details of type of transit shall have to be selected from the pre-defined list of Bus Rapid Transit (BRT), Light Rail Transit (LRT), Light Rail Transit (LRT) and Heavy Rail Transit (HRT). The BRT is further sub-divided into Gold, Silver, Bronze and Basic categories.

04 STEP 4



The tool automatically calculates the total cost of transit based on pre-defined data and the inputs provided, as above. Also, in cases where the land cost is a component to be incurred for development of transit then that cost must also be provided in the **Cost Assessment tab**.

05 STEP 5

Based on the average range for the ancillary costs, the tool also calculates other costs that may have to be incurred towards project management, conceptualization, design etc.

FI-A02

REAL ESTATE DEVELOPMENT PRO-FORMA



This Knowledge Product is intended to be used as an interactive Excel spreadsheet available online on the GPSC's TOD website and the World Bank's TOD CoP website. The reader should first review the summary presented below before using the spreadsheet tool. review the summary presented below before using the spreadsheet tool.

Type: Spreadsheet + User Guide



ABOUT THE REAL ESTATE DEVELOPMENT PROFORMA TOOL

PURPOSE

This Transit Oriented Development Financial Analysis Tool is structure to present transit agencies, local governments, and private sector investors a preliminary assessment of potential return on investments (ROI) based on certain basic project development parameters assumed for TOD projects. The goal of this tool is to help organize the TOD project's total development budget, projected operating revenue and expenses to determine the cash flow over time, and identify the project's potential sources of funding including grants, debts and private sector equity.

The accompanying Excel worksheet calculates the cost of a typical TOD development project based on block cost estimates on per unit area method. It also assists in calculating the projected revenue from different sources through calculation based on the average market rate for capital and rental values in the micro-market. However, it is important to note that the tool is not a discounted cash flow analysis and therefore, does not take into account time value of money in the calculation of return on investment.

ASSUMPTIONS AND LIMITATIONS

- The tool is based on several assumptions and requires several data inputs to be diligently filled for appropriate outputs.
- Broad parameters have been taken into consideration enlisted in Risk Assessment tab, which may be referred to arrive at different scenarios of financial and market parameters.
- Every project requires its own customization, therefore, the tool is developed on basic factors to derive cash flows separately for transit infrastructure and real estate components.
- The tool requires inputs like operations cost and transit revenue to be assessed through other tools forming part of the TOD Knowledge Product.

Disclaimer: *The Transit-Orientated Development Implementation Resources & Tools knowledge product is designed to provide a high-level framework for the implementation of TOD and offer direction to cities in addressing barriers at all stages. As the context in low and middle-income cities varies, the application of the knowledge product must be adapted to local needs and priorities, and customized on a case-by-case basis.*

© 2021 International Bank for Reconstruction and Development / The World Bank

INTENDED OUTCOMES

- An assessment of value generation by the development of real estate components forming part of the TOD.
- Derivation of cross-subsidization capacity within an integrated development of TOD with real estate as the significant revenue generator for the infrastructure.
- Determination of viability gap in the development of transit infrastructure.
- Assessment of returns for the developer on equity scale post debt amortization.

HOW TO USE THIS TOOL?

First, the user should read the User Guide Tab before using the spreadsheet. The application of the Real Estate Development Pro-Forma tool consists of five basic steps:

01 STEP 1



Provide inputs related to the area statement of various development components envisaged as per the plan and design exercise in the TOD in the **Area Statement tab**.

02 STEP 2



Other details related to costing, occupancy, revenue, debt structure, interest charges etc. are to be provided in the **Data Sheet tab**.

03 STEP 3



The development timeline and revenue realization timelines need to be provided in the **Timelines tab**.

04 STEP 4



Based on the inputs provided in the above steps, the value are auto-calculated in the subsequent sheets of **Capex tab** (Capital Expenditure), **Opex tab** (Operations Expenditure), **Revenue tab**, **Interest Charges tab**, **cf – Infra tab** (Cashflow for infrastructure) and **cf – real est tab** (Cashflow for real estate).

05 STEP 5

The risk assessment of the overall financial analysis can be made through broad parameters provided in the **Risk Analysis tab**.



Bogota, Colombia

FI-H01

LAND VALUE CAPTURE FRAMEWORK



This Knowledge Product is intended to be used as a process toolkit available online on the GPSC's TOD website and the World Bank's TOD CoP website. The reader should first review the summary presented below before exercising the tool in detail.

Type: Step-by-Step Guide



INTRODUCTION

Land Value Capture (LVC) has been categorized as a profound means for routing revenue from development potential of land. It refers to a broader term, generally used for a policy approach of sharing increases in land values (generated by urbanization, public infrastructure projects, zoning changes, and/or other government initiatives) between private and public sector. The effective application of land value capture systems typically requires a robust real estate market, conducive legal and regulatory framework, strong property tax collection systems, including clear land tenure systems, strict enforcement and adequate training of relevant stakeholders. Land value capture tools often found in varying forms in World Bank client countries include: transferable development rights (TDR), impact fees, public land leasing, increased densities, business improvement districts, and tax increment financing.

Primarily, the techniques support all forms where infrastructure cost or other investments are expected to be incurred for enhancement of land values. Such enhancement or betterment of land value through Land Value Capture (LVC) frameworks provide support for infrastructure development. In lieu, the betterment of land values requires substantial public investments ranging from new infrastructure, such as parking and utility capacity upgrades to open spaces, streetscapes and multimodal facilities, in response to increased densities allowed “by-right” or as a premium to private landowners. Different means for capturing the land value are being exercised across the world. Examples of such initiatives include municipal borrowing against future property tax increments (California, USA) or through charging vacant land tax in TOD areas (Bogota, Colombia).

Disclaimer: *The Transit-Orientated Development Implementation Resources & Tools knowledge product is designed to provide a high-level framework for the implementation of TOD and offer direction to cities in addressing barriers at all stages. As the context in low and middle-income cities varies, the application of the knowledge product must be adapted to local needs and priorities, and customized on a case-by-case basis.*

© 2021 International Bank for Reconstruction and Development / The World Bank

PURPOSE

Financing Transit-oriented Development with Land Values (Suzuki, Murakami, Tamyaoose, World Bank 2015), is the main resource that directly addresses the issues and opportunities in applying LVC instruments in low and middle-income countries.

The development of transit infrastructure benefits several stakeholders, direct as well as indirect. In most cases, these benefits remain with the beneficiary and in no manner contribute towards financial sustainability or growth of infrastructure. Therefore, it is needed to devise mechanisms to capture these benefits getting created in transit-influenced catchment areas. There are established mechanism and tools devised across the globe for such practices. The Land Value Capture is important among such tools to be used for funding transit infrastructure projects.

At large, there are many land value capture tools being practiced and documented globally. This step-by-step guide elaborates on the processes to be referred to for assessing and implementing land value capture mechanisms in the identified transit-oriented development zones and areas.

In principally, the various methods being used by different countries, governments and land owning agencies are provided below:

- ➔ **LAND DEVELOPMENT AND SALE-** Holding the land, for which the value appreciates, after rolling the transit infrastructure and then selling or developing the land for potential higher revenue from such land parcels.
- ➔ **LAND VALUE TAX-** Tax on the land itself and not any buildings or other physical assets that may fluctuate in value due to market conditions resulting in stabilized property prices.
- ➔ **LAND USE CONVERSION CHARGES-** Additional fees towards conversion of land use for developments having potential of high revenue generation.


- ➔ **DEVELOPMENT CHARGES-** Typically, fees collected by the planning/municipal authority from developers and builders prior to development of a land for issuing a building permit to offset the cost of infrastructure required to provide municipal services to the new development.
- ➔ **TAX INCREMENT FINANCING-** Municipal Authority earmarking future increases in revenue of property tax generated in an identified district/ area, from new real estate developments, for financing present infrastructure projects.

ASSUMPTIONS AND LIMITATIONS

- The framework aims at providing broad level strategy and an overall guidance for taking steps towards supporting TOD through land value capture.
- The implementation of land value capture requires an enabling environment with statutory and legislative support to develop a framework for its implementation. This varies from region to region depending on the local government policies, and need not be similar for applicability to all.

01


INITIATION OF THE PROJECT

- 
- A detailed study of the legislative framework, comprised of rules and regulations in force, for governing land value capture mechanisms, shall have to be conducted.
 - The applicability of existing or approved mechanisms with the rules and regulations will have to be assessed for identification of appropriate techniques.
 - In case the existing tools or mechanisms are inadequate, there may be requirements to introduce new tools as per the needs of the project. All regulatory reforms concerning the project and required for introduction or enactment of the new tool, may be proposed at once to the government or the approving authority. It is essential that benchmarking and comparative analysis with similar regions and neighborhoods should be conducted in the process to identify new LVC tools, prior to proposing it for approval.

¹Similar cities, towns, governance pattern etc. Also, further similarity in terms of demographics and economic conditions may be considered.

02

PLANNING

- 
- Planning is needed to identify the catchment area getting influenced due to the new transit project, corridor or planned area. The value of land and other properties will increase in the area of influence.
 - The identified would need to be surveyed to collect data on the land ownership pattern.
 - Based on land ownership, different tools, like land amalgamation, etc., will need to be planned and structured.
 - Identify potential land in separate categories of government and non-government lands.

- Based on the land ownership and the location plan, the land value capture mechanism shall be identified:


| | | | | | | |
|--|--------|---|--|--|--|--|
| <p style="writing-mode: vertical-rl; transform: rotate(180deg);">Area of Influence</p>  | 500m ↑ | <p>Hold the land for densification / property price appreciation</p> | <p>Government land - hold the land for densification / property price appreciation Non-Government - Land Development Charges, land Value Tax, Land Use Conversion Charges etc.</p> | <p>Government land - hold the land for densification / property price appreciation Non-Government - Land Development Charges, land Value Tax, Land Use Conversion Charges etc.</p> | <p>Government land - hold the land for densification / property price appreciation Non-Government - Land Development Charges, land Value Tax, Land Use Conversion Charges etc.</p> | <p>Non-Government - Land Development Charges, land Value Tax, Land Use Conversion Charges etc.</p> |
| | 400m | <p>Hold the land for densification / property price appreciation</p> | <p>Government land - hold the land for densification / property price appreciation Non-Government - Land Development Charges, land Value Tax, Land Use Conversion Charges etc.</p> | <p>Government land - hold the land for densification / property price appreciation Non-Government - Land Development Charges, land Value Tax, Land Use Conversion Charges etc.</p> | <p>Government land - hold the land for densification / property price appreciation Non-Government - Land Development Charges, land Value Tax, Land Use Conversion Charges etc.</p> | <p>Non-Government - Land Development Charges, land Value Tax, Land Use Conversion Charges etc.</p> |
| | 300m | <p>Land development with allied revenue generating components</p> | <p>Government land - land development with allied revenue generating components Non-Government - Land Development Charges, land Value Tax, Land Use Conversion Charges etc.</p> | <p>Government land - land development with allied revenue generating components Non-Government - Land Development Charges, land Value Tax, Land Use Conversion Charges etc.</p> | <p>Government land - land development with allied revenue generating components Non-Government - Land Development Charges, land Value Tax, Land Use Conversion Charges etc.</p> | <p>Non-Government - Land Development Charges, land Value Tax, Land Use Conversion Charges etc.</p> |
| | 200m | <p>Land development with allied revenue generating components</p> | <p>Land required for transit - joint development, else separate development of government land and tax increment and other charges applied for non-government land</p> | <p>Land required for transit - joint development, else separate development of government land and tax increment and other charges applied for non-government land</p> | <p>Land required for transit - land amalgamation & joint development, else separate development of government land and tax increment and other charges applied for non-government land</p> | <p>Land required for transit - land amalgamation & joint development, else separate development of government land and tax increment and other charges applied for non-government land</p> |
| | 100m | <p>Land development with allied revenue generating components²</p> | <p>Joint development with allied revenue generating components- financing and contractual arrangements to be made accordingly</p> | <p>Joint development with allied revenue generating components- financing and contractual arrangements to be accordingly</p> | <p>Tools like land amalgamation to be applied, then joint development with allied revenue generating components</p> | <p>Tools like land amalgamation³, if required to be applied and then joint development</p> |
| | | | <p>Government</p> | | <p>Non-Government</p> | |

Table 1: Typical LVC strategy for land parcels within radial distance of 500 meters of the transit infrastructure and depending on land ownership

²Here, allied refers to supporting real estate developments for cross subsidizing capital / operational cost of infrastructure development and/or maintenance, as applicable.

