

## **Land Governance for Transit Oriented Development in Densely Built Urban Area (Case Study: Jakarta, Indonesia)**

Puspita DIRGAHAYANI<sup>a</sup>, Ibnu SYABRI<sup>b</sup>, Nurrohman Putro WALUYO<sup>c</sup>

<sup>a,b,c</sup> *Regional and City Planning, Institute of Technology Bandung, Bandung, 40132, Indonesia*

<sup>a</sup> *E-mail: [puspita.dirgahayani@gmail.com](mailto:puspita.dirgahayani@gmail.com)*

<sup>b</sup> *E-mail: [syabri@gmail.com](mailto:syabri@gmail.com)*

<sup>c</sup> *E-mail: [nurrahman\\_putro@gmail.com](mailto:nurrahman_putro@gmail.com)*

**Abstract:** More cities in the world are on the move in revitalizing the role of their public transportation system to curb the negative impacts of motorization. Transit-Oriented Development (TOD) becomes one of the means to make public transportation functioning more effectively in shifting trips from private modes. However, there are many challenges in implementing TOD. One of them is land governance, particularly in the case where urban areas have been densely built and land ownerships are privately scattered. This study attempts to explore the perceptions and the roles of stakeholders in Jakarta regarding the implementation of TOD and land governance issues for TOD. It aims to propose a preposition of TOD implementation stages and its institutional framework. This study applies qualitative approach based on in-depth interviews with stakeholders. The analytic methods include stakeholder analysis, content analysis, and Dynamic Actor Network Analysis (DANA). Finally, this paper is concluded with identifying key stakeholders and issues in governing land for implementing TOD.

*Keywords:* Transit-Oriented Development, Transit Governance, Land Management; Institutional Framework, Sustainable Mobility

### **1. INTRODUCTION**

As Jakarta, Indonesia, and other large cities worldwide are experiencing growing interest in revitalizing the role of their urban transit system, particularly rail transit system, it encourages the implementation of transit-oriented development or, hereafter, TOD, to improve accessibility of transit as well as a means to reshape land use and urban form towards sustainable urban growth. TOD here refers to higher density development and infrastructure investments that support a mix of housing choices, employment opportunities, and amenities within walking distance of transit stations (Hickey, 2013). It is a means to curb the use of motorized vehicles and promote the shift to public transportation.

In order to reshape a built up area into a TOD area, an area covering 200 to 800 meter radius from a transit station core must be redeveloped to meet the abovementioned TOD principles. In many cases, mixed land uses with high density have existed. However, the orientation of development may not be directed to provide sufficient connectivity to transit station. In Jakarta, for instance, mix land uses can be found around almost all train stations, yet the existence of train station seems to be enclave from the rest of the area, reflected by the lack of amenity and connectivity from the neighborhood to the train station. Such quality of area development makes

train services less attractive than private modes although they live in proximity with train station. Amenity and connectivity become main ingredients in creating a sense of place. Both elements require significant amount of land.

Land management is one of central issues in developing infrastructures in Indonesia. Similar situation is likely to occur in implementing TOD. A clear distinction between United States/Australian cities, most Asian cities more specifically Indonesian's have a very high density of urban population and little road space compared to the whole urban fabric. To redevelop an already dense context requires land governance strategies particularly in gaining acceptance and cooperation from land owners and other stakeholders.

Therefore, the research question is who should be involved and how to create effective land governance for TOD. This paper aims are two-folds. First, it intends to map the perceptions and roles of stakeholders on the implementation of TOD in Jakarta. Second, it proposes stages and institutional framework for TOD implementation, particularly from the perspective of land governance. This paper organization begins with reviewing TOD governance based on international experiences, including in US, Australian, and Asian Cities. Then, it lays out the spectrum of TOD implementation stages as a proposition for Jakarta. In the third section, it explains the methodology used in this study to map the perceptions and roles of stakeholders for the case of Jakarta, followed by results and discussions. Finally, it concludes by synthesizing the key stakeholders and key issues in governing land for implementing TOD.

## **2. REVIEW ON TOD GOVERNANCE**

To implement TOD, creating a supportive institutional framework and government environment is essential (Suzuki *et al.*, 2013). In this section, this paper reviews several experiences that illustrate how TOD is governed and who are involved.

In Portland, as US' unique region for its scale, extent, and sustained commitment to TOD, TOD planning and implementation is being pursued at multiple levels. Within the region, TriMet (a public agency that operates mass transit in Portland Metropolitan Area), Metro (the Regional Government of Portland), and Portland's urban renewal agency the Portland Development Commission (PDC) take center stage in making TOD real (Arrington in Curtis *et al.*, 2009).

- TriMet's involvement in TOD has been an advocate, an educator, a funder and sometimes a direct participant in development, focusing growth net to transit stops. TriMet's route to TOD started through enabling TOD by using transit project funds to pay local governments to complete transit-friendly land use plans around light rail station.
- Metro lead the region's first TOD planning, station area planning for the Eastside in 1980. Today, Metro's TOD Program has evolved into an innovative implementation program dedicated to making TOD. Metro is currently working with 12 to 15 developers doing TOD projects. The TOD Program operates through a series of cooperative agreements between Metro and local jurisdictions, and utilizes development agreements with private developers. Funding for TOD Program is subject to bi-annual funding through the Metropolitan Transportation Improvement Program (MTIP).
- PDC has been actively reshaping the face of Portland decades before TOD came onto the public policy agenda. Founded in 1958, PDC is the full service implementation arm of the City of Portland, with Urban Renewal, Economic

Development and Housing all under one umbrella. PDC has annual budget of US\$250 million of which 70 to 80 percent is from Tax Increment Financing raised in one of PDC's 11 urban renewal districts. It will only invest its funds in exchange for leveraging a substantial public benefit, like TriMet and Metro. Other tools PDC uses are tax abatement programs and developer agreements. Programs like the 10-year TOD tax exemption are very powerful tools because they allow PDC to push a project along with very little investment. Rather than investing money upfront in a project, with tax abatement, PDC is simply foregoing revenue.

In Denver, there are three major public bodies involved in TOD: Denver Regional Transportation District (RTD), the City and County of Denver, and the Denver Regional Council of Governments (DRCOG) (Ratner and Goetz, 2013). Their tasks are as follows:

- RTD's mission is to help facilitate TOD opportunities that increase ridership or enhance transit investments throughout the District through station design and close coordination with local jurisdictions and developers (Ratner and Goetz, 2013).
- The City and County of Denver is playing an essential role in TOD planning by completing "Blueprint Denver" in 2002, a new land use and transportation plan that changed the zoning in transit station areas to allow higher-density and mixed use development. In 2006, an overall TOD Strategic Plan was completed and TOD station typology was developed (Ratner and Goetz, 2013).
- DRCOG has role as a resource for planners, developers, policy-makers and citizens by providing corridor and station area maps, demographic data, and database of real-estate development activity within one-half mile of existing and future transit stations. It maintains an inventory of TOD within walking distance of existing and FasTracks transit stations, using data collected by RTD. The database of 393 developments built since 1997 includes 230 residential developments, comprising 47,000 housing units (Hickey, 2013).

