

Institutional Arrangements to Achieve Equitable Transit Oriented Development (Case Study: Surabaya, Indonesia)

Author: Endira Siti Rahmasari (S2849070)

Supervisor:

Dr. ir. Wendy G. Z. Tan

Dr. F. M.G. (Ferry) Van Kan

Master Programme

Environmental and Infrastructure Planning

Faculty of Spatial Sciences

University of Groningen

ABSTRACT

Equity is highlighted as socioeconomic component of sustainability. However, concept of equity is not entirely embraced, especially in developing countries. In this research, equity will be identified in terms of Transit Oriented Development (TOD). The importance of equitable TOD is gaining momentum to provide social benefit for all groups of community. Gentrification and displacement sometimes takes place as consequences of new development change from the increasing of property and housing prices near transit station, or the neighborhood change due to the socio-demographic change of transit community.

In the case study of Surabaya is experiencing gradual economic growth with gaps of income disparity. In its pursue toward sustainable transport, issue of community gentrification and displacement arose as the planned route will be passing through the low-income residential area. The low-income become the main focus as they are known as transit dependent (who relies most to affordable and accessible public transport facilities). Thus, three components of equitable TOD were identified from relevant literature, which are: (1) affordable public transport fare, (2) sufficient housing, and (3) public facilities for the community. Due to the complex and unpredictable behavior of actors within transit development project, institutional arrangements are crucial to foster coordination/partnership between stakeholders to achieve equitable TOD (Lane, 2017). The term of institutional arrangements adopted in this research are using the concept of institutional arrangements as a set of formal rules and informal (social) norm (North, 1991, Williamson, 2009) to structure interaction between actors and the role of related actors involved in the development.

This research describe a single case study, complemented with illustrative example several transit cities from worldwide to help framing social issues of TOD, roles of actors and how fomal rules and informal norms take place to achieve equitable TOD. This research was conducted using qualitative method through policy content analysis, using empirical data from semi-structured interview to provide further information of institutional arrangements of TOD in Surabaya. Findings were then analyzed to provide tailor-made recommendation of institutional arrangements of equitable TOD in Surabaya and other developing cities in the Southeast Asian countries.

Keywords: *equitable, TOD, institutions, formal, informal*

TABLE OF CONTENTS

CHAPTER 1 - INTRODUCTION	1
1.1 Social Impact of Mass Transport Development in Surabaya	1
1.2 Problem Statement.....	2
1.3 Research Objective	3
1.4 Research Questions	3
1.5 Relevancy of Research	4
1.5.1 Societal Relevance	4
1.5.2 Academic Relevance	4
1.6 Areas of Research	5
1.7 Research Outline	5
CHAPTER 2	7
2.1 Equity as social movement to sustainable development	7
2.2 TOD and Equity as the social development objective	8
TABLE 1. MYRIAD CONCEPT OF SUSTAINABLE TOD.....	8
2.3 Equitable TOD to prevent transit induced gentrification	9
2.3.1 Transit induced-gentrification	9
2.3.2 Pursuing equitable TOD – what, who, and how?.....	10
2.4 Role of institutional arrangements to achieve equitable TOD.....	14
2.4.1 Institutions: definitions.....	14
2.4.1.1 Formal institutions.....	15
2.4.1.2 Informal institutions.....	15
2.4.1.3 Barriers	15
2.4.1.4 Possible adoption of institutional arrangement.....	16
2.5 Critical assessment and research conceptual framework - Bridging gap between Equitable TOD concept and the role of institutional arrangements.....	16
CHAPTER 3	18
3.1 Research strategy	18



3.1.1 Case Selection	19
3.2 Research Method	19
3.3 Analysis	23
3.4 Methodological Framework	24
3.5 Ethics and Limitation	25
CHAPTER 4	27
4.1 Surabaya Urban Transportation Plan.....	27
4.1.1 Minibus (Lyn) as Feeder Transport Mode of AMC.....	30
4.1.2 Surabaya Transit Area Development Plan	30
4.1.3 Public transit development issues	35
4.2 Identifying components of equitable TOD in Surabaya	35
4.2.1 Affordable Public Transport Fare.....	36
4.2.1.1 Actors	36
4.2.1.2 Formal and informal institutions.....	36
4.2.1.3 Barriers.....	37
4.2.2 Sufficient housing.....	38
4.2.2.1 Actors	42
4.2.2.2 Formal and informal institutions	43
4.2.2.3 Barriers.....	43
4.2.3 Public amenities	45
4.2.3.1 Actors	46
4.2.3.2 Formal and informal institutions	47
4.2.3.3 Barriers.....	48
CHAPTER 5	50
5.1 Affordable public transport fare.....	50
5.1.1 Illustration of Surabaya public transport institutional arrangements	50
5.1.2 Illustrative case	51
5.1.3 Possibility of adoption.....	52
5.2 Sufficient housing	54
5.2.1 Illustration of Institutional Arrangements	54
5.2.2 Illustrative case	55
5.2.3 Possibility of Adoption	58



5.3 Accessible Public Amenities	62
5.3.1 Illustration of Institutional Arrangements	62
5.3.2 Illustrative cases.....	64
5.3.3 Possibility of adoption.....	65
CHAPTER 6	69
CONCLUSION & DISCUSSION.....	69
6.1 Equitable TOD – what and how to achieve it	69
6.2 Who is involved – actors to achieve equitable TOD	69
6.3 Formal and informal institutions to foster equitable TOD	70
6.3.1 Affordable public transport fare	71
6.3.2 Sufficient housing.....	71
6.3.3 Public amenities	71
6.4 Barriers to implement equitable TOD	73
6.5 Possible adoption of institutional arrangements in Surabaya	73
6.6 General conclusion	75
6.7 Generalisation	77
6.8 Policy Recommendations.....	77
6.9 Further Research	78
6.10 Reflection	78
Reference.....	79
APPENDICES	88
LIST OF TABLES	
Table 1. Myriad Concept of Sustainable TOD	8
Table 2. Criteria of Equitable TOD.....	11
Table 3. List of Interviewees in Surabaya.....	21
Table 4. Keyword for Manual Coding.....	23
Table 5. <i>Surotram</i> Station Plan.....	28
Table 6. LRT Station Plan	29

Table 7. Institutional Arrangements of Public Transport Fare	37
Table 8. Institutional Arrangements of Sufficient Housing in Surabaya	44
Table 9. Institutional Arrangements of Public Amenities in Surabaya.....	48
Table 10. Possibility of Transport Fare Policy Adoption.....	53
Table 11. IHO Scheme in City of Denver	58
Table 12. Possibility of Housing Policy Adoption	58
Table 13. Possibility of Public Amenities Policy Adoption	66

LIST OF FIGURES

Figure 1. Three Elements of Sustainable TOD	7
Figure 2. Research Theoretical Framework	17
Figure 3. Data Collection and Method	20
Figure 4. Design of Interview Questions	22
Figure 5. Methodological Framework.....	25
Figure 6. Surabaya Tram Route and Station Plan	28
Figure 7. Surabaya LRT Route and Station Plan	29
Figure 8. Overimposed Map of AMC Route and Existing Public Minibus	30
Figure 9. Illustration of Kampung Network	32
Figure 10. Illustration of Local Road Development	32
Figure 11. Illustration of Kampung Gradual Development.....	33
Figure 12. Illustration of Adjacent Kampung Development Transition Design.....	34
Figure 13. Illustration of Transit Adjacent Tradition Market Design.....	35
Figure 14. Illustration of Public Transport Fare Institutional Arrangements in Surabaya	38
Figure 15. Overimpose of Surabaya Low Income Sub-Districts and AMC Plan	39
Figure 16. Overimpose of AMC Route Plan with Adjacent Kampung And <i>Rusunawa</i>	41
Figure 17. Informal Settlement in the Ex-Tram Depot in Bumiarjo	41
Figure 18. Adjacent Kampung and Local Rentals in Tunjungan	42
Figure 19. Illustration of Sufficient Housing Institutional Arrangements in Surabaya	45
Figure 20. Conditions and Daily Activities in the Adjacent Kampung in Tunjungan	46
Figure 21. Illustration of Public Amenities Institutional Arrangements in Surabaya.....	49
Figure 22. Institutional Arrangements of Public Transport Fare	51
Figure 23. Institutional Arrangements of Sufficient Housing	55



Figure 24. Institutional Arrangements of Public Amenities 63
Figure 25. CSFS Application Process 68
Figure 26. Formal and Informal Institutions to Achieve Equitable TOD..... 75

LIST OF BOXES

Box 1. Importance of Coordination Between Stakeholders in TOD Project 14
Box 2. Singapore Public Transport Council 51
Box 3. Singapore Public Transport Fare Regulation..... 52
Box 4. Affordable Housing Incentive in Vancouver 56
Box 5. Affordable Housing Inclusive Zoning in Denver 57
Box 6. Bonus GFA for Public-Community Spaces in Singapore..... 64
Box 7. Community Incentive in Minneapolis 65



LIST OF ABBREVIATIONS

AMC	:	Angkutan Massal Cepat
BUMN	:	Badan Usaha Milik Negara
C-KIP	:	Comprehensive Kampung Improvement Program
CSFS	:	Community/Sports Facilities Scheme
TOD	:	Transit-Oriented Development
POPS	:	Privately-Owned Public Space
PTC	:	Public Transit Council
PTO	:	Public Transit Operator

CHAPTER 1

INTRODUCTION

1.1 Social Impact of Mass Transport Development in Surabaya

As one of the middle low-income country, Indonesia is in the transition phase, which is experiencing economic growth. This growth, as stated by World Bank (2016) has primarily benefitted the 20% richest population, leaving the rest 80% left behind. This phenomena described the income disparity between the rich and the poor, as shown with sharp increase of Gini coefficient over the past 15 years (from 0,31 to 0,41 in 2013). Surabaya, the second-most-populated city in Indonesia with 2.9 million population in 2014 with rapid urban development in the past years is also trapped in the income disparity, indicated by Gini index of 0,42 in 2014 slightly below national (0,43) (BAPPEDA Provinsi Jawa Timur, 2017). Thus, reducing urban poverty still becomes one biggest priority of the government.

Public transport has become one of the most dilematic urban issue which affect the low income citizen in Surabaya, as the current transport system has forced them to spend 20-40% of their monthly expense for transportation (Aminah, 2009). The average time required to go to the city center, in which jobs and commercials are located is approximately take half an hour by using the current public transport (minibus/*lyn*). In order to accommodate citizen with better public transport service and increase urban mobility, the city is developing mass transport system called *Angkutan Massal Cepat* (AMC) as a shift towards sustainable urban transport. In order to reform land use development around transit, Transit Oriented Development (TOD) approach was introduced in potential transit with hope to provide direct and indirect benefits to transit riders and the surrounding society.

The potential impact of TOD for the low-income communities as transit dependent (Cervero et al., 2004; Jiao and Dillivan, 2013; Arrington and Cervero, 2008; Litman, 2012) may vary. Gentrification and displacement become the symptom of inequity, when particular communities are excluded from getting potential benefit of public transit facilities. Transit induced gentrification arises in the form of new development change (increase of transit land value due to its increased accessibility) and socioeconomic changes such as low-income residents are slowly replaced with high income citizen (Kahn, 2007; Grubbe-Cavers and Petterson, 2015; Chava & Newman, 2016). In the case of Surabaya, this is depicted through the redevelopment plan of local businesses and retails in *Tunjungan* transit corridor into rapid international scale commercials and high rise building and potential low-income resident displacement due to resettlement relocation for reactivating the old tram depot in Bumiarjo, Joyoboyo.

As TOD involve across sector of property and land owner, the implementation requires coordination or partnership between stakeholders. Clear institutional arrangement, as 'rules of the game' is important to structure coordination or partnership among multi-sector

stakeholders to implement equitable TOD for the sake of wide range of community (ULI, 2011; Lane, 2017). Previous studies stated the urgency of clear institutional arrangements between public and private sector (Cervero, 1998; World Bank TDLC, 2016) to achieve successful TOD in economic perspective, although very few explored it as strategy specifically toward equitable TOD for the low income communities. This research aims to examine the role of formal and informal institutions (North, 1991, Williamson, 2009) between stakeholders to implement equitable TOD for the low income communities. Due to the limited successful experience of TOD in developing countries, illustrative examples from other cities were used to inspire clear institutional framework towards equitable TOD.

1.2 Problem Statement

Potential benefits of TOD are doubted following the societal issues in transit development process in Surabaya. The planned AMC routes are designed to pass through the low-income districts and high-density residential areas, such as Pabean Cantikan, Tegalsari. Those areas are dominated with *Kampung* (self-initiated high-density residential area the low-income citizen). Simultaneously, the housing and property price is increasing even before the physical development of *Angkutan Massal Cepat (AMC)* (Liputan 6, 2017), as inevitable consequence of public transport development (Bajic, 1983; Cervero, 2004; Debrezion et al, 2007; Hess & Almeida, 2007). From the regulatory perspective, the draft of Detailed Spatial Plan and Zoning Regulation reveals the redevelopment plan of the current low-income settlements (*Kampung*) and local-scale commercial area in *Tunjungan* transit corridor into international scale commercials and high-rise building.

TOD literatures revolved around strategies to maximize financial benefit of TOD project (value capture, high-rise mixed-use development by private sector), underrating the importance of social aspect to ensure that transit and its potential benefit will be perceived equally by all groups of income. The above problem illustrates the potential low-income community gentrification as barriers of implementing equitable TOD. Thus, concept of equitable or inclusive TOD (Kralovich, 2012; Carlton & Fleissig, 2014; Lierop et al, 2017) should be adopted in the transit development in Surabaya.

Another issue of Surabaya transit development is the private sector involvement in the transit development, as the national government decided to reduce the AMC project fund, the municipality started to establish public private scheme through public tender (Jawa Pos, 2017). Moreover, most of the planned transit area development will also engage private sectors/developers with their profit-oriented characteristics (Gowe, Glass, & Curtis, 2009; Guthrie & Fan, 2016). As this project engage various stakeholders with various perspective, it is important to provide guidance to govern behaviors of stakeholders to enhance smooth coordination to implement equitable TOD. Institutions play important role (Mu & Jong, 2016; Kuhonta, 2011; Marshall & Banister, 2007) to incentivize and constraint behavior of involved stakeholders (private, community, non-profit, university) to help governments burden to

implement equitable TOD for all groups of community, particularly the low income as transit dependant.

1.3 Research Objective

This research aims to identify the concept of equitable TOD particularly for the low-income communities as transit dependant. From the concept (component and strategy), this research attempts to identify how institutional arrangements between stakeholder involved in the development project contributes to equitable TOD. Strong institutional arrangements can provide political foundations to achieve equitable development (Marshal & Banister, 2007; Kuhonta, 2011), which is framed as a set of formal and informal rules and norms (North, 1991; Williamson, 2009) to incetivize and constraints actor's behavior to collectively implement equitable TOD for maximizing benefit of all groups of income.

This research objective will be pursued through case study in Surabaya, enriched by illustrative example from international experience of equitable or inclusive transit development. Illustrative examples help to grasp the societal issue of TOD and conceptual understanding of how equitable TOD are achieved through suitable formal and informal rules between stakeholders to foster partnership towards equitable TOD. In order to relate and implement the concept in more specific scope, a case-study based research is used to explore further on institutional instruments such as regulations, documents, actors and organisations.

