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Thesis Title:

Land Value Capture (LVC) Implementation Challenge in the Transit Oriented Development (TOD) Project in Jakarta, Indonesia

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Summary

Land Value Capture (LVC) is a financing method utilized by the government to reap the benefits of increased property value resulting from public infrastructure investments. This method is widely adopted for large infrastructure projects in both developed and developing countries. LVC requires a virtuous cycle condition in which the produced value can be reinvested for the same purposes. Transit Oriented Development is a concept of development where interaction between land use and mobility provides cyclical benefits. Investment in land use will generate more people to come to the TOD area using public transportation services, where the profit is used again to improve the area. TOD is an innovative development concept that is gaining popularity in metropolitan cities, including Jakarta, Indonesia. However, implementing LVC for TOD projects in Jakarta requires contextualization in terms of its management, especially because different organizations operate five different public transportation systems.

This research aims to explain the effect of TOD management on using LVC from a virtuous value cycle perspective in Jakarta, Indonesia. This research uses a case study where different sub-part components are compared with a qualitative technique. It compares five organizations responsible for managing different public transportation systems. Further interviews were also conducted to get perspectives from regulators at provincial and national levels to broaden the discussion. The qualitative data for the interview were analyzed with coding analysis and supported with the use of ATLAS TI.23 to support its reliability. Other data sources from the desk research study were also gathered to identify the regulatory framework of the topics.

The implementation of LVC for the TOD project in Jakarta is still not virtuously implemented because of different TOD management by each organization which are property based and whole area development approaches. Among different value capture instruments, only the joint development instrument is predominantly used by the organizations. Limitations in land availability and regulations clarity are the main reason for limitations in using different LVC instruments. This condition has led to unequal reinvestment benefits for the TOD project. Organizations with property based approaches benefit significantly from property sales revenue since they can develop it on top of their property. Meanwhile, organizations with whole area development approaches can only receive insignificant gains from public infrastructure investments.

Keywords

Land Value Capture, Transit Oriented Development, Jakarta

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Abbreviations

IHS	Institute for Housing and Urban Development Studies
LVC	Land Value Capture
TOD	Transit Oriented Development
RPJP	Rencana Pembangunan Jangka Panjang (Long Term Development Plan)
RPJM	Rencana Pembangunan Jangka Menengah (Medium Term Development Plan)
RKP	Rencana Kerja Pemerintah (Yearly Development Planning)
RTRW	Rencana Tara Ruang Wilayah (General Spatial Planning)
RDTR	Rencana Detail Tata Ruang (Detail Spatial Planning)
ATR/BPN	Agraria Tata Ruang/Badan Pertanahan Nasional (Agrarian Affairs and Spatial Planning)
PUPR	Pekerjaan Umum dan Perumahan Rakyat (Public Works)
Kemenko Perekonomian	Kementerian Koordinator Perekonomian (Coordinating Ministry of Economic Affairs)
DCKTRP	Dinas Cipta Karya Tata Ruang dan Pertanahan (Spatial Planning and Agrarian Agency)
SOE	State Owned Enterprise
ROE	Regional Owned Enterprise
MRT	Mass Rapid Transit
LRT	Light Rapid Transit
BRT	Bus Rapid Transit
MRTJ	Mass Rapid Transit Jakarta
LRTJ	Light Rapid Transit Jakarta
Transjakarta	Transportasi Jakarta
KAI	Kereta Api Indonesia

	(National Railway)
ADCP	Adhi Karya Commuter Property
JAKPRO	Jakarta Properti
PMO	Project Management Office
BPTJ	Badan Pengelola Transportasi Jabodetabek (Jabodetabek Transportation Management Agency)
Perum PERUMNAS	Perusahaan Umum Pembangunan Rumah Nasional (National SOE for Public Housing)
OECD	Organization for Economic Cooperation and Development
PT	Perseroan Terbatas (Limited Liability Company)
BLUD	Badan Layanan Umum Daerah (Local Public Service Agency)
Jabodetabekpunjur	Jakarta, Bogor, Depok, Tangerang, Bekasi, Puncak, Cianjur (Greater Jakarta)
Jabodetabek	Jakarta, Bogor, Depok, Tangerang, Bekasi (Jakarta Metropolitan Area)
Jabodebek	Jakarta, Bogor, Depok, Bekasi (Jakarta Metropolitan Area except Tangerang)
FAR	Floor Area Ratio
GFA	Gross Floor Area
BAR	Basement Area Ratio
TPZ	Teknik Pengaturan Zonasi (Zonation Management Technique)

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1 Introduction

1.1 Background

Government authorities around the world often attempt to capitalize on the investment in public infrastructure in a city by tapping the property value uplift in the surrounding area. Land Value Capture (LVC) is the process of capturing the increase/additional land value caused by government action by creating infrastructure and providing future development potential (Alterman, 2012; Canelas & Noring, 2022). LVC has been extensively utilized in both developed and developing countries to finance public projects (OECD, 2022). The LVC mechanism is not a static phase because it consists of a sequential and cyclical process called a virtuous value cycle. The first process, known as value creation, occurs when the infrastructure project enables an uplift in economic productivity (ADB, 2019). It is then followed by the value capture phase, during which the value capture instrument recovers all or partial value increases resulting from the intervention. The last process is the value funding procedure, which reinvests the captured value for purposes that generate the value.

Studies show that the LVC mechanism is suitable for Transit Oriented Development (TOD) projects that require substantial investment and generate various benefits (Suzuki et al., 2015). TOD is a development strategy that combines accessibility and land use development to provide cyclical benefits. Investments in public transportation will increase the area's accessibility, boost property values, and increase the number of potential public transit passengers (CTS, 2009).

Despite the importance and benefits of LVC in TOD projects, implementing LVC mechanisms is difficult due to both the local LVC regulation and the unique local setting of TOD institutions (Sclar et al., 2016). The TOD project will face management complexity because it is a massive infrastructure project that combines spatial and transport planning (de Jong & Mu, 2016). It must overcome TOD institutional challenges of regulation, government institutions, and stakeholders' perspectives (Tan et al., 2011).

The study of LVC application on TOD projects in Indonesia, especially on a city-wide scale, is uncommon. Few attempts have been made, but they have primarily focused on the national government, whereas the local government and the local organization of the TOD project are anticipated to play a crucial role in executing the LVC mechanism (van der Wal, 2020).

1.2 Problem Statement

Implementation of LVC in TOD projects involves transitioning from user-based to land-based financing for public transportation infrastructure (Suzuki et al., 2015). Public transport operators and municipal governments usually rely on user fees to cover infrastructure expenditures and limit themselves to focusing exclusively on mobility (Wang et al., 2019). This mindset limits the untapped potential for property value increase near the transit station that should be captured with the LVC mechanism. Sclar et al. (2016) explain that implementing LVC will require favorable political conditions, a legal environment, and administrative capacity within the transportation sector.

Several international organizations, such as the World Bank (2015) and the OECD (2022), have emphasized the advantage of using LVC to finance public transportation projects such as TOD. However, their study has yet to address how to ensure the LVC instrument's success in various TOD institutional contexts. Song et al. (2021) found that different institutional contexts influence different approaches to developing the TOD project. This study will explain the effect of the management complexity of TOD on the use of the LVC

mechanism by analyzing its institutional barriers (Hertogh & Westerveld, 2009; Tan et al., 2011). The LVC mechanism is explained with a virtuous value cycle perspective, which consists of value creation, value capture, and value funding, in order to provide a comprehensive explanation (ADB, 2019)

As a developing country, Indonesia needs an LVC mechanism to alleviate the government's burden for infrastructure that will reach $440 billion in 2024 (Koesalamwardi et al., 2020). The LVC mechanism could be one of the finest viable solutions for bridging the gap, as its application is still uncommon in Indonesia. Van der Wal (2020) highlighted three primary challenges to adopting an LVC mechanism in Indonesia: a lack of awareness among key stakeholders, the absence of a legal framework for LVC, and fragmented governance. Similar conclusions were made in the context of the TOD project, where LVC is still not properly implemented (Dentiala & Koesalamwardi, 2019).

The development of TOD in Indonesia is still limited only to Jakarta, which has five mass public transportation systems managed by different provincial and national institutions. Jakarta was also the first city to revise its 20-year spatial planning into "Jakarta as Transit and Digital City," demonstrating its commitment to developing the city in accordance with the TOD concept. This new spatial planning regulation also regulates the use of different value capture instruments to support the implementation of TOD. However, the implementation of the LVC mechanism for the TOD project in Jakarta still does not exist. Rosalin (2019) conducted a preliminary study on the difficulties of using LVC instruments for TOD project in Jakarta and found that LVC was conceptually understood by stakeholders but not practiced. This situation indicates an implementation gap between regulations and the practice of LVC in the TOD context, especially at the city level, where in-depth research is uncommon.

1.3 Research Objective (RO)

This study will explain the challenges of implementing LVC with the virtuous value cycle process in the institutional context of TOD in Jakarta. The institutional context of TOD in this study will explain the management complexity and the implementation challenges of the TOD project. TOD will be analyzed in the context of LVC's virtuous value cycle, which consists of value creation, value capture, and value funding.

1.4 Main Research Question (RQ) and sub-questions

What is the effect of TOD management on Land Value Capture mechanism from a virtuous value cycle perspective in Jakarta, Indonesia?

1. How is the regulatory framework of Land Value Capture used within the Transit Oriented Development plan and regulation?
2. How has the management of the TOD system been organized?
3. How is the value capture instrument of LVC implemented within the Transit Oriented Development governance?
4. To what extent has the captured land value been reinvested in the TOD system?

1.5 Significance or Relevance

1.5.1 Societal Relevance

Indonesia urgently needs LVC as infrastructure spending is anticipated to exceed $440 billion in 2024, with a private sector contribution of 42% (Koesalamwardi et al., 2020). In Indonesia, LVC is not frequently used since local actors are unaware of its potential (van der Wal, 2020). However, LVC has been utilized for quite some time, particularly in Jakarta. The government of Jakarta has established the Floor Area Uplift (FAU) mechanism since 1975 and development impact fees since 1992 (Tjung Liong et al., 2020). However, none of the LVC instruments has been utilized for TOD-related projects (Rosalin et al., 2019). This

study will contribute to explaining institutional barriers in the TOD context and might provide an adaptation strategy to address the implementation challenges of the LVC mechanism.

1.5.2 Scientific Relevance

This research will contribute to the existing body of knowledge in Land Value Capture and Transit Oriented Development. It specifies the usage of the LVC mechanism within the unique institutional context of TOD from a management standpoint and the implementation barriers it faces. The study case in Jakarta will provide a new perspective on implementing the LVC mechanism in fragmented governance where five TOD managers have distinct characteristics and motivations. In addition, the evaluation of the LVC mechanism will encompass the entire virtuous value cycle to examine the extent of LVC used in the TOD projects.

1.6 Scope and limitations

This study examines the impact of TOD management on the LVC mechanism. The study will compare government organizations responsible for different public transportation systems, which include Mass Rapid Transit (MRT) Jakarta, Light Rapid Transit (LRT) Jakarta, Bus Rapid Transit (BRT) Jakarta, LRT Jakarta Bogor Depok Bekasi (Jabodebek), and Commuter Rail Jakarta Bogor Depok Tangerang Bekasi (Jabodetabek). The focus of stakeholders in this study will prioritize actors directly involved in the topic, which include Regional Owned Enterprise (ROE), State Owned Enterprise (SOE), provincial agencies, and national agencies. This study used both primary and secondary data as sources of information. The primary data used structured interviews, and the secondary data used government documents from regulations and organization reports.

The topic of TOD and LVC is still developing, and this study will only examine the condition in 2023 and before. If new laws or regulations are introduced in the future, stakeholders' responses to the new conditions will require a fresh perspective. This study also only focuses on the perspective of the implementer and regulator, whereas the perspective of the property owners or developers might offer different takes on using the LVC mechanism.

2 Literature Review

This chapter will examine the concepts of Transit Oriented Development (TOD) and Land Value Capture (LVC). The explanation of TOD began with the explanation of the TOD concept and its different institutional contexts which will influence the outcome of TOD projects. It is then followed by a discussion of the management complexity in the context of a Large Infrastructure Project (LIP) as the main concept to measure government capacity to manage the TOD project. This chapter then discusses institutional barriers to implementing TOD, divided into regulatory framework issues, governance arrangements, and stakeholder perspectives as the main framework to identify challenges in implementing LVC in the TOD context. The key references then moved on to the next concept of LVC with an explanation of the virtuous value cycle of LVC and more information on the different value capture instruments used in the case study.

2.1 Transit Oriented Development Concept

Transit Oriented Development (TOD) is an urban development strategy that integrates the concepts of growth and sustainability (Rayle, 2015). TOD is founded primarily on the integration of land use planning and sustainable accessibility (Suzuki et al., 2013). The land use planning element promotes mixed and high-density land uses that are planned centrally around public transit facilities. Accessibility encompasses the availability of a mass public transit system and a sustainable infrastructure for local mobility, with a focus on walking and cycling.

TOD concept is still developing from its initial emphasis on sustainable transportation and land management to a new form of intervention. Vehicle demand management is now considered to limit the number of private vehicles in the area (MARTA, 2011; WRI, 2015; ITDP, 2017; Gerald et al., 2021). Improvements in public realms are also considered by enhancing the quality of open spaces, parks, and building facades. One of the criticisms of the TOD concept is its failure to address the issue of the gentrification of local people because of increasing property values (Dawkins, 2016; Renne et al., 2016). ITDP (2017) emphasizes the significance of affordable housing and preservation for existing residents to achieve equitable TOD development. The TOD criteria, with their evolving concept, are summarized in table 2.1:

Table 2.1 Criteria for TOD Concept

Criteria	Explanation	Source
Mix/diverse and equitable land use	Development into diverse or mixed land uses incorporating residential (including affordable housing), economic, office, and basic needs.	Ewing & Cervero, 2010; MARTA, 2011; WRI, 2015; ITDP, 2017; Gerald et al., 2021
High-density and compact development	The area is developed with a high-density orientation to achieve compact development near transit stations.	Ewing & Cervero, 2010; MARTA, 2011; WRI, 2015; ITDP, 2017; Gerald et al., 2021
Integrated with transit stations	The area is integrated with mass and frequent public transportation, which includes Bus Rapid Transit (BRT), Mass Rapid Transit (MRT), Light Rapid Transit (LRT), and commuter rail.	Ewing & Cervero, 2010; MARTA, 2011; WRI, 2015; ITDP, 2017; Gerald et al., 2021
Walking and cycling accessibility	The area prioritises pedestrians and cyclists with good quality infrastructure and direct accessibility for them.	MARTA, 2011; WRI, 2015; ITDP, 2017; Gerald et al., 2021
Attractive public realm	The area is supported by inclusive, safe, and attractive public space to encourage social interactions.	MARTA, 2011; WRI, 2015; Gerald et al., 2021
Traffic management	Strategic policy or action to limit the dependency on private vehicles in the area with parking limitations, safer roads for pedestrians with speed limitation, reduced number of lanes and width.	MARTA, 2011; WRI; 2015; ITDP, 2017; Gerald et al., 2021

Source: Author, 2023

2.2 Transit Oriented Development Institutional Context

The implementation of the TOD concept depends on the stakeholder's motivation, which will influence the project outcome. Studies of TOD implementation in China showed that different motivations to develop TOD resulted in a Transit Adjacent Development (TAD), indicating project might be located near a transit station, but it does not meet the functional connectivity and overall development purposes (Yang et al., 2016; Wang et al., 2019; Song et al., 2021). The different stakeholder perspectives are explained with the two categories of TOD management as follows.

Government Led Approach
Song et al. (2021) conducted a study in Guangzhou, China, and discovered that different characteristics of the institutional context impact the management strategy to develop TOD. When the government is in charge, they tend to build TOD only for property development with shopping malls and apartments, which results in TAD. The government developed stations in underdeveloped areas to gain profits by leasing the land to property developers. This approach results in low metro ridership because the target market of the area is high-income families that prefer to use private vehicles. The limitation of rights to manage land use planning in the TOD area hinders the government's effort to develop TOD as a whole area development approach (Song et al., 2021).

SOEs Led Approach
In order to mitigate the rigid regulations to develop TOD, the government in Guangzhou delegated the responsibility to develop TOD areas to SOEs (Song et al., 2021). The government grants Shenzhen Metro (SZM) the authority to plan, acquire land, construct, and lease the land and air rights to private investors. This approach successfully alters the strategy into a more whole area development approach by implementing mixed-use development and providing social housing. Similar cases also happen in Hong Kong, Mass Transit Railway (MTR) serves as TOD Manager with authority to prepare development plans, tender land parcels, and act as a mediator for private investors (Song et al., 2021).

2.3 Transit Oriented Development Management Complexity

Transit Oriented Development is a big infrastructure project requiring inter-governmental and inter-sectoral integration. According to de Jong & Mu (2016), the decentralization of institutions, diverse allocation of responsibilities, and tension between spatial planning and transportation management would make management in the implementation phase of TOD challenging. Addressing the management complexity of the TOD project, this study will use the management complexity approach for Large-scale Infrastructure Projects (LIP) developed by Hertogh & Westerveld (2009). The criteria to assess management complexity in TOD projects are summarized in table 2.2.

Table 2.2 Management Complexity of Large Infrastructure Project

Aspect	Main Issues	Explanation of Issues and Relations with the TOD Project
Technical	• Unproven technology • Technical uncertainty	• In the context of the TOD project, the managers are introduced to the new development concept and their new responsibilities to develop an area. They must understand the ideal concept of TOD and all of the technicalities it entails.

Social	• Conflict of interest • Different meanings and perceptions	• The TOD project will involve different players from different levels and backgrounds, especially between the public transportation and property group.
Financial	• Different perception of cost development	• One of the biggest difficulties in the TOD project is determining the beneficiaries, not limited to public transportation users but also to the property owner or developer.
Legal	• Changing, non-existent, and conflicting laws • Extensive legislation and rules	• TOD is a new development concept where local regulation ratification is ongoing. TOD Managers might find implementing TOD in an uncertain regulation condition difficult.
Organizational	• Keeping organization motivation • Complex internal processes	• TOD requires the relevant organization to update its internal organizational capacity to understand the new development concept.
Temporal/ time	• Long time frame with continuous development	• The TOD project requires a long period to realize; it will need a good commitment from the government to allocate its resources.

Source: Analyzed from Hertogh & Westerveld, 2009; Dunovic et al., 2014

2.4 Institutional Barriers to TOD Implementation

TOD implementation is context-dependent, with no "one size fits all" approach. A framework was created by Tan et al. (2011) and (2014) to categorize and describe the various institutional barriers to TOD implementation. This study classifies institutional barriers to TOD implementation into three categories: regulatory framework, governance arrangement, and stakeholder perspective.

Regulatory Framework

Consistency between the conceptual aspect of TOD and the regulations is crucial to the successful implementation of TOD (Thomas et al., 2018). The implementation of TOD cannot be supported by policies prioritizing sprawling and automobile-centric growth. Abdi & Dauden (2020) identify barriers on the land use planning side where policies frequently continue to restrict higher density around transit stations by imposing a uniform Floor Area Ratio (FAR) across the city. Another issue in the policy domain is the lack of stability for the vision to materialize due to plans that change with each government change (Thomas et al., 2018). This issue is prevalent in global south countries, where comprehensive and integrated long-term urban transport plans are still uncommon (Pojani & Stead, 2018). In addition, the policy might face a lack of integration with the higher level of government (Thomas et al., 2018). To address this issue, Tan et al. (20111) emphasize the importance of policy instrument clarity to guide the related stakeholders in the complicated process of TOD implementation.

Governance Arrangements

Government issues in TOD are mostly influenced by the capacity of related stakeholders to develop TOD and communicate with other stakeholders. The stakeholders chosen to lead TOD must have adequate knowledge of TOD's conceptual aspects and be able to

implement the strategy. They must also be able to meet the TOD investment requirements (Abdi & Dauden, 2020). One of which is by finding various financial streams because relying on farebox revenue is insufficient (Suzuki et al., 2015). TOD implementation requires a multistakeholder approach with intersectoral and interdepartmental coordination (Abdi & Dauden, 2020). Using Jakarta as a case study, Rosalin et al. (2019) argue that the lack of a leading actor in the overall TOD process creates confusion. A clear separation of responsibilities and line of coordination could provide effective horizontal or vertical coordination (Hakkart & Morrissey, 2014; Wang et al., 2019).

Stakeholders Perspective
Stakeholder motivations determine the project's viability, which is influenced by the organization's values (Tan et al., 2014). For instance, developers tend to prioritize capital accumulation as their main goal, while the government is obligated to serve the public interest (Ibraeva, 2020). Furthermore, communal perspectives are also important to ensure the success of the project. Pojani & Stead (2014) identified the barriers to implementing TOD in the Netherlands because the zeitgeist, or sense that 'the time for change has come', is not there yet. Tan et al. (2011) explain that the barriers can be overcome through better collaboration between stakeholders in a formal and informal approach. The informal approach emphasizes the roles of higher-level stakeholders in resolving divergent viewpoints among TOD actors, whereas the formal approach ensures more clarity in the regulations.

2.5 Virtuous Value Cycle

Land value capture (LVC) is a mechanism used by the government to reap the unearned benefits experienced by increasing land value caused by public action in the form of public infrastructure provision or land use changes (Alterman, 2012; Sclar et al., 2016; Canelas & Noring; 2022). LVC is a social function mechanism that tries to redistribute wealth to serve the public interest (OECD, 2022). TOD project urgently needs LVC mechanisms because depending on user fees is no longer sufficient to fund the capital cost for land use development and operational cost for public transport operation (Sharma & Peter, 2020).

The term "virtuous cycle" refers to a sequence of events in which each cycle results in more favorable conditions that enhance the subsequent cycle. In the context of LVC, the virtuous value cycle offers a comprehensive government strategy for creating value, capturing value, and financing the captured value that will be reallocated to the original investments (ADB, 2019; OECD, 2022).

Value Creation
The first stage of the virtuous value cycle is value creation, a process where the government plans or creates an intervention to uplift economic productivity (ADB, 2019). Suzuki et al. (2015) describe the two most significant impacts of TOD on property value. First, the increased accessibility resulting from investments in public transportation will facilitate access to employment and potential economic activity resulting from land use. Areas with better accessibility tend to have higher property value which capitalized into land markets (CTS, 2009). Second, the TOD concept generates higher population densities and a variety of land uses in areas where shared infrastructure, services, and consumer services are concentrated.

Value Capture
The value capture process is a stage where full or partial value increase from the government action is recovered (OECD, 2022). In the context of a TOD initiative, the government can collect revenue from three primary intended beneficiaries (Suzuki et al.,

2015; Sclar et al., 2016). First, there are public transportation users who can benefit from reduced travel time and costs as well as enhanced travel comfort. Sclar et al. (2016) categorized revenue from this group as farebox revenue that can be collected through ticket sales. However, the revenue from users is insufficient to recover the capital and operational cost of public transportation infrastructure. The government attempted to find an alternative justification for the advantages of public infrastructure by placing the public as the second beneficiary. The rationale is that economic growth will benefit the general public. A taxation mechanism captures the generated value, where the government will allocate a portion of its general fund for public infrastructure spending. The last target is the property owner or developers as nonuser beneficiaries. This is where the land aspect comes into play, as they will experience increased land value due to enhanced locational advantages.