³Land amalgamation refers to the framework for enabling and also requiring private land owners to come together for a purposeful development that supports the transit-oriented development approach of governments.

- In order to maintain transparency, accountability and to reduce unnecessary reconciliation issues, separate financial accounts with the bank may be maintained by the implementing agency for revenue and expenditure. This helps distinguish and segregated identification of fund flows for complex projects with longer durations.
- It would be essential to execute formal agreements with detailed terms based on the land development / settlement strategy agreed upon between the parties for a land value capture mechanism. Such agreements shall be governed by the prevailing legislative framework and the terms of arrangement shall have to abide by the available framework within the permitted laws.
- In order to protect the interest of either party and to facilitate financial protection towards shared revenue, if applicable, the arrangement of an ESCROW account with a bank may be considered by the parties for operationalizing the value capture mechanism.

04 EXECUTION AND OPERATION

- The following documents (including but not limited to) shall be placed in public disclosure:
 1. Planning and Methodology of TOD Area Development
 2. Proposed Transit Infrastructure Development
 3. Prevailing norms of land value capture mechanisms, approved by local or regional government
- The details of the land value capture mechanism will be shared with each individual owner and also placed in the public domain.
- The procedure of the deposition of funds and the approval or clearance, thereupon, shall be put in place for non-government land/properties.
- A monitoring and evaluation mechanism of the land value capture shall have to be put in place in the following forms:
 - (i) Identification of Key Performance Indicators and their measurement from time to time;
 - (ii) Constitution of monitoring team / committees with assignment to conduct regular review of the progress and effectiveness of the implementation framework
 - (iii) Regular financial and performance audits to keep check on irregularities and system slack, if any.
 - (iv) Any other method or institutionalization that the implementing authority or the Government may perceive are required for effective monitoring and control.
- In case of joint developments, the contractual arrangements, including the terms and conditions, shall be placed in the public domain to follow open and transparent procedure.

FI-H02

PRIVATE SECTOR PARTICIPATION FRAMEWORK



Project structuring process or planning of financial resources to meet the project cost

Type: Step-by-Step Guide



INTRODUCTION

PURPOSE

Developing capital intensive public transit infrastructure projects require a robust financial strategy to be in-place for gaining the confidence of private sector investment in real estate. The resulting transit and real estate projects are generally vulnerable to several risks during their life cycle. It is advised to appropriately share and mitigate the risks with the right stakeholders and partners.

It is often witnessed that the land owning agency and/or the implementing agency for transit infrastructure projects would be government bodies. Technical capacity constraints and limitations in understanding real estate markets are a common challenge with government agencies in the case of developing long-term TOD transformational projects.

While public-private partnerships (PPPs) in infrastructure projects, such as highways and public rail-based transit, have shown success in different parts of the world, successful TOD and real estate projects are found mostly in strong and emerging real estate markets. Several countries have formulated robust frameworks for developing Public-Private Partnership (PPP) projects under their legislative guidelines. The general methodology for such arrangements in project implementations is moreover common in all countries, with project to project customization based on different parameters.

Disclaimer: *The Transit-Orientated Development Implementation Resources & Tools knowledge product is designed to provide a high-level framework for the implementation of TOD and offer direction to cities in addressing barriers at all stages. As the context in low and middle-income cities varies, the application of the knowledge product must be adapted to local needs and priorities, and customized on a case-by-case basis.*

© 2021 International Bank for Reconstruction and Development / The World Bank

CONTEXT

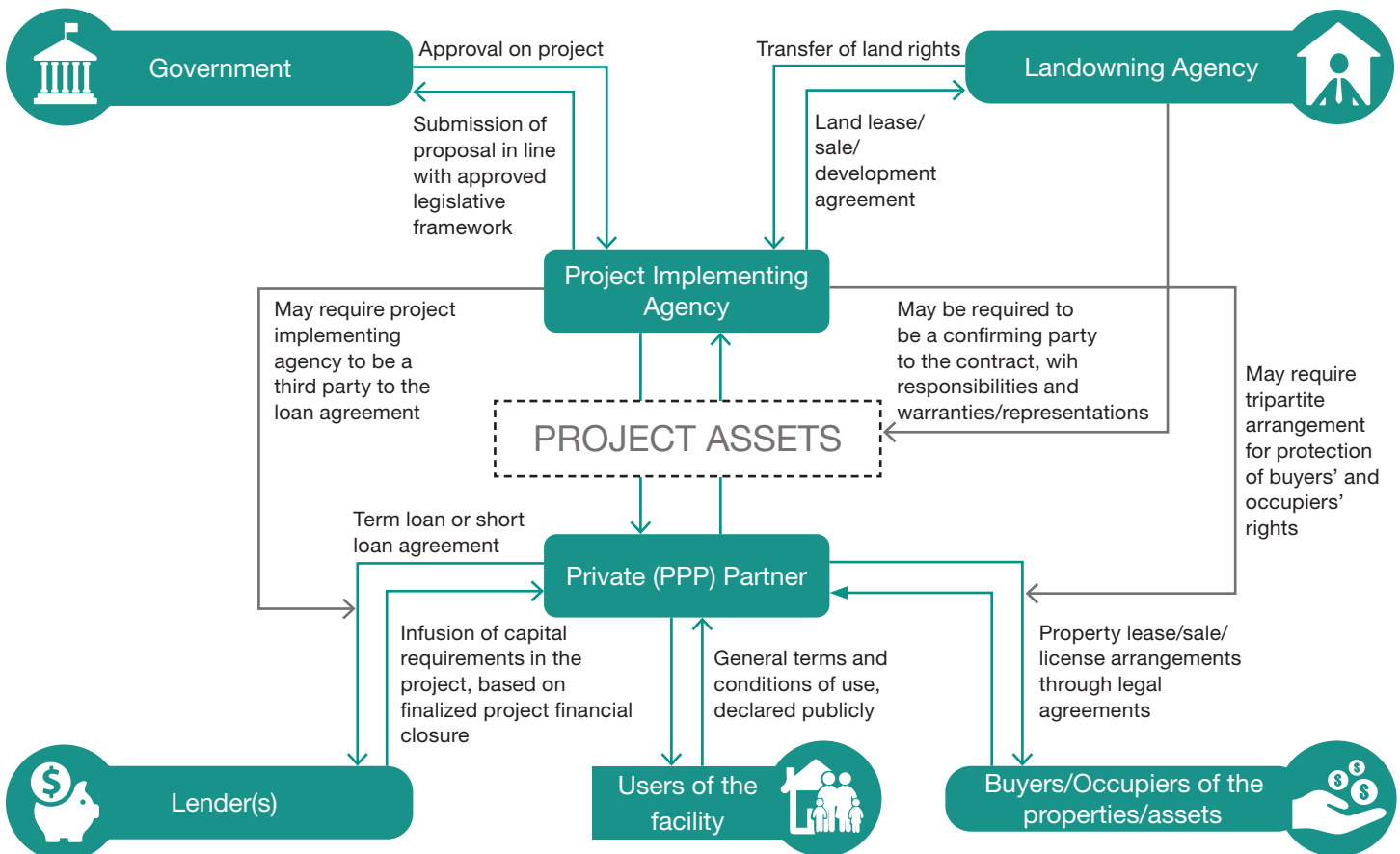
The understanding of Public-Private Partnership is important before initiating the project structuring process or the planning of financial resources to meet the project cost. This tool elaborates on the basic understanding of the PPP framework followed globally. It includes an introduction on the stakeholder arrangement, project structuring mechanisms, legislative, implementation and monitoring frameworks, post implementation management and brief case studies.

STAKEHOLDERS

In public-private partnerships, the identified stakeholders, i.e. those providing resources, those approving the implementation, who exploit resources to develop the project and who receive the services or benefits out of the envisaged plan, are contractually bound based on their responsibilities. These stakeholder can principally be identified as:

- **Government– Legislative Body/Approving Authority–** Generally responsible for ruling and monitoring the legislative framework for PPP arrangements in their jurisdiction and are also often the approving authority for the project.
- **Landowning Agency(ies)–** Generally, the land for transit infrastructure projects are owned by government agencies, different from the project implementing agencies. There may also be private land owners falling in this category.