1.4 Research Questions

Based on the research background, the main research question is developed as ***“How can institutional arrangements make TOD more equitable?”*** The focus analysis is the identification of equitable TOD and the institutional arrangements between stakeholders to maximize equal access and opportunity for the low-income community. Based on the main question, sub questions are formulated to help answering research objective:

1. What are the criterias and strategies to achieve equitable TOD?
2. How institutional arrangements contribute to make TOD more equitable?
 - Who should be involved to achieve equitable TOD?
 - What kind of formal and informal institutions (institutional arrangements) in order to foster equitable TOD?
 - What are the barriers to adopt equitable TOD concept?
3. How such institutional arrangements can be adopted in the case study of Surabaya?
 - What are the conditions and barriers to adopt such institutional arrangements in the pursuit of equitable TOD?

1.5 Relevancy of Research

1.5.1 Societal Relevance

Equity has vastly moved into the international development priority and policy agenda although it is still difficult to translate equity or inclusive-based policies into actions (UN Habitat, 2013). In terms of TOD, equitable TOD becomes an essential concept to ensure that public transit development guarantees social benefit to all income groups (Zuk et al, 2015), thus minimizing social impact of transit development such as gentrification and displacement (Kahn, 2007; Chava & Newman, 2016) due to the increasing land value and rental cost surrounding the transit area.

Currently, the municipality is preparing the draft of Detailed Spatial Plan and Zoning regulation. This becomes the right momentum to conduct research focusing on equitable/inclusive TOD by providing recommendation and guidance of governance to enhance coordination/partnership to implement equitable TOD from institutional perspective, which can be incorporated within spatial regulatory framework. Institutional arrangements helps providing guidance to structure interaction to collectively ensure that low-income citizen will gain equal benefit from the redevelopment of transit area.

1.5.2 Academic Relevance

Southeast Asian countries, particularly Indonesia has few experience of TOD, thus literatures about TOD were mostly found as report from international funding foundation/NGOs. Studies and researches regarding TOD in Indonesia focused mostly on physical/urban design perspective. Meanwhile, Indonesia as well as most countries in SEA still trapped in dilematic societal issues, such as income disparity between the rich and the poor, which uplift the urgency to achieve equitable TOD. However, social impact of transit developments such as gentrification are still understudied (Dong, 2017), this urges the need for of assessing equitable TOD from scientific view.

As transit development involve various stakeholders with different perspective and intention, institutional arrangements become substantial to achieve equitable TOD (Pollack, 2006; ULI, 2011; Hersey and Potts, 2015; Lane, 2017) in order to regulate behavior of actors/stakeholders to perform *coordination* towards equitable TOD. Research focusing on institutional perspective as the soft, abstract aspects of transport and land use planning of TOD is important to help transforming TOD strategies into effective implementation (Cervero, 1998; Curtis et al, 2009; Tan et al, 2014). This research aims to complement the limited studies regarding TOD in Indonesia particularly in the frame of equitable transit development from the institutional perspective, with focus on equitable TOD to ensure equal benefit for the low income communities (transit dependent).

1.6 Areas of Research

Surabaya's regional economic growth has exceeded national's economic growth yet the gap of income between the rich and the poor (disparity) is still widening (BPS Kota Surabaya, 2017). With the adoption of transit development surrounding the planned AMC route, Surabaya is in the transition towards sustainable urban transport. Lesson learned from the international cases as illustrative example from this research are expected to contribute to transit development planning in Surabaya as one example of developing city with persistent economic growth along with its widening social disparity. This condition explain that this city is in the transition phase of achieving sustainable development.

The increase of land price and low-income settlement relocation will increase the possibility of gentrification of TOD, especially from the transit dependent (low-income citizen). The transit corridor areas were planned to be redeveloped into international-scale commercial area, which will be owned and managed by private stakeholders/developers. Through the private sector investment in the area, there will be greater possibility of transit-induced gentrification particularly for the low-income surrounding the area.

Currently, the municipality is preparing for AMC's public tender process, and formulating the Detailed Spatial planned as well as the transit corridor development policies. This becomes the right momentum to evaluate existing roles and rules of transport and land use policy using international approach of equitable TOD.

1.7 Research Outline

The structure of this research consists in two parts, theoretical framework and empirical framework. This research departs with description of social impact of public transit development in Surabaya, which emerges equitable TOD as a highlight. Theoretical findings in *chapter 2* provide insights from literatures regarding concept and components of equitable TOD, and how institutional arrangements are adopted to achieve it. *Chapter 3* explains research strategy and methodology to conduct empirical research, from data collections and analysis used to identify components, relevant actors, formal rules & regulations, as well and informal norms towards equitable transit development. *Chapter 4* will describe and explore Surabaya as the case study, by providing illustration of transit development, actors involved, policies and regulations regarding transport and land use planning in order to identify 'rules of law' in regard to the provision of equitable TOD components. *Chapter 5* provides the analysis of formal and informal institutional arrangements to structure interaction and coordination among actors from empirical findings (policy review analysis, interview content analysis), combined with approach from other case study as illustrative examples. Finally, *chapter 6* compiles result from the analysis formulated beforehand to the conclusion, answering research questions, where key findings



and policy recommendations will contribute to the current policy arrangements. Subsequently, findings and discussion were explained to guide possible further research regarding TOD or equitable development.

CHAPTER 2

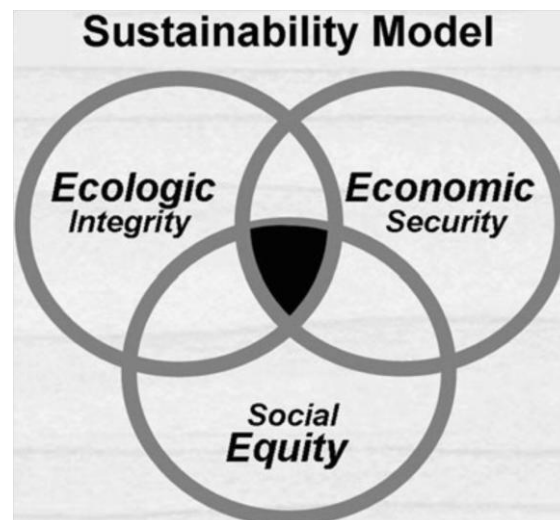
THEORETICAL CONCEPT OF INSTITUTIONAL ARRANGEMENTS OF EQUITABLE TOD

Theories enable researchers to identify which frameworks and contexts are particularly relevant in to conduct a scientific research. Theories help creating assumption, scientifically proven phenomenon, explain process and predict outcomes which consequently inform knowledge gap to be improved in further research (Ostrom, 2011). The concept of equity will help framing the concept of equitable TOD. Equitable TOD concept in this chapter is framed with focus on the components, actors and the strategy to achieve equitable TOD. Those theoretical foundations are complemented with connecting the significant role of institutional arrangements between stakeholders to foster partnership towards equitable or inclusive TOD, particularly for the low-income communities.

2.1 Equity as social movement to sustainable development

Equity is so much related to social justice and fairness (Hay and Trinder, 1991). Several social phenomena have become universal concerns and triggered numerous attempts to answer how to integrate equity in the development agenda to support Sustainable Development Goals (SDGs) (UN Habitat, 2013). Equity is the framework used to achieve sustainable development, as developed by the the Conservation Strategy of the International Union for Conservation of Nature and Natural Resources in 1980 (Flint, 2013). The pursuit of sustainable development does not only consider environmental concern, but also natural and social aspects (Figure 1). This concept explains how social equity is a significant foundation of sustainable development.

Figure 1. Three elements of sustainable developments (*Source: Flint, 2013*)



Implementing equitable urban transport remains as a huge challenge (Kuhonta, 2011), yet the concept is still vague and fuzzy, but it is so much preoccupied in the societal realm, both for the community dominant (affluents, riches), and the recessive (the poor, unfortunate). Equity becomes one criteria that needs to be developed and adopted in infrastructure and service planning to fulfill their need of the poor and prevent them from marginalisation (Titheridge et al., 2014). This research will identify equity in the context of transit development (TOD) to provide equal benefit of transit facilities and service for the low-income communities around transit area.

2.2 TOD and Equity as the social development objective

Transit Oriented Development (TOD) has been framed in various ways ranging from its substantive components that integrate transport and spatial planning, which leads to improve urban sustainability. Peter Calthorpe who is well-known as the pioneer of TOD concept defined TOD as “...a mixed use (residential, retail, office, open space, and public uses) community within average 2000 foot walkable distance of transit stop and core commercial area” (Singh , 2012, p. 720). However, the success implementation of TOD differs in each country, since it depends on the physical boundary (i.e walkable distance of mix land use, development objective), as well as institutional (constitutional, regulatory and social cultural value) context.

There are abundant amount of research exploring various objective of TOD from environmental, social, and economic perspective. Table 1 remarked benefit of TOD from three myriad aspect of sustainability (environment, economy, and social).

TABLE 1. MYRIAD CONCEPT OF SUSTAINABLE TOD

Environment	Economy	Social
<p>“TOD reduce air pollution and energy consumption rates.... Preserve land and open space (Renne, 2009)</p> <p><i>“promote walking and health, ease traffic congestion, reduce dependence on fossil fuels”</i> (PolicyLink, 2008)</p>	<p>(Mineta National Transit Research Consortium, 2014)</p> <ul style="list-style-type: none"> - Location efficiency from numerous travel and economic benefits; - Value recapture from direct savings to individuals, households, regions, and states; - Financial returns to local governments, transit agencies, developers, and employers; - Choice in housing types, retail types, and transportation options; 	<p>“...TOD can contribute to more affordable housing” (Renne, 2009, p. 120)</p> <p>(Cervero, 2004) :</p> <ul style="list-style-type: none"> - Revitalize neighborhoods - reduce crime - increased social capital and public involvement - Increase affordable housing opportunities

	<p><i>“Reduce cost of living, better access to jobs, economic growth.” (CTOD, 2009)</i></p> <p>(Cervero, 2004) :</p> <ul style="list-style-type: none"> - <i>Increase ridership and farebox revenues</i> - <i>Economic development</i> - <i>Increase land value rents and real-estate performance,</i> - <i>Increase property- and sales- tax revenues</i> - <i>Reduce road expenditures and other infrastructure outlays</i> - <i>Increase retail sales</i> - <i>Increase access to labor</i> - <i>Reduced parking costs</i> 	
--	---	--

Table 1 concluded that successful TOD or sustainable TOD covers three myriad principles of environment, economy, and social objectives. Although separating each objective of the sustainable development principle is barely impossible as they are correlated to each other this research looks closely on sustainable TOD in the context of socio-economic benefit, such as increasing social mobility for groups of communities, opportunity for affordable housing, and access to better jobs for the poor (Bertollini, Curtis, and Renne, 2009).

Despite its potential benefits, there are many social impacts of TOD for community such as *gentrification and displacement* in transit neighborhood. The low-income communities (which are known as the public transit dependents) are the most potential groups which are highly influenced by transit development planning. Developing TOD for the low-income communities will significantly increase transit ridership which is the main purpose of public transit development, as well as improving their access to public transport, public facilities, and jobs for the low-income communities.

2.3 Equitable TOD to prevent transit induced gentrification

2.3.1 Transit induced-gentrification

Gentrification often arises as a potential impact of TOD for vulnerable people (in this case, the low-income citizen). It often includes housing renovation or redevelopment, rising property values, local retail upgrading, and the displacement of long-established residents and small business. *Gentrification*, known as *new development change* due to the rise of land and property value in conjunction with the increased access to jobs and urban activities within walking distance from stations or transit stops (Bajic, 1983; Dawkins and Moeckel, 2016; Curtis et al, 2009; Jones and Ley, 2016). Another causes of gentrification of transit development *the neighborhood change*, depicted by the economic and social profile changes

of the residents living in the transit area, from the the low-income households who are displaced by higher income in regards with change in neighborhood residentials and business (Bates, 2013; Dong, 2017).

Transit-induced gentrification (Zuk et al., 2015; Dawkins and Moeckel, 2016) is a specific term used for capitalized transit development to increase highest benefit of land plot from privatized land investment, causing increase of land value and properties due to the profit-oriented characteristic of private developers. This phenomena (increasing land and property value) and land tenur conversion will slowly displace the low-income citizen who cannot afford to live in the area (*displacement*) as negative impacts of gentrification. Before, displacement was shown with residential forced eviction due to urban revitalization, nowadays it has slowly becoming less visible and slower pace, such as loss sense of familiarity of particular place and social network, or community degradation (Lees et al., 2008; Rayle, 2014). Gentrification does not always cause displacement, instead it generates minimal benefit to its former inhabitants. In this case, equitable or inclusive approach helps to mitigate potential gentrification and displacement of transit development.

2.3.2 Pursuing equitable TOD – what, who, and how?

Equitable TOD arises as one of TOD objective to ensure that public transit provide equal benefit for the low-income community (who depend most on public transit) and minority population, as well as to reduce the potential consequences of gentrification and displacement (PolicyLink, 2006 ; Kralovich, 2012 ; Rayle, 2014; Zuk et al., 2015; Dawkins and Moeckel, 2016). This concept is gaining attention in the academic and public policy discussion as the communities are suspected to get the most impact of transit development, especially the low-income who depend mostly on public transport. Limited number of research gave particular emphasize of equitable TOD for the low-income communities to maximize opportunities to employment, services, and amenities towards socially stable community (Pollack et al, 2010; Hersey and Spotts, 2015; Zuk et al, 2015; Dwight, 2016). In order to minimize potential transit induced gentrification and displacement, components and successful criteria to achieve equitable TOD needs to be explored. Table 2 summarizes components and strategy to achieve equitable TOD based on literature review from previous research and international experience.