Medda (2012) explained several aspects to consider for the value capture instrument to work. First, the organization must clearly define groups benefiting from higher intervention outcomes. Next is to review the planning and fiscal urban framework that will support the implementation of the LVC mechanism. LVC is an innovative financial solution that needs a new form of adjustment to the current regulations. The last thing is to select an LVC mechanism that can be used according to the internal capacity and supporting regulations.

Value Funding

The value funding stage is where the positive externality from the newly developed infrastructure is again invested for public benefits. The funding scheme for LVC will be varied from the different government contexts. ADB (2019) compiled four different approaches for value funding contextualized in Indonesia's governmental context, as illustrated in table 2.3.

Table 2.3 Different Value Funding Process

Type of Value Funding	Budget Platform	Proposer of infrastructure project	Financing Approval for Infrastructure Project	Explanation	Example of land value capture mechanism
Public sector to public sector (traditional tax framework)	Government melting pot	Local Government	Political approval from the local parliament	All of the revenue from taxes will be gathered in one melting pot. Funding for the intended project will compete with another government project	/Property tax /Developer fees
Hypothecated taxes	Separate account	Local Government	It does not require approval from the local parliament since it has been allocated to a separate account	Government revenue from specific activities will be allocated to the intended projects from separate/ dedicated account	/Fuel tax, parking tax, parking fee /Property tax /Hotel tax and entertainment tax /Congestion fee
Payment in lieu of taxes	Separate account	State Own Enterprise	Proposers can allocate the revenue they get since it is under their organisational budget	Proposer will be given concession rights to collect fees from the beneficiaries of the project. Funding for the intended project will be guaranteed by the responsible organization	/Rental fee /Transfer development rights fee
Concession	Separate account	Private sector	Proposers can allocate the revenue they get since it is under their organisational budget	The private sector will be responsible for developing the area to its best value according to the objective set by the government.	/Depend on the Public Private Partnership agreement

Source: Analyzed from ADB, 2019

2.6 Value Capture Instrument

There are multiple approaches to classifying different value capture instruments, and this study uses the value capture framework developed by McIntosh et al. (2011) from the implementation of Australian public transportation project in Perth. This framework provides a clear distinction between value capture based on the type of property ownership and whether it is an active or passive approach. The explanation of different value capture instruments can be seen in table 2.4:

Table 2.4 Various Value Capture Instruments

Property VC Form	Value created	Location/region	Project beneficiary	VC mechanism	Financial return
Government Property (Passive)	Increased value of govt. property	Transit regional beneficiary catchment	Govt. land owners within the catchment	/Strategic land management	Increase in future sale price
Government Property (Active)	Govt. property development	Stations along the alignment	Govt. land owners within the catchment Developers	/Property development /Joint development (PPP) /Parking returns /Advertising	Development returns, rental returns
Non-Government Property (Passive)	Increased value of non-govt. property	Transit regional beneficiary catchment	Private land owners within the catchment	/Increase in existing property tax	Increase in earning from current tax regimes
Non-Government Property (Active)	Increased value of non-govt. property	Stations along the alignment	Private land owners within the catchment Developers	/Benefit area levies /Development impact fees /Density bonuses /Transfer Development Rights /Parking levies	Increase in earnings from new tax regimes

Source: Analyzed from McIntosh et al., 2011; Alterman, 2012; Suzuki et al., 2015

Several value capture instruments are explained in detail, especially the instrument most relevant to the study case.

Strategic Land Management (SLM)
SLM is a government initiative to acquire, develop, sell, and lease land to serve public needs (Alterman, 2012). One of the common applications is a 'land lease', in which the government sells its property development rights, whose values have increased as a result of government action (Suzuki et al., 2015). The government will generate revenue because it acquires land at predevelopment prices. In some cases, the government assigns or transfers property rights to an SOE for future management.

Joint Development
Joint development is a collaborative effort between transit agencies and developers where there are divisions of work to develop the area. The government often offers concession rights to the private sector to create public services based on output or performance-based requirements (ADB, 2019). Concession rights typically take the form of a Public Private Partnership (PPP), in which private entities are granted the authority to build, operate, or build and operate a particular type of public service.

Property Tax
This study will concentrate on the existing property tax regimes and not on uplift capture mechanisms such as betterment levies or tax increment financing mechanisms because they are not yet recognized by the Indonesian legal system (Koesalamwardi et al., 2020). In

the context of TOD, property tax will capture the land tax rate increase resulting from improved accessibility and better land use management. The government relies on property taxes since they are a reliable and recurring source of revenue. (ADB, 2019).

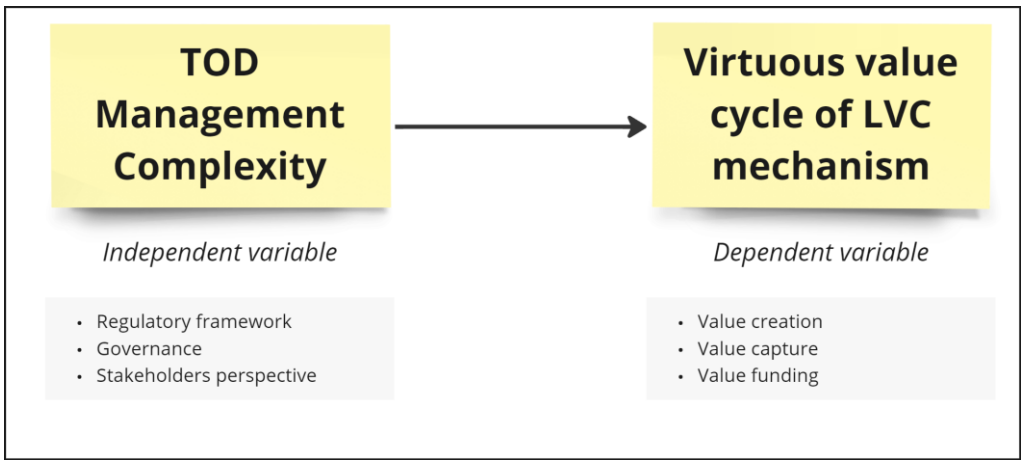
Development Impact Fees/Development Obligations
To anticipate the impact of development, developers must pay a fee based on a predetermined formula. The municipality will receive a one-time fee prior to construction, often coupled with a development permit (Lincoln Institute, 2022). The term is similar to the 'developer obligation', in which developers are required to pay in cash or in-kind payment to cover the cost of new public infrastructure (OECD, 2022). Developer obligation is negotiable between the government and developers. The type of fees is not limited to monetary terms but can also take the form of government-requested public infrastructure.

Density Bonus
The density bonus term is similar to the development impact fees, but developers have to pay again for the impact of their development because it exceeds the predetermined density standard (ADB, 2019). A similar term is also used with 'air right sale,' in which the government sells air rights development above the set floor area ratio (FAR) standard (Suzuki et al., 2015).

Transfer Development Right (TDR)
TDR is similar to the concept of density bonuses, where developers are permitted to build over the standard FAR. However, different rationales are applied, in which developers in receiving areas must pay property owners in sending areas a specific amount of money for air rights (Linkous, 2015). TDR relies on the concept of transferring a bundle of rights where the right to develop is separated from the property right. The sending area is usually assigned as a limited area for growth (agriculture or protected use), and their rights are transferred into the receiving area, where growth is encouraged.

2.4 Conceptual framework
This research will use the condition of the TOD management system as an independent variable that will influence the virtuous value cycle concept. It assumes that the LVC mechanism may be virtuous if it manages to face the implementation challenge of TOD from the aspect of a regulatory framework, TOD governance, and different stakeholders' perspectives, as illustrated in Figure 2.1.

Figure 2.1 Conceptual framework of the research



Source: Author, 2023

3 Research design, methodology

3.1 Research strategy

This research used a case study strategy where it would be suitable to investigate a contemporary phenomenon in a real-life context (Yin, 2018). A case study strategy is appropriate for research that seeks to investigate or explain the underlying issues of a particular topic. The case study was conducted in Jakarta, the most developed metropolitan area with sufficient infrastructure for mass public transit. The research investigated five forms of public transportation as case studies, namely MRT Jakarta, LRT Jakarta, BRT Transjakarta, Commuter Rail, and LRT Jabodebek. The study conducted multiple case studies that compared sub-part components of the main study case (Blaikie, 2010). Comparing the conditions of LVC implementation between TOD managers provides a new perspective since each manager has a unique starting point and defining characteristics.

3.2 Research type and approach

This study used a qualitative research approach since it is utilized to comprehend the concept or mechanism of certain issues within a particular context. Implementing the LVC mechanism requires a perspective from the local context regarding the institutional barrier (Tan et al., 2011). This qualitative research used a deductive technique, which entails that the researcher utilizes a predetermined framework to identify the topic (Blaikie, 2010).

3.3 Data collection methods or sampling instruments

Desk Research

TOD institutional context and LVC mechanism-related information were gathered through desk research using reliable secondary data sources. This study used published data from the government in the form of regulations and reports. Regulations were available at both national and provincial government levels, providing insight into related topics within the legal framework. Annual reports from organizations were also analyzed, which describe the organizational structure, roles and responsibilities, and financial arrangements.

Stakeholder Interview

The method of stakeholder interviews is utilized because it serves as an assessment tool where experts share their perspectives on the socio-political process (Soest, 2023). This study centered on the inside expert as the main actor who shaped the political and social context of a specific topic (Soest, 2023). The interviews were conducted online with the Zoom Meeting app, a commonly used platform for local stakeholders. The interview targeted the Regional/State Owned Enterprises as TOD managers and government agencies on a provincial and national scale. The list of institutions involved in this research is listed in table 3.1.

Table 3.1 List of Stakeholders Interviewed

No	Institution	Organization Roles	Respondents Position
Public Transport Operators/Private Entity			
1	PT MRT Jakarta (MRTJ)	ROE operates MRT in Jakarta and has a role as TOD Manager for MRT Jakarta stations	Transit Oriented Development Planning Development Department
2	PT Integrasi Transpotasi Jakarta (ITJ)	Subsidiary company of PT MRTJ for TOD Management of MRT Jakarta stations	TOD Planning Division

3	PT Transportasi Jakarta (Transjakarta)	ROE operating BRT, bus, and microbus in Jakarta	Facilities Development and Maintenance Division
4	PT Jakarta Propertindo (JAKPRO)	ROE with property background responsible for TOD Management of LRT Jakarta stations	Strategic Plan and Program Department
5	PT LRT Jakarta (LRTJ)	Subsidiary company of PT JAKPRO for the operation of LRT Jakarta	Business Development Department
6	PT Moda Integrasi Transportasi Jakarta (MITJ)	Joint Venture (JV) between PT MRTJ and PT KAI for TOD Management of commuter rail stations in the Jabodetabek area	Transit Oriented Development & Business Development
7	PT Adhi Karya Commuter Properti (ADCP)	SOE with property background to develop property around LRT Jabodebek stations	Business Development Department
Provincial Government Agencies			
8	Spatial Planning and Agrarian Agency (DCKTRP)	Agency responsible for land use planning	Staff of the agency
9	Jakarta Investment Center (JIC)	Agency responsible for promoting government projects to investors	Staff of the agency
Regional/National Agencies			
10	Jakarta Metropolitan Transportation Agency (BPTJ)	Agency under Ministry of Transportation that serves as an integrator for transportation sectors in the Jabodetabek area	Staff of the agency
11	Ministry of Agrarian and Spatial Affairs (ATR/BPN)	Ministry responsible for land use planning and agrarian	Department of Planning Management
12	Project Management Office Jabodetabekpunjur	Agency under Ministry ATR/BPN responsible for integrating land use planning in the Jabodetabekpunjur area	Staff of the agency
13	Coordinating Ministry of Economic	Ministry responsible for economic affairs in Indonesia	Department of Regional Development and Land Planning

Source: Author, 2023

3.4 Operationalization of variables and indicators

Table 3.2 Operationalization of variables and indicators

Concepts	Variable	Sub Variable	Indicators	Code	Source	Data Collection Method	Data Source
Regulatory framework of TOD and use of LVC in TOD project	Regulatory framework of the Value Creation related to TOD concept	Policy consistency with land use plan and accessibility improvement	/Presence of higher densities and diverse land use development for TOD in the regulation	A.1	Suzuki et al., 2013; Wang et al., 2019; Abdi & Dauden, 2020	/Desk research	/Government regulations (published)
			/Presence of integrated land use development to support economic, placemaking and public commons use for TOD in the regulation	A.2	ADB, 2019; Abdi & Dauden, 2020		
			/Presence of affordable housing provision obligation for TOD in the regulation	A.3	Thomas et al., 2018		
			/Presence of mass public transportation, feeder system, and Non Motorized Transportation infrastructure for TOD in the regulation	A.4	Suzuki et al., 2013; Thomas et al., 2018		
			/Presence of push policies to minimize the use of the private vehicle for TOD areas in the regulation	A.5			
		Political stability in the local and national level	/Regulation indicates planning continuity for TOD projects between different governor administration	A.6	Hakkaart & Morrissey, 2014; Thomas et al., 2018		
			/Regulation for TOD at the provincial level are well integrated with higher-level regulation	A.7	Thomas et al., 2018		
	Regulatory framework of the Value Capture instrument for TOD program	Value capture instrument legal basis	/Presence of various Value Capture instruments stated in the higher regulation and provincial regulation	A.8	Wang et al., 2019		
			/Regulations clearly explain the sequential process of the LVC mechanism	A.9	Rosalin et al., 2019		
			/Regulations clearly explain the calculation method for Value Capture instrument	A.10			
		Value capture instrument integration with TOD	/Presence of LVC mechanism in the TOD related policy	A.11	Rosalin et al., 2019; van der Wal, 2020		
	Regulatory framework of Value Funding process for TOD program	Value funding instrument legal basis	/Presence of hypothecated/dedicated tax system in the regulation for TOD project	A.12	Tan et al., 2011; ADB, 2019		
		Value funding process	/Clear set of sequence for the implementation of value funding procedurre	A.13	Tan et al., 2011; ADB, 2019		

Concepts	Variable	Sub Variable	Indicators	Code	Source	Data Collection Method	Data Source
Management of TOD	Institutional capacity for TOD management	Institutional technical and legal capacity	/Stakeholders' comprehension on the concept of Transit Oriented Development	B.1	Hertogh & Westerveld, 2009; Dunovic et al., 2014; Yang et al., 2016; Wang et al., 2019; Song et al., 2021	/Desk research /Stakeholder interview	/Regional Owned Enterprise /State Owned Enterprise /Provincial Agency /National Ministry /Other agency
			/Stakeholders' comprehension on the implementation process of TOD	B.2	Hertogh & Westerveld, 2009; Dunovic et al., 2014		
			/Stakeholders' ability to plan/formulate site-specific TOD plan	B.3	Hertogh & Westerveld, 2009; Dunovic et al., 2014		
			/Stakeholders ability (strategy) to direct the development of the area through incentive and disincentive	B.4	Hertogh & Westerveld, 2009; Dunovic et al., 2014		
		Institutional financial capacity	/Stakeholders' ability to predict the revenue generated from the TOD project	B.5	Hertogh & Westerveld, 2009; Dunovic et al., 2014; ADB, 2019		
			/Organization capacity to use alternative financing besides subsidy from the government	B.6	Hertogh & Westerveld, 2009; Dunovic et al., 2014		
			/Focus of expenditure for TOD related project	B.7	Hertogh & Westerveld, 2009; Dunovic et al., 2014		
		Institution internal organization function and coordination capacity towards other stakeholders	/Organization allocated structure/function for TOD	B.8	Hertogh & Westerveld, 2009; Dunovic et al., 2014		
			/Clear line of coordination between public transport operators and government institution	B.9	Tan et al., 2014; Dunovic et al., 2014; Suzuki et al., 2015		
			/Clear line of coordination between government institution	B.10	Tan et al., 2014; Dunovic et al., 2014; Suzuki et al., 2015		
			/Adaptability to the implementation barriers of TOD project	B.11	Tan et al., 2014; Dunovic et al., 2014; Suzuki et al., 2015		
	Stakeholders' motivation and perspective for TOD Management	Rationalities for TOD development	/Stakeholders' values or motivation are aligned with the goal of TOD development	C.1	Tan et al., 2014; Switzer et al., 2013	/Stakeholder interview	
		Perspective towards other stakeholder for coordination	/Existence of trust between institutions for a good TOD management	C.2	Tan et al., 2014; Switzer et al., 2013		

Concepts	Variable	Sub Variable	Indicators	Code	Source	Data Collection Method	Data Source
LVC implementation in TOD projects	Institutional capacity in the use of LVC mechanism for TOD project	Capacity to use the Value Capture instrument	/Organization targeting potential beneficiaries other than the transport users	B.12	Medda, 2012; Sclar et al., 2016	/Desk research /Stakeholder interview	/Regional Owned Enterprise /State Owned Enterprise /Provincial Agency /National Ministry /Other agency
			/Stakeholders ability to review the existing value capture instrument	B.13	Medda, 2012; Tan et al., 2014		
			/Clear line of coordination between public transport operators, local government, and higher-level government in the use of Value Capture instrument for the TOD program	B.14	Medda, 2012; Thomas et al., 2018		
		Capacity in the Value Funding Process	/Organization capacity in reinvesting the profit back for TOD development	B.15	Tan et al., 2014; ADB, 2019		
	Stakeholders perspective in the use of different Value Capture mechanism	Regulation barriers to use LVC	/Stakeholders' opinion on the existing regulation barriers to use LVC	C.3	Tan et al., 2014; Ibraeva; 2020	/Stakeholder interview	
		Informal barriers to use LVC	/Stakeholders' opinion on the political support conditions to use LVC	C.4	Dentiala & Koesalamwardi, 2019; van der Wal, 2020		
	Stakeholders perspective in the Value Funding process	Barriers to value funding process in TOD project	/Stakeholders' opinion on the existing barriers in the Value Funding process to finance the TOD project	C.5	Tan et al., 2014; Thomas et al., 2018; ADB, 2019		
	Stakeholders adaptation strategy	Formal adaptation strategy	/Institutional or organizational re-arrangements to answer barriers in TOD management and the implementation LVC mechanism	C.6	Thomas et al., 2018; Ibraeva, 2020; Canelas & Noring, 2023		
		Informal adaptation strategy	/Creation of a shared belief system on the urgency of LVC for TOD project	C.7	Tan et al., 2014		
			/Horizontal or vertical coordination to address the LVC implementation barriers	C.8			

Source: Author, 2023

3.5 Data analysis

The textual data from the desk study were analyzed using content analysis. It identifies the description of the phenomenon by establishing specific keywords (Blaikie, 2010). Specific keywords were compared to the predetermined indicators of the study, and the researcher used this information to create an analysis description. The content analysis method proved particularly useful in identifying the regulatory framework, management aspect of TOD, and information related to LVC instruments and processes. Meanwhile, the interview data were analyzed using coding analysis to accurately categorize oral to textual data (Blaikie, 2010). By categorizing data according to study indicators, the researchers were able to compile important information from different stakeholder perspectives.

3.6 Validity and Reliability

The validity of this research is ensured by the triangulation method by collecting data from both regulations and interviews with relevant stakeholders. This approach helps bridge the gap between what is stated in the regulation and its actual implementation. The interview was conducted with implementers and regulators directly involved in TOD management to gather perspectives from both parties. In the interview process, the researcher ensured the stakeholder's consent to be interviewed and used the organization's identity to give more sense for comparison purposes.

The reliability of this research was supported with indicators translated into a set of questions derived from the process of operationalization variable, as shown in table 3.2. The reliability of this study is improved by transcribing every recorded interview manually and analyzing it with ATLAS TI. 23 software. This method increased the researchers' efficiency and transparency in tracking down specific code to its original sources which presented in the appendix section.

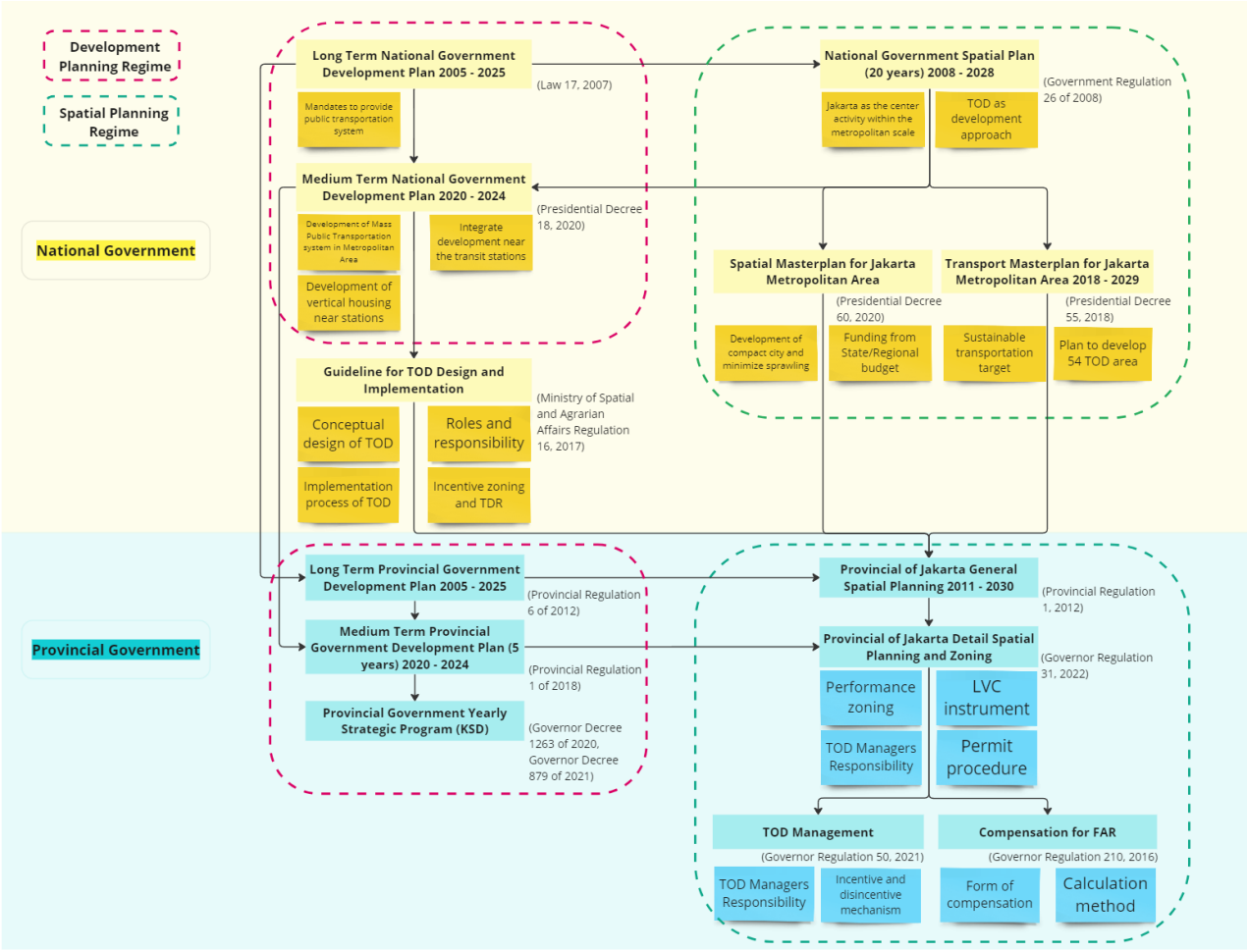
4 Results, analysis, and discussion

This chapter explains the study findings to answer the main research question arranged from the sub-research questions. The explanation comes from analyzing data collected from desk research and stakeholder interviews. The initial subchapter addresses the position of TOD and LVC within the regulatory framework, providing a comprehensive view of the value creation aspect. It continues with the management aspect of TOD by related stakeholders and how it differs between organizations. The next subchapter explains the practice of value capture instruments within the TOD governance to answer the second step of the virtuous value capture process. The last subchapter explains how the existing governance reinvests the captured value back to the TOD project in the value funding process.