- **Project Implementing Agency(ies)**– In most cases, there is a government agency that is entrusted with the responsibility to undertake the implementation of the project. The agency analyzes and proposes the implementation structure for the project, whether through public-private partnership or otherwise.
 - **Private partner**– These are the private partner(s) participating in the implementation and operations, either as developers, investors or the concessionaire for the project.
 - **Lenders**– The lenders are the important stakeholder in the whole business of public-private partnership projects, as they generally bring in the maximum financial resources to the project and their interests have to be protected at all times. They may be senior lenders or subordinate lenders, depending on the financial structuring of the project.
 - **Users/Occupiers/Buyers**– These are the users of the project components, whether it be transit facility or other such public components. It also includes the purchasers and buyers of properties and assets developed within or allied to the project. Generally, they are not any direct party to the project development and operations contracts, but their interests are protected in the project through warranties, representation and responsibilities of other parties.
- A schematic matrix of the relationship among these stakeholders is presented below for reference:



PROJECT STRUCTURING

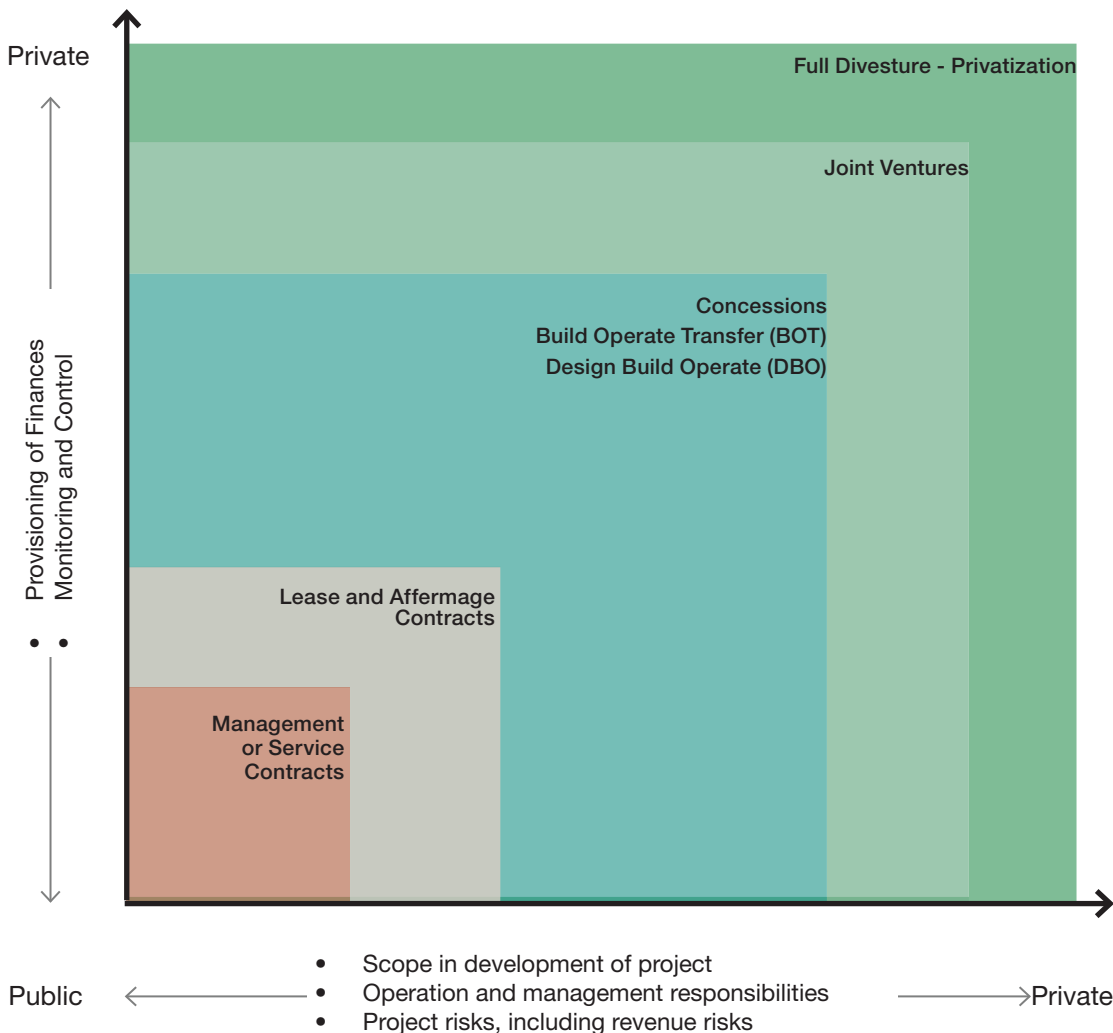
The structuring of public-private partnership projects depend on several factors and requires project level, detailed analysis before arriving at any specific model. These include the sharing of the following between the implementing agency and the private partner:

- Scope in development of project
- Provisioning of resources
- Operation and management responsibilities
- Project risks, including revenue risks
- Monitoring and control

Based on these shared responsibilities, the public-private partnership projects may be classified as following:

- Management or Service Contracts
- Lease and Affermage Contracts
- Concessions/Build-Operate-Transfer (BOT)/Design-Build-Operate (DBO)
- Joint Ventures
- Privatization

The selection of an alternative is the result of the assessment of project and stakeholder requirements. A reference framework providing benchmarks for this purpose is provided below:



LEGISLATIVE- POLICY AND REGULATORY FRAMEWORK

It is important for the project formulator(s) to have an in-depth understanding of the legislative framework governing the development and operations of the project. The project structure, including tenure of development and operations, financial and land resources, stakeholder and partner selection, rights and responsibilities, compliance requirements, revenue-based rules and guidelines, etc. shall all be required to adhere to the policies and regulations, brought in force specific to the area or generic to the jurisdiction of government.

In case of complications or requirements of clarifications, formulation of consultative committees and making reference to approving authorities at a preliminary stage is highly recommended. Some specific projects may also require reforms to the norms laid down by government for PPP projects, land development or land transfers, etc. These should be undertaken in priority, before proceeding further on the project structuring and implementation.

PROCUREMENT AND IMPLEMENTATION

Based on the decided project implementation structure, the procurement is undertaken through standard terms and conditions of bidding documents and the draft contract agreement appended to it. The draft contract agreement generally addresses all aspects of project structure parameters and aligns a risk sharing framework in the contractual terms and conditions. All federal government and in many contexts, the provincial or local government, prescribes standard bidding documents for PPP procurement as a reference. These documents may be followed with customizations to suit the requirements of project. These documents are generally termed as model concession agreements and model request for proposal documents.

It is also important that there is efficient contract management and project monitoring. For this purpose, the implementing agency may institutionalize a separate team or engage a specialized consulting organization(s) for this purpose. There is a specific role of independent engineer for all milestone certifications and minor dispute resolutions. These are independent consultants engaged by either the implementing agency or jointly, by both the parties, to check the quality of development and protect the interest of the project.

In general cases, the implementation of the project is undertaken by the private partner, independently. However, the partner takes all prior and post-implementation approvals from the implementing agency, independent engineer or any other third party, as defined in the terms of the agreement.

POST-IMPLEMENTATION MANAGEMENT

The agreements govern the entire period of the contract/concession from the date of engagement till the handover of assets back to the implementing agency, if applicable. The contract management team of the implementing agency is responsible for overseeing and monitoring the overall performance of the contract by either parties, especially the private partner. Site programming for soft components such as destination management, placemaking, safety, and overall place branding are factors that should continue through the life-cycle of the project in order to increase the value proposition for the site in the overall market.



Hong Kong SAR, China

FI-R01

DEVELOPMENT INCENTIVES



A guide of financing tools for planners and
economic development specialists

Type: Reference Document



Disclaimer: The Transit-Orientated Development Implementation Resources & Tools knowledge product is designed to provide a high-level framework for the implementation of TOD and offer direction to cities in addressing barriers at all stages. As the context in low and middle-income cities varies, the application of the knowledge product must be adapted to local needs and priorities, and customized on a case-by-case basis.

© 2021 International Bank for Reconstruction and Development / The World Bank

INTRODUCTION

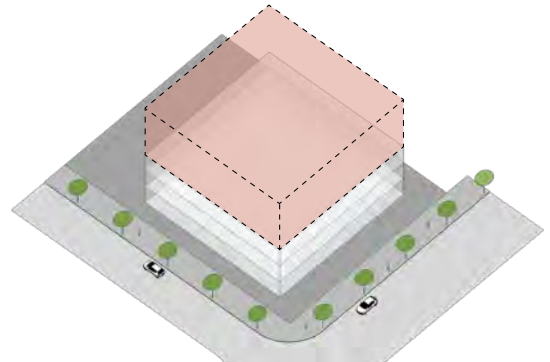
Since TOD is a deviation from traditional single use development models, incentives are often used to attract developers and investors in developing the TOD area, especially in the case of peripheral areas of the city or greenfield contexts. Some incentives are also aligned towards the citizens, encouraging heightened community participation in the development process. This helps in ensuring that the project is co-created with impacted stakeholders, and chances of delays in obtaining project approvals and implementation are minimized. The following outlines the potential development incentives that can be implemented:

| INCENTIVE | OUTCOME |
|--|---|
| Increased densities offered right around transit nodes, as well as density bonuses in exchange for public amenities and infrastructure such as safe access to transit, and NMT infrastructure constructed by private sector, subject to market demand. | Conducive to development and reduce infrastructure expansion costs |
| Local Growth Management Strategies and incentives to promote TOD and road safety infrastructure in such areas to land developers and investors at the local level | Provides better urban planning and growth guidelines with people friendly environment thereby increasing the attractiveness potential of the area |
| Incentives to developers in the form of technical assistance for architectural design, road safety and safe system designs, site plan approval, understanding zoning regulations. | Resulting in quality development |
| Incentive to developers by relaxing height restrictions and reducing the requirement for providing car parking. These may be justified where the development is located near shops and close to public transport, as envisaged in TOD, depending on market demand. | Opportunity for mixed-use, compact development and encouraging users to switch to NMT and public transport |
| For projects with a strong focus on transit use, incentives can include full or partial fee rebate on development application fees. | Reduces processing time and improves efficiency |
| Financial assistance for activities such as organizing initial community consultation and integrating affordable housing and community facilities as part of the TOD project. | Participatory planning |
| Incentives such as fee waivers, expedited processing of development applications to streamline approval process. | Value addition to the service improves project delivery |

ZONING INCENTIVES

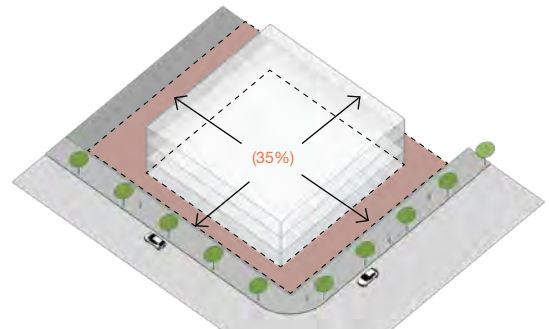
MODIFY MAXIMUM BUILDING HEIGHT

Increased allowable height may vary depending on the current zoning and the location in relation to transit nodes, but would increase buildable area.



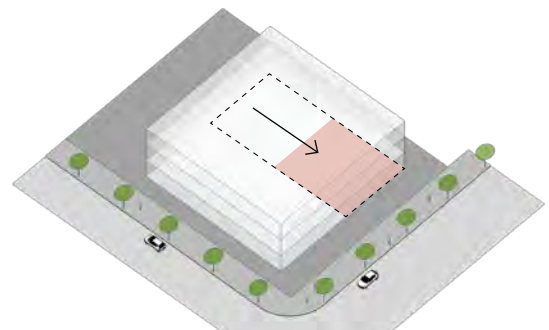
MODIFY MAXIMUM LOT COVERAGE

Increased maximum lot coverage may vary depending on the current zoning and the location in relation to transit nodes, but would increase buildable area.



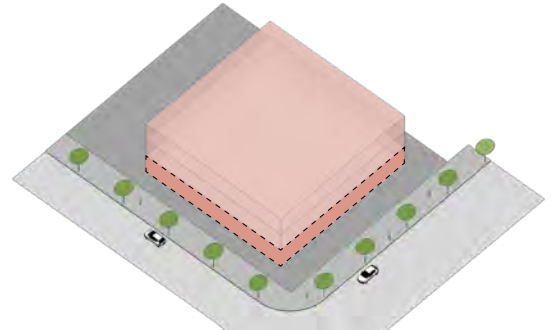
MODIFY ALLOWABLE RESIDENTIAL DENSITY

Decreasing the required land area per dwelling unit creates an opportunity for increased housing density near transit and more housing flexibility and choice.