TABLE 2. CRITERIA OF EQUITABLE TOD (Author, 2017)

Context	concept
<p>Components of equitable TOD for the low-income communities</p>	<p><i>“measure of outcome for equitable TOD:</i></p> <ul style="list-style-type: none"> - <i>provide opportunities to lower income households</i> - <i>improve accessibility to jobs along transit, and</i> - <i>reduce housing and transportation costs for residents.</i> <p>(Dwight, 2016)</p> <p><i>“The fundamental objectives of equitable TOD — provision and preservation of affordable housing, access to living wage jobs, health clinics, fresh food markets, human services, schools and childcare centers — often mean that projects must incorporate, fund, and operate these services or procure relatively expensive land in developed areas where these services are already available.</i> “(Carlton & Fleissig, 2014, p. 5)</p> <p><i>“Many low-income neighborhood lack convenient access to grocery stores, drug stores, and banks, for example and child care, community centres, job or language training sites, and schools...”</i> (Policy Link, 2008, p. 10)</p> <p><i>“..equitable TOD can minimize the burden of housing and transportation costs for low-income residents and generate healthier residents, vibrant neighborhoods and strong regional economies”</i> (Pollack and Prater, 2013, p.4)</p> <p><i>“..TriMet’s property management and development policy, which focuses on enhancing ridership and increasing housing availability and services for low to moderate income households.”</i> (Zuk et al., 2015, p. 19)</p> <p><i>FAR¹ distribution can be used as a market incentive to achieve multiple policy objectives. These include the provision of infrastructure and services, public open space and amenities, affordable housing units, and mixed land uses in private development packages or urban regeneration districts near target stations</i> (Suzuki et al, 2015, p. 24)</p>



Context	concept
Actors involved in the pursuit of equitable TOD	<p><i>In the context of eTOD, it is important to involve, at minimum, the MPO, the transit agency, the local land-use planning authority, housing agencies, developers, the business community and employees, and residents.</i>”(Hersey & Spotts, 2015, p.5)</p> <p><i>“..A flexible strategy for working with for profit and non-profit developers can often be the difference between success and failure”</i> (Poticha and Wood in Curtis, Rene, and Bertolini, 2009, p. 169)</p> <p><i>“From the standpoint of equitable TOD, these stakeholders must include the public sector (usually multiple governments—including elected officials—municipal planning organizations, transit agencies, and so forth); the private sector (developers, business groups, and so on); the community (neighborhood organizations and individual residents, community development corporations, and other advocacy groups); and perhaps others.”</i> (ULI, 2011)</p>
Strategy	<p><i>Moving TOD toward inclusiveness requires the prioritization and implementation of governance principles such as clear institutional arrangements, policy alignment, public participation, transparency, and accountability.</i> (Lane, 2017, p. 3)</p> <p><i>Cross sectoral integration can be facilitated and encouraged by aligning various incentives for collaboration among the different actors involved in the coordination and implementation of inclusive TOD. (Lane, 2017, p.5)</i></p> <p><i>“...the study recommends a market conscious approach to gentrification embracing new principles that allow for:</i></p> <ul style="list-style-type: none"> - <i>An inclusive development paradigm with a racial/ethnic equity lens</i> - <i>A recognition of how public investments affect the private market</i> - <i>Ways to anticipate housing demand and market changes</i> - <i>Options for utilizing the public sector to regulate and engage a range of private development and community actors to minimize the effects.</i> (Bates, 2013, p.4)

*2 : Floor Area Ratio

These multi-perspectives from literatures provide information about components and strategy to achieve equitable TOD. These aspects will be further explored using the integrated principle of land use and transport development which underlies the concept of TOD. Thus, three components of equitable TOD will be explored through this research:

(1) Affordable public transport fare

Affordable transport cost was emphasized as one criteria of equitable TOD (Pollack and Prater, 2013; Dwight, 2016), concluded that potential benefit of transit development requires balance between housing and transport cost, as these two become the largest household expenditure especially for the low-income household who depend mostly to public transit. The notion of 'affordable' can be understood as the ability related with the ability to pay for public goods or services. As the the notion of affordable analysis might be subjective and require quantitative measurement, this research adopts the assumption that affordable public transport cost for the low-income can be identified with the existence of transport cost concession for workers, students, and the elderly.

(2) Sufficient housing

This component (low-income housing) ensure that they receive significant benefit without being marginalized by potential redevelopment of transit area, at the same time reduce affordable housing crisis (Poticha and Wood in Curtis, Rene, and Bertolini, 2009; Saldana and Wykowski, 2012; Hersey & Spotts, 2015; Zuk et al., 2015; Espeseth, 2017). Prior to the concept of gentrification, the rise of land value and properties affecting the increase of housing and rental cost, consequently outbid and displace the low-income to be able to live in their existing house. Hence, low-income household displacement can be minimized by the development and preservation of sufficient housing which are affordable for the low-income. Dawkins and Moeckel (2016) confirmed the effectiveness of affordability requirements policy scenario for housing new construction near transit.

(3) Accessible public amenities

Successful transit area should be able to provide fair benefit for all range of communities with different income levels, age, person with disability, racial groups. Such facilities that can be accessed by public is undoubtedly important, such as community and public open spaces and community spaces to foster social livability. Provision of comfortable transit shelter, pedestrian, and space for communities would significantly induce transit ridership and sustainable mobility movement.

Achieving equitable TOD requires efficient coordination between cross-sectoral agency/organisations. Table 2 concluded the significant actors of equitable TOD consists of: *public sectors* from multi-sectors (government (ULI, 2011) transit agency, etc.), *private sectors* (profit and non-profit developers) (Poticha and Wood in Curtis, Rene, and Bertolini, 2009), and *community* (ULI, 2011; Bates, 2013). Sanyal (2005) argued that the collective ethos role of state, market, and civil society should be taken into account to enhance societal outcome. The role of *transit agency* is significant to create supportive regulatory

framework to coordinate multi-sector (housing, transport) toward equitable TOD. While private developers (profit and non-profit) which dominate the transit area redevelopment have huge influence on pursuing transit development for public benefit. Community or community-based organizations are crucial to foster coordination through mitigating community opposition in transit area redevelopment (ULI, 2011; MZ Strategies, LLC, 2016).

As each actors involved in transit development project has different knowledge, objectives, perspective within complex and (sometimes) contradictory rules and regulations, institutions ('rule of law') are inevitably needed to structure partnerships and improve coordination between stakeholders to collectively achieve equitable TOD (Hersey and Spotts, 2015; Lane, 2017).

BOX 1. IMPORTANCE OF COORDINATION BETWEEN STAKEHOLDERS IN TOD PROJECT

*“Yet it is sometimes difficult for planning agencies, local governments, transit agencies, housing organizations, private developers, and other institutions that influence development to act in concert to overcome barriers to eTOD. Each stakeholder has a unique mission with disparate goals and compliance burdens and must comply with complex and sometimes contradictory rules and regulations. However, **improving coordination** between these sectors can shift a potentially adversarial relationship into a symbiotic partnership. As the public resources that support transportation and infrastructure networks and housing affordability remain threatened, such efficient coordination is an especially important goal.” (Hersey and Spotts, 2015)*

Institutional framework becomes vital due to the high complexity of public and private actors with different interests, capacities, and intention (Bebbington, 2008) in transit development planning (Cervero, 1998; Bertollini, 2017). Connecting the significant role of coordination between stakeholders (Hersey and Spotts, 2015; Lane, 2017), institutions which consist of formal rules and informal rules/norms (North, 1991) are highlighted in this research as strategy to achieve equitable TOD.

2.4 Role of institutional arrangements to achieve equitable TOD

2.4.1 Institutions: definitions

Institutions are defined in sociological perspective as “*rules of the game*” and “*humanly devised constraints*” that structure interaction (North, 1991) and guide individual/organisational behavior and actions. Connecting this equitable development concept, institutions (including formal rules and informal norms (Ostrom, 1990; North, 1991) are important to govern behavior between actors and organizations involved in the project in sustainable coordination/partnership to achieve sustainable and equitable development (ensuring that the poor and marginalized groups has the same access to sufficient facilities) (The World Bank, 2003; Asian Development Bank, 2012). Strong institutional arrangements can provide political foundations to achieve equitable development (Marshal & Banister, 2007; Kuhonta, 2011), because they take into consideration both public and private interests.

2.4.1.1 Formal institutions

Formal institutions are understood as constraints from government's behavior depicted by legal institutions, political (and judicial) rules, financial, contracts, or sanctions. They are designed and enforced by formal governments to regulate interaction or partnership between stakeholders. Formal institutions to regulate and engage private and community actors to achieve equitable TOD were identified from related documents literatures which are: local transit and spatial plan, zoning regulation, contract, and agreements or government sanctions (Poticha and Wood in Curtis, Rene, and Bertolini, 2009, Bates, 2013). World Bank (2003) added that major challenge for government and formal institutions is to private actors by formulating right incentive, to increase their willingness to invest with minimised risk of failure/financial loss.

2.4.1.2 Informal institutions

Informal institutions are private constraints (Williamson, 2009) suggested that the success of formal institutions are based on informal institutions, stemming from social norm and culture attached within public, private, and communities which emerge spontaneously. It can take form as social norms (trust, commitment), traditions, management practice, or rules on who takes initiatives in infrastructure projects (North, 1990; Rietvald & Stough, 2006) within individuals/agency/community which "*adds a cooperating norm to the base situation*" (Ostrom, 2005, p. 154), which makes it hard to change within short amount of time. Such social norms can be identified with willingness to work accros silos or *willingness to collaborate* within and outside jurisdiction, as well as commitment (CTOD, 2009; Pollack and Praters, 2013; Espeseth, 2017). *Trust* and credibility among actors (Machel et al, 2009) are also essentials to maintain long-term partnership towards equitable TOD.

2.4.1.3 Barriers

Tan et al (2014) concluded that the context of institutions from North (1991) consists of formal and informal can be adopted in the context of barriers, thus called institutional barriers. Institutional barriers derived from the unconventional, complex inter-organisational involved of TOD make it difficult to be implemented (PolicyLink, 2008; Thomas and Bertolini, 2017). Example on formal barriers enacted as regulations (CTOD, 2009; Hersey and Spotts, 2015), or from the lack of integration between agency (Marsden and May, 2006), while informal barriers embedded within private developers or society such as negative perspective, and lack of awareness (Lane, 2017). Barriers exist in the implementation towards sustainable and equitable TOD (CTOD, 2009). such as physical, finance, institutions, and culture might hamper the implementation of TOD (Dumbaugh, 2004). Several literatures implicitly mentioned barriers toward equitable TOD ranging from regulatory, social and cultural aspect (CTOD, 2009; ULI, 2011; Lane, 2017). These barriers could be shortcoming, but often helps inducing change, or in the context of institution it is framed as institutional change.

2.4.1.4 Possible adoption of institutional arrangement

International adoption of institutional arrangements can or policy transfer in the context of institution is often used in research (Dolowitz & Marsh, 2000). However, Thomas et al (2018) articulates the complexity of transnational TOD policy transfer and implementation affect the difficulties to transfer, knowing the context-specific characteristics of TOD strategies based on urban forms, political and planning culture.

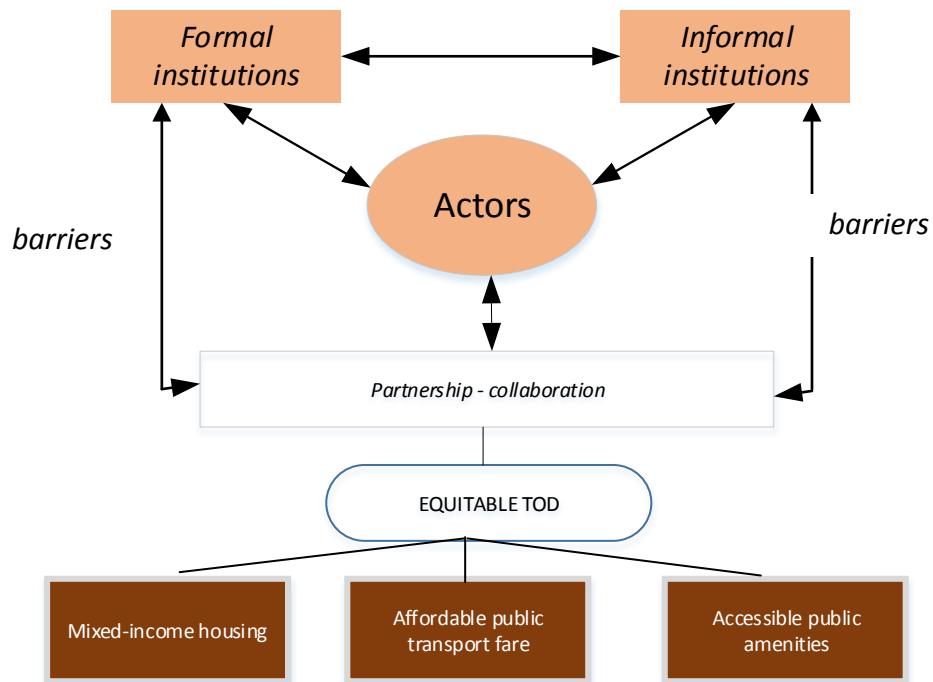
2.5 Critical assessment and research conceptual framework - Bridging gap between Equitable TOD concept and the role of institutional arrangements

Equitable TOD emerges as one socio-economic objective of public transit development, and it has been explored and emphasized through previous findings regarding the components and strategy to achieve it. This research tried to identify significant components to achieve equitable TOD, particularly for the low-income communities as transit dependent. Through desktop analysis derived from literatures, the context of this research highlighted three components: (1) affordable public transport fare, (2) sufficient housing, and (3) accessible public amenities.

Attempts toward equitable TOD involve complex and unpredictable behavior of partnership among actors in TOD (Dumbaugh, 2004; Tan, 2014a) which concluded the importance of institutional arrangements to structure coordination/partnership between stakeholders to achieve equitable TOD (Pollack, 2006; ULI, 2011; Hersey & Potts, 2015; Lane, 2017). However, the *how and what* kind of institutions can influence action interaction (governance) to achieve equitable TOD are still understudied.

This research adopted the concept institutions defined by North (1991) as formal and informal constraints and formal rules, which then framed as institutional arrangements (Williamson, 2009). Thus, formal rules and informal (norms) institutions will be explored, by identifying stakeholders involve in transit development in Surabaya from *public*, *private*, and *advocates* (academician), and community as significant actor to foster equitable TOD, by balancing perspective between between *grasstop* and *grassroot* development stakeholder in the prioritization of community integration (Pollack, 2006; CTOD, 2009; ULI, 2011; MZ Strategies- LLC, 2016). In addition, barriers were also identified as substantial factors hampering effective implementation of TOD strategies (Tan et al, 2014a), which in this research is framed as substantial factor which often impede coordination/partnership among actors to collectively provide three components of equitable TOD (CTOD, 2009; ULI, 2011). This research conceptual model is shown in Figure 3.

FIGURE 2 - RESEARCH THEORETICAL FRAMEWORK



CHAPTER 3

RESEARCH METHODOLOGY

In this chapter, research methodology is understood as several procedures or means to acquire the research goals, thus can help to define methods (tools we are using to obtain the knowledge) and source (the type of data and data collection method). This research is focusing on the identification and assessment of institutional arrangements to achieve equitable TOD.

3.1 Research strategy

Case study becomes suitable strategy to conduct this research, knowing its underlying characteristic of constructivist approach which holds the perspective that an entity (society, environment, situations, interaction) cannot be taken as granted, but rather is constructed through the relationships within individuals influencing with each other (Hagedorn, 1983 cited in Gagnon, 2010). A case study strategy has purpose of *generating intensive, detailed examination of a case* (Bryman, 2012), and it is suitable to help contributing to answer the research questions on *how institutional arrangements can help make TOD more equitable?* Propositions were used to examine the embedded unit of analysis (Yin, 2009) which are previously defined as three components of equitable TOD: (a) mixed-income housing; (b) affordable public transport fare, and (c) public amenities. Bryman (2012) framed this as theory testing through empirical findings. Thus, it is important for researcher to eventually generate and reflect back on theory out of findings which will lead to research conclusions and further research development.

TOD has context-specific characteristic on its components (spatial and institutions) (Renne, Bertolini, and Thomas, 2009; Tan, 2013) which makes it more difficult to achieve similar outcome through knowledge transfer from other international cases. This becomes very much relatable in the context of Indonesia and the majority of Southeast Asian (SEA) developing cities, where TOD has not been fully embraced and implemented in practice. Thus, illustrative example was adopted to describe TOD experiences from another case, since the researcher has limited information regarding the program/strategies (Yin, 1989; Davey, 1991).

Selecting appropriate examples with high level of relevancy will increase the possibility of the institutional approach to be implemented in Surabaya and other developing cities in general. Such differences in context might be found, thus it is important to observe of the similar phenomena, actors, and institutional (formal and informal) institutions to select potential illustrative example.