4.1 Regulatory framework of Land Value Capture Mechanism within the Transit Oriented Development governance

The concept of TOD has been integrated and well explained at the national and provincial levels, whereas the concept of LVC has only been mentioned impartially at the provincial level. There are two planning regimes that influence planning in Indonesia, which are the development and spatial planning regimes. Figure 4.1 illustrates the overall framework of LVC in TOD governance.

Figure 4.1 Regulatory Framework of LVC in TOD Governance



Source: Author, 2023

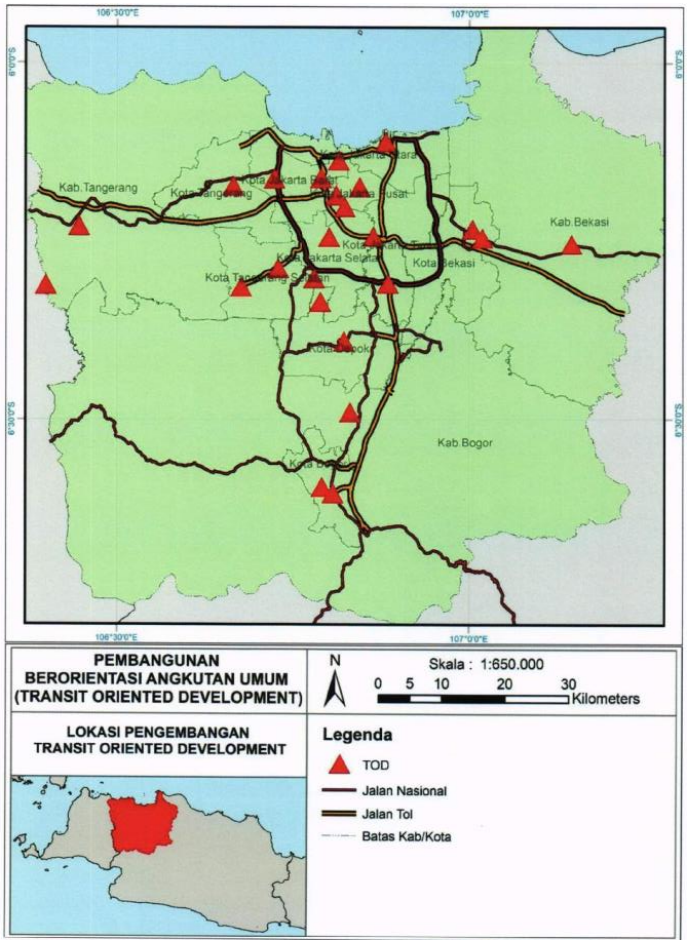
The development planning regime includes long-term development planning (RPJP) for 20 years, medium-term development planning (RPJM) for five years, and yearly development planning (RKP). The new administration will create its RPJM using its own vision and align it with the RPJP. Meanwhile, the spatial planning regime allocates development programs to specific areas based on their potential and limitations. The output of the spatial planning regime is General Spatial Planning (RTRW) and Detailed Spatial Planning (RDTR). It is effective for twenty years, with one revision every five years, allowing the next elected administration to influence the spatial planning regime with its vision.

4.1.1 Regulatory Framework of TOD

National Level

In the development planning regime, the National RPJP 2005 – 2025 mandates that each regional government must develop housing with adequate and sustainable infrastructure. It is followed by the National RPJM 2020 – 2024 that future development must be integrated near the transit stations along with the provision of vertical housing. In the spatial planning regime, the National RTRW has designated Jakarta as the center of activity for Jabodetabek and emphasizes the need for an adequate mass public transportation system. Two presidential decrees have also been enacted, mandating a TOD approach for Jakarta and setting a target for the metropolitan-scale 54 TOD project. Figure 4.2 illustrates the distribution of the TOD project in Jabodetabek.

Figure 4.2 Map of TOD Program in Jabodetabek



Source: Presidential Decree 55 of 2018

Provincial Level of Jakarta

TOD is used as the main development concept for Jakarta, as stated in Provincial RPJM 2018–2022 of Provincial Regulation 1 of 2018. This concept is further translated into the Yearly Provincial Strategic Program (KSD), which ensures seamless permit processes and land use acquisition without any bottleneck issues. Table 4.1 contains TOD-related strategic programs weighted according to their significance, where several related TOD projects are categorized as the main priority.

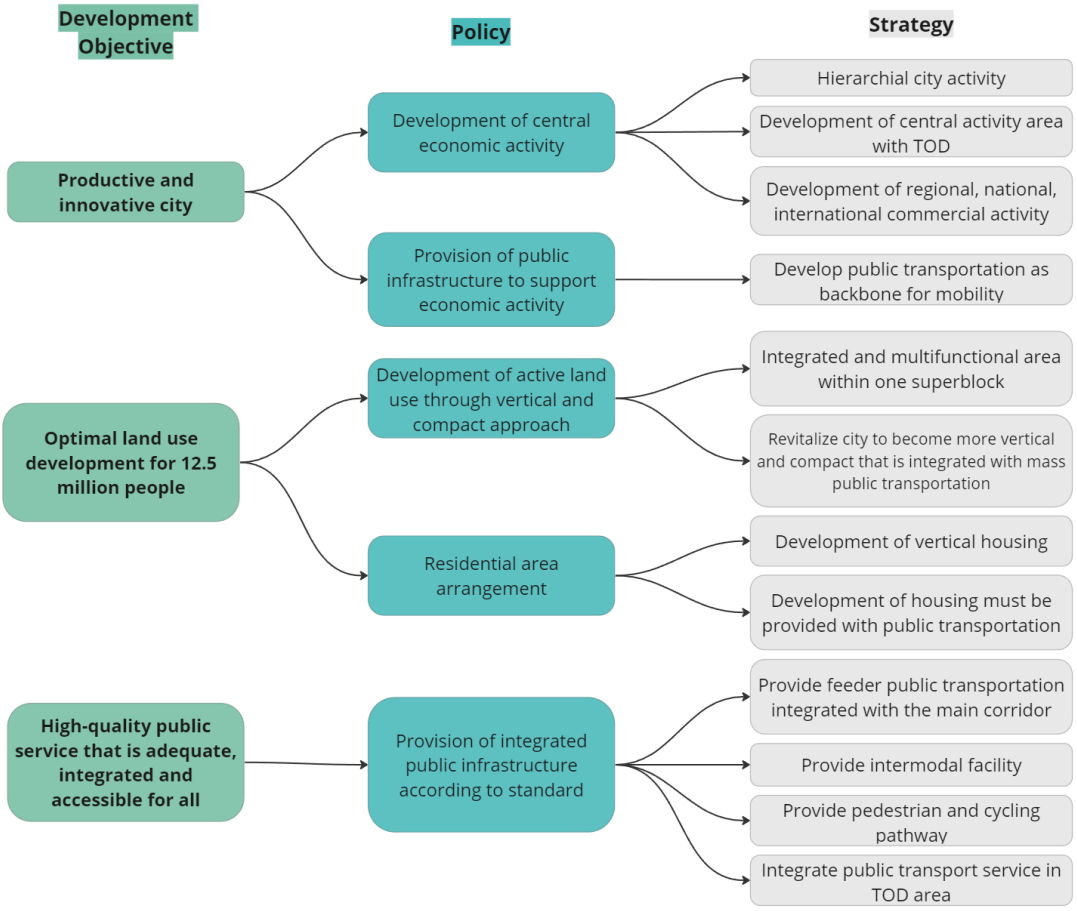
Table 4.1 KSD Related to TOD Program

No of KSD	Program Name	Category
24	Provision of housing with zero upfront credit	Drive: main priority that drives the economic activity in the city. This type of program must be prioritized in order for on time implementation. (Weight = 1)
28	Development of TOD	
29	Integrated public transportation services	
31	Construction and operation of LRT	
32	Operation of Electronic Road Pricing (ERP)	
36	Development of bicycle infrastructure	
45	Improvement of residential area quality	
30	Construction and operation of MRT	Harvest: second priority that has big impact on economic recover after pandemic event. This type of program must be monitored frequently. (Weight = 0.67)
44	Construction of open public space	
73	Improvement of pedestrian infrastructure	
34	Revitalization of main bus station	Navigate: third priority that has a big impact in the long term for economic recovery. (Weight = 0.33)
35	Construction of Park and Ride facilities and management of parking	

Source: Analyzed from Governor of Jakarta Decree 1263 of 2020 and 879 of 2021

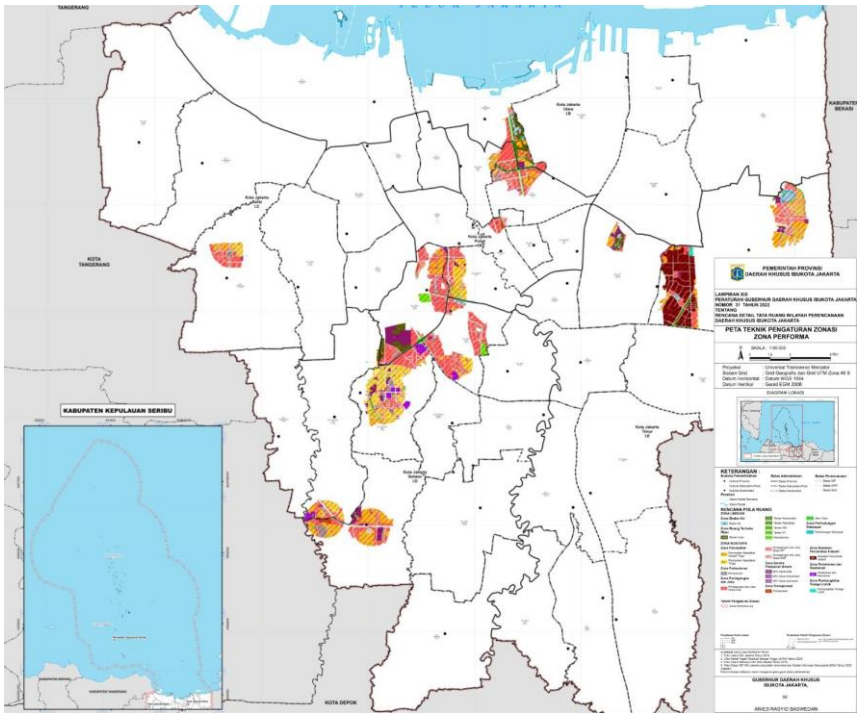
In the spatial planning aspect, the TOD concept is already well mentioned and defined at the provincial level in Provincial RTRW and RDTR. RTRW provides general guidance on development objectives, relevant policies, and strategies to achieve the policies, as explained in Figure 4.3. Meanwhile, the RDTR explains the area allocation for TOD programs and the planning instrument to implement TOD. This spatial planning document designates TOD as a 'performance area' wherein specific requirements related to TOD must be met. Figure 4.4 shows the distribution of TOD area that must follow specific urban planning and design criteria of TOD concept.

Figure 4.3 Jakarta Spatial Development Obligation



Source: Provincial of Jakarta Regulation 1 of 2012 about RDTR

Figure 4.4 Spatial Distribution of Performance Zone



Source: Governor of Jakarta Regulation 31 of 2022 about RDTR

4.1.2 The concept of TOD in the regulation

The explanation of the TOD concept is well-regulated and has already answered emerging issues of TOD. The provincial government of Jakarta manages to provide more detailed terms related to the issues of traffic management and affordable housing. The explanation of the concept of TOD from the regulation with respect to the criteria from Chapter 2 is compiled in table 4.2.

Table 4.2 Concept of TOD in The Regulations

Concept	Regulation		
	Ministry of Agrarian and Spatial Planning Regulation 16 of 2017 Guideline for TOD	Governor of Jakarta Regulation 67 of 2019, updated with 50 of 2021 TOD Management	Governor of Jakarta Regulation 31 of 2023 RDTR of Jakarta
/Presence of higher densities and diverse land use development for TOD in the regulation	- development of mix land use (art 4, par 2) - development of mid-high to high rise density area (art 4, par 2)	- compact building density to achieve efficient distance (art 4) - development of vertical buildings with mixed-used (art 4)	- optimize the space with vertical building (art 180, par 4) - compact building arrangement (art 183, par 1) - diverse land use activity (art 183, par 1)
/Presence of integrated land use development to support economic, placemaking and public commons use for TOD in the regulation	- development of public space to facilitate transit users (art 4, par 2)	- increase the proportion of green public spaces (art 4) - provision of open space accessible by the public (art 4) - develop Transit Plaza as a transit area between public transportation (art 27) - set minimum area for greenhouse in TOD to 30% (art 31)	- provide green spaces and open public space (art 183, par 1) - ground space to be utilized as business activity (art 180, par 5)
/Presence of mass public transportation, feeder system, and Non Motorized Transportation infrastructure for TOD in the regulation	- development of sustainable mobility with public transportation (art 4, par 1) - development of well-connected pedestrian and cycling infrastructure (art 4, par 1) - compact building arrangement to provide ease of walking and cycling	- area is integrated with public transportation and accessible by walking (art 4) - provision of safe cycling infrastructure (art 4) - priority of road design for pedestrians and cyclists (art 4) - provide Transit Plaza as intermodal change (art 27)	- well developed and integrated pedestrian and cycling infrastructure (art 183, par 1) - integrated with bus stations and mass public transport stations (art 184, par 2) - integrated building arrangement with the station from the underground and air access (art 184, par 3)
/Presence of push policies to minimize the use of the private	- regulation to limit the use of motorized private vehicles (art 4, par 3)	- reduce the number of on-street and off-street parking (art 4)	- limitation of private motorized vehicle space according to the type of

Source: Author, 2023

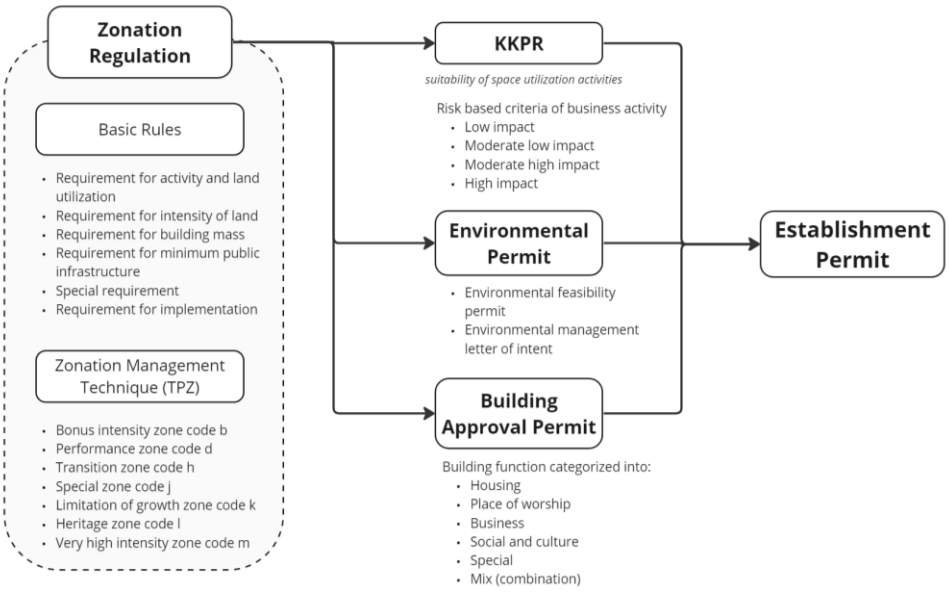
4.1.3 The regulation to support LVC in the TOD project

The Land Value Capture (LVC) term is not officially mentioned in national or regional regulations. There has not been any regulation regulating the overall process of LVC, only the aspect of value capture instrument mentioned in the regulation, but with different terms such as incentives and disincentive mechanisms. Furthermore, there are no specified mechanisms for value funding beyond the existing melting pot mechanism, which is explained under the property tax sub-section. This subchapter will explain relevant regulations for each value capture instrument mentioned in the literature review.

Development Obligation

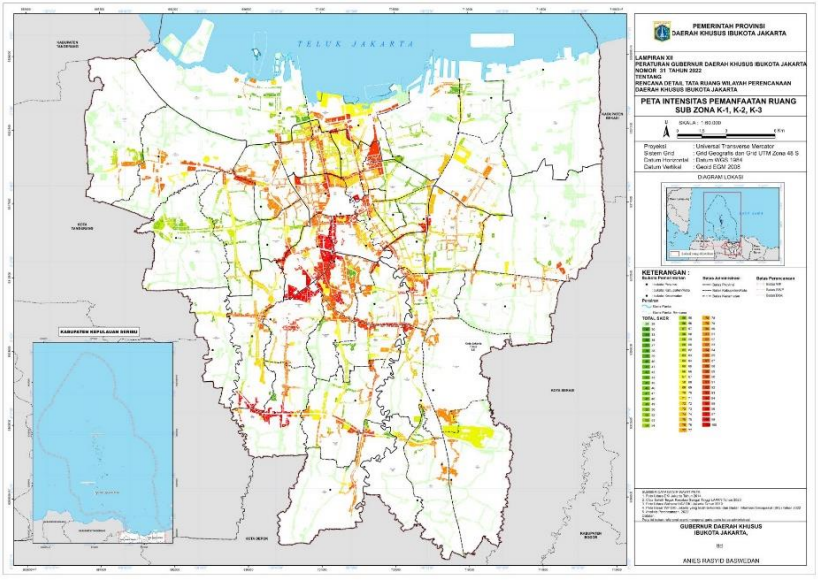
The development obligation is coupled with the Establishment Permit, which consists of the Suitability of Space Utilization Activities (KKPR), Environmental Permit, and Building Approval Permit (PBG) as regulated in Governor Regulation 31 of 2022, as illustrated in Figure 4.5. This new regulation also pushed for more high-density development by introducing increases in the amount of Floor Area Ratio (FAR) for commercial land uses in all of Jakarta. Figure 4.6 illustrates the higher FAR for commercial uses located near the public transportation system (indicated in red color). The charge amount of development obligation will refer to the complexity of land uses and the amount of allowed FAR according to the Zoning Regulations. However, there are still no conditions regarding the formula to calculate the charge amount nor its obligation form, either a fee or an in-kind payment.

Figure 4.5 Development Obligation Scheme



Source: Governor of Jakarta Regulation 31 of 2022

Figure 4.6 Map of FAR Distribution for Commercial Uses

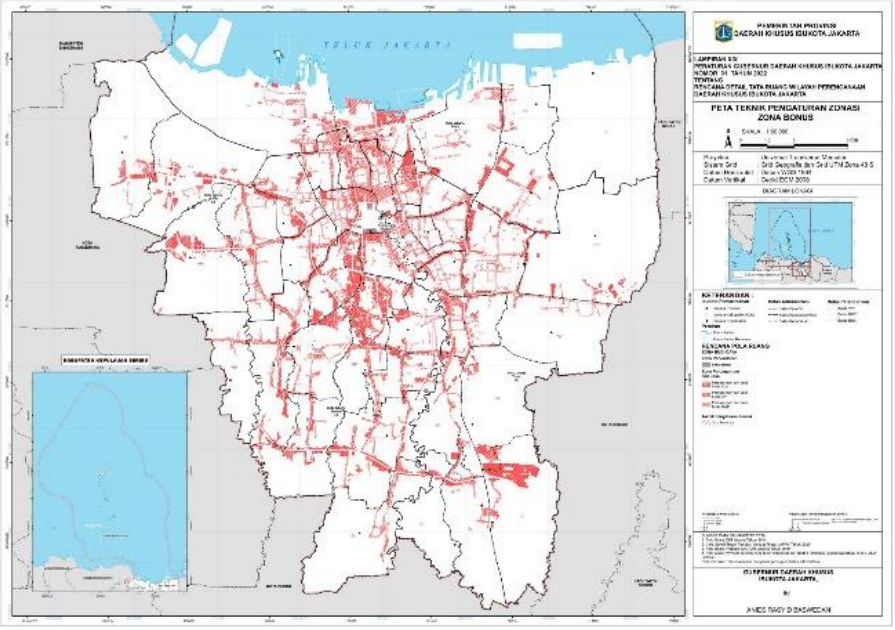


Source: Analyzed from Governor of Jakarta Regulation 31 of 2022

Density Bonuses

The density bonus is regulated on the national scale with the Ministry of Agrarian and Spatial Affairs (ATR/BPN) Regulation 16 of 2017 about Guideline for TOD. It used the terms incentive or bonus zoning, where property owners can increase the Floor Area Ratio (FAR) in exchange for compensation of public needs. The Governor of Jakarta Regulation 31 of 2022 further regulates the terms and conditions for density bonus with the mechanism of Zonation Management Technique (TPZ) bonus b as mapped in Figure 4.7 Density bonus is encouraged for commercial uses near the transit corridor, same with the higher FAR conditions. Figure 4.8 explains the amount of FAR that can be acquired where a more density bonus is applicable if it is located inside the TOD area.

Figure 4.7 Map of Density Bonus



Source: Governor of Jakarta Regulation 31 of 2022

Figure 4.8 Formula to Calculate the Amount Density Bonus

$$B = N \times (2 - CI)$$

B = Density Bonuses (FAR)
N = FAR according to the point system in art 98
CI = Control Index

CI:
- 0.4 near coastline area
- 0.3 near heritage area
- 0.2 near riverbanks
- 0.1 near water reservoir

$$BT = B \times (1 + TC)$$

BT = Density Bonuses (FAR) for TOD Area
TC = 15% for neighborhood TOD, 20% for sub city TOD, 30% for city scale TOD

Source: Governor of Jakarta Regulation 31 of 2022

The compensation for the density bonus is in the form of in-kind compensation for public infrastructure and not monetary to avoid any possibility of corruption (Tjung Liong et al., 2020). The type of public infrastructure is regulated in Governor Decree 210 of 2016 and Governor Regulation 31 of 2022. Several public infrastructures mentioned in the regulations include the provision of public space, high-rise affordable housing, road infrastructure, pedestrian and cycling infrastructure, and flood mitigation infrastructure. Figure 4.9 shows the formula to calculate the charge amount of the density bonus.