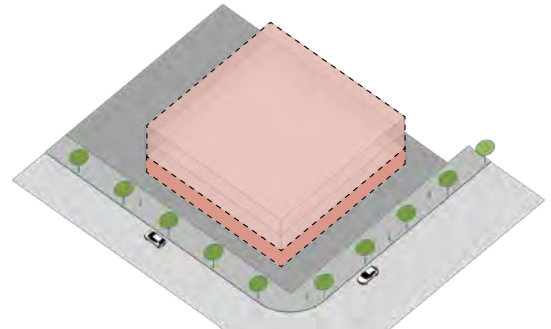
MODIFY PERMITTED USES

Amending principal permitted uses, to include a full range of residential and commercial uses within a walkable distance of transit, reinforces pedestrian activity.



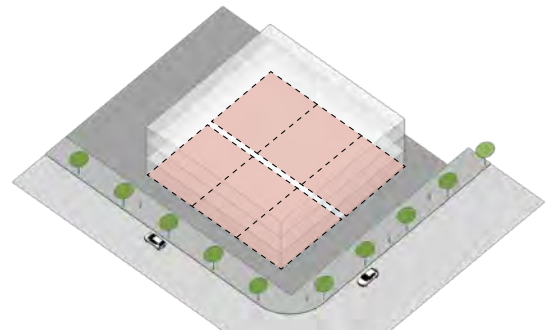
INCENTIVIZE MIXED USES

Requiring or incentivize a mix of uses increases the opportunity for a vibrant place that contributes to active and walkable transit.



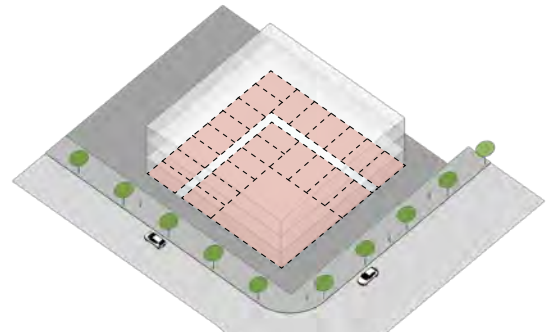
INCENTIVIZE RESIDENTIAL CONVERSION

Incentivize existing structures to convert to residential uses would enable more contiguous, walkable districts to occur near transit stations.



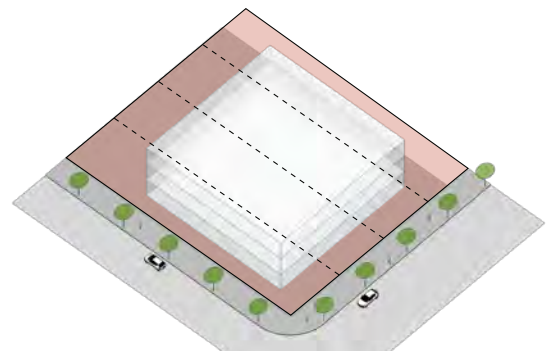
INCENTIVIZE SPECIFIC DESIRED USES

Providing additional height or density entitlements to specific uses, in specific locations, creates the opportunity to align private and public investments.



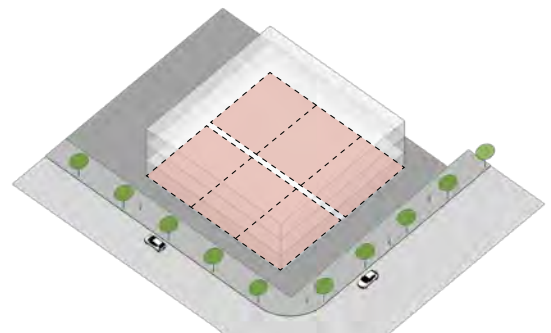
INCENTIVIZE SPECIFIC DESIRED USES

Incentivize parcel assembly creates new opportunities for larger scale redevelopment where desirable.



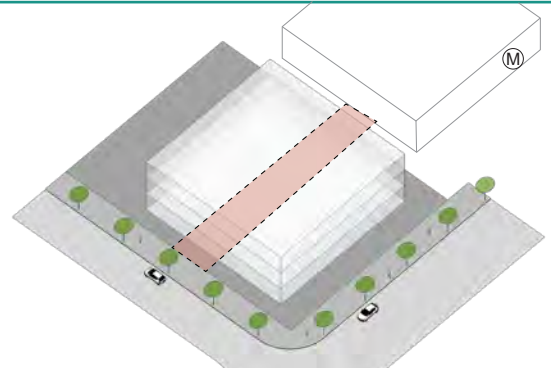
INCENTIVIZE HOUSING CHOICE / OPPORTUNITY

Variation in housing opportunities strengthens compact, walkable neighborhoods and builds upon the strengths of residential demand.



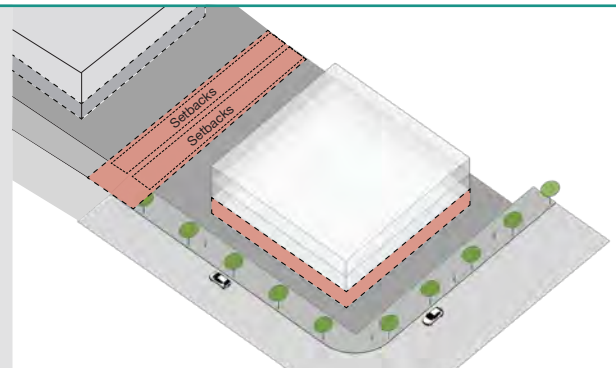
INCENTIVIZE PROPERTY EASEMENT

Incentivize private developers of large plots, bordering two parallel streets or two different sides of a city block or near a station, to grant easement access to pedestrians and non-motorized transport users through their properties.



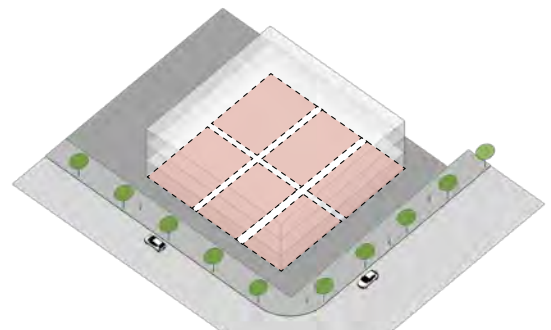
INCENTIVIZE AMALGAMATION OF SETBACKS

Incentivize developers of adjacent parcels for amalgamating adjoining setbacks between buildings to create new rights-of-way restricted for pedestrian and NMT movements.



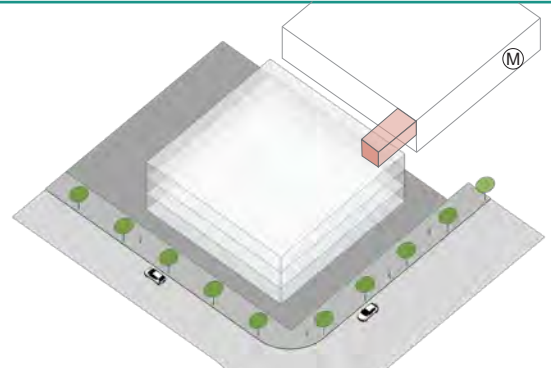
INCENTIVIZE SUB-DIVISION OF LARGE PARCELS

Requiring or incentivizing sub-division of parcels, beyond a given area, with public rights-of-way created in between.



INCENTIVIZE DIRECT LINKS TO STATIONS

Incentivize directly linking properties to the transit station using partnership model between City and developers, through a combination of at-grade and grade-separated networks like skywalks and subways.

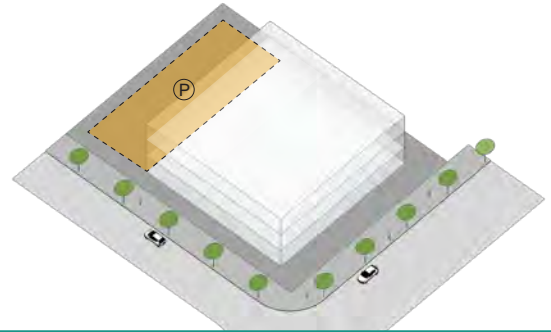


Sky-walks in China SAR connecting commercial and business destinations to transit stations
(Source: © WRI India)

PARKING INCENTIVES

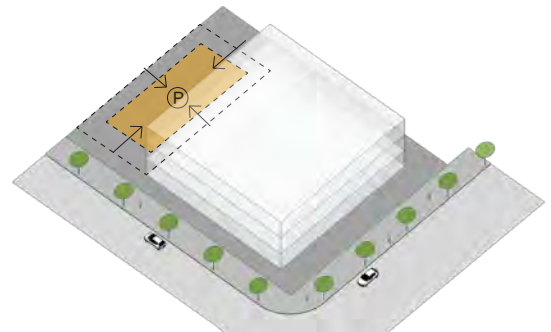
DEFINING PARKING LOCATION AND ORIENTATION

Parking located at the interior of blocks, behind buildings or concealed by landscape buffers, provides a more walkable and uninterrupted environment to support transit use.



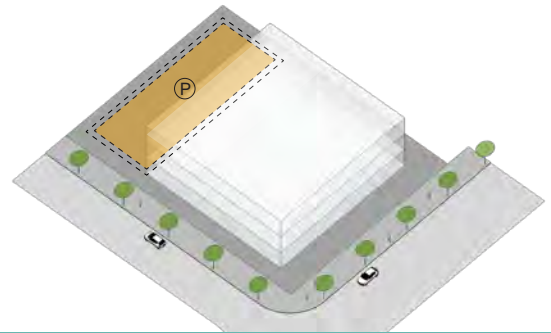
MODIFY PARKING REQUIREMENTS

Reducing required parking allows a larger proportion of a parcel to be used for redevelopment, increasing the residential and commercial space.



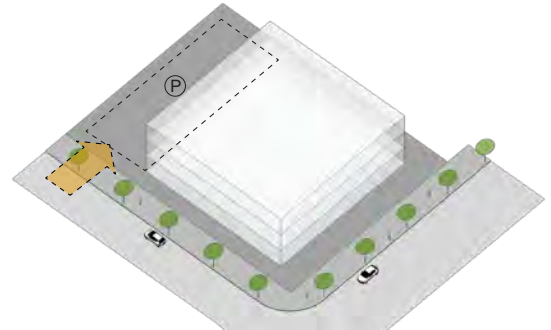
ESTABLISH PARKING MAXIMUMS

Parking maximums can be used to limit the amount of land area devoted to parking capacity by parcel or by district.



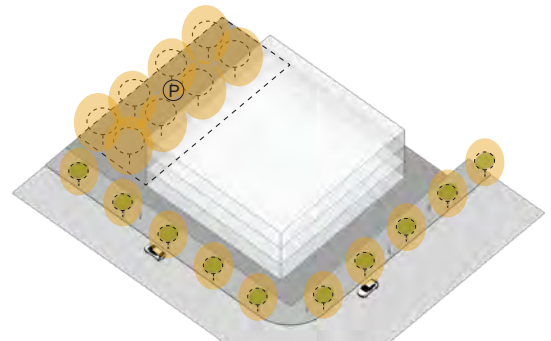
ESTABLISH PARKING ACCESS RESTRICTIONS

Reducing parking access to a single curb cut on a secondary street minimizes disruption to the pedestrian environment.