3.1.1 Case Selection

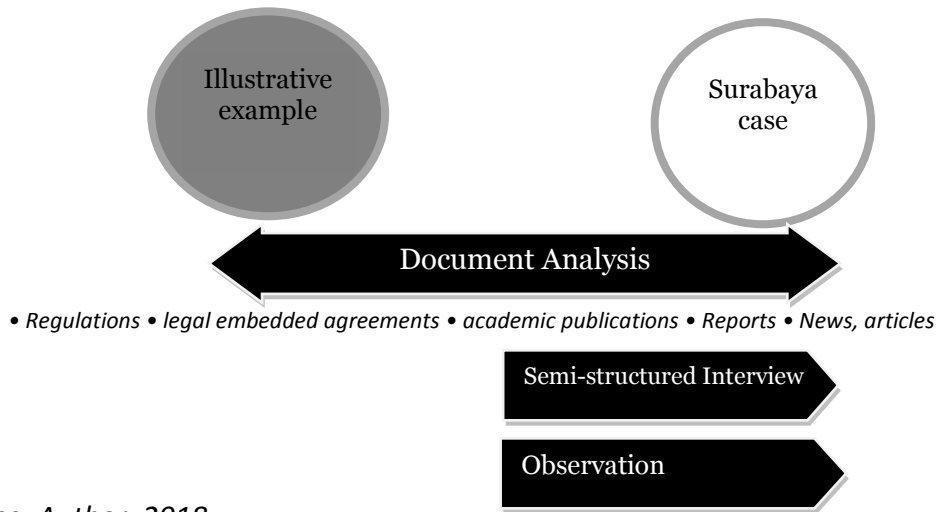
With the development plan of AMC and TOD, Surabaya is in the transition towards sustainable urban transport. Known as the second most populated city in Indonesia, Surabaya has higher economic growth (5.95%) than GNP (5.04%) (BPS Kota Surabaya, 2017), yet the gap of income between the rich and the poor (disparity) is still with Gini coefficient of 0.42, higher than the national score (0.38) in 2015. Potential redevelopment surrounding the public transit area has potential impacts towards the low-income citizen living in the area, with the potential gentrification and resettlement relocation for reactivation of old tram depot. Surabaya was adopted as exploratory case study using rational assumption of negative case of equitable TOD based on its relevancy with the topic and possibility of data collection within limited time and resource. Moreover, the current transport system in Surabaya has forced the low-incomes to spend 20-40% of their monthly expense for transportation (Aminah, 2009). Equitable TOD becomes significant concept since the public transit will pass through low-income residential area. The municipality is formulating transit and urban planning policy to prepare for the development, by engaging private sectors in the project. This become an interesting point of departure for research question : *“How can institutional arrangements make TOD more equitable?”*

Illustrative cases were selected based on their strategic input of knowledge to better understand the context of the case study. Singapore, City of Denver, City of Burnaby in Vancouver, and Mineapolis were selected as the most suitable examples for this research. Singapore as a role model of successful island-state city which adopted TOD/New Town Development strategies as its spatial development since the 1970 Concept Plan (Curtis, Renne and and Bertolini, 2009; Singh, 2012; Lane, 2017). The city had successfully improved urban development innovations by integrating societal and environmental objectives such as preserving open space and affordable housing around transit (Cervero, 1998). Vancouver is selected based on its history of the low-income gentrification and displacement issue of transit area redevelopment, which is quite similar with the emerging issues in Surabaya. The city had overcome this issue by developing partnership with community and non-profit organisations for the provision of affordable housing and accessible facilities for the community (Roe, 2009; Ngo, 2012). The assumption of similar context and strategy in both cities might be suitable to be implemented in the case of Surabaya.

3.2 Research Method

Conducting qualitative research requires triangulation (Bryman, 2012) to crosscheck findings in order to understand the comprehensive phenomenon of the case study. In this research, three methods were used to collect data through document analysis, interview, and observation. As previously explained, due to limitation of collecting data from the illustrative example, difference of data collection method was used between the case study (Surabaya) and the illustrative examples), illustrated in Figure 4.

FIGURE 3. DATA COLLECTION METHOD



Source: Author, 2018

Document Analysis

Document analysis was adopted through the whole process of this research. At the beginning, this method was used to identify relevant documents (regulation, reports, documents, and articles from online newspaper) before selecting potential interviewees to identify information regarding public transport projects in Surabaya and illustrative examples from other transit cities. Relevant documents were selected with context of public transit fare, affordable housing, and public spaces for the community to describe existing phenomena of transit development, coordination or partnership between actors, as well as formal and informal institutions to achieve equitable or inclusive TOD. Informal institutions from illustrative cases were taken from related reports and online news articles.

Interview

Potential interviewees are selected based on several criterias and conditions. First, interviewees were identified based on the involvement and knowledge about practice, issues, and coordination within transit development projects. Second, interviewees are classified based on their role towards the projects (significant actors to achieve equitable TOD from theoretical findings). Lastly, potential interviewees might be selected through recommendation from the other interviewees. Interviews were conducted with walk-in method or via phone due to the distance between the researcher and the interviewees.

Qualitative interview used in the research will be more flexible than those often used in quantitative analysis (semi-structured interview). Improvements or follow-up questions were often used if needed to gain broader information from the interviewee's replies and responses, but still conducted within the interview guideline (Appendix A). Through interview process, existing and the further development of formal regulations and rules were identified.

TABLE 3. LIST OF INTERVIEWEES IN SURABAYA

Public Sector (PB)	Advocacy (A)	Private sectors (PV)	Community Representatives (C)
Department of Transport (PB1) (20 December, 2017)	Institut Teknologi Sepuluh Nopember (ITS) - (A1) (22 December, 2017)	Perum Perumnas (PV1) (5 January 2018)	Representative from Joyoboyo transit area (C1) (5 January, 2018)
Division of Spatial Planning (PB2) (21 December, 2017)	Institut Teknologi Sepuluh Nopember (ITS) – (A2) (3 January, 2018)	Private Developers – PT. Pakuwon, Tbk. (PV2) (11 January, 2018)	Representative from Tunjungan transit area (C2) (6 January, 2018)
Division of Housing and Residence-Surabaya			
Department of Public Works and Spatial Planning (PB3) (21 December 2017)			
Transport Operator – PT. KAI (PB4) (26 December, 2017)			

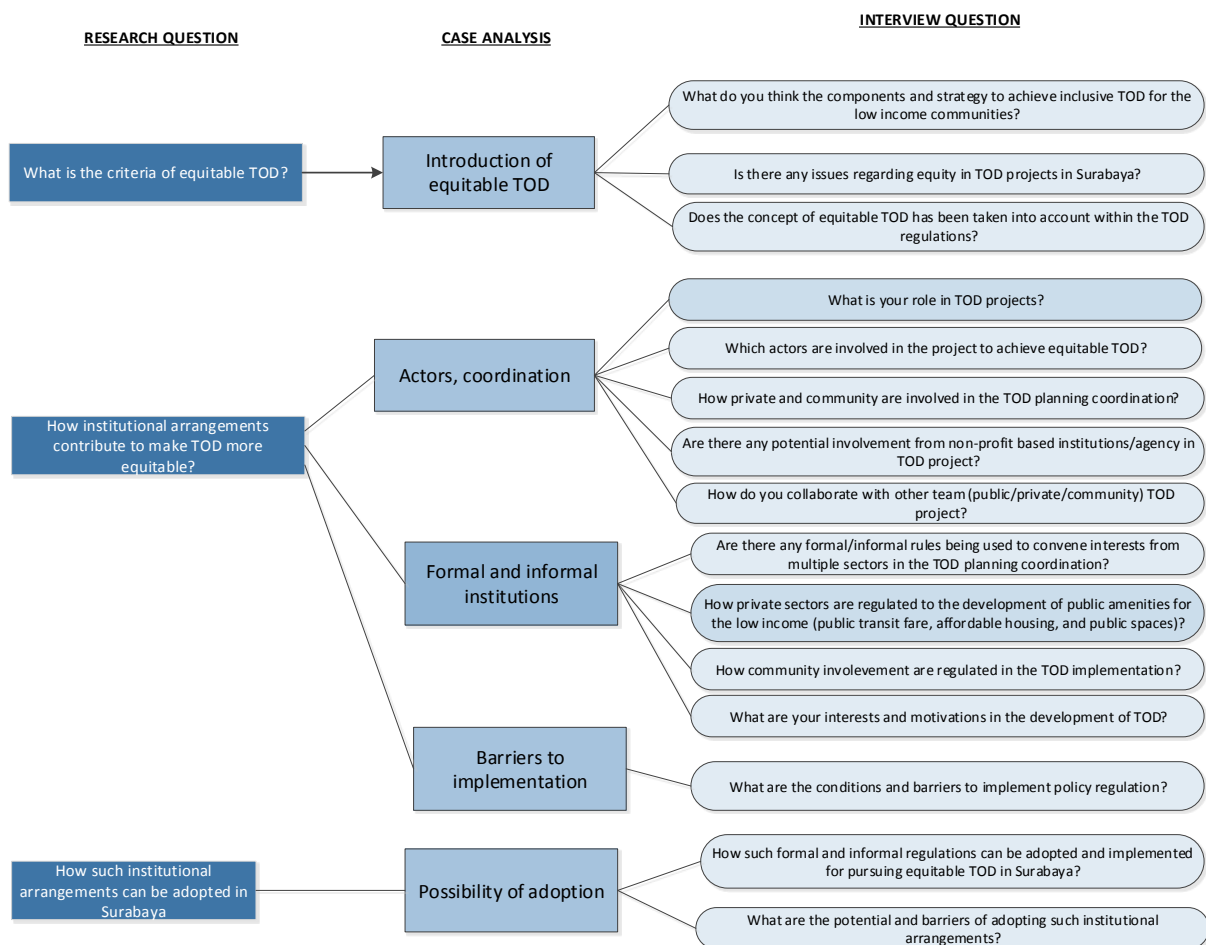
- Public Sector
 - *Policy makers*: representatives from the *local government* will be selected based on their relevance of TOD implementation. From the municipality, representative from the Planning Board (BAPPEDA), Transport Department, and Department of Building and Land Management are selected as the suitable candidate of interviewees.
 - *Public Transport Operators*: PT. KAI representative that will be appointed as official transport operator is selected to explore on the operational implementation of Angkutan Massal Cepat (AMC) in Surabaya.
- Private sectors
Representatives from two different housing developers were chosen based on their existing property in the potential TOD area. PT. Perum Perumnas is a state-owned enterprise/ *Badan Usaha Milik Negara (BUMN)* which has involved in the affordable low-cost rental housing or *rusunawa* in transit area in Jakarta.
- Community/community representatives

Two community representatives from two different planned transit area (Tunjungan and Joyoboyo) were chosen as interviewees. Tunjungan transit area was chosen due to its strategic location near the Surabaya's CBD, marked with a lined up high-rise buildings of commercial, malls, and offices and the existence of *kampung*. Joyoboyo will be the interchange station between monorail and tram network, in which the former tram depot will be reconstructed. This area is also surrounded with existing *kampung* and low-income informal resettlements.

- Academician/university representatives

Perspective from the academician provides substantial knowledge about the ideal condition of equity in transit. Academics and researchers who often conduct direct fieldwork can also enhance advocacy between public and private stakeholders what to achieve equitable TOD. Academic researcher are selected from Institut Teknologi Sepuluh Nopember (ITS) Surabaya who supported the municipality with conducting several studies about TOD in Surabaya.

FIGURE 4. DESIGN OF INTERVIEW QUESTIONS (Author, 2017)



Observations

Observations were conducted at the planned location of transit area developments,

particularly the low-income area. The identification of low-income area is the existence of the low-income residential area in several locations which will get potential impact of transit development.

3.3 Analysis

Qualitative Content Analysis

As pre-defined by Bryman (2012), qualitative content analysis is examining documents that aim to quantify content regarding pre-determined concept in a systematic manner. Compilation of data from documents (regulations, policy documents, design guidelines of public transport and spatial plan), complemented with interview from the case study were analyzed by its content to identify the components and institutional arrangements of TOD. In this research, content analysis with coding method was used to identify and analyze formal and informal institutions from the collected documents and transcript from the interview (Table 4).

TABLE 4. KEYWORD FOR MANUAL CODING

Unit of analysis	Formal institution (source: document, policy, reports, journals)		Informal institution	
			Surabaya (source: interview, journal, news articles)	Illustrative Example (source: journal, news articles)
Public transport fare	Transit TOD inclusive affordable accessible low-income workforce subsidy grant incentive inclusive subsidy	fare cost	perception enforcement commitment	
Sufficient housing		Housing Bonus Zoning	commitment motivation awareness trust	
Public amenities		CSR community incentive bonus zoning public parks plaza accessible grant	Motivation awareness trust sense of belonging	

Document Analysis

This method was conducted both in the case study and illustrative examples. Document analysis was adopted to search for underlying themes using predetermined codes (keywords) to identify several criteria of equitable TOD, relevant actors, as well as existing and adopted formal and informal institutions, which leads to comprehensive understanding of effective institutional arrangements to equitable TOD as the main purpose of this research. First, related documents (literatures, policies, regulations, and other documents) were collected through online findings with keywords from “Surabaya” and “TOD” or “AMC”,

and narrowed down to the criteria of equitable TOD using keywords of “equitable TOD” or “affordable fare”, “affordable housing”, “accessible public amenities” which were used to find potential cases for example. In Surabaya, documents were also collected through interviews. The collected documents were analysed to find *significant actors* and partnership/coordination between them (public, private, or community) involved in TOD project, particularly related with three equitable TOD components. Furthermore, *formal and informal institutions* were identified using predetermined codes (Table 4).

Interviews

Content of interview were organized into of three parts of analysis on achieving equitable TOD through institutional arrangements. Each part was integrated into interview questions which consists of: (1) Introduction of equitable TOD concept were asked to describe the concept of equitable TOD based on interviewee’s experience and recent issue which were used as empirical findings to enrich the concept of equitable TOD. Identification of (2) actors and coordination between them and (3) formal and informal institutions were compiled to describe existing institutional arrangements adopted in transit development planning in Surabaya. Lastly, institutional arrangements concept from theoretical findings were tested and asked for its possibility to be implemented in the case study.

Data and information from the interviewees will be interpreted into interview transcript and analyzed through manual coding to identify significant actors and formal (regulations, policy) and informal institutions (social norms (trust, commitment), culture, traditions, management practice, or rules on who takes initiatives in infrastructure projects (North, 1990; Rietvald & Stough, 2006). Subsequently, manual coding was used to analyse transcript into formal and informal institutions to foster equitable TOD.

Observation

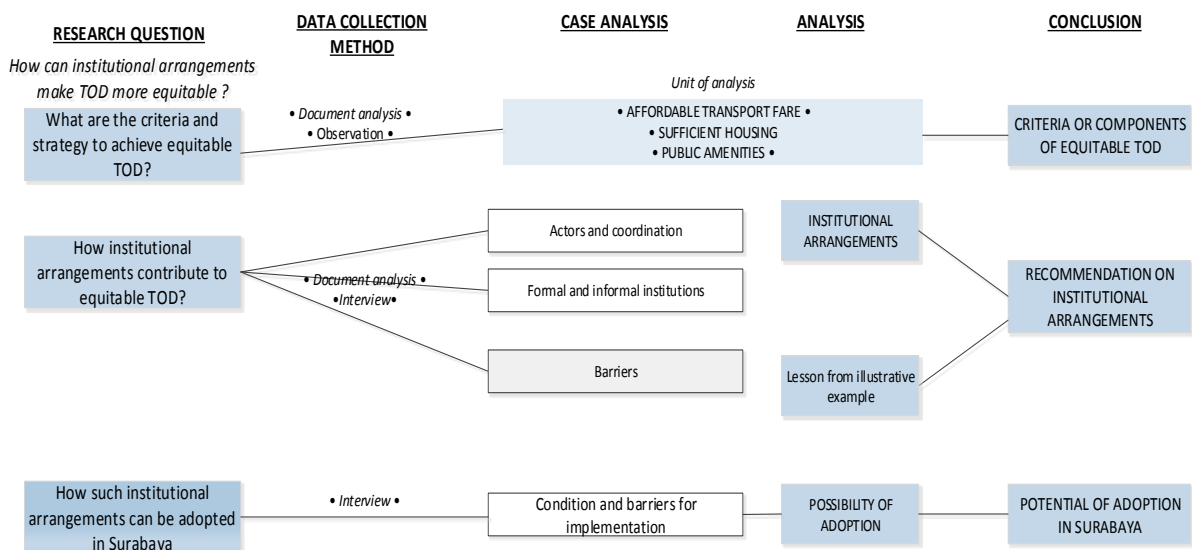
Field observations contribute to add real description of potential transit area neighborhood, especially the low-income (residential) area along the planned public transit route, which would complement findings from document analysis and interviews.