For ensuring an equitable TOD, the concept of Community Land Trust (CLT) has been adopted in US cities (Hickey, 2013). CLT is nonprofit corporation that develop and steward land in perpetuity for community-serving purposes, including affordable housing, civic buildings, and commercial spaces. Under the most common model, a CLT retains ownership of the land and sells the physical structures on the land to individual homeowners, nonprofits, or small business that assume a long-term affordable ground lease (typically 99 years). Such entity has been operating in Denver (Urban Land Conservancy), Atlanta (the Atlanta Land Trust Collaboration), and Twin Cities (the City of Lakes Community Land Trust) as reviewed by Hickey (2013). The CLTs have played central roles in keeping the affordability of housings around train stations, preventing indirect displacement of low- and moderate-income residents, as well as building affordable housings themselves. Their activity is funded either by loans (e.g. from Denver TOD Fund for Denver's case) or by independently raises fund from a variety of sources (e.g. in the case of Atlanta).

However, it faces a handful of challenges as well, including *long-term* affordability, the capacity to build or preserve affordable housing, competence in developing and stewarding affordable condominiums, and lack of people's knowledge about the potential role of CLTs in fostering long-term affordable housing near transit (Hickey, 2013). Besides those, transit system usually passes through a diversity of

neighborhoods. It makes CLTs need to develop the resources and capacity to secure land in various high- and low-cost markets. Furthermore, TOD opportunities are often cross-jurisdictional, while some CLTs are rooted in one city or neighborhood. It increases the complexity of engaging with all stakeholders.

To deal with such complexity, the experiences from Australian Cities (Melbourne, Frankston and Rheinbach (Edghill *et al.* in Curtis, 2009) suggest that the role of local governments to bring about TOD, and to foster with other stakeholders, public and private, is significant. In Melbourne during the mid-2000s, a roundtable of local governments known as the Metropolitan Transport Forum (MTF) assumed a critical role in formulating and building a consensus for sustainable transport policies at the metropolitan level and exercised pressure on the State Government (which acts as the strategic planning authority for the metropolitan area) to take its own transport and land use priorities more seriously. It shows that successful TOD programs need to embrace a series of steps in the policy making process, integrating the broader (state, national or international) policy context with the values, resources and opportunities that exist at the local level.

In Asian context, successful TOD occurred in Tokyo, Japan (Chorus in Curtis *et al.*, 2009 and Hong Kong, China (Cervero, 2008; Loo *et al.*, 2010). Both cities have well-established heavy rail systems, characterized by an extensive network structure and high transit riderships.

In Hong Kong, MTR Corporation (MTRC) has used its ability to purchase the development rights for land around the stations to recoup the cost of investing in rail transit and turn a profit (Cervero, 2008). MTRC operates on commercial principles, financing and operating railway services that are not only self-supporting but also yielding a net return on investment. Such state is quite extraordinary worldwide, making the city is one of the few places in the world, where public transport particularly railway service makes a profit through “Rail + Property” scheme. Hong Kong’s context in terms of land governance may be different from other Asian cities since the land is owned by the government. Herein, MTRC came to an agreement with the government on property development rights for each new rail extension since the beginning (MTRC, 2013). MTRC then prepared master plans for development sites and land premium was negotiated with the Government on a “greenfield basis”<sup>1</sup>, prior to tendering development sites. In 2012, MTRC’s underlying profit contribution comprised of railway operation (24%), station commercial (24%), property rental (22%), and property development (26%). This “Rail + Property” scheme became successful because of its two main elements: people centric and seamless integration which made Hong Kong more vibrant, well connected and livable city.

Similar to Hong Kong, Tokyo is also a railway-oriented city wherein railway stations play a pivotal role in the urban structure (Chorus in Curtis *et al.*, 2009). The station areas have higher densities and are highly multifunctional. In terms of city planning, as other cities in Japan, Tokyo continues to struggle for urban spaces. In the beginning, around 1960s, the city’s development faced fragmented landownership and strict building regulations which made it very difficult for the private sector to redevelop them in an intensive way. In 1970s, the Floor Area Ratio (FAR) regulation was changed and it became a new key tool for the government to encourage a more efficient and safe land use. The new regulation allows for a relaxation of the existing FAR values through FAR bonus, an additional FAR, depending upon the proportion a developer contributes and instruments that allow the FAR to be transferred from one

---

<sup>1</sup> Greenfield basis refers to market value ignoring the presence of the railway.

building to the other (FAR-transfer). Through this flexible approach, the role of the government is to determine the conditions for a certain development while the actual planning is to be done by the private sectors. This still allows the Government to protect the quality of the overall development, while the operators (private sectors) have the flexibility to introduce all necessary innovations in order to improve the amenity of the station areas, encourage higher riderships of railway services, and, of course, gain larger profits from property development around the stations.

### **3. SPECTRUM OF TOD IMPLEMENTATION STAGES: A PROPOSITION FOR JAKARTA**

In Jakarta, according to the Master Plan of Jakarta Metropolitan Area (JMA) Railway System, there are some transit points that will be developed into multimodal integration points as shown in Figure 1. The master plan also designates several zones to be transformed into TOD special zones as shown in Figure 2 (top left side). Among those 13 TOD special zones, a detailed master plan of TOD has been drawn for the case of Manggarai Station, one of large rail stations in south-eastern part of Jakarta (see Figure 2 on the top right side). The area is divided into two subareas covering 700 meter radius from the station which is considered within acceptable walking distance for Jakarta's people. The first subarea covers the first 350 meter radius layer from the station (orange solid line) and considered potential to be developed as mixed-use and high-density area. The second subarea covers the next 350 meter radius layer from the station (yellow dashed line). It is still within walking distance and is potential to be developed providing supporting activities around transit station.

Manggarai Station is a historical building built since colonial era. The building has been appointed as cultural heritage by the Jakarta Provincial Government. In southern part of the station, a repair facility for commuter line and long-haul train, named as Balai Yasa, exists. It functions as living museum as well. Today, Manggarai station is one of the busiest stations in Jakarta. Daily, about 27,000 passengers pass through this station. High intensity of intermodal transfers between Manggarai Station and Manggarai Bus Terminal also occurs.