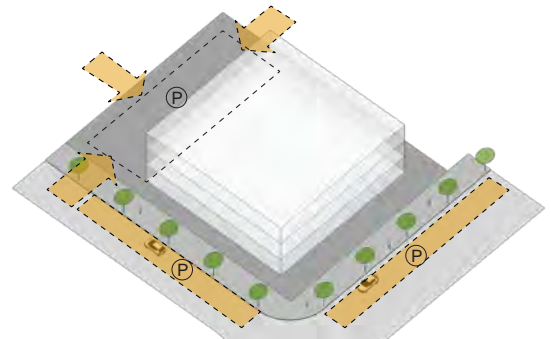
REQUIRE PARKING LANDSCAPE/BUFFERS

Landscape buffers and islands can help to screen parking areas from view and reduce large expanses of impervious surfaces.



INCENTIVIZE SHARED AND OFF-SITE PARKING

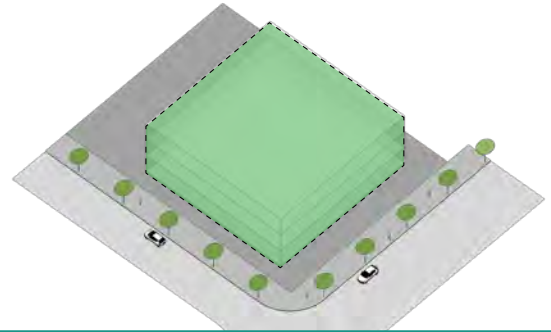
Parking resources between adjacent sites can be combined and shared to increase capacity, shared between various uses or combined with on-street parking to be more efficient.



FINANCIAL INCENTIVES

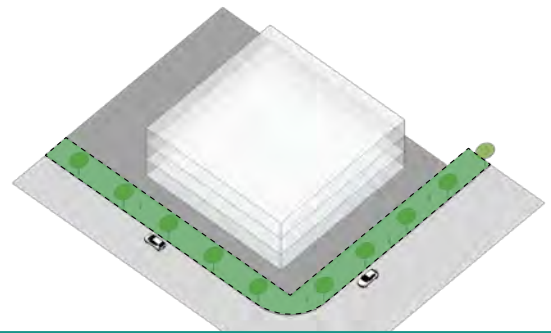
PROMOTE TAX CREDITS

Several types of tax credits- at the federal and state level- offer opportunities that would be applicable to potential redevelopment in the transit nodes.



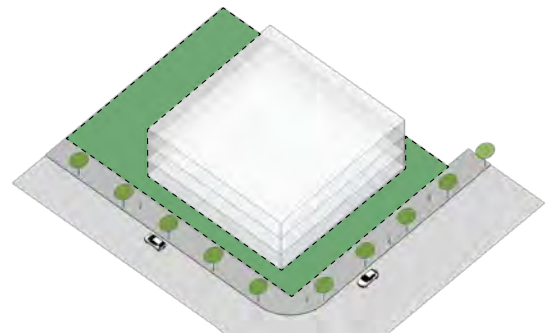
INVEST IN INFRASTRUCTURE AND STREETScape

Investments in streetscape and infrastructure are critical to creating a pedestrian-friendly and private investment-friendly environment. Developers may be given incentives to “adopt” sidewalks adjacent to their property and ensure that it is well maintained and cleaned as per City guidelines and policies. In many cities, sidewalk maintenance and upkeep is the responsibility of the residents or business owners for example removal of snow and ice to ensure safe walking space for pedestrians. These weather related situations sometimes arise when the sidewalks are narrow or have utility fixtures that may not be suitable for snow clearing machines.



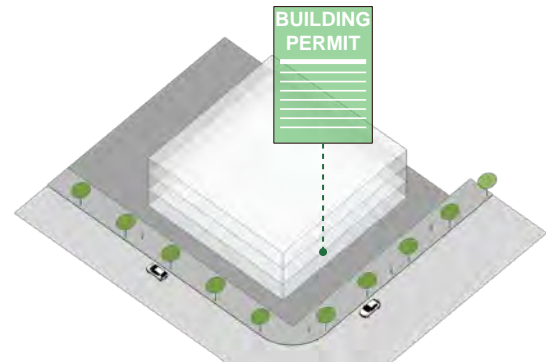
OFFER PROPERTY TAX ABATEMENTS

Property taxes are a component of redevelopment projects that the city can modify to be used as an incentive to encourage specific projects.



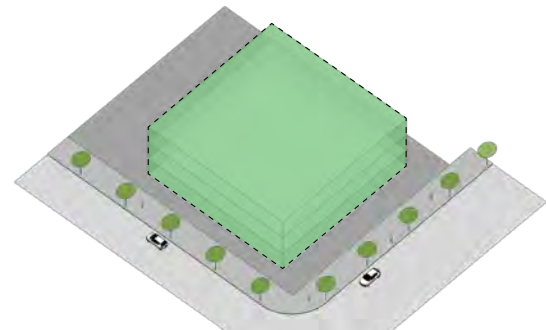
OFFER EXPEDITED PERMITS AND APPROVALS

Unpredictable approvals processes become a major impediment to implementing redevelopment improvements. A special expedited review for certain project types can be used as an incentive.



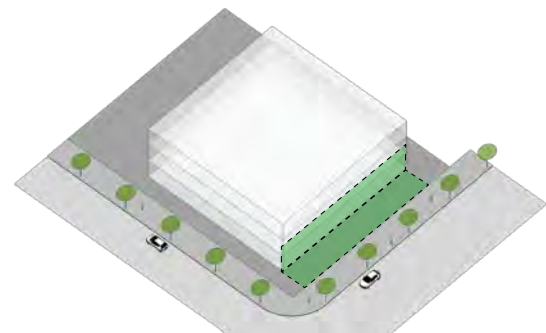
ESTABLISH TARGETED LOAN FUNDS

Targeted and revolving loan funds can be used to provide financial assistance to small businesses within the transit nodes, resulting in improvements and increased activity in these districts.



ESTABLISH GRANT PROGRAMS

Targeted grant programs to improve storefronts in commercial districts are an example of leveraging public funds to incentivize private investment that is aligned with city goals.





Hidalgo, Mexico

FI-R02

LAND VALUE CAPTURE BEST PRACTICES



Examples of land value capture tools employed in World Bank client countries to help fund transit projects

Type: Reference Document



INTRODUCTION

PURPOSE

Pressure from urban agglomeration, coupled with related infrastructure problems and rising cost, forces policymakers running on tight budgets to improve critical transport infrastructure. There are techniques to facilitate these transit facilities with use of various land value capture (LVC) tools, which generate funds from the uplift in property values that results from new transit lines and stations. In LVC deals, governments share in the profits, rather than concede them to developers or landowners. There are many types of LVC instruments, but generally, they are either fee-based, such as land taxes, or development-based, such as joint development. If executed properly, these tools could provide a more sustainable source of financing to prudent governments and better align public and private sector participation. Their ability to boost area density also allows cities to include LVC in transit-oriented development strategies, now a popular practice across urban planning departments.

Disclaimer: *The Transit-Orientated Development Implementation Resources & Tools knowledge product is designed to provide a high-level framework for the implementation of TOD and offer direction to cities in addressing barriers at all stages. As the context in low and middle-income cities varies, the application of the knowledge product must be adapted to local needs and priorities, and customized on a case-by-case basis.*

© 2021 International Bank for Reconstruction and Development / The World Bank

STRUCTURE

Cities have been identified from low and middle income countries, where LVC instruments have been used to fund transit development projects. Each city story is briefed under the following subheadings, representing different phases of the transit project completion:

- **Scoping:** explains the underpinnings of the project and feasibility assessments.
- **Planning:** explains the planning process followed in the respective case.
- **Institutions:** explains the institutional roles and responsibilities to use LVC.
- **Financing:** talks about the different financial tools adopted by the city for the funding of the project.
- **Implementation:** explains how the LVC tool was implemented
- **Outcomes and Lessons:** explains the outcomes of the LVC implementation and lessons learned.

NANCHANG RAILWAY TRANSIT GROUP

Nanchang, China

CONTEXT

Nanchang is a provincial capital in southeastern China and also a major regional center for agriculture, manufacturing and commerce. Considering factors like high GDP and the population growth rate of the city, construction of a rail transit system in Nanchang was first proposed in 2000. The population of the urban core of Nanchang is projected to reach 3.5 million people by 2020. Annual gross domestic product (GDP) growth in 2007–11 was a very robust 16–22%.

Incorporated in 2008, the Nanchang Railway Transit Group (NRTG) in Nanchang, China adopted development-based land value capture (DBLVC), as part of the funding strategy for the Nanchang Metro Line 1 (28.7 kilometers), Line 2 (23.3 kilometers), and Line 3 (18 kilometers), with full support from the Nanchang Municipal Government (NMG). NRTG's DBLVC approach involves direct property development on excess land around transit stations, acquired through the NMG public land leasing scheme during transit construction.

SCOPING

In August 2005, Jiangxi Provincial Development & Reform Commission and Nanchang City Government replied to the proposal of building a metro system and the city considered listing the proposal in the budget plan. In November, a plan of 4 metro and 1 light rail was drafted. After continuous deliberation with successive levels of governments in the hierarchy, the construction of Nanchang Metro was formally included in the priority agenda.

PLANNING

Public transport accounted for only 13.5% of total daily trips in the city. Moreover, roads in southern Nanchang see heavy congestion, while in other parts, cars are favored due to the availability of wide roads. In southern Nanchang, the Nanchang

municipal government (NMG) plans to decrease the population in the historic core, lower its development densities, lessen traffic congestion and preserve historic buildings. To achieve these goals and resolve the growing congestion, NMG has designed an extensive public transport system with fully integrated bus services and metro railway networks to facilitate smooth travel. NMG plans to build five metro lines; two are under construction. Once complete, the metro railway network will be about 160–170 kilometers long with 128 stations. With a target completion date of 2020, lines 1, 2, and 3—60–70 kilometers in all—will form the basic structure of the metro railway network, connecting major business centers, the financial district, recreational areas, sport facilities, two industrial parks and three universities.



Figure 1: Lines 1-5 of Nanchang Metro

Source: *Urban Planning and Design Research Institute of Nanchang 2013.*

INSTITUTIONS

NMG delegated the responsibility for city-level land use planning and investments in local infrastructure and services to the established Nanchang Railway Transit Group Co. Ltd. (NRTG), which plans to build and operate the metro system. To better

leverage the private sector’s expertise, NRTG set up a special property management division with key staff recruited from the private sector to manage all real estate assets owned by the company. It also acts as a key liaison between government agencies to coordinate their planning and review of metro railway investments and projects.