3.4 Methodological Framework

Analysis process of this research were built upon research subquestions (1.4) to answer the underlying research question. Theoretical findings on equitable TOD concept were used throughout the process in order to identify suitable institutional arrangements to achieve it. Three categories or components of equitable TOD (affordable public transport fare, mixed-income housing, and accessible public facilities) were used as unit of analysis within Surabaya. Documents and interviews were used to be analyzed with content analysis and manual coding. Exploration derived from desk and empirical findings were compiled and

explained in each unit of analysis (three components of equitable TOD) which consists of: (a) identification of equitable TOD (b) significant actors in TOD development as well as its roles and responsibility; (c) formal and informal rule to constraints and incentivize partnership, and (d) barriers to implementation. Findings from desk and empirical research of each unit analysis were analyzed and combined with illustrative examples in several overview paragraphs. Lastly, findings from theoretical framework were tested through the (d) identification of possibility of implementing concept in the case study to foster equitable TOD. Figure 6 illustrate the workflow for conducting this research, connecting research questions using several methods that produce finding and analysis, that consequently lead to the research conclusion.

FIGURE 5. METHODOLOGICAL FRAMEWORK (Author, 2018)



3.5 Ethics and Limitation

This research was conducted using ethical principle of informed consent of this research. Before conducting interviewees, researcher explained research topic and purpose, ensuring interviewees that any information collected would be used for no other purpose beside this research. Interviewee's personal identity would be kept anonymous, except for the general data such as the name of institution.

External validity is one criteria explaining how results will be valid to be implemented and provide lesson learning to another case study. As stated by Bryman (2012), it is hard to judge such recommendations and lessons from one case can be generalized to be implemented worldwide. Thus, empirical findings help testing and identifying the possibility of lesson learning from the illustrative example with consideration of local context and existing formal and informal institutions.

The adoption of illustrative example instead of comparative approach is the most significant



limitation of this research. Institutional analysis, in terms of studying interaction and behavior between actors ideally requires empirical information from interview or remarks (Koppenjan and Kleijn, 2007), focus group discussion or direct observation to discover a comprehensive case. However, due to the time constraints and lack of connection with stakeholders from the ideal case, illustrative example was the most possible method to acquire potential lesson-learning from ideal case study (North, 1990). This might inhibit the reliability of this research, particularly to identify informal institutions that stem from norms, conduct of behavior, and culture which can also be observed through interview. However, informal institutions were obtained from relevant articles on media and academic publications which contained perspective and opinions from the stakeholders. Relevant documents as formal rules/regulations from the illustrative examples were obtained via published journal, policy, regulations, and reports which could be accessed online and relevant to this research.

Distance and time also emerged to be constraints for data collection. Thus, rather than walking-in method, interviews were conducted using mobile and electronic mail-based methods, with prior permission to record the whole process of (phone) interview.

CHAPTER 4

TOD CASE IN SURABAYA

This chapter provides comprehensive description of TOD planning with focus on the equitable TOD components in Surabaya. As describe in chapter 2, components of equitable TOD were used as unit of analysis which are: affordable public transport, sufficient housing, and accessible facilities for the community. To begin with, this chapter will bring a brief introduction of Surabaya and identification of social equity in the current TOD strategies. Subsequently, actors and (formal and informal) institutions, as well as barriers will be compiled and explained in each unit analysis of equitable TOD, which were derived from document analysis and manual coding process from semi-structured interviews. Results from this chapter will be analyzed and combined with illustrative cases in the subsequent chapter.

4.1 Surabaya Urban Transportation Plan

Surabaya is the second most populated city in Indonesia with approximately 2.5 million inhabitants in 2015 with level of commuting within the city and from surrounding metropolitan area (Sidoarjo, Gresik, Mojokerto, and Bangkalan). Even with the existence of public transport such as bus and public minibus or *lyn* (feeder transport that serve smaller scale neighborhood), peoples still prefer using private vehicle for daily commuting. In 2010, commuting vehicle share in Surabaya is dominated with motorcycle 71.5%, private cars 25%, and public buses 3.5% with average travel time within the city is 37 minutes (Bertaud, 2012), which are far from the ideal illustration of sustainable urban lifestyle as private vehicle contributes to the congested road and polluted air in the urban area. Moreover, the city has unique spatial structure (Bertaud, 2012) of dispersed location between commercial centers (mixed-use of shopping malls and offices) and residential, making a significant gap between origins and destinations, thus it is quite challenging to develop an efficient mass transport system.

Development plan of *Angkutan Massal Cepat (AMC)* become one of the best solution to establish multimodal transport systems in Surabaya. AMC consists of tram network/*Surotram* (Table 9 & Figure 6), connecting the north-south corridors, as well as promoting Surabaya's urban heritage conservation and monorail/*Boyorail* (Table 10 & Figure 7) connecting eastern and western part to the city center.

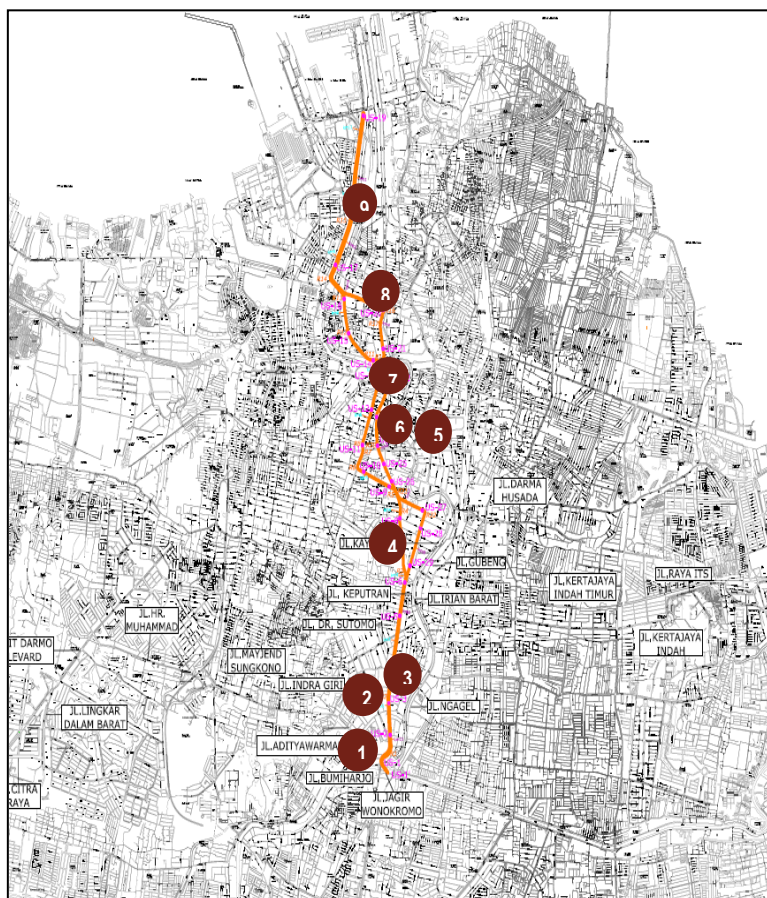
From social perspective, despite of its progressive economic growth of 7.02%, Surabaya has "high" income disparity indicated by the Gini coefficient of 0.42 in 2015, higher than the national index (0.38) (BAPPEDA Provinsi Jawa Timur, 2017). This represents the gaps of income or wealth distribution between the riches and the poor. Connecting this statistical data with transit development, the planned AMC route will pass through low-income residential area. As previously stated by Aminah (2009), the current transport system in

Surabaya has forced the low-incomes to spend 20-40% of their monthly expense for transportation. Thus, the development of AMC system should also consider its potential benefit for the low-income as the transit dependent.

TABLE 5. SUROTRAM STATION PLAN

NO	LOCATION	LUAS (m2)
1.	Joyoboyo	7.000
2.	Kebun Binatang Surabaya (KBS)	153.600
3.	Taman Bungkul	14.517
4.	Food Court dan Rusun Urip Sumoharjo	4.500
5.	Taman Apsari	5.300
6.	Pasar Tunjungan*	4.804
7.	Siola	1.156
8.	Tugu Pahlawan	25.000
9.	Taman Jayengrono	5.231

FIGURE 6. SURABAYA TRAM ROUTE AND STATION PLAN



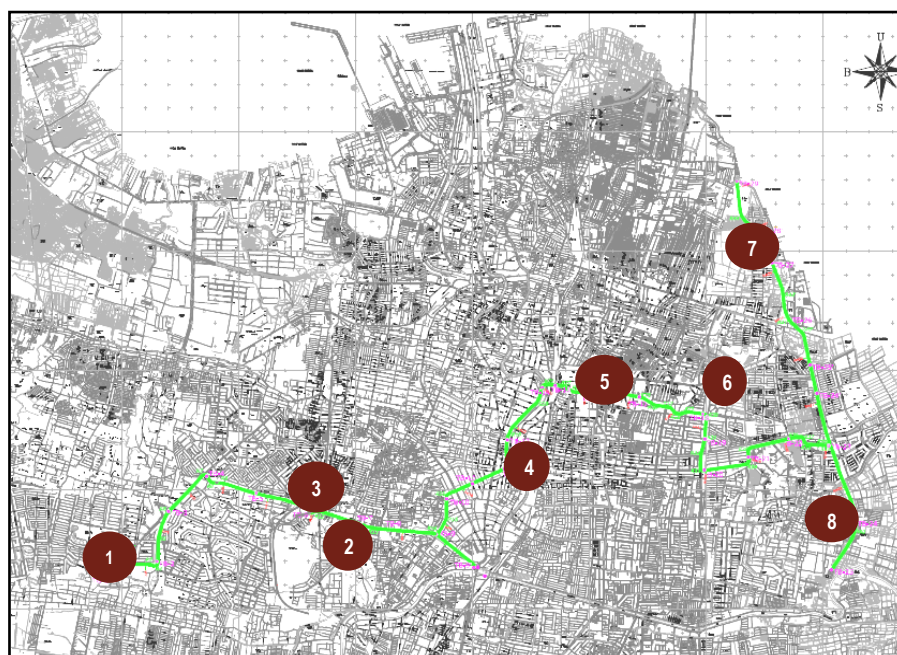
Source : Surabaya Integrated Mass Rapid Transit (SMART), 2014

TABLE 8. LRT STATION PLAN

NO	LOCATION	AREA (m2)
1.	Bundaran PTC	137.000
2.	Superblock Ciputra World *	96.876
3.	TVRI	23.253
4.	Pasar Keputran*	7.537
5.	RSUD Dr. Soetomo & Unair*	296.596
6.	Galaxy Mall - Kampus C Unair*	35.870
7.	Bundaran ITS	2.826
8.	Ex. TPA Keputih	405.000

Source: Surabaya Integrated Mass Rapid Transit (SMART), 2014

FIGURE 7. SURABAYA LRT ROUTE AND STATION PLAN

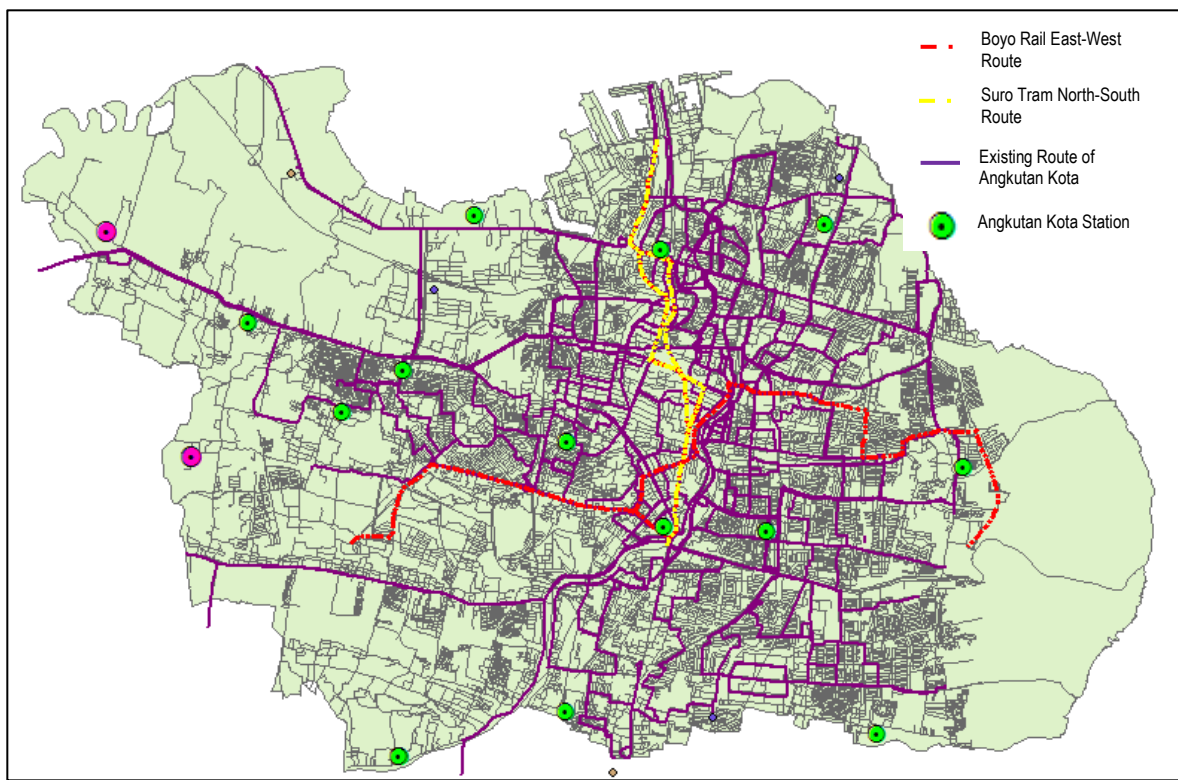


4.1.1 Minibus (Lyn) as Feeder Transport Mode of AMC

Surabaya's minibus (*mikrolet/lyn*) has been serving citizen's daily commuting within the local district scale. *Lyn* is privately owned and operated by private transport operator company (cooperation). Based on Law No. 22/2009 on Traffic and Road Transport and Government Regulation 74/2014, all public transport vehicle and its operators must be officially registered (official permit issued by the municipality) under legal entity/law agency/cooperative. Existing *lyn* will complements the monorail and tram's network as feeder mode to serve the neighborhood scale mobility. *Lyn* become the most common and affordable public transport in Surabaya. The existing 57 local *lyn* routes increase the public transport accessibility, particularly in the local neighborhood scale (Figure 8).