Figure 4.9 Formula to Calculate Value of Compensation for Density Bonus

$$K = I \times \left(\frac{L}{FAR_{planned}} \times NJOP \right)$$

K = Compensation Value (Rupiah)
I = Index
L = Amount of floor added area (m2)
FAR planned = FAR coefficient according to spatial plan
NJOP = Land Sales Value of Taxable Object

Source: Governor of Jakarta Regulation 210 of 2016

Transfer Development Rights (TDR)

TDR is regulated by the Ministry of ATR/BPN Regulation 16 of 2017. In article 18, TDR is a voluntary transfer of development rights from an area with a growth limitation into the expected developing area. The transferred TDR represents a floor area difference between the allowed FAR in the zoning regulation and the existing use. In article 152 of Governor Regulation 31 of 2022, the amount of development rights is regulated further where the transferred FAR is limited to the maximum density bonuses set in the regulation. The transfer is encouraged in the TOD area and can be transferred to different TOD areas as long it is the same TOD Managers. The responsibility to manage the overall process of TDR will be under the Local Public Service Agency (BLUD). BLUD, regulated by Governor Regulation 7 of 2022, is defined as a system where government agencies can create a new entity to deliver services to the public with more flexibility in financial management.

Strategic Land Management (SLM)

SLM, or land banking strategy, is not a common practice in Indonesia until recently with Government Regulation 2 of 2022 about Omnibus Law. This regulation states that the National Government can create land banking institutions. The function of the Land Banking Institution is regulated in the Government Regulation 64 of 2021, where their task is to acquire land to develop public infrastructure and redistribute the land. Land Banking is still a new approach, and it has not been translated into regulation at the provincial level.

Joint Development

Joint Development, also known as Public Private Partnership, is a widely used approach in Indonesia for financing infrastructure projects (Ministry of National Development Planning, 2022). In this regulation, PPP is a cooperation between the government and Business Entities in the provision of infrastructure for the public interest, which use partly or entirely resources of the Business Entity by considering the risk sharing between the parties. The extent of government involvement will be varied according to the project, and its usually divided into four main schemes: Build, Operate and Transfer (BOT), Build, Owned, and Operate (BOO), Build, Rent, and Transfer (BRT), and Rehabilitate, Operate and Transfer (ROT).

Property Tax

After the reformation in 1998, Indonesia entered the era of decentralization where regional governments, which are provincial and county or city governments, have more autonomy. In Law 17 of 2003 about State Finance, the regional government has the right to manage its own financial needs, including searching for revenue from tax and non-tax sources. The regional government's tax scope is regulated in Law 1 of 2022, as explained in Table 4.3. In the context of Jakarta, all of the authority for tax fall to the provincial government of Jakarta

because of its status as capital city, as stated in Law 29 of 2007. All of the revenue from the tax will enter the Revenue and Expenditure Budget (APBD) as a melting pot where the government will spend it to meet the basic public needs and target of development.

Table 4.3 Division of Tax Responsibility

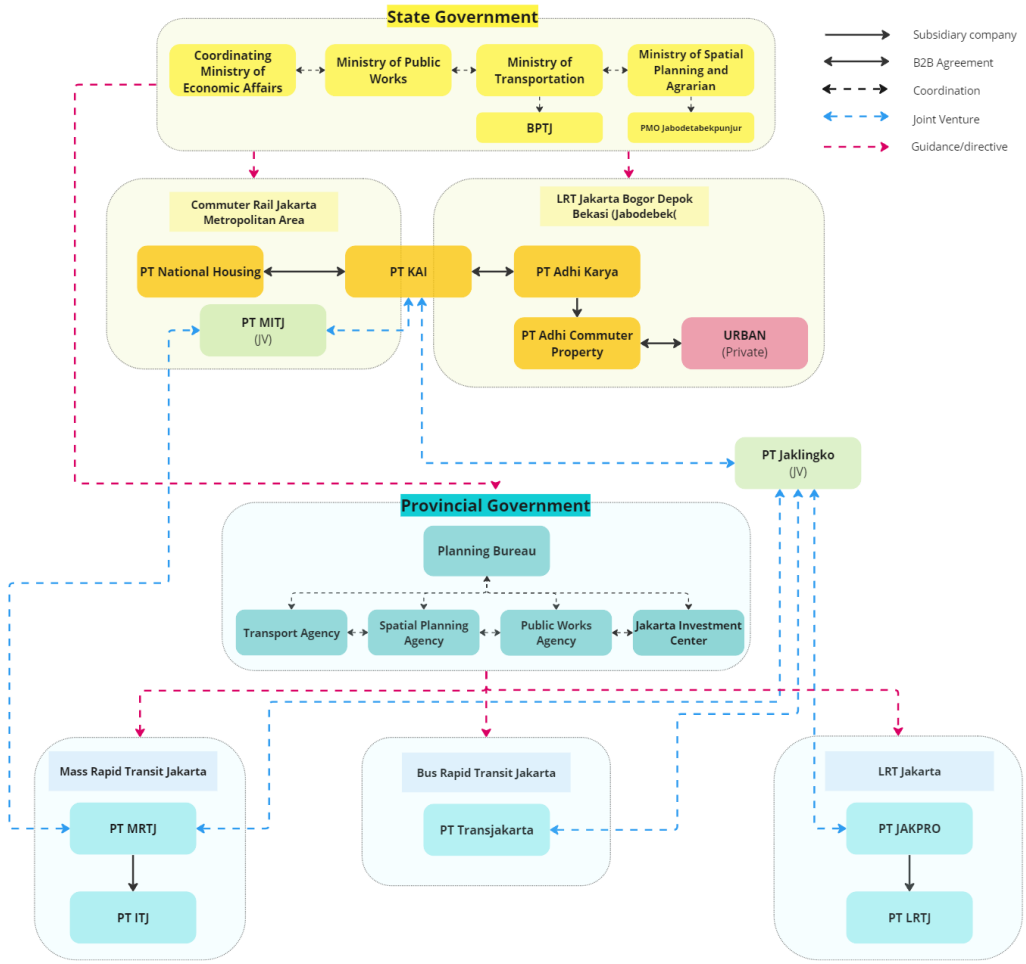
Provincial Government	City/County Government
• Vehicle tax • Vehicle name transfer tax • Heavy vehicle and fuel tax • Groundwater tax • Cigarette tax	• **Land and building tax** • Property name transfer tax • Tax for specific services • Advertisement tax • Swallow bird tax

4.2 The management of TOD in Jakarta

4.2.1 Overview of TOD Management in Jakarta

The management of TOD in Jakarta follows the categorization developed by Song et al. (2021), where State Owned Enterprise (SOE) at the national level or Regional Owned Enterprise (ROE) at the provincial level have rights to manage the TOD development as illustrated in Figure 4.10. The existence of SOE or ROE is one of the main reasons developments of TOD only thrive in Jakarta and not any other cities in Indonesia (PMO Jabodetabekpunjur, interviewed on June 2023).

Figure 4.10 TOD Management in Jakarta



Source: Author, 2023

There are three public transport operators at the provincial level of Jakarta, including PT MRTJ, PT Transjakarta, and PT JAKPRO. Each of these ROE can create its own subsidiary company to focus on the development of TOD, with the example of PT MRTJ with the creation of PT ITJ. If SOEs want to be involved in the TOD project in Jakarta, they must have an agreement with the ROE in the form of a Joint Venture. As the national railway company, PT KAI has a Joint Venture with PT MRTJ, creating PT MITJ that is responsible for managing the TOD project all over commuter rail stations (MITJ, interviewed on May 2023). Another Joint Venture between all public transport operators is PT Jaklingko for fare integration.

At the provincial level, government agencies have a role in monitoring and assisting the development of TOD. The Provincial Spatial Planning Agency (DCKTRP) will monitor the TOD Manager's performance to meet the indicated program set in the Urban Design Guideline (UDGL) and guide the implementation procedure of TOD through technical assistance (DCKTRP, interviewed on May 2023). Other government agencies will give technical assistance according to their scope of authority. If a dispute exists between ROE, the related provincial agencies will provide a coordination meeting (MRTJ, interviewed on May 2023).

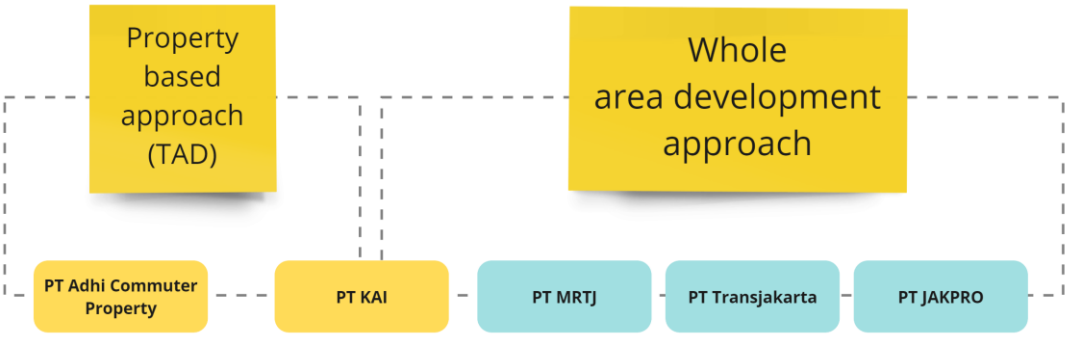
At the national level, relevant ministries such as the Ministry of Agrarian and Spatial Affairs (ATR/BPN) provide a general law that could support TOD development. At the regional level, Jabodetabek Transportation Management Agency (BPTJ) is responsible for providing technical capacity in the transportation sector for all of the cities in the metropolitan area (BPTJ, interviewed on May 2023). Lastly, there is the Project Management Office (PMO) Jabodetabekpunjur, an organization under the Ministry of ATR/BPN that is responsible for integrating land use planning in Greater Jakarta Region (PMO Jabodetabekpunjur, interviewed on June 2023).

4.2.2 Two Different Approaches to Develop TOD

Development of TOD in Jakarta is divided into property based and whole area development approaches, as illustrated in Figure 4.11. Some organizations adopt a property based approach and concentrate their resources on developing properties that are directly connected to the stations. This approach is referred to as Transit Adjacent Development (TAD) (Song et al., 2021). It influences by the organization’s motivation and the factor of land availability. For example, PT ADCP, as the subsidiary company of PT Adhi Karya, focuses only on high-end real estate development (ADCP, interviewed on May 2023). The other reason is related to land availability because the rail routes and stations are located in underdeveloped areas where they manage to own a significant amount of land through a land banking strategy (ADCP, interviewed on May 2023).

Another example is PT KAI, which managed to develop high-rise housing because they had already owned the property for a long time, with an adjustment to repurpose the existing park-and-ride facility (PUPR, 2020). Organizations that own property have the flexibility to develop the type of property without having to follow the conceptual regulations of TOD and can focus on developing housing units.

Figure 4.11 Property based and whole development based approach for TOD in Jakarta



Source: Author, 2023

However, property based development is not an approach supported by government agencies. As DCKTRP (interviewed on May 2023) stated, *"TOD cannot be separated from the development of the surrounding area. To create an ideal TOD, there are many aspects that must be fulfilled. So it's not just the development of one spot".*

ROEs at the provincial level do not have the opportunity to develop their own property into high-rise housing because their public transportation route and station are already situated in well-developed areas (ATR/BPN, interviewed on May 2023). PT JAKPRO (interviewed on May 2023) stated, *"In other countries, maybe the TOD concept is applied before any development in the area. For us, it's more like reorganizing the area".* ROEs at the provincial level also have different motivations because they are public transportation operators and have a mindset to develop the area more holistically to support better mobility. As PT ITJ (interviewed on May 2023) stated, *"TOD is an area that integrates a variety of activities or mixed uses in the development area, within a radius that can be walked by people once they leave the mass public transportation facility."*

Despite the urgency to implement TOD more holistically, implementing TOD with a whole area development approach is a complicated process with various challenges, which are listed as follows:

Lack of Technical Capacity

Technical capacity to plan and implement TOD is still not evenly understood by each ROE in Jakarta, where only the PT MRTJ is already in the implementation phase of TOD. PT JAKPRO, responsible for LRT Jakarta, is still in the process of understanding the concept and developing the plan for TOD (JAKPRO, interviewed on May 2023). As for PT Transjakarta, there is still no progress in the development of TOD because they are still focusing on improving the operational quality of bus services (Transjakarta, interviewed on May 2023).

Competition between Organization

In the implementation process of TOD, the provincial government will determine which organization is suited to become TOD Managers. Conflicts between potential TOD managers occur when different types of public transportation stations are in close proximity. One example is in Dukuh Atas, where four public transport operators claim their rights as managers because there are BRT, MRT, Commuter Rail, and Airport Rail (Transjakarta, interviewed on May 2023). To mitigate this conflict, the provincial government created a regulation that TOD Managers must be a rail-based public transportation that served high potential service of passengers in the future; thus, the choice was PT MRTJ (DCKTRP, interviewed on May 2023). Although the conflict has been

resolved, the same thing can happen again, given the increasing interest in developing public transportation in the future.

Unclear Status of Government Asset

The issue of asset management is experienced by LRT Jakarta due to different perspectives on regulations. In the Governor Decree 45 of 2020 about the Assignment of PT JAKPRO to Manage LRT Jakarta, article 16 regulates that PT JAKPRO can manage the infrastructure for business purposes to the third party as a non-farebox revenue stream. However, during the implementation, the ROE is required to give retribution to the Provincial Government for each asset they manage (LRTJ, interviewed on May 2023). This condition creates confusion, as PT LRTJ (interviewed on May 2023) stated, *"So, we as business actors can also say that we are a bit reluctant why we are chasing non-fareboxes while in the end, we have to send it back to the government."*

Uncertainty in the TOD Regulation

In 2022, the Provincial Government authorized the new Spatial Planning Document about RDTR, which replaced the older documents from 2014. This new regulation impacts the aspects of becoming a TOD Manager as well as clarity for the derivative regulations. PT JAKPRO has been affected by the changes in administrative procedures, leading to substantial delays in their proposal to become a TOD Manager (JAKPRO, interviewed on May 2023). Furthermore, the new regulation still has not provided any derivative regulations for calculating the charge amount for development obligation and density bonuses in the TOD area, which creates confusion among stakeholders (ITJ, interviewed on May 2023).

Unstable Interest in TOD Project

The interest in TOD projects is experienced differently between the property and whole area development approach. For the property based TOD approach, interest in TOD came from the housing market, where they can gain benefit directly from housing unit sales, as PT ADCP (interviewed on May 2023) stated:

"One of the things that can strengthen ADCP's sales is the selling point of TOD compared to several other projects that are struggling to sell their units. So we were helped by that during the pandemic, even though we were hit by a pandemic that lasted up to 3 years, our marketing sales were able to go up"

As for organizations with a whole area approach, it depends on the willingness of the developer to invest in the TOD project. Limitations in owning property pushed the organization to persuade developers or property owners to invest in non-organization property. However, the enthusiasm is still low due to the pandemic situation, as PT MRTJ (interviewed on May 2023) stated:

"Currently, many are affected by COVID, so when the MRT was first built and then operated, many came to the MRT to show interest in development. But then there is the impact of COVID and the economy, so some may not continue their cooperation."

4.2.3 Management of TOD from each public transport operator/TOD Manager

This part will explain the management condition of each public transportation in relation to the TOD project implementation. The management characteristic is compiled in Table 4.4. The explanation continues with an in-depth analysis of the TOD Management conditions from each organization.

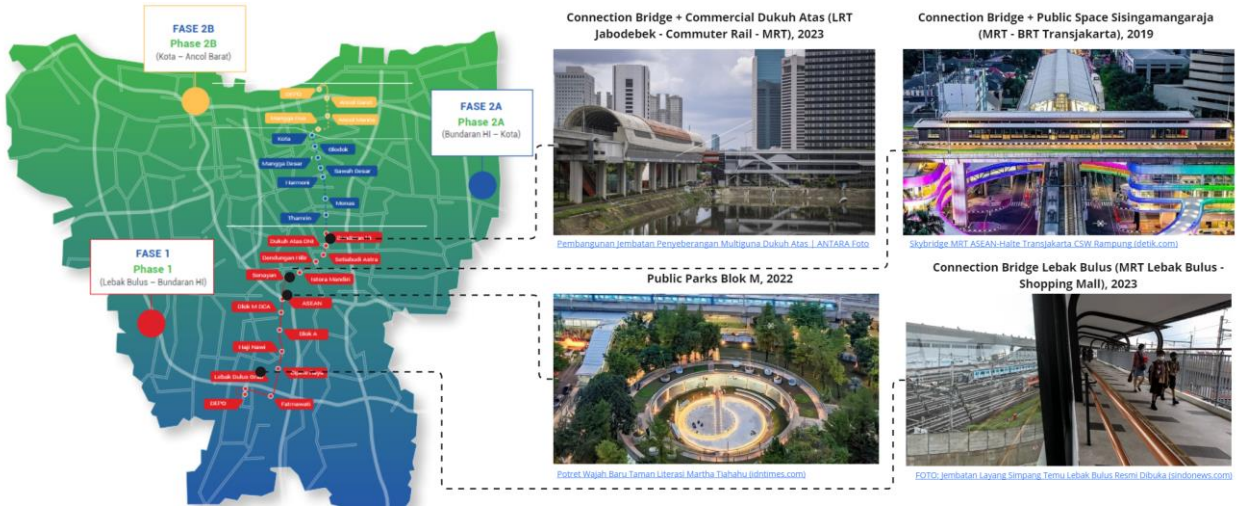
Table 4.4 Characteristics of TOD Management

	MRT	LRT Jakarta	BRT	Commuter Rail	LRT Jabodebek
Area of operation	Jakarta	Jakarta	Jakarta	Jakarta, Bogor, Depok, Tangerang, Bekasi	Jakarta, Bogor, Depok, Bekasi
Main organization	PT MRTJ (Public transportation)	PT JAKPRO (Property)	PT Transjakarta (Public Transportation)	PT KAI (Public Transportation)	PT Adhi Karya (Property)
Main revenue stream	/Provincial government subsidy (60)% /Non-farebox (34.93%) /Farebox (4.45%)	/Provincial government subsidy /Property management /Subsidiary company revenue stream	/Provincial government subsidy (90.24)% /Non-farebox (7.67%) /Farebox (2.09%)	n/a	/Private (62.02%) /National government subsidy (29.02%) /SOE (8.78%)
Subsidiary company for TOD	PT ITJ (Property)	PT LRTJ (Public transportation)	-	PT MITJ (Property)	PT ADCP (Property)
General conditions	/Held title as TOD Managers (8 stations)	/Having difficulty as TOD managers (already proposed)	/Not possible to become TOD managers (barriers in regulation)	/Held title as TOD Manager (1 station)	/Independently develop property near LRT stations (7 stations)
TOD approach	Whole area development	Whole area development	Whole area development	/Whole area development /Property based approach	Property based approach
Challenges to implement TOD	/Land availability for property development	/Lack of technical capacity (PT LRTJ is not ready) /Administrative complexity	/Limitation in regulation /Still focus on improving bus services	/Land availability	Challenge in acquiring land
Main development strategy	/Construction of public infrastructure (interconnection bridge, public parks, commercial space)	/Rent space inside station for commercial uses	/Construction of public infrastructure (interconnection bridge) /Expanding stations area (two story) for commercial spaces	/Construction of apartment and affordable housing unit	/Construction of apartment

Source: Author, 2023

Mass Rapid Transit

Figure 4.12 Overview of MRT Projects



Sources: Analyzed from MRTJ, 2021

PT MRTJ was established in 2008 and has had 13 operating stations since 2019, with an average daily passenger of 89.645 (MRTJ, 2020). PT MRTJ already held the title of TOD Managers by the Governor Decree 65 of 2021 for six areas or eight stations. PT MRTJ

managed to gather quite significant revenue from the non-farebox stream from advertising and station naming rights which contributed $14 million in 2021 (MRTJ, 2021). PT MRTJ also managed to predict the potential revenue generated by their TOD project. For instance, the potential property value near the MRT Dukuh Atas station can reach Rp 89.3 trillion or $5.9 billion (Provincial Government of DKI, 2019).

As the most advanced ROE for the management of TOD, PT MRTJ has already allocated specific organization function for TOD with TOD Division that focuses on business generation and planning development. In 2020 they created a subsidiary company of PT Integrasi Transit Jakarta (ITJ) that will be responsible for planning, developing, and monitoring the TOD project. Their main motivation is to develop TOD as a whole area approach where every activity of residential, commercial, public, and work can be found in the same place, which will increase the ridership of MRT (ITJ, interviewed on May 2023).

The main barriers to implementing TOD near MRT stations are land availability and funding (MRTJ, interviewed on May 2023). The main development strategy to overcome the barriers is to develop public infrastructure above government-owned property with the construction of an interconnection bridge between public transportation, public parks, and commercial spaces, as illustrated in Figure 4.12. The other motivation behind this approach is to adapt to the current conditions where investment in housing is still low, and project to develop public infrastructure with commercial use is more profitable (PT ITJ, interviewed on May 2023).

Light Rapid Transit Jakarta

Figure 4.13 Overview of LRT Projects

Sources: LRTJ, 2021

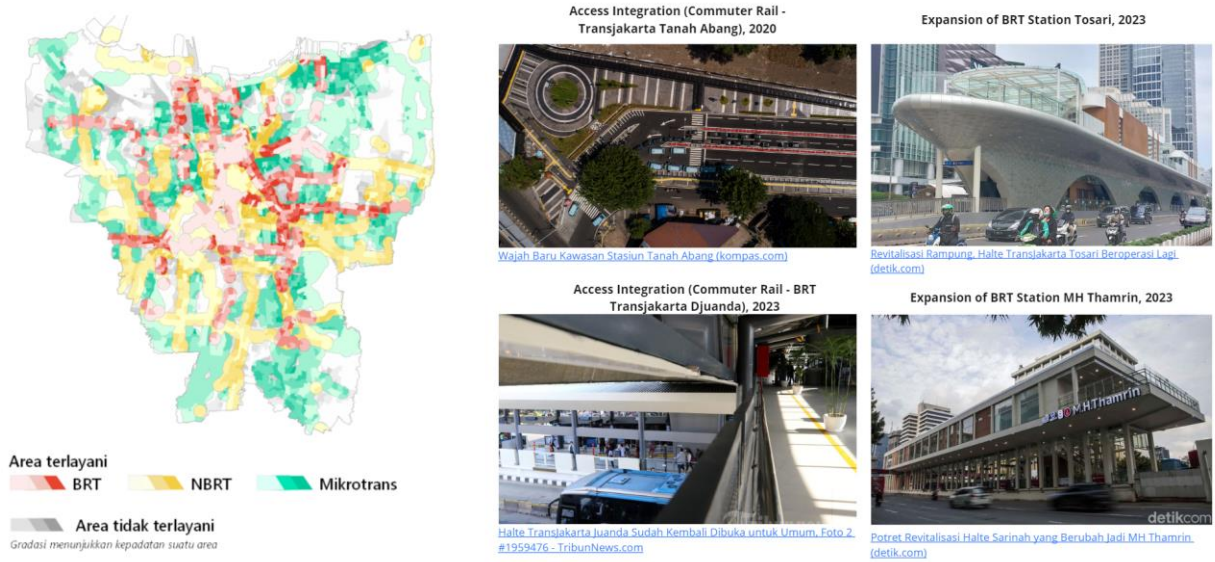
LRT Jakarta has operated since 2018 and has six stations for the five-kilometer route, as illustrated in Figure 4.13. PT JAKPRO, as one of the ROE in Jakarta, is assigned to manage and develop the train and infrastructure of LRT Jakarta with Governor Regulation 45 of 2020. PT JAKPRO has quite a long experience in the property sector but still has limited knowledge of TOD development (JAKPRO, interviewed on May 2023). They are still in the planning process to develop UDGL with the perspective of developing it as a whole area

approach. Currently, PT JAKPRO is still not assigned as TOD Managers because of complicated administrative processes, which hinders them from communicating with the property owner or developer for partnership in TOD development (JAKPRO, interviewed on May 2023). Another issue in developing TOD near LRT Jakarta stations is that the route is short and is not connected to the economic activity area of the city, which causes low ridership and interest from developers (JAKPRO, interviewed on May 2023).