FINANCING

NRTG’s estimated investment in direct development schemes is \$1.4 billion (USD). However, the expected revenues from the overall development scheme for the 2012–2015 period include:

- Sale of development rights: \$574 million
- Sale of 500,000 square meters of commercial property: \$1.5 billion
- Average annual rental income: \$65.6 million
- 2012–2015 annual rental income: \$198 million
- Projected 2015 net profit: \$1.1 billion dollars (20.5% of the construction costs for line 1 and 2)

Overall, the projected financial benefits of NRTG’s future real estate investments (including land development, station rental, property sales and property lease) along the Nanchang Line 1 and Line 2 rail corridors will be \$2.2 billion for the 2012–2016 period and \$3.6 billion for the 2012–2020 period. NRTG’s DBLVC (Development-Based Land Value Capture) program is a model for other Chinese cities considering transit value capture financing.

IMPLEMENTATION

Upon acquisition or lease of excess land by the NRTG from the Nanchang Municipal Government (NMG), the government, in return, increases the allowable floor space within 500 meters of stations to make DBLVC ventures profitable. It employs transit-oriented development principles on transit adjacent land to generate real estate revenues for transit construction and operation. NRTG develops above ground and underground development at select rail stations. As a business policy, it first develops high-density mixed-use development around station areas that are close to the city center. Similar developments are then replicated on a smaller scale at station areas located

in the suburbs, to improve the overall financial viability of direct property development ventures. NRTG is developing 23 mixed-use developments above stations, five of which are being directly financed and developed, while the other 18 developments are being co-financed and developed with private developers. In addition, NRTG is building five underground developments, three of which will be directly finance and developed, while two will be co-financed and developed with private developers.

OUTCOMES AND LESSONS

The following are the inferences drawn out from the case study:

- Economy-induced population growth rate offers better job opportunities for city dwellers and promotes healthy migration. This could be capitalized on by offering good real estate opportunities for the people along a mass rapid corridor within the city.
- Marketing and business development is a key attribute for the success of TOD via any LVC tool, as they help investors and developers understand the benefits of such an intervention.
- Ample backing from ULB or a city-governing institution for LVC helps to expedite the transaction.
- Empowering the ULB to make all the decisions pertaining to transit development is important. This could be phased, by inducting a pool of experts and devolving funds and power.
- The lack of urban redevelopment schemes is a critical constraint for implementing TOD and LVC in mass transit investment at city- and region-wide levels.
- LVC tools must be able to capture the long-term increase in value brought by mass transit and meet the need for recurrent financial support for operation, maintenance and renewal.
- Mechanisms shall be applicable to mass transit agencies to share recurrent revenues fairly with developers. This can be achieved through development-rights arrangements or other financial instruments that capture long-term increases in land value, such as property taxes, impact fees and betterment taxes.

DELHI METRO RAIL CORPORATION

New Delhi, India

CONTEXT

The Delhi Metropolitan Area consists of the National Capital Territory of Delhi (NCTD) and the first ring of towns around the capital, including Ghaziabad, Loni, Noida, Faridabad, Gurgaon, and Bahadurgarh. Home to more than 22 million inhabitants within 1,483 square kilometers, it is projected to increase to 33 million inhabitants by 2025. The NCTD's per capita income is 2.4 times higher than the national average, so its population ratio below the poverty line is also around half the national figure. Greater economic opportunities are adding more immigrants to the city and, as such, augmentation of transit infrastructure remains a primary focus.

SCOPING

The Mass Rapid Transport System (MRTS), forms a roughly 250-kilometer network of underground, elevated and surface lines across the territory by 2021. It is expected that after the full network is developed, about 60% of the urbanized area of Delhi will be no more than a 15-minute walk from an MRTS station. Such investments are also expected to generate greater opportunities for economic growth and employment by calling for selective redevelopment and densification of the existing built-up areas, given local conditions and informal settlement patterns such as land pockets of slum and Jhuggi Jhoppadi (a cluster of slum colonies).

PLANNING

The Master Plan of Delhi recommends a comprehensive redevelopment scheme of the catchment areas of MRTS stations be created, with multiple land use categories and floor area ratios. The Delhi Development Authority (DDA) with the help of Unified Traffic and Transportation Infrastructure Planning and Engineering Centre (UTTIPPEC), proposes to greatly raise FARs in Delhi under MPD-2021. A 500-meter wide transit-oriented development (TOD)/multi-use zone would be overlaid on both sides of the metro corridor to encourage

a mix of commercial and employment-generating activities along with residential developments. Higher FARs would be permitted subject to certain setback and height restrictions. One redevelopment package will be included in the influence zone if more than 70 percent of the site area falls inside the 500-meter buffer. Property developments around the MRTS stations, up to a maximum area of 3.0 hectares, will be allowed in all use (mixed land use) zones, with some exceptions. This flexible land use coordination could lead to a mix of residential and commercial uses, as well as densely built areas, but whether this actually triggers redevelopment along the corridor is yet to be ascertained.

INSTITUTIONS

DMRC has decision-making power in railway business practices, while the exercise of land development rights remains with government authorities. The Ministry of Urban Development often intervenes in DMRC's station plans with property development projects. DMRC has to get statutory clearance from multiple government stakeholders at NCTD level. For architectural and conceptual plans, clearance is derived from the Delhi Urban Arts Commission; land use changes—DDA; building plans—municipal authorities; no objection certificates—the Land and Development Office and DDA; archaeological surveys—the Archaeological Survey of India; fire-fighting clearance—Delhi Fire Service; and environmental clearance—the Ministry of Environment.

FINANCING

The current and proposed Delhi MRTS network combined is about 293 kilometers long and has three project phases (table 7.3). The national government's direct participation in project funding in the three phases was required to secure concessional Japanese yen loans (30 years, including a 10-year grace period, with an interest rate of about 1.8 percent) from the Japan International Cooperation Agency (JICA).

IMPLEMENTATION

The land parcels belonging to the various bureaus, agencies, and municipalities are transferred to DMRC at intergovernmental transfer rates decided by the Ministry of Urban Development for a 99-year lease. The Delhi government is essentially in charge of acquiring private lands for public projects and then transferring them to DMRC. In some locations, DDA also provides the land for free to DMRC. The cost of land acquisition is treated as a premium to be recovered, as an interest-free subordinate debt over a 25-year period in the fund allocation schemes.

Sales of development rights are undertaken in two steps. After the land transfers are obtained from multiple government agencies, DMRC usually invites shortlisted bidders to make concession agreements with successful tenders for the development rights. Most residential development projects on depot and standalone plots with 90-year leases generate substantial upfront payments, whereas commercial properties within station buildings with short (6–12-year) leases and on large plots outside stations with medium-term (20-year) leases produce more recurrent revenue streams.

OUTCOMES AND LESSONS

The following are the inferences taken from the case study:

- Good purchasing power and consumer-driven economy is an indicator for applicability of TOD.
- The parameters or LVC tools shall be determined not based on fixed standards, but on local site conditions, network wide node characteristics and market-based demands.
- The slow and convoluted process of land transfer through multiple organizations held up project prospects for DMRC and private developers, the main barrier to delivering property development projects on MRTS station sites.

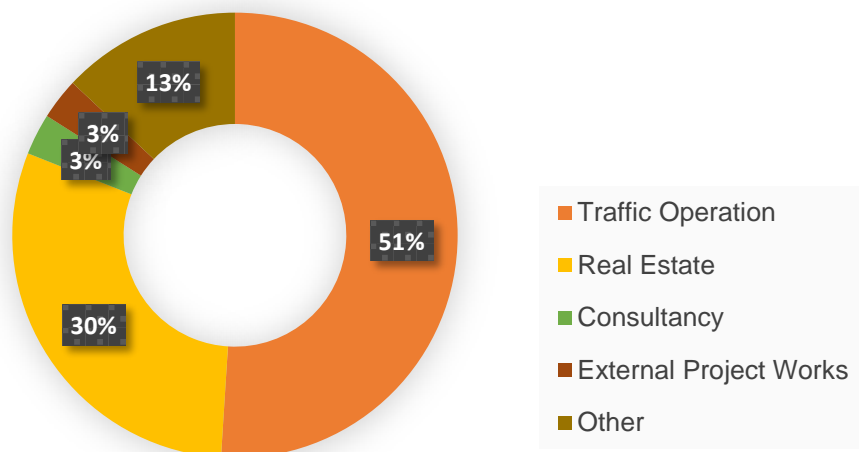


Figure 2: DMRC's net income till 2013

HYDERABAD METRO RAIL LIMITED

Hyderabad, India

CONTEXT

Hyderabad, the capital of Telangana, has long been the international corporate hub for service and knowledge-based industries. More than 7.5 million people live within the 7,257 square kilometers of the Hyderabad Metropolitan Development Area (HMDA), which includes the Greater Hyderabad Municipal Corporation (GHMC). Hyderabad's metropolitan population is projected to grow to more than 11.6 million by 2025.

SCOPING

Moreover, the majority of the rise in population is anticipated to occur in the surrounding municipalities of GHMC. Hence, there is a need to think long-term about public infrastructure investments and land use regulations, reflecting population growth patterns and the emerging industrial clusters across the whole metropolitan area.

PLANNING

Hyderabad's master plans have been updated to address emerging population growth patterns and business location shifts for the long-term. Once the metro development plan was complete, the master plan of the GHMC was amended by the state government to introduce a 300-meter wide "multi-use zone (mixed land use)" on both sides of the metro corridor. This amendment would promote commercial and office uses, which can also benefit from transit services.

INSTITUTIONS

HMDA has the spatial control in the planning and regulation of the region. The state government intended to provide a rail system for 71.16 kilometers on elevated structures in Hyderabad via design-build-finance-operate-transfer invited proposals from bidders. Larsen & Toubro Limited (L&T) won the bid, as it asked for the lowest viability gap funding (VGF) (Rs 1,458 crores/\$230 million) and signed the concession agreement with the state government for the project over 35 years, of which 5 years are for construction. Hyderabad Metro Rail Limited (HMR) was enacted as a special purpose vehicle. In this framework, HMR

is an intermediary, ensuring that L&T gets the right-of-way for the metro construction, coordinating with the GHMC, traffic and police departments and utility agencies for multiple clearances. Two important obligations of the concessionaire are to achieve integration with the surrounding landscape, by engaging architects and town planners to design the metro system to accommodate interchange facilities with other transport modes and new corridors.

FINANCING

The government meets 40% of the project costs—half from the national government and half from the state government. The balance of 60 percent has to be provided by L&T Metro Rail. A consortium of 10 banks led by the State Bank of India provided financing. The debt to equity ratio set out for this rail project was 2:1. L&T Metro Rail foresees around 50% of corporate revenue coming from fares, about 45% from real estate development, and 5% from adverts and parking fees. The total project costs are \$3.07 billion, which include \$0.41 billion for real estate development along the metro rail corridors.

IMPLEMENTATION

L&T Metro Rail is entitled to use the stations' parking and circulation spaces offered by government for real estate development on the 25 sites, accounting for 23 hectares and a maximum floor area of 557,000 square meters. L&T Metro Rail is expected to provide public amenities, specifically where a 300-meter wide band from the metro corridor is envisaged for TOD at higher densities.

OUTCOMES AND LESSONS

The following are the inferences drawn from the case study:

- The PPP project is a perfect example for transaction and implementation of future Metro rail projects for cities aspiring to augment their transport infrastructure.
- Giving private sector the opportunity to engage with TOD projects will bring the much required expertise and efficiency in execution of the project.