Accordingly, Manggarai is quite potential for TOD since it is a primary activity center located near to central business districts in Jakarta, namely Sudirman and Kuningan. In northern part of Manggarai area, an old neighborhood is still well conserved with lots of greeneries along the roadsides. Other parts of the area are covered by mixed land uses, including government offices, trade and services, settlements, and other public facilities. Furthermore, there are some land assets owned by PT KAI and the Indonesian Military Force (TNI). This opens a wider opportunity to use the land for TOD. However, many part of the land have been occupied by private individuals for settlements. It grew into dense slums which can be found in the southern part of Manggarai. The accessibility to the station is also challenged by heavy traffic and inconvenient roads with numerous roadside frictions, including on-street parking and vendors.

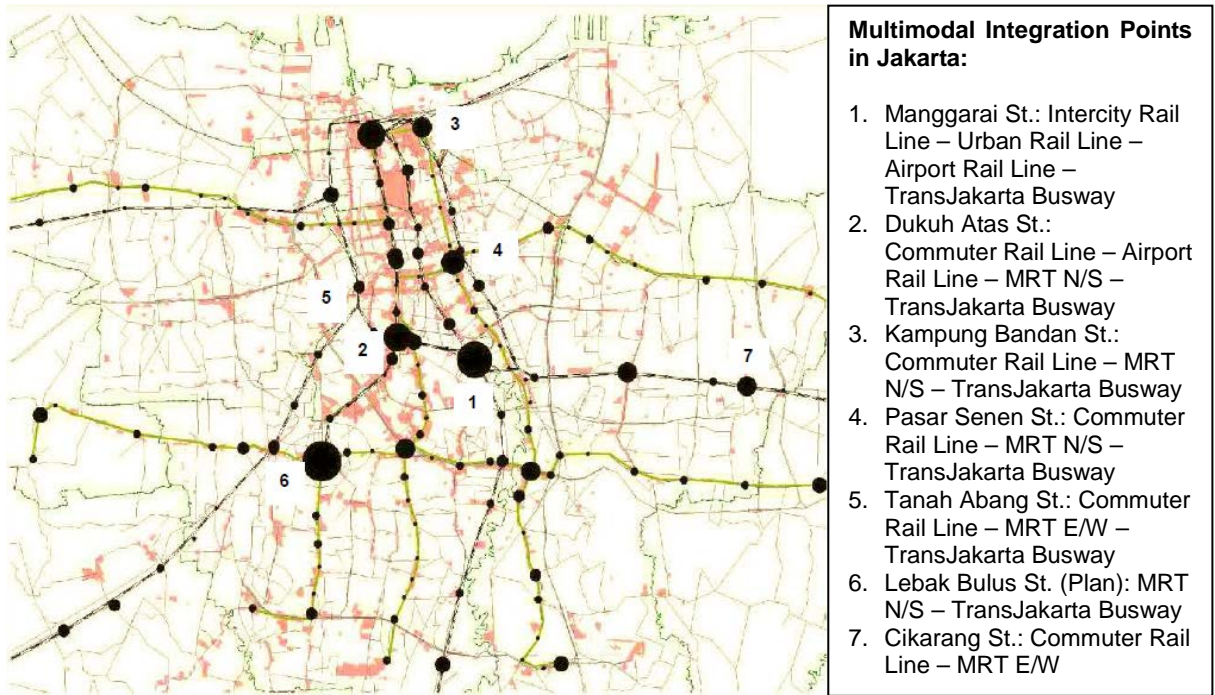


Figure 1. Plan of Multimodal Integration Points in Jakarta  
 Source: Masterplan of JMA Railwat System, 2012

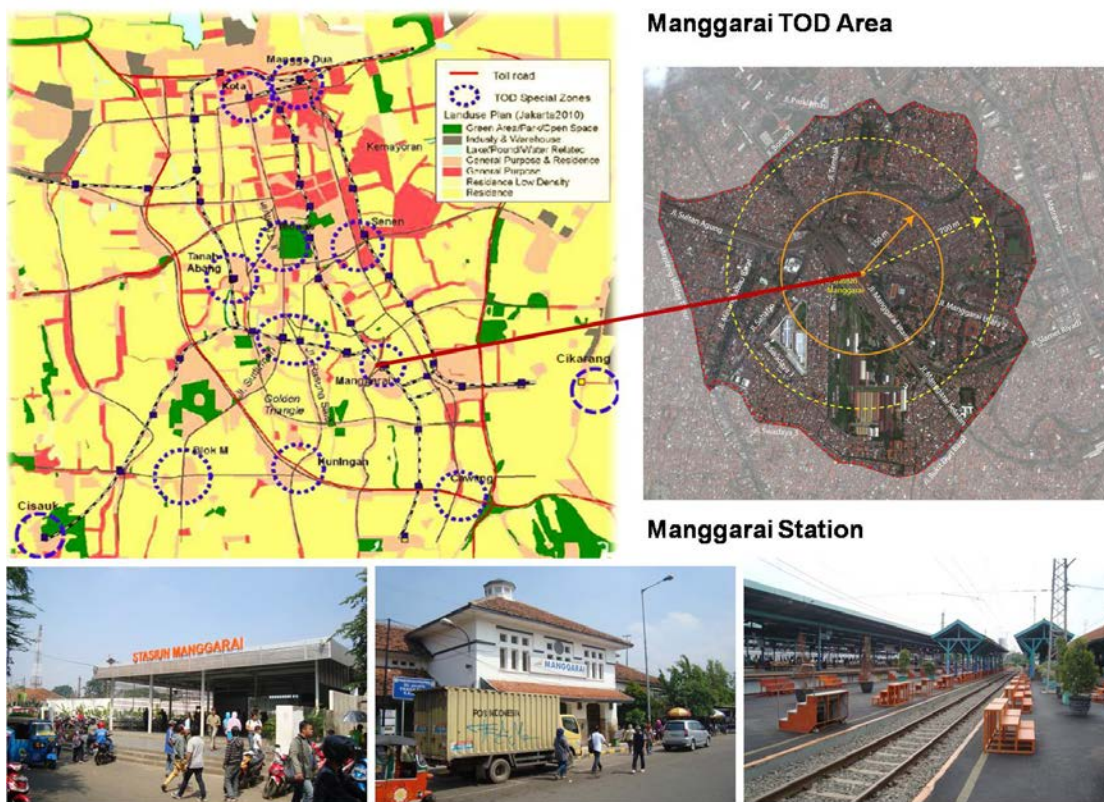


Figure 2. Plan of Integrated TOD Special Zones in Jakarta  
 Source: Masterplan of JMA Railway System, 2012 and Observation, 2013

Considering the aforementioned situations, it can be hypothesized that transforming a station area such as Manggarai into a TOD area in Jakarta is not simple. The land acquisition will be quite problematic considering many stakeholders have vested interests on the area. Therefore, implementing TOD in Jakarta should not be carried out as “a big bang” transformation. It should be laid out in several stages and began with improving the convenience of station infrastructure with certain level of interconnection with its surrounding areas instead of directly leapfrogging to the ultimate concept of TOD as Calthrope (TCRP, 2004) suggested.