The management of planning the TOD area is still held by PT JAKPRO, who plans to relegate the authority to PT LRTJ as its subsidiary company (JAKPRO, interviewed on May 2023). However, the readiness of PT LRTJ to handle the TOD project is still not there because lack of organizational structure to support it and the limitation of authority to develop TOD outside the organization's property (LRTJ, interviewed on May 2023). Hence, their current development strategy is to rent space inside the station for commercial purposes.

Bus Rapid Transit

Figure 4.14 Overview of BRT Projects



Sources: Analyzed from Transjakarta, 2021

PT Transjakarta is responsible for managing and operating buses in Jakarta, including Bus Rapid Transit (BRT), non-corridor buses, and microbus. They managed to achieve 1 million passengers per day in 2020 with 87.1% coverage of Jakarta due to its integrated network of the main corridor with the feeder bus (Transjakarta, 2021). Until now, PT Transjakarta has not allocated any organizational function or focus for the development of TOD near their BRT stations or terminal (Transjakarta, interviewed on May 2023). One of the main reasons is that Governor Regulation 67 of 2019 set the criteria that TOD must be served by rail-based public transportation. The other challenge is because of competition with other public transport operators; as PT Transjakarta (interviewed on May 2023) stated,

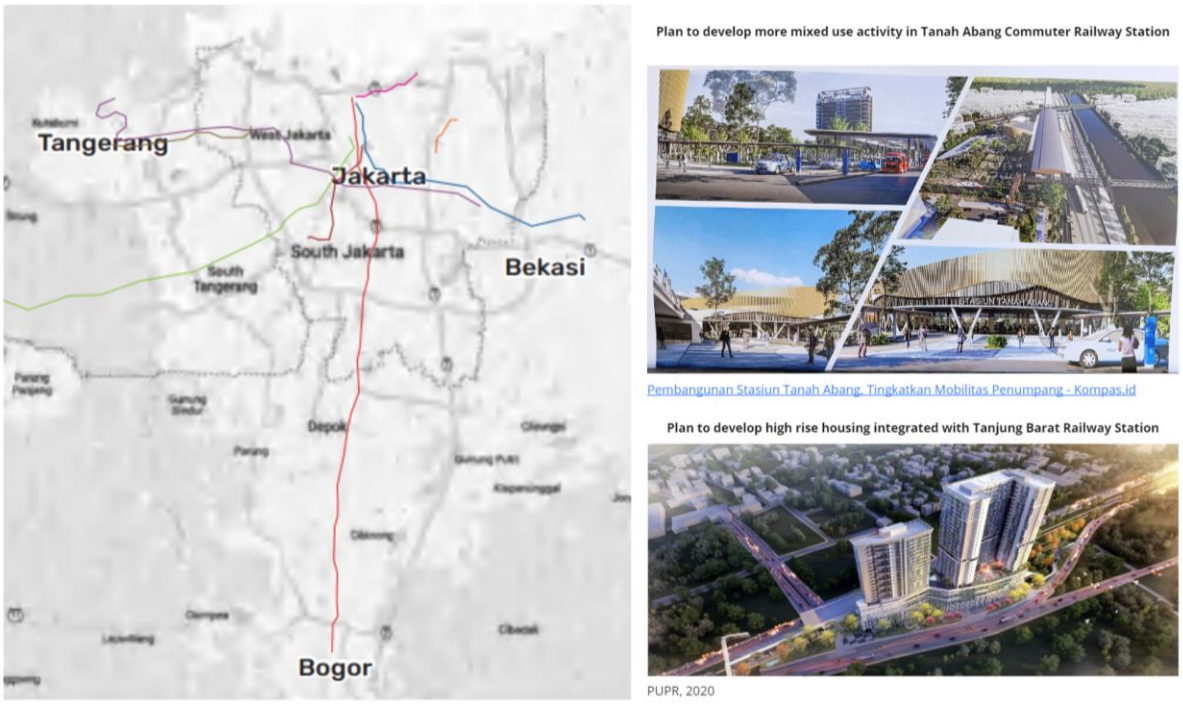
"Like when we wanted to apply to be the manager of TOD for Kampung Rambutan, LRT smelled it, PT MRTJ is also the same. I think the potential is very big and it can be competitive where we should be able to synergize, but each has its own interests. So it's fine. Transjakarta has not dared to go further to discuss with them."

Because of that limitation, their current development strategy is to improve passenger connectivity with other modes of public transportation on top of government property which could also increase their ridership, as illustrated in Figure 4.14 (Transjakarta,

interviewed on May 2023). They are also trying to improve non-farebox revenue by expanding the area stations into two-story BRT stations to accommodate more space for commercial activity.

Commuter Rail

Figure 4.15 Overview of Commuter Rail Projects



Sources: Analyzed from PUPR, 2021

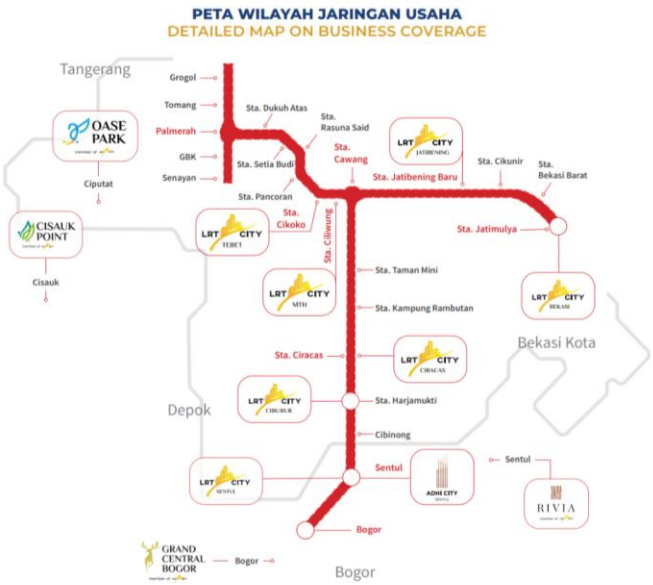
PT KAI is SOE responsible for managing long-distance train and commuter rail services in all of Indonesia. They are responsible for operating the commuter rail system in the Jabodetabek area, with 130 stations and average daily passengers of 921.300 in 2019 (Commuter KAI, 2020). PT KAI involves in the development of TOD in Jakarta through Joint Venture with PT MRTJ and created a new company named PT MITJ. This company is responsible as an extension from PT KAI for the development of physical integration between public transportation and the management of TOD for 82 commuter railway stations in Jabodetabek (MITJ, interviewed on May 2023).

PT KAI conducts two development approaches of TOD through a whole area approach and a property-based approach in different locations. Currently, PT KAI holds the title of TOD Manager only for one station in Tanah Abang station, where they plan to develop it comprehensively.

At the same time, PT KAI also conducts property-based development TOD approach by leasing their land for the development of high-rise housing with the National SOE for Public Housing (PERUMNAS), as illustrated in Figure 4.15. PT KAI will receive profit sharing from leasing the property to PERUMNAS for 50 years (PUPR, 2020). Of the total housing unit, 20% will be allocated specifically for the low-middle income group. The main problem of this approach is limited land availability because the used land for development was previously assigned only as a park-and-ride facility in the already crowded area (PUPR, 2020).

Light Rapid Transit Jabodebek

Figure 4.16 Overview of LRT Jabodebek Projects



ADCP, 2021

ADCP, 2021

Sources: Analyzed from ADCP, 2021

In 2015, the construction of LRT Jabodebek was started with Presidential Decree 98 of 2015. The national government gives authority to PT Adhi Karya to develop the train infrastructure and its supporting facility. After the construction is complete, the operation and maintenance of LRT Jabodebek will be transferred to PT KAI. During the construction process, PT Adhi Karya manages to develop multiple big property projects near the stations, as illustrated in Figure 4.16. PT ADCP is the subsidiary company responsible for developing property near the stations using land banking as their primary development strategy (ADCP, interviewed on May 2023). They managed to conduct land banking practices due to the location of the station, which is predominantly located in an underdeveloped area that is still manageable to acquire. They also have the headstart advantage to acquire land because of information from their parent company about the future stations' location (ADCP, interviewed on May 2023). This strategy then translated into the project of LRT City, which became a high-rise apartment and shopping center that connected directly to LRT stations with the target market for middle-high income families.

PT ADCP looks for potential partnerships with other organizations, such as PT URBN as a private company, to develop the property by injecting equity together and sharing the risk of the project from start to finish (ADCP, interviewed on May 2023). Since they are already a public company, they can issue a bond to the stock market for the project's funding. PT ADCP also has an agreement with PT KAI as SOE to develop an apartment near the PT KAI stations by paying a land lease for 50 years with a profit-sharing mechanism. It is seen as a better scheme for PT ADCP if they want to expand the property market in the city since acquiring new land is too expensive (ADCP, interviewed on May 2023).

4.3 Implementation of value capture instrument of LVC in the TOD governance

There is a special interest in using the LVC in the TOD system since its multiple benefits to alleviate the government budget's financing burden and promote sustainable development as a national strategic program (Kemenko Perekonomian, interviewed on June 2023). This subchapter will explain the different implementation conditions for different value capture instruments.

4.3.1 Overview of Value Capture Mechanism

Implementation of value capture instrument depends on the type of organization approach to develop TOD. This condition is caused by the different perspectives of beneficiaries from the TOD project (Suzuki et al., 2015). Property based approach organizations have more focus on targeting property owners or developers since the organization already owns the land for development, with examples from PT ADCP and PT KAI. They tend to choose value capture instruments, such as the Joint Development instrument, that can directly benefit them on their property.

On the other side, organizations with a whole area approach have a broader target beneficiary, including not only property owners or developers but also transport users and the public in general. Their objective is to increase the ridership of public transportation to their station and enhance the overall quality of the area within the 400 – 800 meter radius (MRTJ, interviewed on May 2023). This condition is also caused by the limitation to acquire and own property, which urges them to use the development obligation, density bonus, and TDR to reap benefits from the non-government property.

In Indonesia, the concept of LVC is more developed only in the province of Jakarta as the Ministry of ATR/BPN (interviewed on May 2023) stated, *"If we talk about the concept of land value capture or property value capture from the policy aspect, to be honest, we in the central government are actually behind Jakarta."* However, the implementation of value capture instruments still faces different challenges, as explained in the next section.

4.3.2 Implementation of each Value Capture Instrument for the TOD Project

Development Obligation

The past regulation about the development obligation is no longer valid because of the new Regulation 31 of 2022 about RDTR. The intention of development obligation is currently not limited to developers that want to build an area with more than 5000 m2 or located in a bonus zone, but it is applied to every property owner or developer that wants to construct their building (DKCTRP, interviewed on May 2023). The amount of development obligation will be influenced by the new standard of maximum allowance of FAR set in the same regulation. The provincial government decided to increase the overall FAR in all of Jakarta for commercial uses to allow more opportunities for economic development (JIC, interviewed on May 2023). The FAR will be higher if the location is near mass public transportation nodes, as illustrated in Figure 4.4.

However, TOD Managers do not perceive increasing FAR as something that will benefit them. One major issue is that the permitted FAR is too high, placing TOD Managers in a disadvantageous position where a density bonus instrument is no longer needed. With density bonus, TOD Managers have the authority to influence the type of intervention in the TOD area according to the UDGL, but using it is no longer attractive (ITJ, interviewed on May 2023).

TOD Managers also have different opinions on the calculation of allowed FAR because they already develop their own formula with more detailed criteria where the results are not too high (ITJ, interviewed on May 2023). Furthermore, there is still no derivative regulation for the fee calculation and type of development obligation that must be provided, which

creates confusion among developers, as stated by MITJ (on interviewed on May 2023), *"The developers think that now their FAR has automatically increased and it is free while in fact, it is not like that."*

Density Bonuses

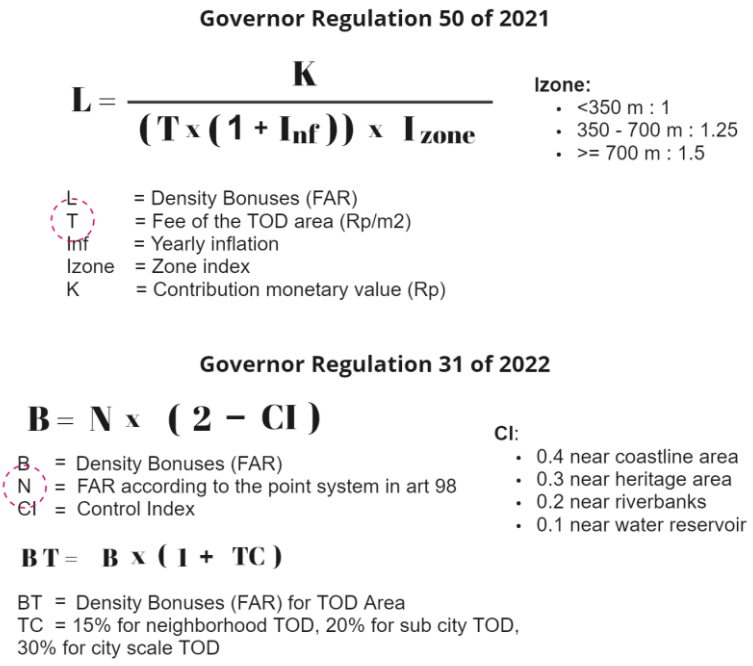
The increasing FAR in the Governor Regulation 31 of 2022 also impacts the developer's interest in using density bonus, which MITJ (interviewed on May 2023) stated,

"The question now is whether it really needs to be that high? For developers to develop their land. Maybe for them, why would I build so high up to the bonus. If for example the basic KLB is enough for me".

The same concern was also shared by PT ITJ because the current conditions of the property market are still not recovering after the pandemic (ITJ, interviewed on May 2023). This increase in FAR also significantly impacts public transport in underdeveloped areas, such as LRT Jakarta, where developers' interest in developing an area is still low (JAKPRO, interviewed on May 2023).

The other concern is the decreasing authority of the TOD Managers to determine the amount of density bonuses because it is now shifted to the Provincial Government. The previous regulation of Governor Regulation 50 of 2021 let the TOD Managers determine the fee for the TOD area in accordance with the UDGL they design and the willingness to pay from the property owner. This regulation is not relevant anymore since the Governor 31 of 2022 already set the formula of density bonuses for the whole city (DCKTRPP, interviewed on May 2023), as illustrated in Figure 4.17. In addition, the regulation that covers the charged amount of density bonus still does not exist, which creates another confusion among the stakeholders (ITJ, interviewed on May 2023).

Figure 4.17 Different calculation method for density bonus instruments



Transfer Development Right (TDR)

The existing regulations only cover the fundamental concept of TDR, and no derivative regulation has been published (MRT, interviewed on May 2023). There is still confusion from the regulators if TDR requires a fee or not. TDR will act as an alternative form of compensation in the density bonus requirement; hence if developers manage to acquire

transferred density, they are free of compensation for the density bonus (DCKTRP, interviewed on May 2023). However, at the same time, DCKTRP still perceives that although there is no density added in the city that needs to be compensated, there will still be an impact on the micro-scale that needs to be accounted for. At the same time, TOD Manager perceives TDR as less interesting from the developer's perspective since the minimum standard of FAR is already high (MITJ, interviewed on May 2023).

There is also confusion in the implementation procedure of TDR because stakeholders have no clear responsibility to manage the transferred density (MRTJ, interviewed on May 2023). While the regulation recognized that the Local Public Service Agency (BLUD) is responsible for managing the process, there is still a need for which government agency will oversee the BLUD.

Strategic Land Development

The term strategic land development is more familiar as land banking strategy. The land banking strategy is not applicable for public transportation located in already developed areas due to its limited land availability (ITJ, interviewed on May 2023). The practice of land banking also differs because of organizational value. Organization at the provincial level perceives land banking practices as something that does not align with the organization's value, PT ITJ (interviewed on May 2023) stated, *"From the MRT side, we avoid any kind of speculated buying from both private parties and the MRT itself."* Meanwhile, SOEs such as PT KAI and PT ADCP independently conducted land banking practices by acquiring land at the lowest prices before rail infrastructure construction.

Formally, the land banking practice was just recently regulated in 2022 with the new National Government Regulation 2 of 2022 about Omnibus Law. This regulation establishes Land Bank institutions to deliver national strategic programs, redistributive purposes for the public, and leasing practices for commercial purposes (ATR/BPN, interviewed on May 2023). However, the current Land Banking bodies still cannot contribute to providing land for TOD projects. For instance, they can only acquire new land from a land use plan change from plantation to active use, such as residential, where property owners must contribute 20% of their land (ATR/BPN, interviewed on May 2023). This practice only occurs in underdeveloped areas or peri-urban not in the inner city where land for TOD is needed most. Furthermore, the regulation is still unclear regarding the property rights of owners because there was a case when property owners sued the government because their land was taken and won the court case (ATRBPN, interviewed on May 2023).

Joint Development/Public Private Partnership (PPP)

PPP is seen as the most suitable strategy by most TOD managers because it does not depend on frequently changing government regulations and applies to the contextual condition of organizations (PMO Jabodetabekpunjur, interviewed on May 2023). PPP is used for organizations with a property development approach using their assets, such as PT ADCP and PT KAI. They will lease their private property to be developed by other business entities, which can be private or another SOE/ROE (ADCP, interviewed on May 2023)

At the same time, PPP is also used for the whole area approach with the purpose of developing public infrastructure. PT MRTJ uses PPP as a strategy to construct the interconnection infrastructure between the station and private commercial property (MRTJ, interviewed on May 2023). The capital cost will come from the property owner, and PT MRTJ will also charge them a fee for the infrastructure maintenance. PPP can also benefit an organization with limitations in funding, such as PT MITJ, since funding to their organization is not for construction costs. As PT MITJ (interviewed on May 2023) stated, *"We invite investors to invest. So the full financing will come from them, then we just need*

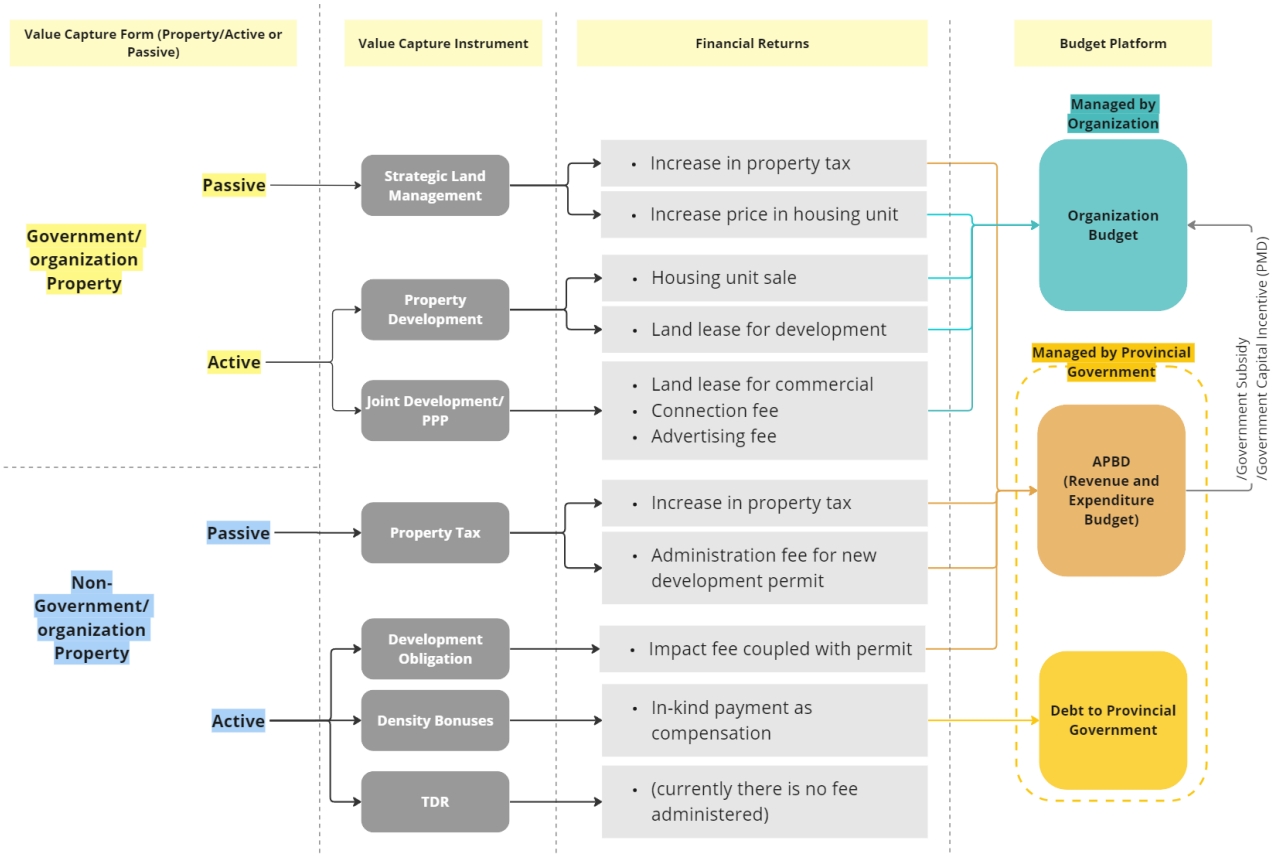
to talk about the business scheme, what it will be like. Usually, it's BOT for 30 years." From the National Government's perspective, PPP is seen as a preferred investment method since the project's risk is shared with the private sector (Kemenko Perekonomian, interviewed on June 2023).

4.4 Reinvesting value in the TOD system

4.4.1 The existing process for value funding in Jakarta

The captured value from different instruments will enter three types of budget platforms: organization budget, Revenue and Expenditure Budget (APBD), and debt to the provincial government, as explained in Figure 4.18. Captured value on top of government/organization property will enter the organization's budget directly. In comparison, captured value on top of non-government/organization property will be managed by the Provincial Government of Jakarta first before it is transferred to the organization budget.

Figure 4.18 Value Funding Procedure



Source: Author, 2023

Organization Budget

The budget platform of the organization budget will receive financial returns from value capture instruments applied on top of organization property, such as with strategic land management, joint development, or basic property development. Owning a property gives an advantage where financial returns can directly return to the organization's budget. Especially with selling housing unit activity where even increasing property tax still provides benefits. As PT ADCP (interviewed on May 2023) stated, *"For example, if the OPEX goes up by a certain amount, we will still benefit from the increase in the selling price of the house. As long as the increase is still rational."* The revenue will be used to construct another property development in the remaining stations of phase 1 and future projects of phase 2.