FIGURE 8. OVERIMPOSED MAP OF AMC ROUTE PLAN AND EXISTING PUBLIC MINIBUS (LYN)

(Author, 2017)



4.1.2 Surabaya Transit Area Development Plan

Surabaya's TOD concept is combined with Pedestrian Oriented Development (POD) to stimulate active mobility (walking and cycling) by providing sufficient facilities to the transit station. The project concept had been explored under feasibility study in 2014 from World Bank in 2014 in collaboration with Hansen Partnership & SUTC City Form Lab to identify potential nodes for TOD, depicted as public transit station with the mixed-use and mixed-density development surrounding the transit area. Transit nodes and corridor development

were selected based on transit development criteria and consent from public relevant stakeholders (national and local government institutions, NGO, universities, community representatives) through interactive public consultation and FGD (Hansen Partnership & SUTC City Form Lab, 2014). TOD selection criterias are: (a) Land use and ownership identification; (b) availability of alternative route; (c) identification of small & medium local enterprises; and (d) mapping of drainage system (considering the frequent flood in Surabaya). Several development principles are used for transit development:

1. Improving legibility of Angkutan Massal Cepat (AMC) Surabaya, to accentuate the image of TOD
2. Preserving cultural heritage buildings
3. *Kampung* integration (as the socio-cultural heritage of Surabaya)
4. Integrating connection to the river as waterway transport
5. Providing green public spaces
6. Developing higher density on transit routes
7. Defining Central Business District
8. Improving intermodal links

Based on the above principles, two of the transit development principles above imply similar context forequitable TOD which are: (a) *Kampung Integration*, and (b) *Provision of green public spaces*.

Adjascent Kampung Redevelopment

Kampung is informal settlements developed by the rural-urban migrants, occupying the empty land on the urban fringe or poorly suited locations (e.g. riverbank area, land near swamps and cemeteries) since the Dutch colonial era. *Kampung* has unique characteristic of settlements (Dianingrum et al, 2017) originated from small village which depicts strong culture and socioeconomic characteristics of its inhabitants. As the city grow along with rapid population growth, the area transformed into urban *kampung* with minimum facilities and services (Silas, 1992). Its inhabitants are dominated by mostly middle and low-income who has limited resource and access for proper housing and utilities. Some existing *kampung* in Surabaya are located in the city centres which will be passed through by AMC network.

Comprehensive Kampung Improvement Programme (C-KIP) is national based programme implemented in several cities in Indonesia to overcome inadequate housing and environmental problems, and later in 1998 the programme was developed with combination of local economic improvement programme. Surabaya is one of Indonesian cities which had successfully implemented C-KIP. This program emerges in the form of government financial aids and assistance combined with self-help community movement to construct and maintain public facilities (acces roads, bridges and footpaths, water supply, sanitation and drainage, school and health clinics), as well as to improve local economy. C-KIP will be

incorporated into transit development strategies in Surabaya/Surabaya Urban Corridor Development Programme document to harmonize the high-rise development with *kampung* as the city's socioeconomic icon (A2; PB2; PB3). The five figures below illustrate the design plan for Kampung Redevelopment (Hansen Partnership & SUTC City Form Lab, 2014):

- **Kampung network Development** (Figure 10) by improving the existing local road, pedestrian and sewerage system combined with cycling route between *kampung* and transit station to induce walking and cycling.

FIGURE 9. ILLUSTRATION OF KAMPUNG NETWORK

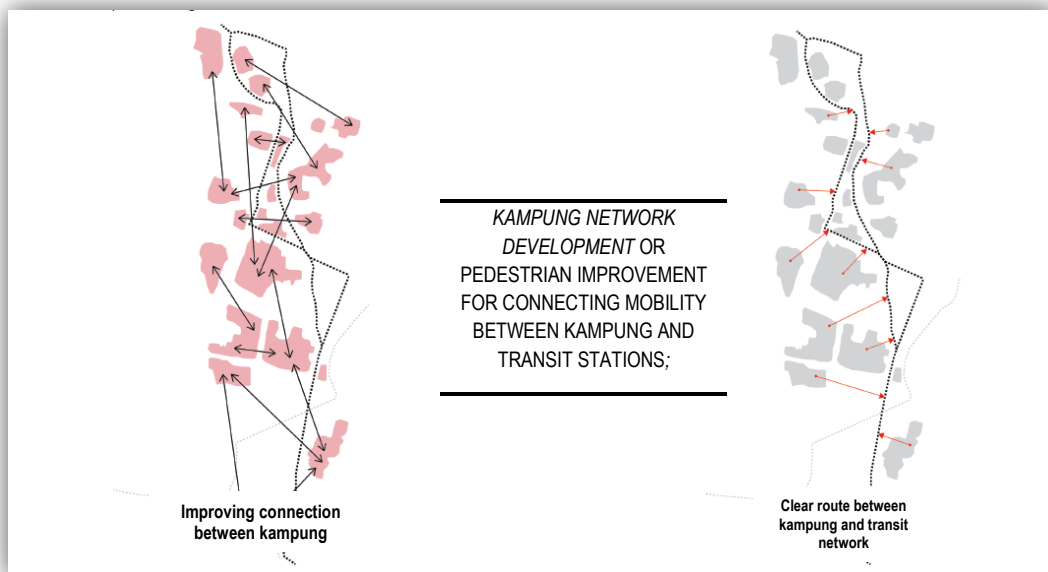
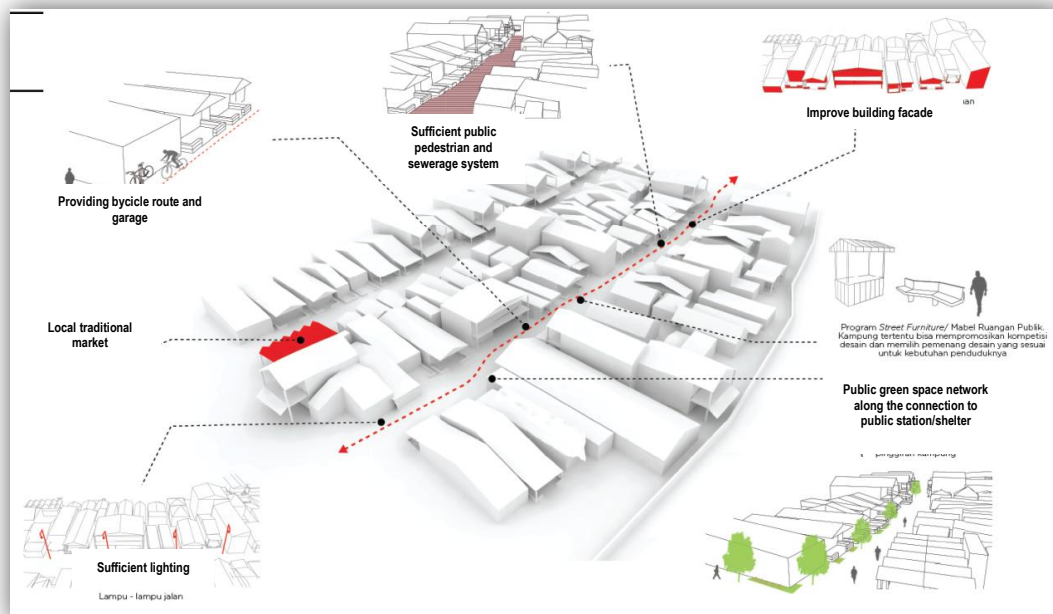


FIGURE 10. ILLUSTRATION OF LOCAL ROAD DEVELOPMENT



- **Kampung gradual development** (Figure 11 and 12), to maintain and harmonize the

existing kampung adjacent to transit corridor. This concept will be integrated with involvement from community representatives, such as *Yayasan Kampung/Kampung* Foundation without reducing its socio-economic characteristic (PB2; A2). This can be achieved with gradual settlement upgrading by providing low-rise and affordable public housing combined with sufficient public space. Gradual development is also depicted in the building-mass transition (lower FAR, kampung oriented public space, semi-opened tunnel) from the private-owned mixed-use building in transit area.

FIGURE 11. ILLUSTRATION OF *KAMPUNG* GRADUAL DEVELOPMENT

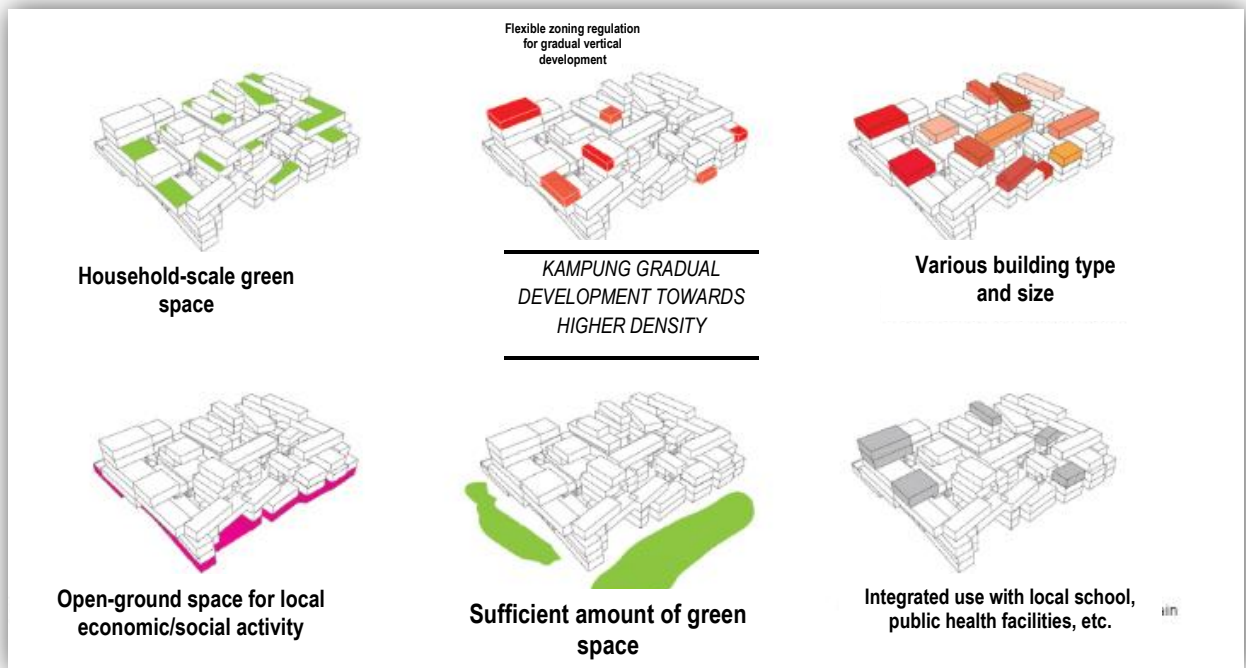
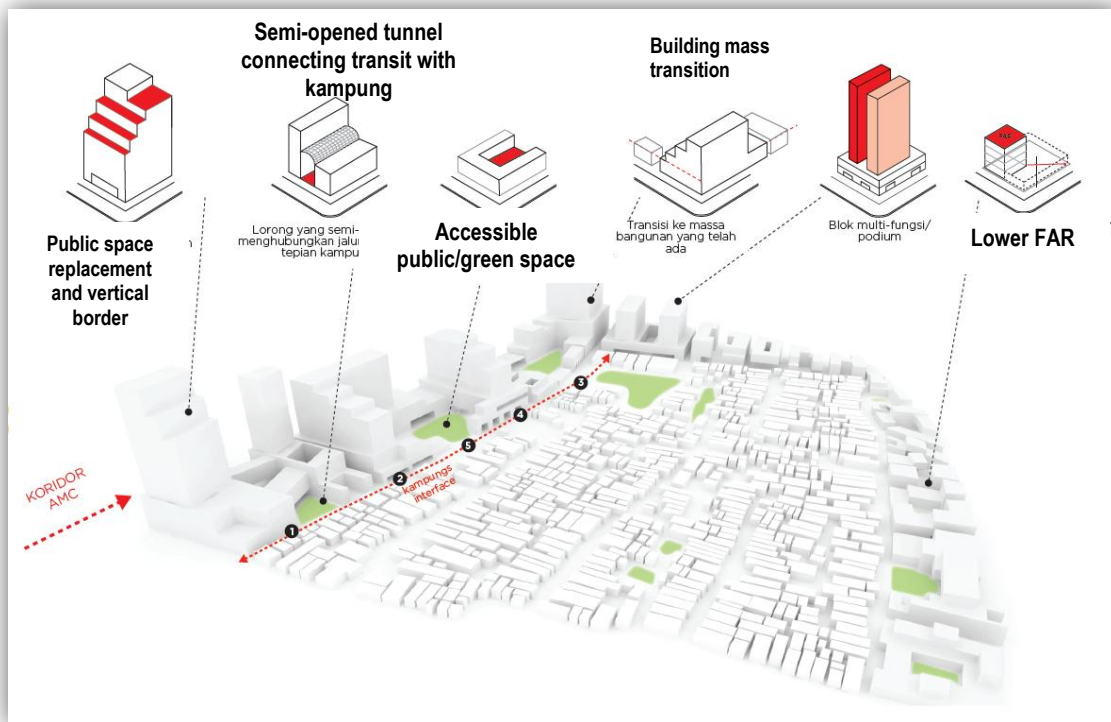


FIGURE 12. ILLUSTRATION OF ADJACENT KAMPUNG DEVELOPMENT TRANSITION DESIGN



- **Local economic improvement**, by providing public space for local economic activity (traditional market, small&medium enterprise, local street foods). This shall be complemented with incentive guideline and gradual development action plan.

FIGURE 13. ILLUSTRATION OF TRANSIT ADJASCENT TRADITIONAL MARKET DESIGN



- **Green public space** portrays one of the most accessible facilities for all groups of community. Public green space become one iconic urban innovation in Surabaya, as it has successfully contributes on reducing carbon emission and provide social space for public recreation and sports. Surabaya had achieved many international acknowledgement, one of it is the Green City Awards by Global Forum on Human Settlement (GFHS) in 2017. Hansen Partnership & SUTC City Form Lab (2014) recommended the formulation of guideline for public green space and boulevard.

4.1.3 Public transit development issues

“There are some social issues of AMC development in Surabaya, which are: public resistance of public minibus towards the development plan of tram and monorail. They perceived operation of this AMC could harm the existing operational of minibus. Thus, the municipality had this idea to integrate the public minibus/lyn as feeder vehicle of AMC, as the planned AMC route cannot reach the local neighborhood area yet. Second issue is the land acquisition of the ex-tram depot in Bumiarjo (near Joyoboyo) which are now covered by informal low-income settlements. The third issue is the problem of AMC’s tariffs to ensure that the formulations are still affordable, especially for the middle and low-income transit riders.” (A1)

The above quotation illustrates societal issues of Surabaya’s AMC development plan in a nutshell. The resistance arose from the private-owned minibuses (*lyn*) operators who feel insecure of the impact of AMC operation on the *lyn*’s ridership. On the other side, this becomes the strategic opportunity to integrate the existing public minibuses as transport feeder of AMC, despite of their inefficient physical conditions and irregular service schedule (PB1; World Bank, 2013). However, the reluctance of the *lyn* operator to registering their vehicles under legal cooperation/law agency (see sub-chapter 4.1.1) becomes the main barrier of public transport integration in Surabaya (PB1; PB4).

4.2 Identifying components of equitable TOD in Surabaya

This sub chapter will describe the existing condition of transit area in Surabaya. Content analysis from current regulations and policies were combined with result from manual coding from the interview to describe institutional arrangements to foster coordination

towards equitable or inclusive TOD in Surabaya.