Prijanto (2013) shared similar view. By focusing on the future MRT system in Jakarta, he classified the TOD implementation evolution into three level categories. The first category is **seamless mobility**. In this stage, the transit agency improves interconnection from and to the station that can minimize pedestrian/passenger flow interruption from road traffic. Beyond that, the transit agency also delivers innovations to attract larger demand of passengers, for instance by carefully selecting activity nodes within walking distance to be directly connected to the station.

The second level category is **sustainable neighborhood**, which is aimed at producing destination or making a station not only a place of passengers passing through to access or egress but also a place for their activities. Here, extra effort to create, stimulate and promote public realm, public amenities, and commercial amenities are part of making a destination that is well integrated with the main function of a station as transfer facility. The third category is called **optimum growth district** wherein the overall transit area is successfully creating a distinctive and vibrant place. This will leverage ridership potential during off-peak hour more significantly.

Table 1. Staging of Rail-based TOD Implementation in Jakarta

No.	Stage	Facilities
I.	<b>Station as Destination:</b> Rail station revitalization	<ul style="list-style-type: none"> <li>- Parking or park-and-ride spaces (bicycle, motorcycle, and car)</li> <li>- Drop-off/pick-up bays</li> <li>- Pedestrian way</li> <li>- Commercial areas (underground/upperground)</li> </ul>
II.	<b>Sustainable Transit-oriented Neighborhood:</b> integration with activities within walking distance or rail-service catchment area (upto 800 m radius from the rail station)	<ul style="list-style-type: none"> <li>- Neighborhood pedestrian facilities</li> <li>- Neighborhood cycling facilities</li> <li>- Green open spaces</li> <li>- Traffic calming facilities</li> <li>- Commercial centers</li> <li>- Vertical housings for high-, med-, and low-income people</li> </ul>
III.	<b>Seamless Mobility:</b> citywide multimodal transit and land use integration (beyond TOD)	<ul style="list-style-type: none"> <li>- Sustainable transit-oriented neighborhood</li> <li>- Integrated feeder system</li> <li>- Intermodal facility</li> <li>- Pedestrian way from intermodal facility to the station</li> <li>- Cycling facilities at the intermodal facility</li> </ul>

Slightly different from Prijanto’s concept, this paper categorizes TOD based on

the stages of implementation. It consists of three stages of which the higher the stage is, the more complex the implementation will be (see Table 1). The complexity here reflects the number of stakeholders involved and the scale of investment required. The first stage is rail station revitalization. In this stage, the rail operator acts as the key stakeholder in providing supporting facilities within rail station area to improve the accessibility from and to the station of all modes of transport. The Government of Jakarta Special Province plays a role in providing necessary regulation and policy to smoothen the process.

The second stage involves integration with activities within walking distance or rail-service catchment area (upto 800 m radius from the rail station). This area should be convenient not only to go to but also to live in. Therefore, public amenities such as neighborhood pedestrian way, neighborhood cycling lane, green open spaces, and traffic calming facilities should be coupled with development of commercial centers and vertical housings for all classes of society. Physical integration among those facilities is quite important in order to reduce the need to travel using motorized vehicles in this area. People would rely on using train to travel to other parts of the city.

The third stage reaches beyond TOD zones and covers citywide multimodal integration. In this stage, all types of public transportation are integrated with rail services, including walking, bicycling, bus, van-type passenger transport (*angkot*), para-transit (motorcycle-taxi, rickshaw, and three-wheel scooters) as rail feeder system citywide. This would involve all public transportation operators as well as transportation and traffic authorities.

#### **4. METHODOLOGY**

The next question is what kind of TOD governance that would be suitable for Jakarta? In all proposed stages, land availability will be subject to negotiation among stakeholders, even for the core station itself. Many of PT KAI's land assets have been occupied by impermanent housings or street vendors. Reoccupying the operator's land assets has become a problematic issue. Not only land acquisition, according to Dittmar (2004), TOD has been facing many problems affecting stakeholders in achieving their goal, priority, and its interests. It would not be surprising if the perception of each stakeholder regarding TOD in Jakarta would be dynamic. Nonetheless, information about such perceptions is necessary to comprehend in order to formulate a suitable framework to make TOD happens.

This study is using a qualitative analysis method based on in-depth interviews with stakeholders to understand their perceptions on TOD concept and their role in land acquisition and development for implementing TOD. The interviews took place within the period of June to August 2013. The stakeholders are:

1. Government: Provincial Urban Planning Agency (DTR), Provincial Development Planning Agency (Bappeda), Provincial Transportation Agency (Dishub), City Transportation Council (DTK), and Bureau of Urban Infrastructure and Facility of DKI Jakarta (Biro Sarpras).
2. Public transport operators: Indonesian Railway Company (PT KAI Commuter Rail Company (PT KCJ), PT KAI EVP Heritage, and Station Chief of KAI DAOP I: Manggarai and Sudirman Station), Jakarta Subway Company (PT MRT Jakarta).
3. Developer: Real-Estate Indonesia (REI), PT Agung Sedayu Group
4. Community: Head of Subdistrict (*Camat*)



The analysis applied content analysis, stakeholder analysis and dynamic actor network analysis (DANA). Content analysis is the study of recorded human communications. Among the forms suitable for study are books, magazines, web pages, newspapers, etc. In this study, content analysis is conducted on regulation documents, books, and news related to TOD in Jakarta. The stakeholder analysis was conducted for determining who are involved, have vested interests, have the capacity to mobilize resources and formulate policy. The results of content analysis were the basis of stakeholder analysis and the interaction among stakeholders was analyzed using DANA. By using DANA, actor perceptions regarding TOD concept and plan can be comprehended. DANA is a systematic presentation method that can capture cognitive and political setting complexity about a certain policy.

## **5. RESULTS AND DISCUSSION**

### **5.1 Stakeholder Analysis**

Stakeholder perceptions on a particular issue will influence their behavior and action towards the issue itself. Therefore, the first step to understand actors' perceptions and interactions on implementing TOD concept in Jakarta is by identifying the potential stakeholders. Dittmar and Ohland (2004) and Curtis *et al.* (2009) provide extensive reviews stakeholders involved in TOD based on worldwide empirical experiences. They are transit agency, riders, neighborhood community, local government, and developer or lender. Each stakeholder has their own objectives in regards with their involvement in TOD. By synthesizing the literatures, related legal documents to TOD, as well as related news articles, we identify the potential stakeholders and their goals for each stage of TOD implementation as developed in the previous section (see Table 2). We also include the results of interviews with stakeholders regarding their perceptions of TOD in Jakarta.