A joint development instrument is an instrument that organizations more preferably used because of its flexibility and directness to enter the organization's budget. As PT MITJ (interviewed on May 2023) stated,

"As long as we can cooperate with third parties or the private sector, why not. Because it's more fair because the basis of the business is measurable…We don't rely too much on the APBD because of the long bureaucracy".

PT MRTJ also experienced direct financial returns, where they gained shared profit from the recurrent connection fee of the interconnection bridge (MRTJ, interviewed on May 2023). Another smaller-scale activity from the joint development instrument is leasing the station areas for commercial activities and advertisement, which was conducted by all of the public transport operators. This approach proves to contribute significantly to the organization's income with the example of PT MRTJ, which has successfully acquired 34.93% of the total annual income from non-farebox activity in 2021 (MRTJ, 2021).

APBD

The main contributor to the budget platform of APBD comes from the property tax instrument, where higher taxes from the development of TOD will occur (ATR/BPN, interviewed on May 2023). Another contributing instrument is the development obligation, where the impact fee will be coupled with the development permit in the city-scale area. The allocation for APBD is categorized into four categories of budget spending as regulated in Provincial of Jakarta Regulation 7 of 2022, which are for operation, capital, unexpected spending, and transfer.

Public transport operators will receive a yearly subsidy from the operation option to meet their Public Service Obligation (PSO) to provide reliable and affordable public transportation services (LRTJ, interviewed on May 2023). Subsidy is still the main source of income for all of the public transport operators in Jakarta Province, with the condition in 2021: PT MRTJ reached 60.62%, PT Transjakarta at 90.24%, and PT LRTJ at 89.22%. (MRTJ, 2021; Transjakarta, 2021; LRTJ, 2021).

As for capital spending, the provincial government can spend it on land, building, and public infrastructure. The public transport operators could receive a Government Capital Incentive, or Penyertaan Modal Daerah (PMD), to finance infrastructure development. However, this option is not commonly used as PT MRTJ (interviewed on May 2023) stated,

"Then the next article says that when the infrastructure is funded by the APBD, MRT needs to replace it with the same value. Why bother asking for it from the APBD when you can do it yourself?"

Organizations such as MRT tends to gather funding through creative financings, such as with PPP, rather than expecting complicated process from APBD (MRTJ, interviewed on May 2023).

Another issue when expecting a transfer from APBD is the concern related to the changing political leadership. As PT JAKPRO (interviewed on May 2023) stated, "*If it is related to consistency from the government, it is also a bit difficult because they must have their own political promises as well."* Despite TOD being positioned as a strategic program from both the Spatial and Development planning regime as explained in the regulatory framework, the prioritization for TOD projects will still rely on the interest of the newly elected governor, who may have a different opinion on TOD.

Debt to Provincial Government

The value captured from the density bonus instrument comes as an in-kind payment or as compensation, where it will not enter the APBD but as debt to the provincial government

as regulated in Jakarta Regional Regulation 7 of 2022 about the Management of the Provincial Budget.

In the context of the TOD project, Governor Regulation 31 of 2022 dictates that the compensation from density bonus must be allocated in the same TOD or different TOD area as long it is still with the same TOD Managers. The TOD Manager in the area will determine the type of infrastructure that should be provided based on the Urban Design Guideline (UDGL) (MRTJ, interviewed on May 2023). However, the practice of compensation for the TOD project is still not implemented because there is no derivative regulation on its procedure, and the institution oversees the process (MITJ, interviewed on May 2023).

4.4.2 Adaptation strategy for value funding barriers

The main issue of the current value funding process is that a significant amount of value captured from the TOD area stored in APBD is not guaranteed to be reinvested again for the TOD project. To address the issue of consistent funding for TOD, the National Government is currently drafting the Presidential Decree for the overall process of LVC (Kemenko Perekonomian, interviewed on June 2023). Two possible alternatives to ensure the investment back for the TOD project are hypothecated tax and earmarking mechanisms.

Hypothecated Tax

With hypothecated tax, the revenue generated from the TOD project could be allocated separately from the melting pot mechanism in the first place (ADB, 2019). The funds could be transferred to a specialized institution that will manage the allocation of funds. PT MRTJ (interviewed on June 2023) stated, *"We hope that there is a special agency where there is a value captured by the provincial government in the TOD area, and then the value is devoted to the TOD area."*

DCKTRP (interviewed on May 2023) stated the possibility of creating a special institution in the form of a Local Public Service Agency (BLUD) that will receive a proportion of the value created from the value capture instrument. This entity might even have the authority to spend/allocate the value captured directly without having to send it back first to the melting pot mechanism (Kemenko Perekonomian, interviewed on June 2023). The Ministry of ATR/BPN (interviewed on May 2023) emphasizes that the form of an institution should not be quasi or joint with private because the authority to manage all of the revenue from the public must be under the government

Earmarking Mechanism

The other alternative is to earmark the budget from APBD specifically for TOD projects. Ministry of ATR/BPN (2023) stated the urgency of earmarking for the TOD project,

"Revenue earned by the government from TOD development should be returned to TOD so that it can be implemented. Otherwise, TOD will become a sector that is being squeezed by other sectors, like that. This is what I think can jeopardize the existence of TOD itself".

Kemenko Perekonomian (interviewed on June 2023) stated there is no regulation about the earmarking mechanism since it is impossible to implement it on the national scale because of limitations from certain regulations. However, there is a possibility for an earmarking mechanism on the provincial scale where it can be reinvested for specific sectors (ATR/BPN, interviewed on May 2023).

5 Conclusions and Recommendations

Chapter 5 explains the conclusion of the study findings in accordance with the literature review. It also explains the recommendation for the better use of the Land Value Capture mechanism within the Transit Oriented Development project.

5.1 Conclusion

This study explains the effect of TOD Management on the use of LVC from the perspective of the virtuous value cycle in Jakarta. This study uses a qualitative approach using data from the desk study and stakeholder interviews with a multiple case study between public transport modes in Jakarta. The main conclusion of this study is the Land Value Capture (LVC) mechanism does not virtuously implement because of different management approach of TOD in Jakarta.

The study reveals that the management of TOD has been effectively regulated. However, due to issues of land availability and unclear procedures for the implementation of value capture instruments, the management of TOD is divided into two approaches: property based and whole area development. Because of those two major issues, organizations involved in the management of TOD mainly use joint development instruments/PPP. However, this only benefits organizations with a property base approach. These organizations can benefit from significant revenue generated by selling housing unit profits that can enter their budget directly. Conversely, organizations with a whole area development approach still need to rely on a melting-pot budget platform, which does not guarantee consistent funding for TOD projects.

5.1.1 Regulatory framework of LVC in the TOD project

From the perspective of the virtuous value cycle, the existing regulations already covered the value creation of TOD holistically, while the value capture instrument and value funding mechanism are still partially managed. There are no regulations that holistically regulate the whole LVC process, but it is regulated differently in the existing regulations.

In the value creation aspect, Thomas et al. (2018) emphasize the importance of integrating a government program with higher-level regulations. The concept of TOD is already well integrated nationally as the strategic program in the development and spatial planning regime. At the provincial level, TOD became the main development concept for Jakarta in the next 20 years, which was supported by the regulation of organization governance for TOD. As for the policy consistency with land use and accessibility improvement, the existing regulations already cover the land use management aspect and have addressed the emerging issues of housing provision and push policy to minimize private vehicle traffic (Suzuki et al., 2013; Thomas et al., 2018).

In the value capture aspect, similar to findings from Rosalin et al. (2019), the regulations still do not clearly explain the implementation procedure of the value capture instrument. Several instruments targeted for non-government property, such as development obligation, density bonus, and TDR, are mentioned in the regulations, but the derivative regulations to implement them still do not exist. Other instruments, such as strategic land management, land banking, and PPP, have been regulated and institutionalized.

Regulations for the value funding process, as the last aspect of the virtuous value cycle, still have not been regulated specifically. The existing value funding mechanism still follows the traditional tax framework, where all of the revenue generated by the government will enter the melting pot mechanism of APBD. There is no regulation for the alternative of value funding platform both on the national and provincial scale where it should be available to ensure consistent funding for TOD projects (ADB, 2019).

5.1.2 Management of TOD

TOD in Jakarta has been facilitated by the establishment of public enterprise at both the national (SOE) and provincial (ROE) levels which have a similar approach to the condition in China, according to Wang et al. (2019). However, the establishment of public enterprise does not guarantee the implementation will follow the concept of TOD. According to Tan et al. (2011), stakeholders have different motivations in developing TOD, which in Jakarta is categorized into property based and whole area development approaches. For instance, ROE such as PT MRTJ, PT LRTJ, and PT Transjakarta prioritize increasing public transportation users and enhancing area connectivity. This motivation was also caused by the land availability limitation to develop property on their own. On the other hand, SOEs such as PT ADCP and PT KAI have a property based approach, utilizing their own land attached to stations for developing high-rise housing. These distinct approaches influence organizations' decisions to choose the type of value capture instruments.

Each SOE or ROE has different management capabilities in the implementation of TOD in the aspect of technical, legal, financial, and coordination capacity (Hertogh & Westerveld, 2009). Regarding the technical aspect, this study found that an organization with a subsidiary company to handle TOD has a better technical capacity, such as with the existence of PT ITJ, PT MITJ, and PT ADCP. In the legal aspect, organizations such as PT JAKPRO and PT Transjakarta still face administrative complexity that hinders them from becoming TOD Managers. Financially, all ROEs still depend on government subsidies to finance their operation and capital cost. As for the coordination aspect, the division of responsibility among stakeholders is already clear, and assistance by government agencies in the form of technical guidance and financing already helps the organization.

5.1.3 Use of Value Capture within the TOD Project

The use of value capture instruments in TOD projects still experiences implementation challenges, primarily due to the lack of regulatory clarity and the absence of responsible institutions to manage the instruments. These findings align with Medda's (2012) observations that LVC requires regulatory and institutional adjustments. The recent introduction of Governor Regulation 31 of 2022 on RDTR, which sets a higher maximum allowance of FAR for all cities, has created confusion regarding the implementation of value capture instruments from non-government/organization property, such as development obligation, density bonuses, and TDR instruments. As a result, developers have refrained from using density bonuses and TDR instruments, as the new standard of higher FAR that must be paid with development obligations is already sufficient for them. The drawback of this condition is the loss of TOD Manager influence because with the density bonus instrument, they can determine the kind of compensation in the TOD area that must be provided. The last issue with the new regulation is no derivative regulations to measure the charge amount of obligation/compensation, which hinders its implementation. This uncertainty influences organizations with the whole area development approach since they need the support of value capture instruments from non-government/organization property.

Other value capture instruments, such as strategic land management or land banking, are not working as expected because of the land banking institution's limitation to acquiring land near the TOD area. It also faces property rights issues since property owners can defend their land rights in the court system. Successful land banking is practiced individually by an organization with a property-based approach because the stations are located in underdeveloped areas, such as with the project of LRT Jabodebek.

The remaining instrument left that organizations from both TOD approach used is the joint development/PPP on top of organization property since it is more flexible and adaptable to the organization's needs. It is used to construct public infrastructure, apartments, or

business spaces with different types of PPP agreements. PPP is also used to lease land for development to third parties where revenue is gained from sharing profit mechanism.

5.1.4 The extent of Value Capture reinvested for TOD Project

There are various types of value capture instruments that impact the type of budget platform that can be utilized. However, the current budget platform still relies on the melting pot mechanism with APBD, which is not sustainable in the context of TOD due to uncertain long-term political commitments (ADB, 2019). An alternative approach is using the hypothecated tax mechanism, also known as debt to the provincial government, which is managed separately from APBD and provided in the form of in-kind payments. Unfortunately, with the introduction of higher allowances for FAR in the new regulation, the contribution from the density bonus instrument will be lower. This condition leaves SOE or ROE to rely on their organizational budget platform, which comes from joint development or PPP instruments. However, only organizations with a property-based approach will significantly benefit from this approach because of the contribution from the housing unit sales activity. Organizations with a whole area development approach can only rely on leasing space for commercial activity, advertisement, and connection fees, which is not significant for their organization's budget needs.

ADB (2019) proposed there should be an alternative funding mechanism to ensure consistent funding for TOD projects. There are two possible mechanisms that can be implemented, which are hypothecated tax and earmarking mechanisms. The hypothecated tax mechanism is possible in the study case of Jakarta with the establishment of a Local Public Service Agency (BLUD) under a certain government agency. The current Spatial Planning regulation already mentioned the existence of this institution, and the provincial government of Jakarta is planning to develop it. As for the earmarking mechanism, the provincial government has the authority to allocate a specific budget for certain activities. It requires political will from the Provincial Government of Jakarta to set a priority budget for TOD projects.

5.2 Recommendation

5.2.1 Recommendation of study

Jakarta has the potential to implement the LVC mechanism in the TOD project because it has already been supported by well-established institutions from the National/Regional State Owned Enterprise. The value creation for TOD is also in good condition with the support of regulation from the spatial and development planning regime that answers the rising issues of TOD. However, the value capture and value funding aspect needs further improvement to work out with recommendations as follows:

- Derivative regulations to regulate the amount of development obligation, density bonus and TDR. The regulation for development obligation should charge development in the TOD area in the perspective of rising FAR because there will be lesser interest in using the density bonus mechanism.
- The re-investment for TOD must be supported by special institutions to manage the TOD project's funding allocation. A proportion of the value created from TOD projects in the public property can enter a separate budget platform that will be managed by an institution owned by the provincial government.
- Exploring the possibility of implementing the earmarking mechanism for TOD or sustainable related transportation projects at the provincial level.
- More active roles of strategic land management/land banking practices within the provincial bodies or related organizations for future public transportation plans.

- Better administrative management to support access to become TOD Managers, including the possibility of involving road-based transportation as a potential TOD Manager.
- Improve the communication between regulators and organizations that manages TOD to bridge the knowledge gap about the implementation of TOD, especially the utilization of government asset.

5.2.2 Potential for further study

This study's findings are context specific with a case study in the Province/City of Jakarta. Further study is needed to identify the management aspect and use of LVC in the surrounding city of Jakarta. In the future, there will be more public transportation plans on a metropolitan scale, for example, with MRT phase 3 that will span across the province of West Java and Banten. The other aspect that should be identified further is the developer's willingness to contribute to the value capture instrument of development obligation and density bonus in the TOD area. This perspective is crucial to determine if the government applies the right amount of obligation/compensation that is still interesting for developers but still maintains government interests.

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Appendix 1: Interview Guides

Stakeholders	*Name of the institution*
Date and time	.....
Duration	..... minutes

1. Introduction of interviewer identity
   Interviewer introduces his/her identity to the stakeholders and the institution from which the interviewer came.
2. Introduction of the research objective
   Interviewer explains the objective of the study, which is to explain the effect of TOD Management on the use of LVC mechanisms. The interview structure will be categorized into two main parts: management of TOD and implementation of LVC in the TOD project.
3. Permission to record the interview, use the data for analysis, and use the identity of the organization
   Interviewer asks permission from the stakeholders to record the interview, and if the stakeholders want the interview file, they can have it. Interviewer also asks the respondent permission to use the identity of the institution from the respondents that will be used in the analysis.
4. Ethics of interview
   Interviewer explains that the data will be stored privately and can only be accessed by the interviewer and the supervisor if needed. All of the data will be erased after the research is finished. Stakeholders can get the result of the research after it is finished. Before the interview questions session starts, interviewer asks if the stakeholder is still willing to participate in the interview, knowing all of the conditions.
5. Interview questions

No.	Interview Questions
Management of TOD	
1	How do organizations understand the concept of TOD as the new orientation of Jakarta's urban development?
1.1	How do existing regulations help or hinder the organization in understanding the concept of TOD development?
2	How does the TOD concept align with the organization's vision? (focus on accessibility, property, or citywide development)
2.1	There are differing views on the project-based implementation of TOD limited to specific land attached to the station and the area-based approach. How does the organization respond to this?
3	Has the concept of TOD become normalized and legalized within the organization?
3.1	Does the organization allocate a specific function or a new organizational department to manage the TOD project?
4	How does the organization understand the stages of TOD project implementation?
4.1	What parts of the regulation regarding the TOD implementation process are still unclear?
5	Strong capacity is needed in planning and designing the TOD program. How does an organization assess its readiness to carry out the task?

5.1	Does the organization have the capacity to plan the TOD area? Or are there other collaborations to fulfill these needs?
6	What incentive and disincentive strategies are applied by the organization to realize the implementation of TOD? What barriers are faced?
6.1	Are there any restrictions on the implementation of the TOD program due to certain constraints? (e.g. land acquisition limitations, spatial zoning)
7	Does the organization have a target of increasing the value of the area for TOD development? If yes, have efforts been made to evaluate the value?
7.1	Land price increase is one of the impacts of TOD development. Is there a phenomenon of land price increase in the area around the station? If so, by how many percent and how significant?
8	What is the state of coordination between public transport operators and government agencies for TOD management?
8.1	Is the allocation of roles and responsibilities clear? What gaps still exist?
9	How does the organization adapt to TOD project coordination barriers? (agreements or pacts made)
9.1	What is the role of the provincial government in helping to resolve barriers to TOD implementation? Is there a role for the National government to help implement TOD?
10	How does the organization view the readiness of other institutions or current regulations in supporting the implementation of TOD? Is the current political support, urban development conditions, and investment climate capable of implementing TOD (especially in Jakarta)?
Implementation of LVC in TOD Project	
11	How does the organization determine the target beneficiaries of the TOD/public transport area development?
11.1	Has the organization considered property owners or developers as potential tariffable beneficiaries?
12	How does the organization understand the Land Value Capture mechanism and how it relates to the TOD project?
12.1	How does the organization understand the existing regulations related to the use of Land Value Capture mechanism in TOD projects?
13	There are two types of LVC usage, namely on organizational property or on private property. What is your organization's opinion or experience in implementing some of these LVC mechanisms?
13.1	- (Private) TOD areas, in the vicinity of public transportation nodes are designated as Technical Regulation Zoning (TPZ) bonus zone areas. What is the process of implementing the mechanism and what obstacles are faced? (Density Bonus)
13.2	- (Private) Is the organization involved in ensuring 'development obligations' to ensure obligations are implemented in the TOD area? To what extent have the 'development obligations' been implemented in the TOD project? (Space Utilization Permit procedure), Pergub 112, 2019? (Development Impact Fee)
13.3	- (Own) Does the organization undertake the process of acquiring vacant land to later benefit from leasing the land to private parties? What obstacles were encountered in the process of implementing the strategy (Strategic Land Management)
13.4	- (Own) Experience in making investments/programs in own assets that can increase property value or bring commercial benefits? Is there a PPP scheme in TOD development and what obstacles are faced in implementing it? (Property Development/PPP)

13.5	- (Private) Transfer of Development Right (TDR) can be done in TOD areas. What is the condition of the implementation of this mechanism and what obstacles are faced?
14	The organization derives significant revenue from government subsidies. Is there any urgency for the organization to seek alternative funding, especially for TOD project funding?
14.1	What is the condition of non-farebox revenue? What programs are in place and what are the barriers?
15	Value Funding is a process where the organization manages the profits to be reinvested into the TOD project. In the process, the profit of 'property improvement' in the TOD area is returned to the Provincial Government. How do organizations respond to this mechanism through the APBD?
15.1	There is a concept of a hypothecated tax/earmarking funding mechanism where the revenue from a particular sector is reallocated to that sector. What is the organization's opinion on this? Is it urgent to implement?
15.2	If the profit from the property improvement is designated for the organization's income, will this change the organization's strategy in implementing the TOD program?
16	How does the organization allocate and prioritize programs/activities for TOD development? Is there any assurance or commitment within the organization?
17	What is the state of the organization's expenditure proportion? Which programs are the focus of the organization's budget allocation?
17.1	Is there a budget allocation for TOD program funding? (ex: accessibility improvement, housing provision, public space, commercial area development)
18	Has there been any restructuring of the internal organization/new functions to adapt to the needs of using LVC instruments?
19	How does the organization's current governance support the implementation of LVC instruments?
19.1	Are roles and responsibilities for the use of LVC instruments clear?
20	What are stakeholders' perceptions of political support for using LVC mechanisms? Are there differences in perception?
20.1	Do government agencies encourage the use of LVCs?
20.2	Are there any challenges from public/community perception in the use of LVCs?
21	How did the organization attempt to create a sense of urgency on the importance of using LVCs to finance the TOD project?
22	How does the organization use its position to influence other organizations or government agencies in dealing with barriers to LVC implementation?