AIR RIGHT SALES

Sao Paulo, Brazil

CONTEXT

São Paulo, Brazil's vibrant financial center, is among the world's most populous cities, with numerous cultural institutions and a rich architectural tradition. The city's gross domestic product increased 10 times and the population quintupled to up to about 12.1 million people. But since the 1990s, São Paulo's economy has become heavily deindustrialized.

SCOPING

The high pace of income and population growth linked to unstable political and financial conditions, as well as inadequate implementation of a spatial development vision and strategy in past years, have led to urban expansion.

While the city-region boundaries persistently drive outwards, the central area presents a high concentration of job openings, educational activities, public services, businesses and entertainment activities. These have generated excessive commuting patterns between the city center and surrounding municipalities, where the majority of people live.

PLANNING

Several laws and master plans guide São Paulo's urban development and transit investment across federal, state and municipal governments. An urban operation (Operacion Urbanisica/UO), defined by the City Statute as a tool to promote the restructuring of large areas of the city through land-based incentives, is offered to public-private partnerships (PPP), including local public authorities, developers, landowners and other stakeholders as independent investors. UOs are implemented through instruments called Operações Urbanas Consorciadas (Consortia Urban Operations). The urban infrastructure investments in UOs will be financed by the incremental value created by public investment, land use and zoning change.

INSTITUTIONS

State and municipal governments have formed multiple departments and agencies for regional and local transport systems. The state Secretariat of Metropolitan Transport (STM) has three operating companies: São Paulo Company of the Metropolitan (METRO), São Paulo Metropolitan Trains Company (CPTM) and Metropolitan Urban Transportation Company (EMTU). Within the STM, the tasks for public transport and traffic management are split between SPTrans (São Paulo Transporte S.A.) and CET (Traffic Engineering Company). As a primary transit agency, SPTrans coordinates all municipal bus services, which are operated by eight private companies within the city of São Paulo. Important transit projects are being undertaken by two units: STM and the Municipal Secretariat of Urban Development. The latter works mostly on urban planning and design around new transit corridors and terminuses, controls land regulations and oversees the municipal urban development company (São Paulo Urbanismo).

FINANCING

The funding for most transit projects in the city of São Paulo and surrounding municipalities relies heavily on local government resources, especially São Paulo state government's general budget for metro, commuter rail and intercity bus transit investments. To raise the capital funds required in the coming decades, Integrated Urban Transport Plan 2025 examined financing scenarios for transit investments, based on conventional tax resources and innovative financing schemes, including value capture. According to the funding arrangement models analyzed in the master plan, substantial development benefits could be captured by air rights sales in urban intervention areas, accompanied by PPP initiatives and congestion charges.

IMPLEMENTATION

In São Paulo, the city planning department sets the "base" FAR for the city at 1.0–2.0, though specific FARs within this range depend on location and land use. If landowners want to build beyond "as of right" development up to the maximum allowable

FAR (1.0–4.0 depending on location and land use), they have to buy additional FARs. The as of right base FAR in certain areas is lower than the pre-existing basic FAR. The revenues generated from the sales of OODC (Outorga Onerosa do Direito de Construir) are deposited in the Urban Development Fund, which finances public urban investments, including slum upgrading within the city boundary.

CEPACs, Certificate of Additional Construction Potential, are a market-based instrument to finance public urban investments through air rights transactions within designated UOs. Through CEPACs, municipalities can raise infrastructure investment funds by selling the bearer additional building rights, such as a higher FAR and possible land use changes that should induce private investments in the transformations wanted by urban development policy.

OUTCOMES AND LESSONS

The following inferences are drawn from the case study:

- High market demand, government capacities to create and manage auction markets, political will and regulatory capacity to ensure enforcement for additional required development rights were key attributes for success of this model in São Paulo.
- The greatest advantage of tradable air right sales is that local governments in developing countries, with limited developable lands, can produce substantial upfront cash flows for capital intensive urban infrastructure projects, without increasing their public debt.
- A transparent project finance scheme has to be developed, with clear rules and mechanisms to share profits and risks among multiple agencies, local government, transit agencies, landholders, residents, developers and investor. Coordination mechanisms must also exist between stakeholders in planning, financing and implementing transit and urban development.

REFERENCES

- Suzuki, Hiroaki, Jin Murukami, Yu-Hung Hong, and Beth Tamayose. 2015. *Financing Transit-Oriented Development with Land Values*. Washington DC: World Bank Group.
- Amirtahmasebi, Rana, Mariana Orloff, Sameh Wahba, and Andrew Altman. 2016. *Regenerating Urban Land - A Practitioner's Guide to Leveraging Private Investment*. Washington, DC: World Bank Group.
- n.d. Nanchang Metro. Accessed 08 20, 2018. <http://www.ncmtr.com/>.
- n.d. Delhi Metro Rail Corporation. Accessed 08 20, 2018. <http://www.delhimetrorail.com/funding.aspx>.



Beirut, Lebanon

FI-R03

MUNICIPAL FINANCE TOOLS



This Knowledge Product is intended to be used as a reference sheet available online on the GPSC's TOD website and the World Bank's TOD CoP website. The reader should first review the summary presented below before using the reference sheet.

Type: Reference Document



Disclaimer: *The Transit-Orientated Development Implementation Resources & Tools knowledge product is designed to provide a high-level framework for the implementation of TOD and offer direction to cities in addressing barriers at all stages. As the context in low and middle-income cities varies, the application of the knowledge product must be adapted to local needs and priorities, and customized on a case-by-case basis.*

© 2021 International Bank for Reconstruction and Development / The World Bank

INTRODUCTION

TOD often requires significant investments in infrastructure and community facilities for the type of development envisioned in TOD planning principles such as streetscape improvements, plazas and open spaces, utility capacity enhancements, land acquisition costs, and other supporting investments. In addition to initial capital improvement costs, operation and maintenance costs are also an added burden on the high-quality urban spaces that are promoted as part of TODs.

With limited financial capacities, unclear land entitlements, and low property tax collection revenues, local governments in low and middle-income countries continue to struggle to raise finances to support the types of investments that TODs aim to achieve.

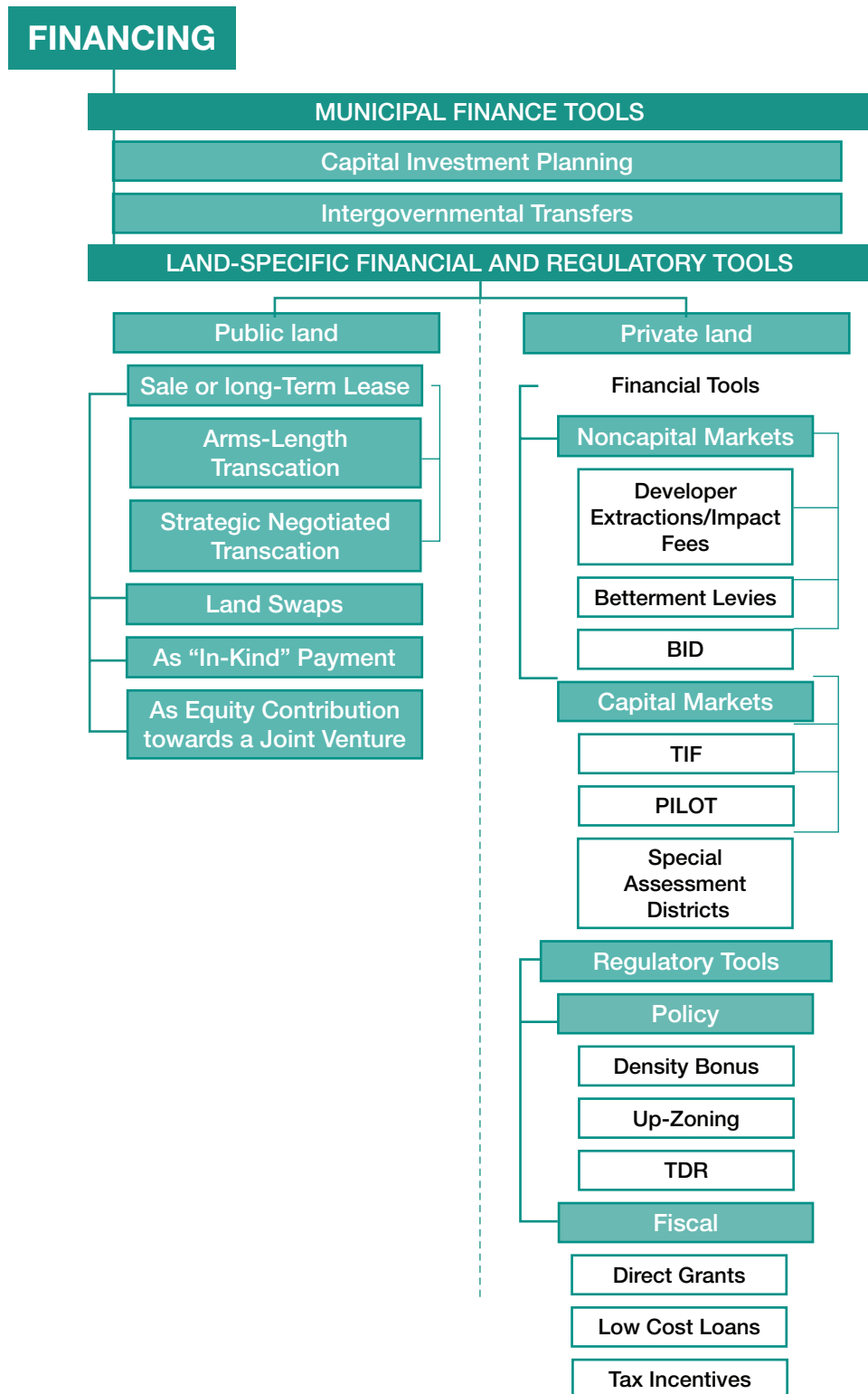
PURPOSE

While the fundamental principles of municipal financing tools are similar globally, how cities deploy these tools depends on the local context including the regulatory processes, legal context and political will. This tool presents a comprehensive listing of financing instruments employed in many countries to fund public infrastructure and services.

ASSUMPTIONS AND LIMITATIONS

- The list of financing tools is generic in nature and will need to be contextualized as per each city's legal and regulatory policies.
- Several tools may require an enabling legislative framework or may be more market driven. Such an assessment should be conducted as part of due diligence while analyzing the applicability.

ORGANIZATION OF TOOLS





LAND VALUE CAPTURE (LVC)

LVC tools are generally used to finance infrastructure improvements by setting aside a pre-determined share of the increase in values or savings resulting from public investment in infrastructure improvements

Cities using this tool: New Delhi (India), Tokyo (Japan) and Hong Kong SAR, China



TAX INCREMENT FINANCING (TIF)

TIF is a method to use future gains in taxes to finance current improvements (which theoretically will create the conditions for those future gains). When a development or public project is carried out, there is often an increase in the value of surrounding real estate, and perhaps new investment. This increased site value and investment sometimes generates increased tax revenues. The increased tax revenues are the tax increment. Tax Increment Financing dedicates tax increments within a certain defined district to finance debt issued to pay for the project. TIF is designed to channel funding towards improvements in distressed or underdeveloped areas, where development might not otherwise occur. TIF creates funding for public projects that may otherwise be unaffordable to localities, by borrowing against future property tax revenues.