TOD is a new approach for most stakeholders in Indonesia. Unsurprisingly, this study found that there are various perceptions among the stakeholders in viewing what TOD is. Governmental agencies perceive TOD the way it aligns with their authority. DTR and Bappeda described TOD from the perspective of urban realm and land use of which include the integration between mixed use and transit network development, while Dishub from the perspective of multimodal integration and intermodal facility with an intention to attract higher transit ridership.

Different perception also occurs between PT KAI (PT KAI DAOP 1 and EVP Heritage), PT KCJ and PT MRT Jakarta. PT KAI and PT KCJ have similar perception with the local transportation agency, while PT MRT Jakarta understand that TOD is the concept of area development with transit hub as the core and consists of three main elements: density, diversity, and design. Such differences reflect varying degree of interests in positioning TOD in relation to its transit mode development. KCJ do not think TOD is a relevant strategy for the time being, since it is currently focusing on increasing ridership through improving rail service performance, by adding new looplines serving Jakarta, adding the capacity as well as improving reliability. PT KCJ also continues to improve ticketing system by collaborating with one of the major telecommunication companies in Indonesia, PT Telkom. On the other hand, PT MRT Jakarta needed to secure their future system's ridership by ensuring larger shift from private mode users. For that purpose, TOD is an essential means to reduce the need to travel using private modes, particularly people with mid-to-high income level.

In contrast from the rail operators, uniform understanding comes from developers. They have common perception that a TOD area is an area with high accessibility due to its integrated activity and transit network. REI states that the availability of supporting facilities for improving accessibility of a property estate to public transportation is indeed beneficial for developers as one of key success factors of their property. One of the supporting facilities the developers have in mind is skybridge or tunnel connecting their properties to a station. However, they are aware that until now no regulation is available to allow such initiative. When they are asked about their willingness to develop vertical housings, due to high land price in the appointed TOD zones, the developers indicate negative response of providing low-income vertical housings within the zone. It is argued that financing low-income housings belong to the domain of public sector.

The community, represented by the Head of Subdistricts (*camat*), is less aware about the plan of improving public transportation system and implementing TOD. They are only aware about and involved in the attempts made by PT KAI to clear the land around rail stations. It can be concluded that the perception of TOD by the community was to the extent of rail station revitalization or stage 1. An interest is also expressed in taking part as mediator in finding solutions with PT KAI for relocating street vendors or informal housings that were evicted from PT KAI's land. They can play a role in building consensus for a win-win solution.

## **5.2 Land Acquisition for Equitable TOD: A Framework based on DANA**

Based on the interviews results, we used an analytical tool, DANA, to map actions of each actor who will be involved in implementing TOD. The arena is land acquisition. The actors are clustered into four: the government, the transit operators, the developer, and the neighborhood community. There are four factors to be investigated here: (i) land acquisition activity for TOD; (ii) land requirement for TOD; (iii) disagreement on land price for TOD; and (iv) regulations of land acquisition.

From the government side, the main focus on land provision for TOD as a sequential attempt of several plans that have included TOD plan, including Jakarta Spatial Masterplan 2030 (RTRW 2030), Jakarta Macro Transportation Plan (PTM), and TOD Urban Design Guidelines (UDGL). Those plans have legalized government's positive follow-up actions, such as attracting investors, reviewing related regulations, and clearing the required land. However, the difficulties found in acquiring private land, including unsettled land price or compensation and unclear land ownership certificate, the government intends to steer the implementation of TOD on government-owned land first. Whereas, the issues over private land will be solved by adopting the Land Acquisition for Public Development Act No. 2 Year 2012 and assisting land owners in re-issuing their land certificates.

From the perspective of rail operator, the authority to acquire land belongs to PT KAI. PT KAI represented by EVP Heritage Division has been consulted by the Urban Planning Agency (DTR) regarding Masterplan of TOD in Manggarai Station. In the plan, it is mentioned that PT KAI will build public vertical housings on PT KAI's land to relocate slum dwellers living around the station. This will minimize the resistances from the community. By providing housings, it is expected that the land acquisition process will be intensified.

Table 2. Identified Stakeholders, Normative Goals and Roles, and Explored Perceptions of TOD Stage Implementation

No.	Stage	Identified Stakeholders	Normative Goals	Normative Roles	Explored Perceptions	
					TOD Concept	Normative Roles
I.	<b>Station as Destination:</b> Rail station revitalization	<ul style="list-style-type: none"> <li>Rail operator (PT KAI EVP Heritage; PT KAI DAOP 1; PT KCJ; PT MRT Jakarta)</li> </ul>	<ul style="list-style-type: none"> <li>Maximizing monetary return from the land</li> <li>Maximizing ridership</li> <li>Capturing value in long term period</li> </ul>	<ul style="list-style-type: none"> <li>Formulating plan and development guideline for station area redevelopment</li> <li>Clearing land for plan implementation</li> <li>Investment of train services to attract more passengers</li> </ul>	PT KAI/PT KCJ is conducting this stage without associating it with TOD. The Rail Station Chief of Sudirman Station views TOD as revitalizing and expanding the area of the station.	<ul style="list-style-type: none"> <li>Strongly agree to the stated roles and underlined the need for collaborative action with the government in clearing the land.</li> <li>Optimizing loopline network.</li> <li>Improving accessibility from the surrounding area to the station.</li> <li>PT KAI (EVP Heritage) collaborates with Jakarta Provincial Government in revitalizing stations.</li> </ul>
		<ul style="list-style-type: none"> <li>Government of Jakarta Special Province (DTR, Bappeda)</li> </ul>	<ul style="list-style-type: none"> <li>Solving congestion problems</li> <li>Improving the quality of public transportation</li> </ul>	<ul style="list-style-type: none"> <li>Cooperating with rail operator in clearing the land</li> <li>Providing spaces for relocated street vendors</li> <li>Incentives for commercial activities in station areas</li> </ul>	n/a	n/a
		<ul style="list-style-type: none"> <li>Neighborhood Community</li> </ul>	Adding new choice of mobility and accessibility to activities	Building consensus when problems arise during the implementation of station revitalization	TOD is viewed as transit ticketing integration and integration between activity center(s) and transit network.	<ul style="list-style-type: none"> <li>Involved in the process of clearing the land assets of PT KAI.</li> <li>The community (<i>camat</i>) is willing to assist PT KAI to find solutions for relocating vendors and informal housings as well as negotiating with the community.</li> </ul>
II.	<b>Sustainable Transit-Oriented Neighbor-hood:</b> integration with activities	<ul style="list-style-type: none"> <li>Government of Jakarta Special Province (DTR, Bappeda, Parks and Cemetery Agency or DPP)</li> </ul>	<ul style="list-style-type: none"> <li>Maximizing tax revenue</li> <li>Modernizing economy</li> <li>Revitalizing or redeveloping</li> </ul>	<ul style="list-style-type: none"> <li>Formulating urban design development plan and zoning (e.g. Bay Area, California, US)</li> <li>Establishing incentive scheme for private developers and land owners (e.g. San Jose, California, US; Tokyo,</li> </ul>	The understandings about TOD mostly refer to this stage where mixed land use development occurs with orientation towards a rail station as the core of	<ul style="list-style-type: none"> <li>DTR and Bappeda note the importance of consensus with landowners and land administration registration in order to minimize land acquisition issues.</li> <li>DTR and Bappeda developed TOD</li> </ul>