Appendix 2: Coding Results from ATLAS TI. 23

Variable	Code	Group	Sub group	Coding	Quotation Example
Management of TOD					
Institutional capacity for TOD management	B.1	Evolving perspective of TOD because of pandemic		B.1_ATR/BPN_(+)_Existing TOD concept already accomodate the need for public space	*"Currently, many are affected by COVID, so when the MRT was first built and then operated, many came to the MRT to show interest in development. But then there is the impact of COVID and the economy, so some may not continue their cooperation." (MRTJ, 2023)*
				B.1_ITJ_(-)_Impact of pandemic to the concept of TOD	
				B.1_ITJ_(-)_Pandemic influence the low interest for property development	
				B.1_ITJ_(+)_Strategy to develop amenities	
				B.1_MRTJ_(-)_Impact of pandemic to interest of third party in TOD project	
		Road based transportation is not acknowledged		B.1_DCKTRP_(-)_Road based transportation is not acknowledged as mode of transport for TOD	*"If for example there can be regulations that do not lock it to be rail-based for example but because TJ can also participate in organizing an area so that TOD can be formed for example, it would be very good so I don't know the background why it has to be rail-based." (Transjakarta, 2023)*
				B.1_Transjakarta_(-)_Different perspective on physical integration between stations	
				B.1_Transjakarta_(-)_Limitation as TOD manager because of minimum land availability	
				B.1_Transjakarta_(-)_Road based transportation is not acknowledged as mode of transport for TOD	
		TOD is an urgent concept		B.1_ATR/BPN_(+)_TOD is an urgent concept to be implementd in cities in Indonesia	*"In terms of urgency, I think this is a very urgent matter because if we talk about public transportation in Jakarta, we have suffered for too long with the current transportation system model." (ATR/BPN, 2023)*
		TOD only implemented in Jakarta		B.1_ATR/BPN_(+)_TOD only happens in Jakarta Metropolitan Area	*"If we look at the trend of TOD, it is actually still limited to the Jabodetabek area, because if we talk about rail-based transportation systems, in Jakarta, at the moment it is only in DKI." (ATR/BPN, 2023)*

Variable	Code	Group	Sub group	Coding	Quotation Example
	B.2	Changing regulations disturb the implementation process		B.2_JAKPRO_(-)_Changing regulations disturb effor to formulate plan	*"So indeed the regulation is still running until now, both in terms of improvement and what has been running" (MRTJ, 2023)*
				B.2_MRTJ_(-)_Changing regulations disturb effor to formulate plan	
				B.2_MRTJ_(-)_Changing regulations impacting the fee calculation in the area	
		Importance to develop UDGL to guide the development		B.2_ADCP_(+)_Implementation is easier because the regulation gives more clear direction	*"What must be done in the first stage is the legal umbrella first, UDGL needs to be pursued first." (ITJ, 2023)* *"So after it is designated as a TOD area, they have to conduct a study, the prospective manager of the area conducts a study. Now this study will later become a proposal. Now this proposal is the vision and mission of what the TOD area will be like." (DCKTRP. 2023)*
				B.2_DCKTRP_(+)_Regulations to develop UDGL in TOD area	
				B.2_DCKTRP_(+)_TOD requires UDGL as the main document to guide the area	
				B.2_ITJ_(+)_Obligation to develop UDGL	
		Lack of technical capacity for TOD implementation		B.2_JAKPRO_(-)_There is still no success story of TOD development in Jakarta as benchmark	*"So maybe there is already support but the discussion about the TOD concept is still quite new here and there are no examples that have actually been built." (JAKPRO, 2023)* *"So even the knowledge of the meaning of TOD itself I think in Transjakarta is still not all know." (Transjakarta, 2023)*
				B.2_Transjakarta_(-)_Knowledge about the process of TOD is limited	
				B.2_MRTJ_(+)_Importance of collaboration and technical capacity	
				B.2_Transjakarta_(-)_Knowledge about the process of TOD is limited	
		Importance of performance zone for TOD implementation		B.2_DCKTRP_(+)_Performance zone keeps updating	*"TOD is in accordance with the scale of services such as cities, subcities and neighborhoods, when it is designated as a TOD area, it will also enter the performance zone because our RDTR is always updated." (DCKTRP, 2023)*
				B.2_DCKTRP_(+)_Performance zone to esnure deliverable of TOD concept	
				B.2_ITJ_(+)_Implementation of TOD into performance based approach	
		Importance of TOD Manager		B.2_ADCP_(+)_Role of TOD Manager is crucial for the implementation	*"MRTJ, he is the master developer if I see it so he is the intermediary but he can cooperate with the agreement ." (ADCP, 2023)*

Variable	Code	Group	Sub group	Coding	Quotation Example
		Needs for collaboration		B.2_ITJ_(+)_Need for collaboration in the TOD implementation	*"In the past, to get incentives and disincentives, the process was relatively fast from planning to trial. Now we have to really connect the dots." (ITJ, 2023)*
		Project is not attractive		B.2_LRTJ_(-)_Line of LRT is to short for potential business partnership	*"And secondly, the LRTJ track is still relatively short, still 5.8 kilometers, so for business, retail, etc., it's not so attractive." (LRTJ, 2023)*
		Difficulty in socializing the project		B.2_MITJ_(-)_Difficulty in socializing the TOD plan to individual propery owner	*"The difficulty is how we socialize to them, if we are going to do planning in the whole area." (MITJ, 2023)*
		TOD is not attractive for surrounding cities of Jakarta		B.2_PMO_(-)_Cities around Jakarta dont have a high attraction for development	*"Capacity means the market potential. If the city is Jakarta, the market is definitely huge." (PMO Jabodetabekpunjur, 2023)*
	B.3	Assign external counsultant to design TOD		B.3_ADCP_(+)_Stakeholders assign external counsultant to design the TOD area	*"So we are always accompanied by consultants, because we can't release a study on our own behalf, because we need expert judgment." (MITIJ, 2023)*
				B.3_JAKPRO_(+)_Stakeholders assign external counsultant to design the TOD area	
				B.3_MITJ_(+)_Stakeholders assign external counsultant to design the TOD area	
		Planning directly from the organization		B.3_JAKPRO_(+)_Managed to develop plan for the area	*"Well, the point is that for TOD management, the authority has not yet been handed over to PT LRT Jakarta. Why? Because for this TOD, it is still in the incubation stage at PT Jakpro." (LRTJ, 2023)*
				B.3_LRTJ_(-)_TOD management is still the authority of JAKPRO	
		Subsidiary company to design		B.3_ITJ_(+)_MRTJ approach to create subsidiary company	*"There must be an extension to carry out the functions of approaching and managing stakeholders. Finally, the function was formed in a subsidiary realm." (ITJ, 2023)*
				B.3 KAI approach to create a subsidiary company	
		No capacity in planning		B.3_Transjakarta_(-)_No capacity in TOD planning	*"When we talk about TJ, we relate it more to fulfilling the needs of operating services first and then the business will follow." (Transjakarta, 2023)*
	B.4	Limitation because of land availability and ownership	Issue of landownership for TOD development	B.4_ADCP_(-)_Issues of land ownership for TOD development	*"In other countries, maybe the TOD concept is applied before any development in the area. For us, it's more like reorganizing the area". (JAKPRO, 2023)*
				B.4_ATR/BPN_(-)_Issues of land ownership for TOD development	
				B.4_DCKTRP_(-)_Issues of land ownership for TOD development	

Variable	Code	Group	Sub group	Coding	Quotation Example
				B.4_MRTJ_(-)_Issues of land ownership for TOD development	
				B.4_PMO_(-)_Issues of land ownership for TOD development	
			Limitation to gain loan from bank	B.4_ADCP_(-)_Issues of land ownership to gain loan from the bank	*"So the bank is a bit difficult if they want to provide funding for the concept of shared ownership." (ADCP, 2023)*
			Different land use conditions	B.4_DCKTRP_(-)_Difference between existing and planned land use	*"For example, if in an area with a lot of housing, for example Fatmawati, the existing building is still residential, while we are planning it to become, for example, a mixed area." (DCKTRP, 2023)*
			Limitation in land availability and funding	B.4_MRTJ_(-)_Limitation of land availability and funding	*"So for area managers the biggest obstacles are land and funds." (MRTJ, 2023)*
		Unclear status of government asset		B.4_LRTJ_(-)_Unclear status of government asset	*"So, we as business actors can also say that we are a bit reluctant why we are chasing non-fareboxes while in the end, we have to send it back to the government." (LRTJ, 2023)*
				B.4_Transjakarta_(-)_Unclear status of government asset	
		Incentive by national government		B.4_ATR/BPN_(+)_Incentive by national government to prolong the right to develop the land	*"One of the incentives that can be provided by the Ministry of ATR BPN, which we have implemented in IKN, is to provide land rights for 90 years at once and this will be quite attractive for TOD managers because this will provide certainty." (ATR/BPN, 2023)*
				B.4_ATR/BPN_(+)_Incentive by national government to provide public infrastructure	
				B.4_ATR/BPN_(+)_Incentive with allowing foreigner to lease apartement	
	B.5	Already did value calculation internally or by involving external consultant		B.5_ADCP_(+)_Calculation of the project value with the involvement of counsultant	*"Well, we also assess it through consultants too, business consultants. We usually use the willingness to pay method. So we surveyed many developers around the area. " (MITJ, 2023)*
				B.5_MITJ_(+)_External consultant to calculate fee for increase FAR	
		No calculation because the project has not been started		B.5_JAKPRO_(-)_Land prices is still no going up because of short route and low ridership	*"Well, it happens that we haven't gone there yet so we just got to the area planning. " (JAKPRO, 2023)*
				B.5_MITJ_(+)_External consultant to calculate fee for increase FAR	

Variable	Code	Group	Sub group	Coding	Quotation Example
		Valuation of project from property prices		B.5_ATR/BPN_(+)_Has been observing increase of sold out property along the public transport	*"Yes, we actually have access. Our friends at the Regional Office of BPN DKI Jakarta actually have a land value zone, the ZNT. The ZNT was made to see where the potentials are. It can be mapped with a survey. " (PMO Jabodetabekpunjur, 2023)*
				B.5_PMO_(+)_Increase of property with ZNT	
	B.6	Investment from government for capital infrastructure		B.6_JAKPRO_(+)_Revenue from government incentive to develop capital infrastructure	*""Then the next article says that when the infrastructure is funded by the APBD, MRT needs to replace it with the same value. Why bother asking for it from the APBD when you can do it yourself?" (MRTJ, 2023)*
				B.6_MRTJ_(-)_Limited possibility to receive capital incentive from provincial government	
		Revenue from renting/leasing asset		B.6_ADCP_(+)_Financing from leasing commercial space	*"There are certain spaces that we use culinary spaces that need to pay rent and then we use the rent for maintenance. That is the independent life of the park." (ITJ, 2023)* *"In some spaces there are areas that we can use for commercial, so why not." (TJ, 2023)*
				B.6_ITJ_(+)_Capital investment from investor and operation from leasing commercial space	
				B.6_JAKPRO_(+)_Revenue from operating commercial building	
				B.6_LRTJ_(+)_Revenue from renting commercial arae inside depo	
				B.6_Transjakarta_(+)_Use of space for commercial activity	
				B.6_LRTJ_(+)_Revenue from advertizing	
		Revenue from property management		B.6_JAKPRO_(+)_Revenue from property management	*"Our income is mostly from property management." (JAKPRO, 2023)*
		Revenue from management of hotel		B.6_ADCP_(+)_Financing with the management of hotel	*"If now 90% of the property sales are from the commercial area, office tower, the rest as the hotel manager of ADHI's hotel. " (ADCP, 2023)*
		Reveneu from training and consultancy		B.6_LRTJ_(+)_Revenue from training and consultancy	*"Training and consultation, so for example for safety training and heavy maintenance training." (LRTJ, 2023)*
		Reveneu from bond issuance		B.6_ADCP_(+)_Financing with bond issuance	*"Because our ADCP is already a public company, we can issue debt securities, for example we issue bonds or other debt instruments." (ADCP, 2023)*

Variable	Code	Group	Sub group	Coding	Quotation Example
	B.7	Development of property (residential or mixed use buildings)		B.7_ADCP_(+)_Company focus to finish the property projects	*"We will develop a mixed-use building on the KAI land which is located next to the new Tanah Abang Station." (MITJ, 2023)*
				B.7_LRTJ_(+)_Plan to develop high rise affordable housing in depo	
				B.7_MITJ_(+)_Plan to develop mix use building on KAI asset	
		Development of public infrastructure (connection or amenities)		B.7_ITJ_(+)_Changes in developer strategy to develop the amenities first	*"Instead of building high-rise buildings on their land, developers are now thinking about how to increase the price of their land first. By creating amenities first. Make food and beverage in the park, make public areas…in the hope that traffic comes first, the price of land rises, investment rises, then they build high-rise buildings." (ITJ, 2023)*
				B.7_LRTJ_(+)_Potential ridership increase for phase 1B	
				B.7_MRTJ_(+)_Focus on providing public infrastructure	
				B.7_Transjakarta_(+)_Program focus on physical integration between station	
				B.7_Transjakarta_(+)_Program focus on revitalization of bus terminal	
				B.7_Transjakarta_(+)_Program focus route integration BRT and feeder	
	B.8	Still managed by parent company but plan to transfer to subsidary		B.8_JAKPRO_(+)_Organization delegate subsidary company for TOD	*"For land development, the responsibility will probably be held by Jakpro's subsidiary. " (JAKPRO, 2023)*
				B.8_LRTJ_(-)_LRTJ needs regulation to back up the decision to expand to TOD project	
		Subsidary company to manage TOD project		B.8_ADCP_(+)_Stakeholder is subsidary company focusing on property development	*"Finally, the function is formed in the realm of subsidiaries, or joint ventures." (ITJ, 2023)* *"MITJ is a combination of KAI and MRT, actually we were formed for two things, two main purposes. The first is for integration, then the second is the development of the TOD area." (MITJ, 2023)*
				B.8_ITJ_(+)_Subsidary company to manage TOD	
				B.8_MITJ_(+)_Joint company between KAI and MRTJ for integration and TOD development	
		No allocation of organization for TOD		B.8_Transjakarta_(-)_No allocation of organization for TOD	*"We don't have any experience at all related to TOD, we don't have the A to Z of it." (Transjakarta, 2023)*
	B.9			B.9_JAKPRO_(+)_Potential collaboration with PT KAI	*"Division of roles and responsibilities with PT Jakpro. This is based on the Railway Law No 23 of 2007.*

Variable	Code	Group	Sub group	Coding	Quotation Example
		Clear separation of responsibility between operator/manager		B.9_LRTJ_(+)_Responsibility for train and infrastructure operation	*There are 4 functions, namely development, operation, maintenance and business." (LRTJ, 2023)* *"We end up with the same role as the manager of the area or the executor of the area manager and still provide recommendations to landowners who want to develop the area." (MITJ, 2023)*
				B.9_MITJ_(+)_Clear allocation for profit sharing	
				B.9_MITJ_(+)_MRTJ will support techinical capacity for KAI	
				B.9_MITJ_(+)_Responsible in physical integration between stations	
				B.9_MITJ_(+)_Role as TOD manager to give recommendation	
				B.9_PMO_(+)_Involvement of NGO to bridge coordination needs with society	
		Conflict of interest between operator/manager		B.9_ADCP_(-)_Different persepective in profit sharing between organization	*"Like when we wanted to apply to be the manager of TOD for Kampung Rambutan, LRT smelled it, PT MRTJ is also the same. I think the potential is very big and it can be competitive where we should be able to synergize, but each has its own interests. So it's fine. Transjakarta has not dared to go further to discuss with them." (Transjakarta, 2023)*
				B.9_ADCP_(-)_Needs clarity for connection fee	
				B.9_DCKTRP_(-)_Conflict of interest to become TOD Manager	
				B.9_Transjakarta_(-)_Conflict of interest to become TOD Manager	
				B.9_Transjakarta_(-)_Lack of coordination for connectivity integration	
	B.10	Difficulty of coordination with the national government and other cities		B.10_BPTJ_(-)_Lack of capacity by government outside Jakarta to support TOD	*"Sometimes they are not yet responsive in the sense that there is already a plan, for example, for an MRT station or LRT station in their area." (BPTJ, 2023)*
				B.10_MITJ_(-)_Complicated coordination with SOE	
				B.10_Transjakarta_(-)_Difficulty in coordination with government outside Jakarta	
		Government agencies assist TOD implementation according to their authority		B.10_DCKTRP_(+)_Routine coordination with ATR/BPN	*"We continue to coordinate, we also get guidance from the Ministry of ATR/BPN. So that the rules are synchronized with the regulations at the central level." (BPTJ, 2023)*
				B.10_BPTJ_(+)_Responsibility in supporting technical capacity for surrounding city of Jakarta	

Variable	Code	Group	Sub group	Coding	Quotation Example
				B.10_JAKPRO_(+)_Coordination between operators is smooth because of the same status as ROE	*"For us, JIC is actually more about promoting priority projects in DKI Jakarta." (JIC, 2023)* *"Coordination with the Provincial Government is easy, we just go to the relevant agencies, for example, if we want to discuss PRK, we go to the DCKTRP, if we talk about development we will go to the PLH Bureau." (MITJ, 2023)* *"Support from the central government can be in the form of transfer funds, whether tax, if I'm not mistaken the update is something like that." (Kemenko Perekonomian, 2023)*
				B.10_JAKPRO_(+)_Coordination with provincial agencies for activity under their authority	
				B.10_JIC_(+)_Responsibility to promote TOD projets	
				B.10_JIC_(+)_Responsible in diseminating the new regulations to investor	
				B.10_Kemenko Perekonomian_(+)_Incentive for central government to provide incentive	
				B.10_MITJ_(+)_Coordination with provincial agencies for activity under their authority	
				B.10_MRTJ_(+)_Coordination with provincial agencies for activity under their authority	
				B.10_PMO_(-)_The needs for BUMD to be more flexible	
				B.10_Transjakarta_(+)_Coordination with provincial agencies for activity under their authority	
		Government agencies to monitor, evaluate, and direct TOD implementation		B.10_DCKTRP_(+)_Monitor and assist the progress of TOD implementation	*"The monitoring and evaluation will be in accordance with the schedule that has been made there, how many percent are successful, then what are the obstacles," (DKCTRP, 2023)*
				B.10_JAKPRO_(+)_Direction from Provincial Agency for development of whole area approach	
				B.10_MRTJ_(+)_TOD Manager gives recommendation with the supervision of agency	
	B.11	Involvement of government agency		B.11_BPTJ_(+)_Coordinate city government to support TOD project	*"Monitoring is actually quite helpful to maintain the rhythm, you could say so, then the agencies, especially the Cipta Karya agency, are also quite*
				B.11_JAKPRO_(+)_Provincial agencies help the coordination between ROEs	

Variable	Code	Group	Sub group	Coding	Quotation Example
				B.11_MRTJ_(+)_Small forum to support case by case implementation	*active, maybe because one of the programs in them is quite active for socialization." (JAKPRO, 2023)*
		Agreements with other organization		B.11_ADCP_(+)_Adaptation with agreements between organization	*"So we pay compensation in stages for the lease, and the payment depends on what kind of agreement ADCP and KAI have." (ADCP, 2023)*
		Invlovement of experts		B.11_ADCP_(+)_Adaptation with the involvement of expert	*"There we have hired them (PWC) to work together later," (ADCP, 2023)*
		New regulation		B.11_DCKTRP_(+)_Set a new regulation (indicator to become TOD Manager)	*"That's why after that in the TOD Governor Regulation, we finally decided that the managers of the area are rail-based mass public transportation operators." (DCKTRP, 2023)*
		Public consoultation		B.11_MITJ_(+)_Involvement of property owner through public consultation	*" So later we will create a planning document, called the Urban Design Guide or UDGL. In developing the document, we are obliged to invite stakeholders in the area." (MITJ, 2023)*
Stakeholders' motivation and perspective for TOD Management	C.1	TOD as a whole area development approach		C.1_ATR/BPN_(+)_TOD needs a whole area approach	*"We never thought of TOD as residential attached to rail-based transportation stations. That's it. We are not like that because we think that TOD should be developed as a mixed-use that accommodates residential, commercial, and business for offices and so on. Because only then can we suppress movement". (ATR/BPN/BPN, 2023)* *"TOD cannot be separated from the development of the surrounding area. To create an ideal TOD, there are many aspects that must be fulfilled. So it's not just the development of spots". (DCKTRP, 2023)* *"TOD is an area that integrates a variety of activities or mixed uses in the development area, within a radius that can be walked by people once they leave the mass public transportation facility.". (ITJ, 2023)*
				C.1_DCKTRP_(+)_TOD must be developed with whole area approach	
				C.1_DCKTRP_TOD as the new vision of city development	
				C.1_ITJ_(+)_Mix used and increase accessibility in TOD	
				C.1_ITJ_(+)_Motivation to increase the livelihood by better public facilities	
				C.1_JAKPRO_(-)_TOD as a node developent is not elevating cities quality	
				C.1_JAKPRO_(+)_Has a background in property but follow the whole area approach	
				C.1_JAKPRO_(+)_TOD as a whole area approach	
				C.1_MITJ_(+)_Property as one of the generator for value increase	
				C.1_MITJ_(+)_TOD as a whole area approach	

Variable	Code	Group	Sub group	Coding	Quotation Example
				C.1_MRTJ_(+)_TOD as a whole area approach	
		TOD to meet the objective of property development		C.1_ADCP_(+)_Main motivation to develop TOD as property development project	*"One of the things that can strengthen ADCP's sales is the selling point of TOD compared to several other projects that are struggling to sell their units. So we were helped by that during the pandemic, even though we were hit by a pandemic that lasted up to 3 years, our marketing sales were able to go up" (ADCP, 2023)*
		TOD to increase the service of public transportation		C.1_DCKTRP_(+)_TOD to increase the use of public transportation	*"Then the next urgency is that we know that the level of congestion in DKI Jakarta is quite high. This means ... how to reduce the use of private vehicles so that people can use public transportation." (DCKTRP, 2023)* *"We focus on the operation service, back again we are working on the route, then the bus, the reliability of the bus." (Transjakarta, 2023)*
				C.1_Transjakarta_(-)_Priority on improving the bus stop facility	
				C.1_Transjakarta_(-)_Priority on improving the operation of the bus	
				C.1_Transjakarta_(+)_Motivation to meet the demand for bus infrastructure	
		Localize TOD Context		C.1_BPTJ_(+)_TOD can be developed with property approach as stage	*"TOD can actually be adapted to the characteristics of each country itself. The TOD from Japan, or TOD in America, TOD in Thailand cannot be fully applied to TOD in Indonesia." (BPTJ, 2023)*
				C.1_BPTJ_(+)_TOD needs a localixe context for the suitable approach	
		TOD to reduce dependency from government subsidy		C.1_Transjakarta_(+)_Motivation for TOD because decreasing subsidy from government	*"Because the Provincial Government will start to reduce subsidies to BUMD." (Transjakarta, 2023)*
	C.2	Adequate regulation to guide stakeholders		C.2_DCKTRP_(+)_Adequate regulations but operator has limited authority	*"They don't have strong authority in the management, because I said earlier that the land they control is quite small, or you could say it doesn't even exist. This means that their power to develop it, in my opinion, has not been maximized." (DCKTRP, 2023)*
				C.2_MITJ_(+)_Legal instrument to support TOD is sufficient	
		Need support for coordination		C.2_ADCP_(+)_TOD Manager is needed to support better coordination	*"because if we rely on each other, without coordination it is also difficult." (ADCP, 2023)*

Variable	Code	Group	Sub group	Coding	Quotation Example
LVC implementation in TOD projects					
Institutional capacity in the use of LVC mechanism for TOD project	B.12	Increasing number of people in the area		B.12_ITJ_(+)_Interconnection gives benefit for increasing number of pedestrian	*"The approach is more to shifting public transportation because MRT is a mass public transportation infrastructure. The value is still seen from the increase in activities that can occur due to more people coming to an area.' (MRTJ, 2023)*
				B.12_MITJ_(+)_Increasing number of people coming to TOD area	
				B.12_MRTJ_(+)_Increasing number of people coming to TOD area	
				B.12_MRTJ_(+)_Increasing number of people to the commercial area	
		Public benefit to government		B.12_ADCP_(+)_Benefit to give public infrastructure to the government	*"In terms of land value capture, from the government's point of view, they see it as more, how do you give this area, which previously may not have had infrastructure." (ADCP, 2023)*
		Potential benefit from property owner		B.12_JAKPRO_(+)_Property owner as the potential beneficiary of the project	*"Well automatically the property owner around there must get the potential that is there." (JAKPRO, 2023)*
	B.13	Existence of regulation for LVC instrument		B.13_JIC_(-)_There is still no regulation for LVC	*"The implementation needs to be further defined. Because what is in the current regulation is still general, not technical guidelines. So when implementing it, there still needs to be regulations that support it again to really be implemented in the field." (MRTJ, 2023)*
				B.13_MRTJ_(+)_Need more detail regulations regarding the LVC procedure	
		LVC instrument needs national government support		B.13_JAKPRO_(+)_LVC instrument is still in formulation by central government	*"For the Provincial Government, there is usually a reference first. So maybe from the central level first that is clear, then later we Pemprov may adopt what is at the central level." (JIC, 2023)*
				B.13_JIC_(+)_LVC instrument is still in formulation by central government	
		Understand LVC as the planning instrument		B.13_ADCP_(+)_Comperhension on possibility to gain more FAR	*"The benefits must be felt, it's just that maybe it's not defined that it's one of the outputs of the land value capture." (ADCP, 2023)*
				B.13_ADCP_(+)_RDTR to gives information about more density	
				B.13_ADCP_(+)_Stakeholder already understand indirectly the concept of LVC	
		Urgency of LVC in Indonesia		B.13_Kemenko Perekonomian_(+)_Multiple benefit of applying LVC for TOD project	*"That is actually what we want to convert how much value we can achieve by building a TOD, but also on the one hand we want to shift the behavior patterns*
				B.13_Kemenko Perekonomian_(+)_Urgency for LVC in Indonesia	