4.2.1 Affordable Public Transport Fare

4.2.1.1 Actors

Surabaya Department of Transport is the main authority in charge of regulating public transport (public bus and minibus/*lyn*) fare and operational permit (PB1, PB4). The Ministry of Transport, along with the municipality and the expert team (from the universities) helps facilitating public tender of AMC's construction, AMC fare formulation, and possible transport subsidy (PB1; A1; Jakarta Globe, 2018). The subsidy for AMC will be allocated from the local government budget. *PT.KAI (national railway company)* is appointed as the public transit operator (PTO). Additionally, the current public minibus (*lyn*) will be integrated as AMC's transit feeder. However, this integration is hampered by the slow process of integration from public minibus (*lyn*) operators who have not registered their vehicle formally under official law-agency/cooperation (see sub chapter 4.1.1) which becomes obligatory under Government Regulation 74/2014 that public transport vehicles must be registered under legal entity/law agency/cooperative (PB1; PB4).

4.2.1.2 Formal and informal institutions

Surabaya public transport fare is controlled under *Mayor Regulations 76/2014 on Formulation of Economy-class Public Transport Fare* which can be adjusted through amendment based on economic (increase of fuel price) and political condition. Public minibuses (*lyn*) are set in a flat rate of IDR 4000 (US\$ 30cents) for the first 15 kilometers, and IDR 400 (US\$ 3 cents) for every additional kilometer. Public city buses are also set in the rate of IDR 3000 (US\$ 20cents) for every route. There is also 50% fare reduction for students who wear school uniform (Mayor Regulation 76/2014, 2014; PB1). The AMC tariff plan (non-subsidized) are set on IDR 11000 (USD 80 cts) for the tram and IDR 21500 (USD 1.5) for the LRT. These were compared with the willingness to pay, which resulted to the government subsidized fare of IDR 7000 (USD 50 cts) for the tram and LRT for IDR 11000 (USD 75 cents) (PB2). Despite the MoU formulation between Ministry of Transport, Mayor of Surabaya, and PT. KAI (PB1; PB4), there were no written consensus or agreement regarding AMC concession/subsidy in the former *MoU (PB4)*. However, the local governments are committed to prepare budget allocation for transport subsidy (PB1; PB2).

*"...since Mayor Mrs. Tri Rismaharini is **committed** on pro-poor regulation, so it seems that all public projects run by the municipality will definitely consider the low-income communities. We will soon inaugurate Suroboyo bus (while waiting for AMC's tender process) which will be free of charge for some periods. Passengers are only required to pay using plastic waste. So I think this idea is a proof of our (and our Mayor) commitment of pro-poor and pro-environment."*(PB1)

The above statement portrays the city Mayor's *commitment* on pro-poor regulation by combining affordable public transport and sustainable movement. Although such commitment This positive norm can help accomodating equitable development concept into public policy and development program which will benefit the low-income and all groups of citizen in general.

4.2.1.3 Barriers

The effectiveness of formal regulations/law and strong commitment from public sectors are challenged with formal and informal institutional barriers. Formal barrier exists with the *Lack Of Law Enforcement And Monitoring* of the existing public transport fare regulation and mandatory rule to public transport registration (PB1; PB4). Moreover, some negative perception (*lack of trust* toward the government) persists within the *lyn* operators which delays the integration of public transport system in Surabaya (PB1; PB4).

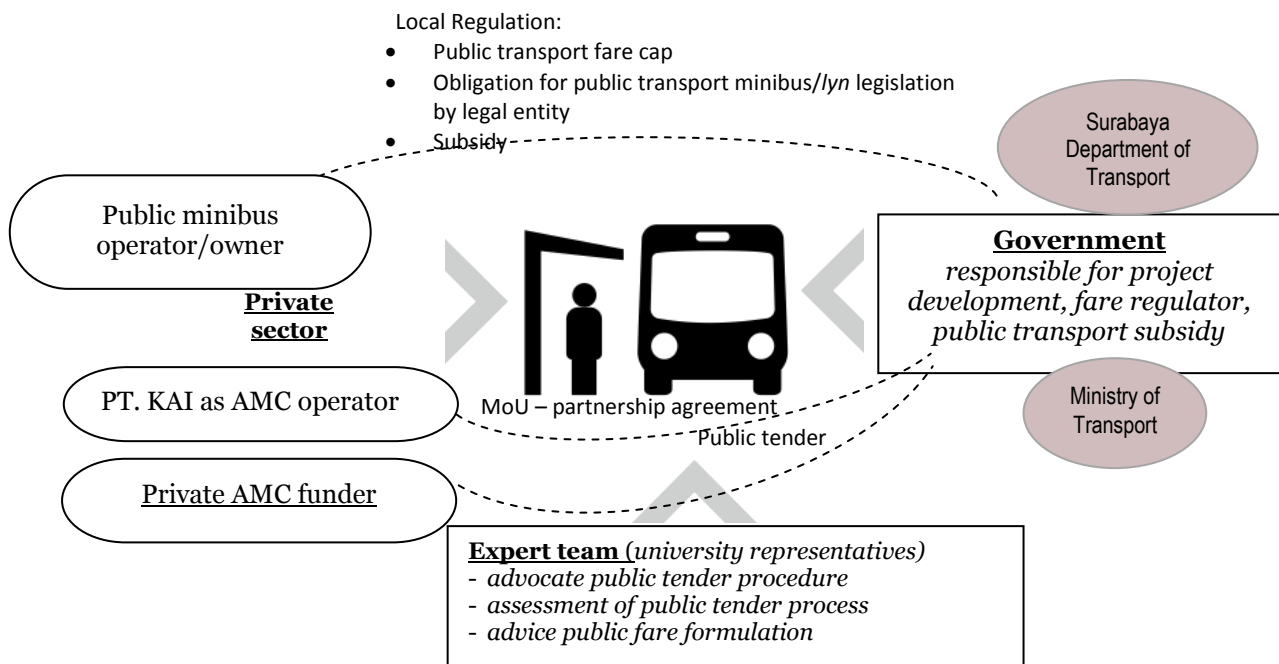
*“However, the problem is that there are not many public minibus operators who register their vehicles. They are still not willing to abide the rule since **they are worried if the profit from the minibus/lyn operation will not go into their pockets.** They bought the lyn vehicles using their own money as long-term capital. if they join the registration, the ownership will be transferred to the municipal authorities. This is considered to be disadvantageous for the lyn operator. In fact, if the city transport registered under a formal legal entity or cooperation, they are more likely to be maintained and receive operational subsidy under local government’s budget.” (PB1)*

Table 7 compiled the existing illustration of public transport institutional arrangements in Surabaya. The strong existence of formal regulations (mentioned 8 times) to ensure affordable public transport fare comprise from public transport fare cap and government subsidy.

TABLE 7. INSTITUTIONAL ARRANGEMENTS OF PUBLIC TRANSPOT FARE

Category	Sub-category	Conditions	Reference
Formal institutions	Regulations	Mandatory registration of private-owned public transport (minibus)	Law No. 22/2009 onTraffic and Road Transport
		Public transport fare cap	PB1, PB2, PB4, A1, Mayor Regulation 76/2014
		Government subsidy	PB1; PB2; PB4; A1
Informal institutions	commitment	Commitment for public transport affordability	PB1; PB2; PB4; A2
Barriers	Formal	Lack of law enforcement	PB1; PB4
	Social norms	lack of trust from lyn operators	PB1; PB4

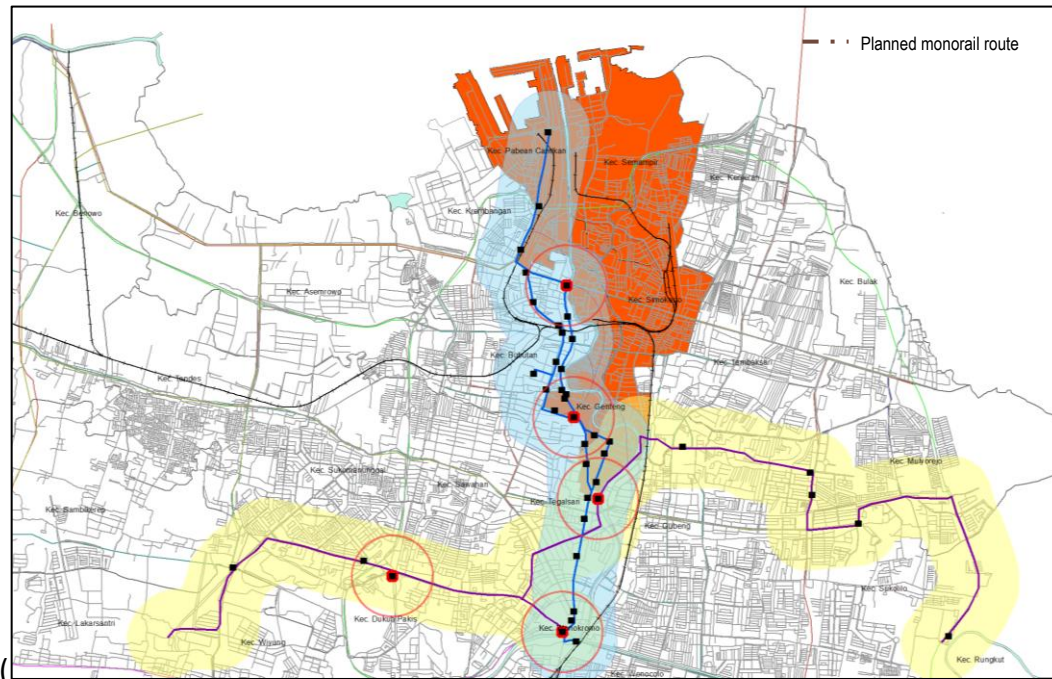
FIGURE 14. ILLUSTRATION PUBLIC TRANSPORT FARE INSTITUTIONAL ARRANGEMENTS IN SURABAYA



4.2.2 Sufficient housing

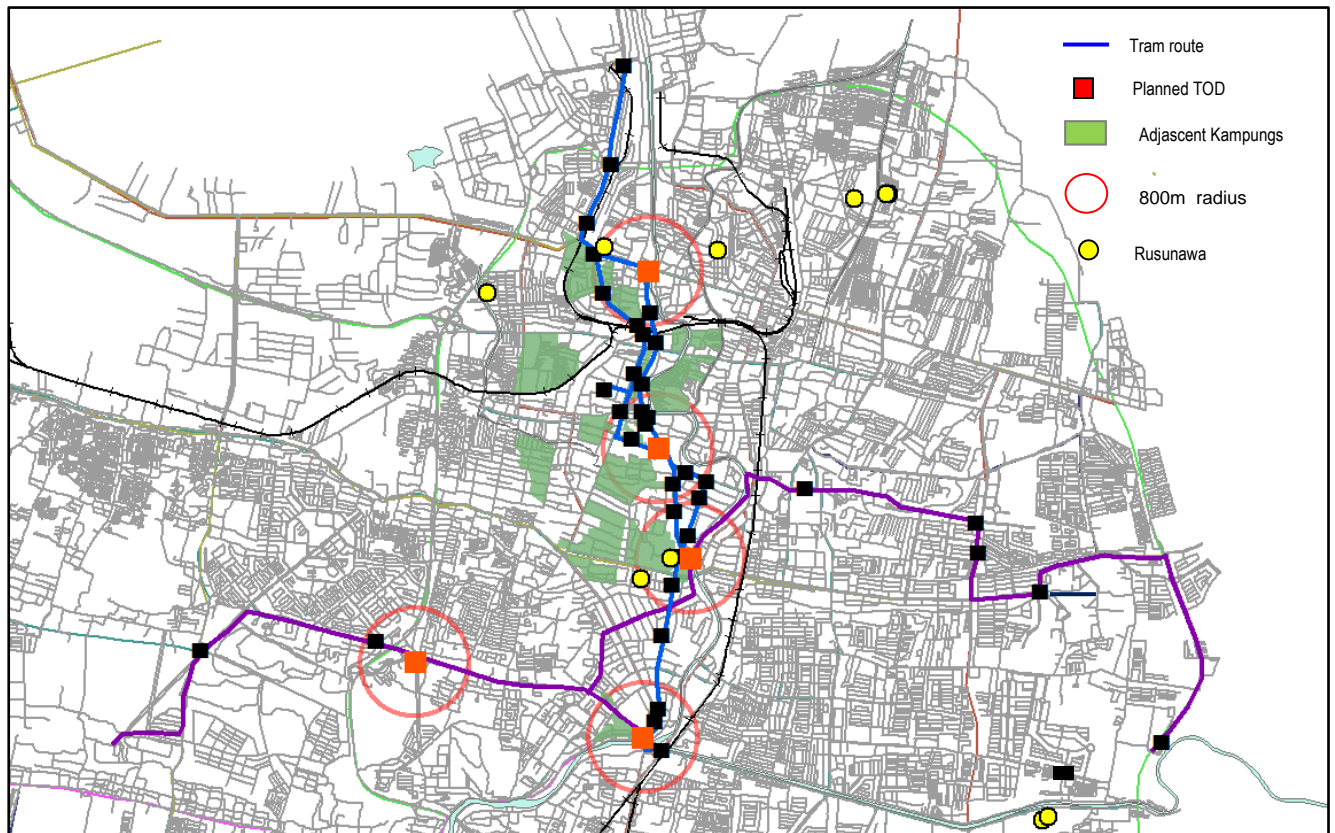
Sufficient and affordable housing becomes inevitable strategy to mitigate potential transit-induced gentrification and displacement, especially for the low-income communities. Figure 15 portrays the overlay of AMC route and TOD location with potential transit coverage service area (800 meters radius, with assumption of 15 minutes walking time) (Hansen Partnership & SUTC City Form Lab, 2014; Wibowo et al, 2015). The planned transit (tram) route will pass through several low-income districts (kecamatan) in Surabaya (Simokerto, Pabean Cantikan, Semampir, and Genteng-highlighted with orange color). Low-income districts/*kecamatan* were calculated based on percentage of the low-income household in district/*kecamatan* (Bappemas Kota Surabaya, 2012) using Indonesian poverty standard (household with monthly income below IDR 3 million (\pm USD 216)).

FIGURE 15. OVERIMPOSE OF SURABAYA LOW-INCOME SUB-DISTRICTS AND AMC PLAN
(Author, 2017)



Formal low-cost housing is depicted in the form of *Rumah susun sewa/Rusunawa*, a multi-storey public housing provided by national, regional/provincial, and local government partnering with state-owned enterprises for the middle and low-income citizen on rental basis. Figure 10 depicts the existing rusunawa and kampung (citizen-initiated housing) that are adjacent to the potential transit corridors in Surabaya.

FIGURE 16. OVERIMPOSE OF PLANNED AMC NETWORK WITH ADJACENT KAMPUNG AND
 RUSUNAWA (Author, 2017)



Connecting the housing and transit development, the local government are planning to relocate the existing informal low-income settlements in Bumiarjo (Figure 17) which was originally utilized as tram depot owned by PT.KAI. The existing residents will be moved to the existing rusunawa in Romokalisari (Berita Satu, 2015; PB2; PB3; C2) which is located 22 km away from the current location. This becomes a potential community displacement issue of public transit development in Surabaya.

“Some time ago, we found out about the relocation plan of our resettlement with purpose of tram depot reactivation, and we will be relocated to rusunawa towers in Romokalisari. There are people who agree, but mostly they don’t like the plan. Some people prefer to live in landed house, because they have grown out from this area. They see that these people within kampung are close to each other. They are also not familiar to live in a high place (such as apartment or whatsoever). However, currently the government is still in the process of public consultation, considering many of residents here who don’t have a legal proof of land ownership. (C2)”

FIGURE 17. INFORMAL SETTLEMENT IN THE EX-TRAM DEPOT IN BUMIARJO
(Author, 2017)



In Tunjungan, the adjacent kampung and local business and retails surrounding the planned transit corridor are endangered with the plan of transforming the area into private-owned international scale commercials and high-rise building (Rencana Tata Ruang Wilayah Kota Surabaya 2014-2034, 2014).