No.	Stage	Identified Stakeholders	Normative Goals	Normative Roles	Explored Perceptions	
					TOD Concept	Normative Roles
	within walking distance or rail-service catchment area (upto 800 m radius from the rail station)		underutilized land	<p>Japan)</p> <ul style="list-style-type: none"> <li>- Cooperating with private developers in developing subsidized vertical housings (e.g. Singapore)</li> <li>- Establishing regulation that allows private developers to use air and underground land right for providing direct access from their properties to the station</li> <li>- Investment in supporting facilities (e.g. convenient sidewalks, cycle land, parks)</li> <li>- Establishing land ownership and value data (e.g. Dallas, Texas, US)</li> </ul>	development. Government support on land acquisition, clear legal basis for TOD and coordination among actors are considered important but challenging	<p>Urban Design Guidelines for MRT Corridor 1 in collaboration with PT MRT Jakarta.</p> <ul style="list-style-type: none"> <li>- DTR prepared Masterplan for TOD in Manggarai Station.</li> </ul>
		<ul style="list-style-type: none"> <li>• Rail operator (PT KAI/PT KCJ/PT MRT Jakarta)</li> </ul>	<ul style="list-style-type: none"> <li>- Maximizing monetary return from the land</li> <li>- Maximizing ridership</li> <li>- Capturing value in long term period</li> </ul>	<ul style="list-style-type: none"> <li>- Occupying land around station</li> <li>- Improving access from and to the train station to and from commercial activities</li> <li>- Constructing commercial building and vertical housings</li> </ul>	PT MRT Jakarta views this stage of TOD as important to promote. TOD consists of 3 elements: density, diversity, and design	PT MRT Jakarta was involved in preparing TOD Urban Design Guidelines for MRT Corridor 1.
		<ul style="list-style-type: none"> <li>• Private developer</li> </ul>	<ul style="list-style-type: none"> <li>- Maximizing investment rate of return</li> <li>- Minimizing risks and complexity</li> <li>- Guaranteeing value capture of long term investment</li> </ul>	<ul style="list-style-type: none"> <li>- Occupying land around station</li> <li>- Constructing commercial building and vertical housings</li> </ul>	TOD is an attractive concept for increasing land and property value as well as profitability.	<ul style="list-style-type: none"> <li>- Low income housings in TOD zones should not be provided by developers (private money) due to high land price.</li> <li>- Need for incentive to attract developers: in the form of FAR/BCR bonus or tax abatement.</li> </ul>

No.	Stage	Identified Stakeholders	Normative Goals	Normative Roles	Explored Perceptions	
					TOD Concept	Normative Roles
		<ul style="list-style-type: none"> <li>Land owners</li> </ul>	<ul style="list-style-type: none"> <li>Receive fair compensation for their land</li> </ul>	<ul style="list-style-type: none"> <li>Releasing their land that are part of TOD plan</li> </ul>	n/a	n/a
		<ul style="list-style-type: none"> <li>Neighborhood Community</li> </ul>	<ul style="list-style-type: none"> <li>Increasing property value</li> <li>Adding new choice of mobility and accessibility to activities</li> <li>Improving the index of life in the neighborhood</li> </ul>	<ul style="list-style-type: none"> <li>Contribute to monitoring and evaluation of TOD plan implementation</li> <li>Building consensus to collective problems occur due to TOD implementation process, including when part of their land should be released for public facilities such as sidewalks and greeneries (e.g. Arlington County, Virginia, US)</li> </ul>	TOD as a means to provide green open spaces for public.	No direct involvement yet
		<ul style="list-style-type: none"> <li>Policy Agency</li> </ul>	<ul style="list-style-type: none"> <li>Minimizing traffic impact</li> </ul>	<ul style="list-style-type: none"> <li>Applying traffic calming measures within and entering the neighborhood area</li> </ul>	n/a	n/a
III.	<b>Seamless Mobility:</b> citywide multimodal transit and land use integration (beyond TOD)	<ul style="list-style-type: none"> <li>Government of Jakarta Special Province (Dishub)</li> </ul>	<ul style="list-style-type: none"> <li>Improvement of public transportation quality</li> </ul>	<ul style="list-style-type: none"> <li>Restructuring road-based public transportation network and connecting them with rail station as feeder</li> <li>Providing incentives for public transport operators to participate in the restructuring process</li> <li>Promoting P&amp;R by cooperating with the rail operator in providing P&amp;R facilities and providing incentives for users</li> </ul>	Dishub believes that public transport network optimization is vital for establishing TOD. The current system is insufficient in serving Jakarta's mobility, both the infrastructures and the number of fleet.	<ul style="list-style-type: none"> <li>The Government has formulated Jakarta Transportation Master Plan (to be legalized).</li> <li>Urban design guidelines are also in the process.</li> <li>Bappedda (through Spatial Masterplan 2030) has pinpointed potential TOD locations.</li> <li>The challenges are changes of leadership and unsupportive local regulations.</li> </ul>
		<ul style="list-style-type: none"> <li>Rail operator (PT KAI; PT KCJ; PT MRT Jakarta)</li> </ul>	<ul style="list-style-type: none"> <li>Maximizing ridership</li> <li>Maximizing</li> </ul>	Cooperating with the government in developing multimodal integration (hardware, software, and finware)	PT KAI and PT KCJ views TOD as an area that contains integrated public transportation and	<ul style="list-style-type: none"> <li>PT KCJ has developed JMA Railway Masterplan. One of which expanding looplines, adding fleet, constructing new stations, and cooperating with PT</li> </ul>