Cities using this tool: Arlington, Chicago (USA)



LAND READJUSTMENT

Land readjustment is an effective tool in allowing local governments to take on TOD projects, especially in greenfield contexts, in partnership with original residents and landowners as. Public amenities and infrastructure is then provided, using government funds or loans, and then the serviced plots are sold at market rates. The increment in the land value goes to the development agency instead of the original land owners, which can again be used to finance infrastructure upgrades. In return, each land owner receives a serviced plot of smaller area, but often at much higher value within the same neighborhood.

Cities using this tool: Mumbai and Gandhinagar (India)



DEVELOPER FEES AND EXACTIONS

This financing tool is often collected in the form of impact fees, as a one-time fee, and used as part of the city's general fund to finance public infrastructure improvements, such as utilities and transportation. Developer exactions are also used for dedication of land for public benefit, construction of public improvements such as sidewalks, parks or recreation center in a TOD area, sometimes in exchange for higher densities.

Cities using this tool: Bengaluru (India)



JOINT DEVELOPMENT

One of the oldest financing mechanisms used for financing development by transit agencies, this tool is a form of public-private partnership involving real estate development on public owned land with private investment.

Cities using this tool: Seoul (Republic of Korea), Bengaluru (India)



MUNICIPAL BONDS

These are debt obligations issued by municipalities to fund urban infrastructure projects and various municipal services. Purchasing municipal bonds means lending money to the government body, which in return pays specified interest throughout the locking period and returns the principal amount at the end of tenure. Municipal bonds are available in both taxable and tax exempt formats. There are two types of bonds: General Obligation Bonds (GO) and Revenue Bonds. GO bonds, issued to raise immediate capital to cover expenses, are supported by the taxing power of the issuer. Revenue bonds, which are issued to fund infrastructure projects, are supported by the income generated by those projects.

Cities using this tool: Ahmedabad (Ahmedabad Municipal Corporation), New Delhi (India)



BANK LOANS AND FINANCING

The most conventional methods for financing urban infrastructure projects are term loans from bank or other lending institutions. The steps involved are:

- ➔ Municipal council/standing committee approval to issue debt
- ➔ Technical approval from the concerned local authorities
- ➔ Apply for term loan, with brief description of the proposed project, DPR with an accompanying financing plan, past budget documents and necessary approvals
- ➔ The lending institution establishes the loan terms based on the risk perception of the project and the applicant's financial viability

Cities using this tool: Tamil Nadu Urban Development Fund (India)



DIRECT FEES THROUGH TOOLS LIKE CONGESTION PRICING & PARKING FEES

Direct fees are user charges for public amenities and infrastructure, such as transit, toll roads, bridges and parking facilities. Direct fees are dependent on local conditions and case-specific based on the demand. Normally these fees are collected by public and private authorities to recover capital cost and operation and maintenance costs of the infrastructure.

Cordon area congestion road pricing is a system of charging users for entering and using roads in a demarcated or restricted area that is subject to congestion due to excess demand. This helps regulate demand and managing congestion. The revenue collected is used to support and improve transit services and transportation systems.

Cities using this tool: Singapore, London (UK)



GRANTS

Grants are non-repayable funds disbursed by one party (grant makers), often a government department, corporation, foundation or trust, to a recipient, often (but not always) a non-profit entity, educational institution, business or an individual. In order to receive a grant, some form of “grant writing,” often referred to as either a proposal or an application, is required. Most grants are made to fund a specific project and require some level of compliance and reporting. The grant writing process involves an applicant submitting a proposal (or submission) to a potential funder, either on the applicant’s own initiative or in response to a Request for Proposal from the funder.

Cities using this tool: Singapore, London (UK)



SPECIAL FUNDS SUCH AS URBAN TRANSPORT FUND (UTF)

The Ministry of Urban Development, Government of India recommended the creation of a dedicated transport fund, both at the state and the city-level, for funding urban transport initiatives. Creation of the Urban Transport Fund is a mandatory reform under JnNURM guidelines. The UTF will be collected in the form of a surcharge on the sale of petrol, taxes on existing personalized vehicles and an Urban Transport tax on the purchase of personalized vehicles. It will be used for traffic transportation studies, capacity building, awareness building and projects aimed to promote public transport, NMT and accessibility to public transit.

Cities using this tool: Indian Infrastructure Debt Funds



CROWDFUNDING

Crowdfunding is an Internet-enabled way for businesses or other organizations to raise money – typically from about US\$1,000 to US\$1 million – in the form of either donations or investments, from multiple individuals. This new form of capital formation emerged in the wake of 2008 financial crisis in response to the difficulties faced by early-stage enterprises in generating funding. In less than a decade, crowdfunding has spread across the developed world, and is now attracting considerable interest in the developing world as well. Crowdfunding began as an online extension of financing by friends and family: communities pool money to fund members with business ideas. During crowdfunding’s early stages, capital came in the form of donations, but increasingly it takes the form of debt or equity investments targeting high-growth entrepreneurs – only one of many ways the model is evolving as awareness spreads. Crowdfunding uses web-based technology and the knowledge and wisdom in communities to determine which projects should receive funding and how much funding they should receive, as well as providing real-time feedback on start-ups and small businesses. It leverages the power of technology, particularly social media, to market the idea, raise funds, and hold entrepreneurs accountable. Developing economies may have the potential to capitalize on this new funding mechanism. Countries wishing to implement crowdfunding ecosystems need to understand how crowdfunding works, the role that government and regulation should play and the technological infrastructure requirements involved.

Source: Crowdfunding’s Potential for the Developing World. 2013. infoDev, Finance and Private Sector Development Department. Washington, DC: World Bank



LOCAL CURRENCY LOAN

A decade ago, the lending markets were less vulnerable to the currency exchange rates. Borrowings were happening in the preferred currency of lender putting the currency exchange risk in borrower's basket. The revenue currency being different from the lending currency posed risk and required to always keep a watch on the volatility in currency exchange rates. Thereafter, the need for a sustainable lending term and conducive environment for private sector development was observed. Accordingly, the lenders identified a mechanism to support lending in the local currency, by absorbing the risk of currency rates.

Local currency loans capture the financial benefits within local area to promote local economy. Loans in local currency can eliminate the currency exposure for companies operating in developing countries. A company may prefer a local currency loan instead of a foreign currency loan if it has its main income in a local currency or if it wants to minimize the credit risk and uncertainty connected with a foreign currency loan. Loans in local currency can be provided to new as well as ongoing project companies.

IBRD offers local currency financing through (i) loan conversion options, and (ii) free-standing local currency swaps. i) Local currency conversion option: The conversion option is included in the loan agreement to enable borrowers to convert current disbursements (Automatic Conversion of Loan Currencies or ACLC) and disbursed and outstanding loan balances (DOB) into local currency; all subject to market availability. IBRD may provide the conversion by a) hedging through swap market transactions, or b) funding through local currency bond issuance (back-to-back financing).

IBRD Local Currency Financing, The World Bank | Treasury

As an internationally rated AAA institution, IFC leverages its powerful credit to provide customized local currency products to private sector clients. The local currency can come directly from IFC in the form of a local currency loan or swap. IFC also mobilizes other sources of local currency, like local banks and capital markets, through credit enhancement. Whether the client prefers senior debt, quasi-equity, funding from IFC or from some other source, IFC stands ready to provide flexible, market-based instruments.

IFC and Local Currency Financing, International Finance Corporation, World Bank Group



DISCRETIONARY TRANSPORTATION IMPROVEMENT GRANTS

The since 2009 United States Department of Transportation (USDOT) offers discretionary grants through the “Better Utilizing Investments to Leverage Development, or BUILD Transportation Discretionary Grant program” (formerly known as the Transportation Investment Generating Economic Recovery, or TIGER Discretionary Grants). Funds are awarded to agencies at State and local levels for funding innovative capital projects. The program uses merit-based evaluation criteria to select projects. The project types that have received funding include road and highway improvement projects, transit projects, rail freight projects, port development projects, and bicycle and pedestrian infrastructure projects. These discretionary funds could be used for funding road safety projects within a TOD area.



ROAD SAFETY FUNDS

A road safety fund has been established in many states in India. The source of the fund is from the revenue collected from traffic fines and registration of the vehicles, along with contributions from State and Federal governments. States like Bihar, Odisha, Maharashtra, Kerala, Punjab etc have developed guidelines and enabled legislations for maintaining this fund and usage including road safety studies and research, road crash data analysis, road safety awareness programs, identification of accident-prone areas and corrective measures, training programs, and trauma care. The legislations also included regular road safety audits and elaborated on the roles and responsibilities of the operating agency: including receiving proposals, selection of programs that will receive funds, and allocation of funds.

Cordon area congestion road pricing can also be used as a source for a road safety fund. Started in 1998, Singapore’s Electronic Road Pricing (ERP) scheme, which is managed by the Land Transport Authority (LTA), is a fully automatic network of gantries monitoring congestion. The overhead gantries detect each vehicle’s ‘in-vehicle unit’ when passing beneath to deduct the fee from a smart card. The variable prices are reviewed quarterly to manage traffic demand depending on the location, traffic direction, day of the week, time, and type of vehicle.

In countries, like Argentina, a percentage of money collected as insurance fees is directed to *Agencia Nacional de Seguridad Vial* (ANSV) – the nodal agency in charge of road safety.

The Argentinian government passed a law creating the nodal agency responsible for road safety – *Agencia Nacional de Seguridad Vial (ANSV)*. It was created as a decentralized entity with sustained funding (1 percent of all vehicle insurance premiums) and a legal mandate to manage road safety across the country. Following its creation, the Argentinian Government sought the World Bank’s financial and technical support to address challenges in its Road Safety Project such as achieving coordination and accountability in a federal system and maintaining social and political support.

In addition to national road safety funds, there are global programs funded by international organizations such as the UN, and different philanthropies and donors.

The United Nations Road Safety Fund (UNRSF) was established in 2018 as a UN Multi-Partner Trust Fund. It deals with the Sustainable Development Goals (SDG) targets to halve the number of global deaths and injuries from road traffic accidents; and to provide access to safe, affordable, accessible and sustainable transport systems as well as improve road safety for all, respectively. This fund aims to finance actions in low- and middle-income countries to:

- Substantially reduce death and injuries from road crashes
- Reduce economic losses resulting from these crashes

Similarly, the Bloomberg Initiative for Global Road Safety (BIGRS) is multi-country initiative that aims at reducing fatalities and injuries from road traffic crashes in low- and middle-income countries and cities by strengthening road safety legislation at national level and implementing proven road safety interventions at city level. These chosen cities will be receiving the following assistance:

- Senior-level, full-time staff to work within city governments on their road safety initiatives for up to 5 years
- Comprehensive technical assistance from the world’s leading road safety organizations
- Training for police officers and other relevant city staff
- Support to create hard-hitting mass media campaigns

During 2010-2019, it has committed \$125million each in two phases, and has committed an additional \$240 million for a renewed Phase 3 (2020-2025).



Camana Bay, Cayman Islands