Variable	Code	Group	Sub group	Coding	Quotation Example
				B.13_Kemenko Perekonomian_(+)_Urgency to gain value from developers	*of our society to start using public transport." (Kemenko Perekonomian, 2023)*
	B.14	Different coordination in metropolitan scale		B.14_ITJ_(-)_Different stakholders coordination in metropolitan scale	*"The rules of the game are different because the stakeholders are provincially different, West Java, DKI Jakarta and Banten. The pattern towards investment and how we maintain the value that increases in each region will be different." (ITJ, 2023)*
		Share of revenue for interconnection facility		B.14_ITJ_(+)_Revenue from interconnection facility is shared between investors	*"The commercial profit will go to the KSO first, then the KSO has the responsibility to pay the concession fee to the concession owner." (ITJ, 2023)*
	B.15	Funding from increase property prices		B.15_ADCP_(+)_Higher return increase collection of property tax by government	*"Because yes, back again, related to the selling point, the access is easier, more comfortable, everywhere the shifting is okay. So even if we sell it high, it's still more attractive. Yes, for developers, that's the most important thing." (ADCP, 2023)*
				B.15_ADCP_(+)_Higher return of selling apartment units from better accessibility	
		Funding from the connecting fee to stations		B.15_ADCP_(+)_Increase fee collection from connecting fee to station	*"So when there is an interconnection facility, there is a fee that needs to be paid by the owner of the connected building. It is used for maintenance and also to increase security. So it's for both parties actually, MRT is helped for ridership, and visitors to the shopping center also go up." (ITJ, 2023)*
				B.15_ITJ_(+)_The fee from connection to station used to fund the operation	
				B.15_MRTJ_(+)_MRTJ set fee for density bonus for each area	
		Funding from development impact fee		B.15_DCKTRP_(+)_Government receive funding from the development impact fee	*"Later, each development will be charged a tariff. How many office floors, how many trading floors, then for example apartments." (DCKTRP, 2023)*
		Funding in form of infrastructure provision		B.15_MITJ_(+)_Organization receive funding in the form of infrastructure provision	*"The rest of the obligations arising from the development will be given back to the area, improving public infrastructure." (MITJ, 2023)*
		Funding from increased ridership		B.15_MITJ_(+)_Organization receives funding from the increased ridership of public transportation	*"We are responding to the issue of land value capture, actually it is as simple as what will be developed there should return to the area, so with the station, automatically, the land value increases." (MITJ, 2023)*
		Funding from renting the public space		B.15_MRTJ_(+)_Organization receive funding from renting the public space	*"With the TOD area, there is an opportunity to find new NFB because the infrastructure built in the TOD*

Variable	Code	Group	Sub group	Coding	Quotation Example
					area on public land can be managed so that the commercial value income is higher." (MRTJ, 2023)
Stakeholders perspective in the use of different Value Capture mechanism	C.3	Density bonus	Density bonus is not useful because of increased FAR	C.3_ADCP_(+)_Increase density favor the developer	*"The question now is whether it really needs to be that high? For developers to develop their land. Maybe for them, why would I build so high up to the bonus. If for example the basic KLB is enough for me". (MITJ, 2023)*
				C.3_DCKTRP_(-)_Increase density favor the developer	
				C.3_ITJ_(-)_Density bonus is not that useful because of increase based FAR	
				C.3_ITJ_(-)_Increase density distrupt the potential to gain revenue	
				C.3_JAKPRO_(-)_Area around LRT Jakarta is still underdevelop for the use of increase FAR	
				C.3_JAKPRO_(-)_Increase density distrupt the potential to gain revenue	
				C.3_JAKPRO_(-)_Increase density favor the developer	
				C.3_MITJ_(-)_Density bonus is not that useful because of increase based FAR	
				C.3_MRTJ_(-)_Increase density disrupt the potential to gain revenue	
			Density bonus in form of public infrastructure	C.3_DCKTRP_(+)_Density bonus in form of public infrastructure	*"The number, then it will be converted into an increase in infrastructure development in the area." (DCKTRP, 2023)*
			Increase density might be more effective	C.3_PMO_(+)_Increase density might be more effective than fee	*"So we have to look at it from the spatial side, where is the potential that can be incentivized and where it is time to give a fee?" (PMO Jabodetabekpunjur, 2023)*
			Concern for the formm of compensation	C.3_MRTJ_(-)_Concern of compensation in the form of payment	*"So the government is somewhat hesitant if the value is held by a particular body" (MRTJ, 2023)*
		Development impact fee	Increase density to improve the value of the area	C.3_ADCP_(+)_Development impact fee is not burdensome	*"If we talk about the concept of land value capture or property value capture from the policy aspect, to be honest, we in the central government are actually behind Jakarta." (ATR/BPN, 2023)*
				C.3_ATR/BPN_(+)_Development impact fee is developed more advance in provincial level	

Variable	Code	Group	Sub group	Coding	Quotation Example
				C.3_DCKTRP_(+)_Increase density and change of land use for TOD area	
				C.3_DCKTRP_(+)_Increase FAR to increase the value of the area	
				C.3_JIC_(+)_Increase density favor the developer	
			Development impact fee needs derivative regulation	C.3_DCKTRP_(+)_Urgency to develop new calculation for the development impact fee	*"Well actually with the RDTR changes, there should be other derivative regulations. For example, regulations related to development rates or development obligations, must exist to complement this RDTR." (MRTJ, 2023)* *"So when there are obligations that must be built based on development charges, there is no provision for the amount. So now it is casuistic, because there is no standard. It's also difficult for us to answer now." (ITJ, 2023)*
				C.3_ITJ_(+)_Organization determine the fee for FAR increase but unused now	
				C.3_JIC_(+)_Development impcat fee is still in formulation	
				C.3_JIC_(+)_Impact fee is regulated in the new mechanism of PBG	
				C.3_MITJ_(-)_There is no derivative regulation to determine the impact fee	
				C.4_ITJ_(-)_Conflicitng opinion on increase density	
				C.4_ITJ_(-)_There is no derivative regulation to determine the impact fee	
			Gives opportunity beyond conventional method	C.3_ATR/BPN_(+)_Value capture gives opportunity to expand beyond the conventional method	*"As far as I am concerned, what DKI has done is very, very effective. Because he can get a value that is much greater than the conventional value" (ATR/BPN, 2023)*
			Instrument is still lacking	C.3_PMO_(-)_Development impact fee awareness is still lacking and too late	*"That's why too many entrepreneurs are too comfortable. They have externalities, but they don't have any burden, no obligation to provide that." (PMO Jabodetabekpunjur, 2023)*
			Misperception of increasing FAR	C.3_MITJ_(-)_Misperception of increasing FAR for free by the developer	*"The developers think that now their FAR has automatically increased and it is free while in fact, it is not like that." (MITJ, 2023)*
		Land banking	Land banking limitation to acquiring land	C.3_ATR/BPN_(-)_Land banking capital limitation to acquire land	*"Now, unfortunately for this year, the Land Bank does not own the lands that are strategically located in the TOD" (ATR/BPN, 2023)*
				C.3_ATR/BPN_(-)_Land banking has limitation to acquire land in strategic area	

Variable	Code	Group	Sub group	Coding	Quotation Example
				C.3_ATR/BPN_(+)_Land banking has been regulated by central government	*"In urban areas it is very different actually and I see that our land bank does not yet have the skills to manage those in urban areas." (PMO Jabodetabekpunjur, 2023)*
				C.3_PMO_(-)_Land banking has limitation to acquire land in strategic area	
			Land banking strategy is not used because of land availability limitation	C.3_DCKTRP_(+)_No land banking practice for TOD project	*"Because we don't own the land, what we can do is approach the landowner around the depot." (MRTJ, 2023)* *"For us, no land banking so far." (JAKPRO, 2023)* *"The KAI land has also existed since the Dutch era. So now we focus on building on undeveloped lands." (MITJ, 2023)*
				C.3_DCKTRP_(+)_There is already land banking practices	
				C.3_ITJ_(-)_Land Banking is not possible because of land availability limitation	
				C.3_JAKPRO_(-)_No land banking strategy	
				C.3_MITJ_(+)_Limited area for land banking near KAI stations	
				C.3_MRTJ_(-)_Land Banking is not possible because of land availability limitation	
			Land banking strategy is used before the construction of public transportation	C.3_ADCP_(+)_Land banking approach before the construction of the public transportation	"Because we are a subsidiary of ADHI Karya, we arguably get more accurate information and are the first to be informed." (ADCP, 2023)
				C.3_ADCP_(+)_Land banking approach with upfront information from the organization	
			Objectives of land banking	C.3_ATR/BPN_(+)_Three main objectives of land banking (strategic project, land redistribution, commercial)	*"The first is for the construction of strategic projects or government projects. That is, building offices or whatever. The second is for land redistribution, which is to fulfill to be given to groups of people who do not yet own land. So this is land redistribution. That's the second one. The third one is pure commercial" (ATR/BPN, 2023)*
			Not suitable with organization value	C.3_ITJ_(-)_Land banking is not suitable with MRTJ values	*"From the MRT side, we avoid any kind of speculated buying from both private parties and the MRT itself." (ITJ, 2023)*
			Land banking benefit	C.3_Kemenko Perekonomian_(+)_Land Banking benefit to limit land price increase	"Land banking is actually the goal in that direction, in my opinion to anticipate land prices to be expensive" (Kemenko Perekonomian, 2023)

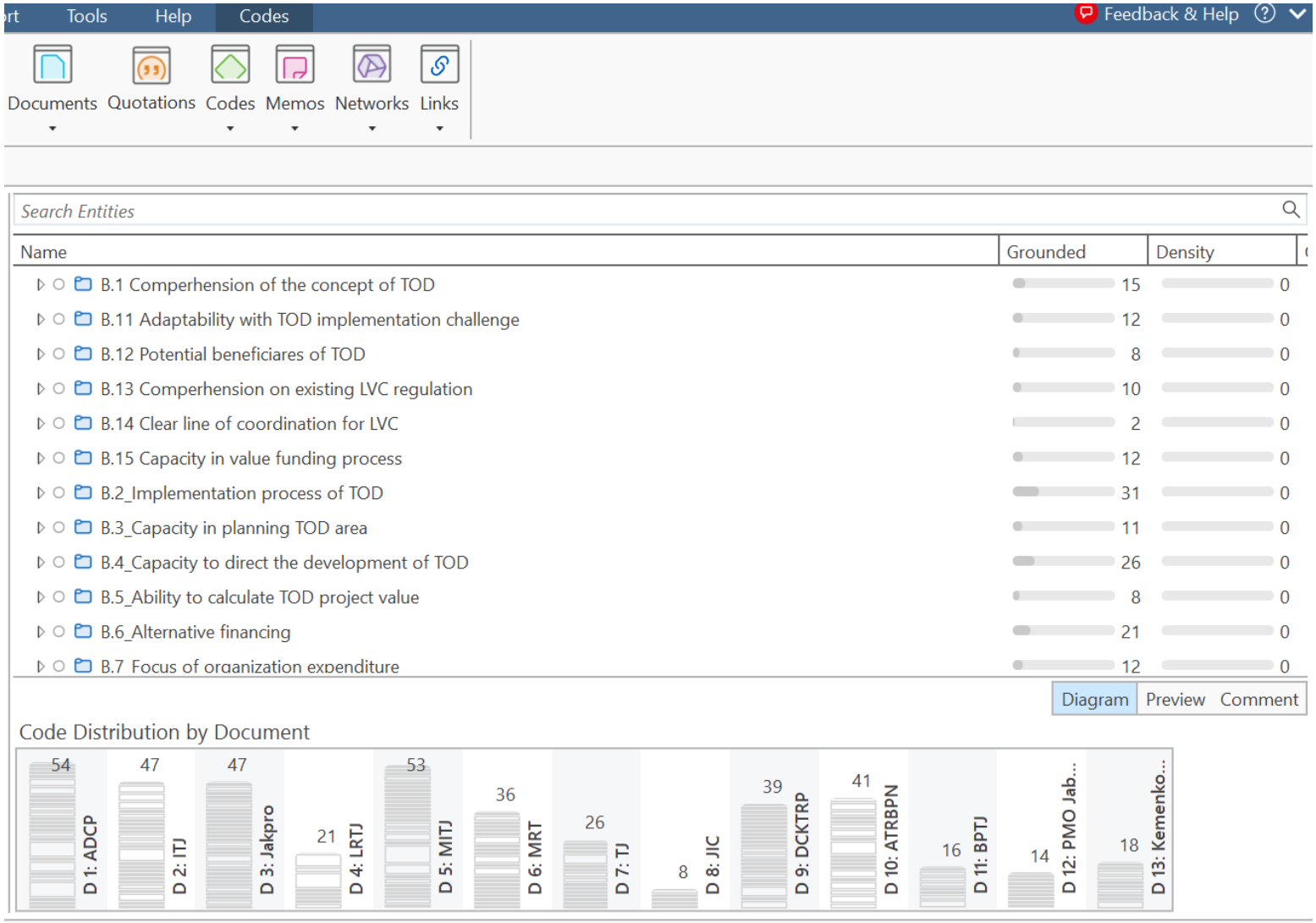
Variable	Code	Group	Sub group	Coding	Quotation Example
			PPP as the main organization strategy to deliver TOD project	C.3_ADCP_(+)_Joint development between organizations with join capital, construction, and operation	*"Then we will invite other financing parties to come in and there will also be rights to joint operation of the area which will be broken down both for the shareholders in the PPP." (ITJ, 2023)* *"So we develop the land together, work together for 30 years, then it can be land lease or profit sharing, or revenue sharing, all kinds of things." (MITJ, 2023)*
				C.3_ITJ_(-)_PPP for connection to station	
				C.3_JAKPRO_(+)_PPP is the most sutaible strategy	
				C.3_MITJ_(+)_PPP as main strategy with full investment from developers	
				C.3_MITJ_(+)_PPP with different partnership scheme	
				C.3_MRTJ_(+)_Funding for connection building fully comes from developer	
				C.3_MRTJ_(+)_PPP for bulding connection project	
			PPP is more flexible	C.3_PMO_(+)_PPP is more flexible because it is contextualized	*"As long as we can cooperate with third parties or the private sector, why not. Because it's more fair because the basis of the business is measurable... We don't rely too much on the APBD because of the long bureaucracy". (MITJ, 2023)*
				C.3_MITJ_(+)_PPP is a better option since it is monitored	
		Transfer Development Rights	TDR might be charged with some fee	C.3_DCKTRP_(+)_There will be a fee for TDR but in a small amount	*"Yes, but of course the value will be different from those who apply for a density bonus because the intensity in the area, in the city in the area, will not increase, but certainly on a micro scale it will increase." (DCKTRP, 2023)*
				C.3_MITJ_(+)_TDR is trasnferrable with some fee	
			TDR procedure is still unclear	C.3_ADCP_(+)_TDR only in the inside of the project	*"Because the regulation on TDR is currently being made SOP" (DCKTRP, 2023)* *"So far, there are no operational or technical guidelines. Since 2014 TDR has not been running in Jakarta." (ITJ, 2023)* *"So far, nothing has been submitted to us, and the*
				C.3_ATR/BPN_(-)_TDR has not been regulated by central government	
				C.3_DCKTRP_(-)_TDR procedure is still unclear	
				C.3_ITJ_(-)_TDR procedure is still unclear	
				C.3_JAKPRO_(-)_TDR is not implemented	

Variable	Code	Group	Sub group	Coding	Quotation Example
				C.3_MRTJ_(-)_TDR procedure is still unclear	*technical provisions are still not available." (MRTJ, 2023)*
				C.3_MITJ_(-)_TDR is not that interesting because of already increased FAR	
				C.3_PMO_(-)_Needs for TDR institution	
		Increase FAR creates confusion		C.3_DCKTRP_(+)_Bonuse density follows the decree from RDTR	*"Now maybe if you read the new RDTR, it might be regulated in general. Meanwhile, there are other things that need to be considered locally as well." (MITJ, 2023)*
				C.3_MITJ_(-)_Calculation for increase FAR already regulated for all of the city	
				C.3_MITJ_(-)_Different menthod in calculating the potential FAR increase	
				C.3_MITJ_(+)_Calculation for the potential value of the area	
	C.4	No clear TOD procedure		C.4_JAKPRO_(-)_There is no clear procedure of TOD implementation	*"But if asked what needs to be improved, yes, actually it needs to be improved in the working model of the TOD, how about the legality, with the financing, the implementation of the TOD." (JAKPRO, 2023)*
		Different perspective of LVC		C.4_Kemenko Perekonomian_(-)_Issue of different perspective for the scope of LVC	*"I see that there are still differences in perception. And maybe there is still a lack of understanding." (Kemenko Perekonomian, 2023)*
		Issue of human resources		C.4_Kemenko Perekonomian_(-)_Issue of human resources to implement LVC because there is still no regulation	*"And frankly, the regulation is still in progress, because we don't know how effective this perpres is yet." (Kemenko Perekonomian, 2023)*
Stakeholders perspective in the Value Funding process	C.5	Need for dedicated funding outside the melting pot mechanism		C.5_BPTJ_(-)_Funding for TOD is still not re allocated for public transportation project	*"If it is related to consistency from the government, it is also a bit difficult because they must have their own political promises as well." (JAKPRO, 2023)*
				C.5_JAKPRO_(-)_Concerns for changing leadership in the government	
				C.5_JAKPRO_(-)_Need dedicated funding for TOD projects	
				C.5_PMO_(+)_Earmarking needs support from legislative body	
				C.5_MITJ_(+)_Huge interest to develop TOD from developer	*"So I think development in the TOD area will still be quite interesting for the next few years" (MITJ, 2023)*

Variable	Code	Group	Sub group	Coding	Quotation Example
		Trust in the government for budget allocation of TOD project		C.5_MITJ_(+)_Melting pot mechanism gives flexibility for government during unexpected conditions	
		Increase property tax allign with property sale		C.5_ADCP_(+)_Increasing property tax is still allign with property sale	*"For example, if the opex goes up by a certain amount, we will still benefit from the increase in the selling price of the house. As long as the increase is still rational." (ADCP, 2023)*
		Difficulty in calculaiton methodology		C.5_BPTJ_(-)_Difficulty in calculation methodology	*"We still have limited resources to try to make the right calculation concept or formulation." (BPTJ, 2023)*
		Earmarking only possible in provincial level		C.5_Kemenko Perekonomian_(-)_Earmarking is only possible in the provincial level	*"The earmarking mechanism at the central level is not possible, because there are already constraints in the law or something. But at the provincial level it is still possible." (Kemenko Perekonomian, 2023)*
Stakeholders adaptation strategy	C.6	Effort to secure funding for TOD projects		C.6_BPTJ_(+)_Needs to secure funding for TOD project	*"Indeed, the concept made by DKI does not guarantee that later the value of benefits from the development of the area will be reused for the development of the next area." (BPTJ, 2023)*
				C.6_JAKPRO_(+)_Establishment of strategic program for TOD	
				C.6_Kemenko Perekonomian_(+)_National government wants to create overarching regulation for LVC	
				C.6_MRTJ_(+)_Effort to create LVC regulation from the Ministry of Finance	
		Earmarking		C.5_ATR/BPN_(+)_Earmarking is possible in provincial level	*"Revenue earned by the government from TOD development should be returned to TOD so that it can be implemented. Otherwise, TOD will become a sector that is being squeezed by other sectors, like that. This is what I think can jeopardize the existence of TOD itself". (ATR/BPN, 2023)*
				C.5_ATR/BPN_(+)_TOD urgently needs earmarking mechanism	
				C.5_DCKTRP_(-)_Earmarking mechanism is not regulated in from the national government	
		More authority for TOD Manager		C.6_MRTJ_(+)_More authority for TOD managers to capture the value created	*"Area managers should have stronger authority to capture the value generated both in terms of regulation and authority." (MRTJ, 2023)*
				C.6_MRTJ_(+)_MRTJ readiness to manage the allocation of value funding	
			Institution is not established	C.5_MRTJ(-)_Institution to gather transfer density is not established yet	*"However, those who hold value are still at the provincial level, there needs to be a special*

Variable	Code	Group	Sub group	Coding	Quotation Example
					institution that can accommodate this and does not currently exist." (MRTJ, 2023)
		New institution to manage the LVC mechanism	Creation of a new institution for funding management	C.6_DCKTRP_(+)_Possibility of creating new institution to manage development fee	*"We hope that there is a special agency where there is a value captured by the provincial government in the TOD area, and then the value is devoted to the TOD area." (MRTJ, 2023)*
				C.6_ITJ_(+)_Creation of Dedicated Institution for Development Funding	
				C.6_MRTJ_(+)_Needs of a new institution to manage the allocation of value collected	
				C.6_PMO_(+)_New institution to allocate funding of development	
			Extent of role for the new institution	C.6_ATR/BPN_(-)_Dedicated institution authority only to give recommendation of priority program	*"Where one institution can get profit which can then be used again to spend on things related to that activity. Without having to send it to the state first." (ATR/BPN, 2023)*
				C.6_Kemenko Perekonomian_(+)_BLUD as a form of more flexible financing	
	C.7 & C8	Needs for coordination between government agencies		C.8_ITJ_(-)_Coordination between government and operators for LVC instrument	*"Indeed, they had mentioned that there would be several governor regulations derived from the 2022 RDTR." (ITJ, 2023)*
		Needs for better definition of value capture		C.8_Kemenko Perekonomian_(+)_Needs for better definition for government scope of value capture	*"We need to understand the strategies that we can apply for this value capture. In addition to institutional and organizational issues, as well as the scope of the project intervention" (Kemenko Perekonomian, 2023)*

Source: Authors, 2023



Source: Authors, 2023

Appendix 3: Research Time Schedule

Task	Start	End	April				May				June				July	
			Week 1	Week 2	Week 3	Week 4	Week 1	Week 2	Week 3	Week 4	Week 1	**Week 2**	Week 3	Week 4	Week 1	Week 2
Phase 1 Introduction																
Research background	3/4/2023	9/4/2023														
Problem statement																
Research objective and research question																
Significance or relevance																
Phase 2 Literature Review																
Academic review	10/4/2023	16/4/2023														
Theoritical model																
Phase 3 Research design, method																
Research type and strategy	17/4/2023	23/4/2023														
Data collection and analysis method																
Challenge and limitation																
Validity and reliability																
Operationalization																
Phase 4 Results, analysis and discussion																
Desk research	24/4/2023	7/5/2023														
Develop interview questions																
Find interviewee and create letter for interviews	1/5/2023	7/5/2023														
Conduct interviews	8/5/2023	4/6/2023														
Transcribe interview																
Analyze the results of the interview	29/5/2023	18/5/2023														
Write coherently																
Phase 5 Conclusion																
Conclusion	19/6/2023	25/6/2023														
Limitation and suggestion																
Policy recommendation																
Phase 6 Finalisation																
Summary	26/6/2023	02/07/2023														
References, acnowledgement																
Annex																
Layouting	03/07/2023	12/07/2023														

Week 2 June (16/06/2023): 1st submission draft thesis | Week 2 July (13/07/2023): 1st submission final thesis

Appendix 4: IHS copyright form

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3. The thesis is edited for English.

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