No.	Stage	Identified Stakeholders	Normative Goals	Normative Roles	Explored Perceptions	
					TOD Concept	Normative Roles
			revenue from farebox and non-farebox revenue		interconnected hubs. TOD can attract people to live in city center or approaching the activity centers.	Telkom (telecommunication company) in providing one-day ticket.
		<ul style="list-style-type: none"> <li>Feeder service operators (TransJakarta, bus, angkot, motorcycle-taxi, rickshaw, three-wheel scooters)</li> </ul>			n/a	n/a
		<ul style="list-style-type: none"> <li>Private developers/ Advertising company</li> </ul>	<ul style="list-style-type: none"> <li>Maximizing investment rate of return</li> <li>Minimizing risks and complexity</li> <li>Guaranteeing value capture of long term investment</li> </ul>	Constructing and/or financing intermodal facility (park-and-rides, bus shelters, connecting sidewalks, bike-sharing, etc) nearby the train station (e.g. Singapore, Tokyo, Paris)	Developers view TOD as an area with high accessibility due to integrated between public transportation system and the area. TOD will increase the value of their property and profitability.	No involvement yet.
		<ul style="list-style-type: none"> <li>Advertising Company</li> </ul>			n/a	n/a

Source: Dittmar and Ohland (2004); Curtis *et al.* (2005); Jakarta MRT Development Urban Design Guidelines (2012); TOD Plan of Manggarai Station (2013); Land Management Act (UUPA) No. 5 Year 1960; Land Acquisition for Public Development Act No. 2 Year 2012 and Presidential Regulation No. 71 Year 2012; related news articles.

\*n/a = unclear response or the interview did not take place

On the other hand, PT KCJ does not have the authority and does not intend to acquire land. It solely focuses on handling the operations of JMA Commuter Rail. PT KAI DAOP I does not acquire land as well, only managing the land assets of PT KAI under their jurisdiction. Therefore the activities of PT KAI DAOP I are mainly revitalizing station area and maintaining other land assets. Some of the land is used for providing parking spaces for railway passengers. During the process of reoccupying the land assets which have been occupied illegally by the community, PT KAI DAOP I receives opposition from the community. However, due to the determination in improving rail services to realize the target of 1.2 million passengers per day by 2018, PT KAI DAOP I continues to struggle for acquiring the land from the community.

The same as PT KCJ, PT MRT Jakarta, as the operator of Jakarta's MRT, has not conducted any land acquisition. According to Local Regulation of DKI Jakarta No. 3 Year 2008, PT MRT is allowed to carry out property businesses around MRT stations. To date, this activity has not been reached yet. The land owners seem to be reluctant in releasing their land. On the other hand, PT MRT views that the interest, awareness, and willingness to release land for TOD have emerged. However, so far, focusing on government land is a more viable option.

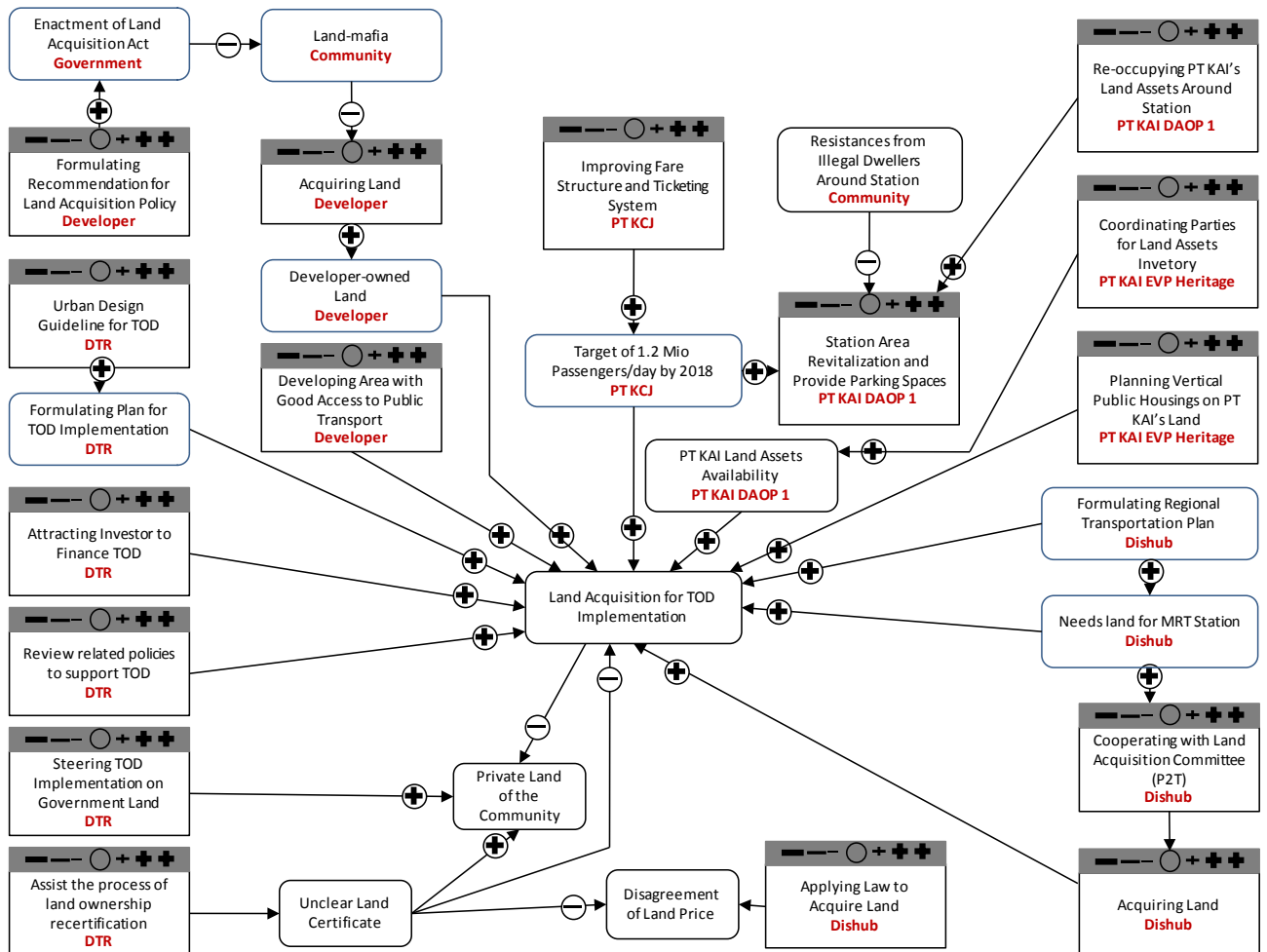


Figure 3. Map of Perceptions and Actions of Stakeholders  
Source: Analysis of Interview Results, 2013

The role of developers in utilizing their land for supporting TOD is indeed important. It will enlarge the opportunities of using non-government land. Developers also have financial capacity in acquiring more land to implement their development plans. It would be beneficial for TOD implementation, if their plan can be synchronized with the TOD plan. One significant challenge faced by developers is negotiating with land mafia who are the mast behind land price hike. As anticipation, developers are planning to submit proposals for improving land policy in Jakarta.

According to the representatives of the community, PT KAI DAOP I plays direct roles in revitalizing stations. So far, all activities were coordinated with the surrounding community. The source of conflicts was mainly unclear land certificates. Subdistricts (*kecamatan*) officials did some actions to solve the conflict through deliberation (*musyawarah*) to settle the issue. If *musyawarah* failed, the case was then brought to court.

## 6. CONCLUSIONS

This paper has presented a preposition of stages for implementing TOD, a concept aimed at curbing motorization and creating sustainable urban realm. It identified and mapped out stakeholders perceptions and roles in TOD future implementation for the case of Jakarta, Indonesia, highlighting the aspect of land acquisition for TOD.

This paper argued that creating a proper institutional framework to support land acquisition for TOD in Jakarta is essential or else TOD will remain an ideal concept but impossible to be realized. The framework should depart from establishing common understanding of how TOD will contribute to urban problems existed in Jakarta. The results of this study showed that the perceptions of stakeholders regarding TOD concept and the importance of TOD still vary which are influenced by each of the stakeholders' vested interests. However, the perceptions were mostly positive or, in other words, most of the stakeholders agreed on the importance of TOD. Nevertheless, those perceptions can be clustered into categories. The categories form a ladder of TOD implementation stages.

The first stage is *revitalizing station* in order to provide adequate supporting facilities to serve railway passengers, including commercial activities to improve the amenities of a rail station. This stage of implementation has become particular interest of rail operators, both PT KAI and PT MRT. PT KAI has moved forward by clearing its land assets around the stations to execute the plans. PT KAI here referred to PT KAI DAOP I represented by the station chiefs of two most potential stations to be developed as TOD, Sudirman Station and Manggarai Station. It aimed at achieving the target of 1.2 million passengers per day by 2018. PT MRT, on the other hand, has drawn a plan of TOD areas along the future first corridor of Jakarta's MRT, but has not carried out any land acquisition since it does not have any land assets of their own.

The second stage is *sustainable transit-oriented neighborhood* covering transit catchment area of 200 – 800 meter radius from a station. This stage has attracted the interests of DTR, Bappeda, and developers. DTR and Bappeda involving PT KAI have drawn several plans to implement TOD. Bappeda has pinpointed several stations as TOD zones and DTR has formulated TOD Master Plan for Manggarai Station in consultation with PT KAI (EVP Heritage) as well as drafted TOD Urban Design Guidelines. Developers come up with common interest that an area with good accessibility with transit system would be beneficial for increasing the value of their properties. Therefore, in the eye of developers, the concept of TOD seems quite ideal. They are willing to construct commercial buildings and vertical housings because it would be profitable. However, they underlined the need for incentives



from the government and excluded the possibility of building housings for low-income people by mentioning that such housings should be the responsibility of government. Adjusting several regulations that are conflicting and not supportive to TOD implementation is also requested by developers.

The third stage is *seamless mobility*. This stage is the ultimate stage of creating a transit city way beyond TOD zones. In this stage, citywide multimodal transit system is well integrated with the land use. This has been the interest of Dishub as it holds the authority of improving public transportation quality and solving congestion problem in Jakarta. Public transportation operators in Jakarta, generally, shared the same understanding on the importance of improving the quality of their system. However, the possibility of collaborating in order to integrate their system has not come onto surface. In this matter, the role of Dishub in realizing this stage is extremely significant.

Based on DANA, the main challenge of acquiring land for TOD implementation came from the community, both those who occupied the land surrounding station illegally and the land owners whose land could be acquired for TOD. Unclear land ownership certificate and unfixed land price due to land speculation have emerged as reasons why acquiring private land for TOD would be difficult although the government can adopt the new law of acquiring land for public purposes to enforce the land. Consequently, DTR indicated that the government plans to steer the implementation of TOD on government land for the time being. Other option is to obtain support from developers. Incentives for developers would increase the probability of using private land for TOD. Supportive legal foundations to enable those incentives are certainly required. They include the possibility for granting FAR/BCR bonus and air/underground land right for developing facilities, such as connecting skybridge or tunnel from properties to train station.

According to the new law of land acquisition for public purposes, if the Government takes TOD seriously as one of the measures for curbing motorization, the Government should play the role in acquiring land from the community with proper compensation and protect the price from any speculations. This is because according to the law, the land that will be used for public purpose development should be owned by the Government. The case would be the same for TOD. In this attempt, the community should be Government's partner. The concept of CLT as practiced in US cities can be applied here. In the case of Jakarta, CLT will help the community in monitoring and evaluating the process of land acquisition as well as TOD implementation. It will also play a role in ensuring the adoption of *diversity* principle of TOD, particularly in terms of availability of affordable housings within 800 meter radius. The community should be positioned as partner in facilitating for building public concession whenever conflicting matters occur. In higher hierarchy, the government should play as regulator in mainly two aspects: (i) issuing policies to support TOD implementation; and (ii) formulating plans and adopting policies to restructure and integrate citywide public transportation system.

## REFERENCES

- Curtis, C., J.L. Renne, and L. Bertolini. (2009) *Transit-Oriented Development: Making It Happen*. Ashgate e-Book, Surrey, England.
- Dittmar, H. and G. Ohland. (2004) *Transit Town: Best Practices in Transit-Oriented Development*. Island Press.
- Hickey, R. (2013) *The Role of Community Land Trusts in Fostering Equitable Transit-Oriented Development: Case Studies from Atlanta, Denver, and the Twin Cities*. Lincoln Institute of Land Policy, Working Paper.

- Loo, B.P.Y., C. Chen, and E.T.H. Chan (2010) Rail-based Transit-Oriented Development: Lessons from New York and Hong Kong, *Landscape and Urban Planning* 97, pp. 202 – 212.
- MTR Corporation Limited (MTRC) (2013) The “Rail + Property” Model – Hong Kong’s MTR’s Experience, a Presentation made by Sharon Liu, Chief Town Planning Manager, MTR Stockholm, December 2013.
- Prijanto, I. (2013) Implementing Transit-Oriented Development in Jakarta: Challenges and Opportunities. Proceedings of 2<sup>nd</sup> Planocosmo International Conference, Bandung Institute of Technology, Bandung, Indonesia, October 18 – 19.
- Ratner, K.A. and A.R. Goetz. (2013) The Reshaping of Land Use and Urban Form in Denver through Transit-Oriented Development. *Cities* 30, pp. 31-46.
- Suzuki, H., R. Cervero, and K. Luchi. (2013) Transforming Cities with Transit: Transit and Land-Use Integration for Sustainable Urban Development. The World Bank, Washington D.C.