FIGURE 18. ADJASCENT KAMPUNG AND LOCAL RETAILS IN TUNJUNGAN (Author, 2017)



4.2.2.1 Actors

Rusunawa in Surabaya were constructed through national and/or regional (provincial) and local budget, managed by the municipality (*Land and Building Management Agency*) through transfer of rights. Indonesian Law Number 1/2011 regulates the provision of rusunawa by the government (national, provincial, and local) and *private developers*. Both public and private sector can develop local rusunawa through land acquisition and development permit from the municipality. However, development of rusunawa are dominated by the government in corporation with public-owned enterprises or *BUMN* who have the authority to help the government providing public good for society welfare as well as gaining profit such as PT. Perumnas, PT. PP, PT. Wijaya Karya, etc. (PB2; PB3; A1; A2).

4.2.2.2 Formal and informal institutions

Several forms of formal and informal institutions were identified from the document analysis and interview (Table 12). Formal institutions were highly recognized (mentioned 6 times by interviewees) such as the *1:2:3 residential ratio policy* (every construction of 1 high-income unit must be complemented with 2 middle-income units, and 3 low-income units). Some *incentives* are mentioned as: (a) Land Acquisition Process; (b) Simplification of Permit process; (c) low interests of construction credit; and (d) tax incentives (Law Number 11/2011 on Housing and Settlement Areas; Government Regulation 64/2016 on Construction of Low Income Communities Housing). The national government also launched *President Instruction 3/2016 on Simplification Of Housing Development Permit Procedure*, following the complex bureaucracy of development permit in order to achieve the national target of 'A Million Home Programme' (PresidenRI.go.id, 2017).

Social norms (good intention) were identified from academician and developers their *supportive attitude* on the development of low income housing (PV1), while academician (A1) emphasized their support on government regulation on affordable housing. Perumnas (PV2) –a state-owned enterprise/BUMN- emphasized their *commitment* on the company's vision to support the government in the development/construction of affordable housing for the low income.

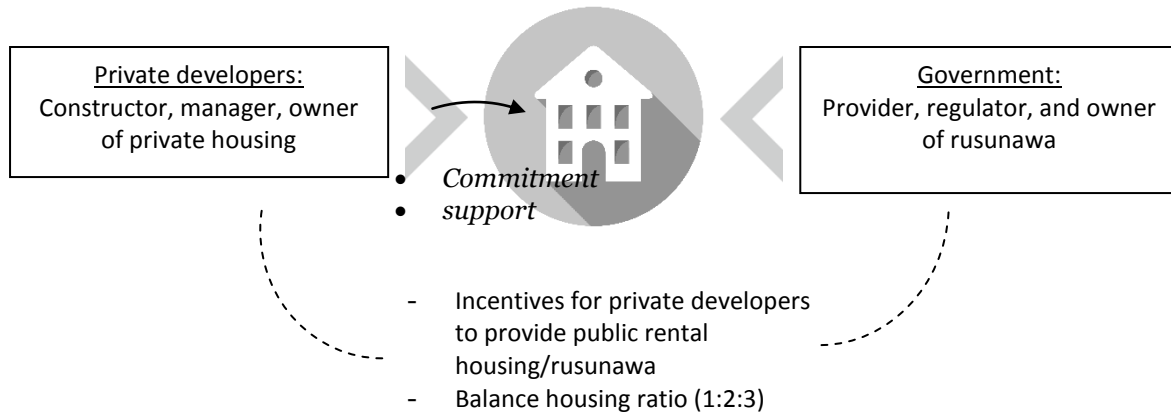
4.2.2.3 Barriers

Several barriers of implementing equitable transit housing were identified ranging from physical aspect (limited land for housing), local government's budget/financial limitation (PB2; PB3; A1; PV1). Formal barriers were also found from public officials who believe that there is *lack of law enforcement* such as balanced-residential ratio (PB2; PB3; PV1). Private sectors perceived some weakness of housing development regulations, such as complex permit procedure, and *lack of incentives* for providing affordable housing. Additionally, both public and experts notice the *fragmented coordination between land use and transport* which become fundamental principle for TOD (PB1; PB2; A1). *Lack of involvement* from developers and community in transit planning also exist as persistent planning culture (PB2; PV2; C2).

TABLE 8. INSTITUTIONAL ARRANGEMENTS OF SUFFICIENT HOUSING IN SURABAYA (*Author, 2018*)

Category	Sub-category	Conditions	Reference
Formal institutions	Regulations	Tax incentive	Law Number 11/2011 on Multi-storey housing; Government Regulation 64/2016 on Low-income Housing; Local Regulation 15/2012 on Regulation for renters
		Simplification on development permit	President Instruction 3/2016 on Simplification of housing development permit
		Balanced housing ratio	Law number 1/2011; National TOD Guideline, 2017; draft of Surabaya's Detailed Spatial Plan (2018); PB2; PB3; PV1;PV2; A1;A2
Informal institutions	Social norms	Good intention-Supportive attitude on housing for the low-income	PV1; A1
		Commitment from developers	PV2
Barriers	Physical	Limited land resource for housing	PB3; PV1
	Financial	Limited financial resource	PB2, PB3; A1;
	formal	Complex regulation (development permit)	PV1; PV2
		Lack of law enforcement	PB2; A2; PV1
		Lack of incentive	PV1; A1;
		Land use-transport fragmentation	PB1;PB2; A1
	Informal (planning culture)	Lack of community and private involvement	PB2; C2; PV2

FIGURE 19. ILLUSTRATION OF SUFFICIENT HOUSING INSTITUTIONAL ARRANGEMENTS IN SURABAYA (Author, 2017)



4.2.3 Public amenities

Public amenities in transit area are defined with open spaces & parks, food junction and/or community space to induce transit ridership and increase livability within the transit area. Due to the transit area transformation plan, the existing small-scale businesses and street vendors along the corridor have the potential to be displaced (Figure 21). Pedestrian and public places surrounding the adjacent kampung should be improved as transition space elements between kampung and transit corridor.

FIGURE 20. CONDITIONS AND DAILY ACTIVITIES IN THE ADJASCENT KAMPUNG IN TUNJUNGAN



4.2.3.1 Actors

Surabaya municipality has the authority to provide public facilities such as public pedestrian, public parks and local food centres, which are managed through different agencies (Department of Public Works, Departments of Parks and Cleansing, Department of Cooperative and Small Medium Enterprises) using government fund. The municipality often received grant from private companies to develop and maintain public facilities (public parks, food centers, etc.) through Corporate Social Responsibility (CSR) (PB3;A1), although they are limited in the form of non-recurring benefit, such as cash grant. These voluntary actions are still conducted as their active contribution to bring positive influence towards the community and their surrounding project area.

Comprehensive-Kampung Improvement Programme/C-KIP is a neighborhood scale programme of based on *partnership between the local government and community* on improving their environment in low-cost investment (Silas, 1992; Dianingrum et al, 2017)

through government's programme on Social Rehabilitation of Slum Area. C-KIP appoints community's representatives called *Kampung Foundation/Yayasan Kampung*, legal representatives responsible for project management and community-scale decision making, whose members are selected based on recommendation from the community. They facilitate coordination between the community and municipalities, bank (funder) in development stages: (1) encourage and mobilize community in the project preparation (data verification, planning), (2) implementation (mobilize community), and (3) monitoring. C-KIP is assisted by university representatives/Community Assistance Team (PB2; A2) to educate and assist the community, by collecting local issues and needs through public meeting and workshop. Apart from the C-KIP programme, neighborhood-scale facilities are often developed by the communities based on their needs (PB2; C1; C2).

4.2.3.2 Formal and informal institutions

Legally-binding development permit requirements

Formal institutions were identified in the form of *zoning regulations* in the provision of public amenities to encourage private developers and local community to provide local public roads, bridges, or green spaces. Private developers are attached with *development permit requirements* to adjust their building design within transit area, such as to design and construct pedestrian circulation within their building plot (Detailed Spatial Plan draft, 2017; PB2), transitional space between private properties and transit adjacent kampung by developing public road, and public open space (plaza, public parks) (Hansen Partnership & SUTC City Form Lab, 2014; PB2; A2).

Cooperate Social Responsibility

Private developers's CSR programmes in Surabaya are growing in the form of cash-aid or social/environmental programme (public parks, public school renovation). These social movements are regulated (in voluntary basis) with *government regulation*, which states incentives of government rewards or physical/fiscal incentives based on their innovation to help tackling the provision of public goods (Government Regulation 47/2012 on Social and Environmental responsibility of Limited Liability Company; PB2). There are social norms growing within developer's which motivates them to conduct CSR such as: to *maintain company's image (PV1)*; *awareness of societal issues (PV1)*, and *their willingness to contribute (PV1; A2)* to their surrounding environment and society as profit-share for their successful project. The form of CSR is selected inline with the company's business focus by collecting social issues and needs from the surrounding community through public meetings or community engagement (PV1; PV2).

Comprehensive Kampung Improvement Programme

C-KIP emerges as potential collaborative programme involving cross-sectoral stakeholders to improve public facilities (road pavement, bridges, sewerage system), however this program was often executed in the form of cash/financial aid from government with

continuous monitoring (PB2, A2). Several social norms or cohesion within local neighborhood/*kampung* community become significant factors such as: *community trust*, *sense of belonging of the area* (C1; C2; A2) to be *willingness to contribute* on building and preserve public facilities within their neighborhood (meeting hall, local mosque, local roads, bridges, etc). This form of social cohesion should be maintained as *kampung* sociocultural attributes to foster sustainable development in their neighborhood area. (PB1; PB2; A2; Hansen Partnership & SUTC City Form Lab, 2014).

*“Basically, because of the **strong bond** and **sense of belonging of this neighborhood** is very high, so if it relates with urgent matter, we can initiate such activity such as renovation of public facilities such as roads and bridges. This is done according to schedule with the neighbor. However, apart from that, there is a village improvement program from the municipality. Through the government budget, we are also facilitated with the existance of Yayasan Kampung and some representatives from ITS to manage the budget for the public infrastructure development/renovation, or small business development through the local neighborhood cooperative.” (C1)*

4.2.3.3 Barriers

Formal and informal barriers persist the process of partnership to develop public amenities towards equitable TOD. Formal barriers emerge in the form of *limited formal incentive* to encourage private sectors (developers) to collaborate on the provision of public amenities near transit (A1; PV1; PV2). Informal barriers were perceived as dominant factors, which derived from the *limited knowledge* to incorporate concept of equity in transit development (A1).

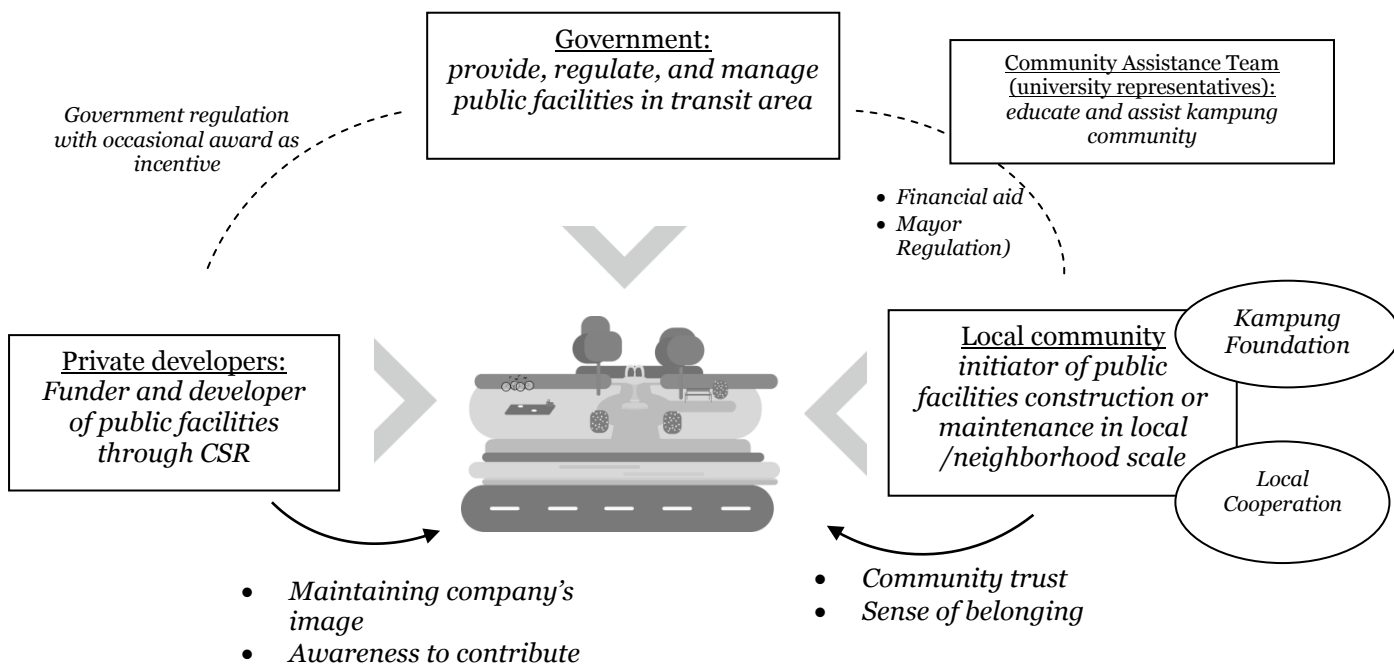
*“I think the barrier is the the **limited knowledge** of the government and private sector to notice that transit development planning is not just about design, but it is important to consider its social benefit for the community surrounding the area. Thus, examples or experience from other cities as source of knowledge is important. “(A1)*

TABLE 9. INSTITUTIONAL ARRANGEMENTS OF PUBLIC AMENITIES IN SURABAYA (Author, 2017)

Category	Sub-category	Conditions	Reference
Formal institutions	Regulations	Zoning regulation	District Detailed Spatial Plan; PB1; A1;
		Comprehensive – Kampung Improvement Program (C-KIP)	Mayor Regulation Number 82/2010; PB2, PB3, A1; A2)

		Voluntary CSR	Government Regulation 47/2012 on Social and Environmental responsibility of Limited Liability Company; PB2; A1; A2; PV1
Informal institutions	Social Norms	Maintaining company's image	PV1
		willingness to contribute to society and surrounding	PV1; A2; C1;C2
		Awareness of societal issues	PV1; PV2
		Trust (within community)	C1, C2
		sense of belonging of the area	C1
Barriers	Formal	limited incentive	A1; PV1
	Informal (social norms)	Limited knowledge	A1; PB2

FIGURE 21. ILLUSTRATION OF PUBLIC AMENITIES INSTITUTIONAL ARRANGEMENTS IN SURABAYA (Author, 2017)



CHAPTER 5

ANALYSIS

This chapter portrays analysis from data and information gained from the case study with comparison from international illustrative examples of TOD. Analysis of institutional arrangements was described into three unit of analysis: (1) affordable public transport fare, (2) sufficient housing; and (3) public amenities. Brief description of illustrative examples was used as recommended tools towards equitable TOD. Institutional arrangements drawn from the examples were tested through the opinion from interviewees and the identification of similar tools in Surabaya.

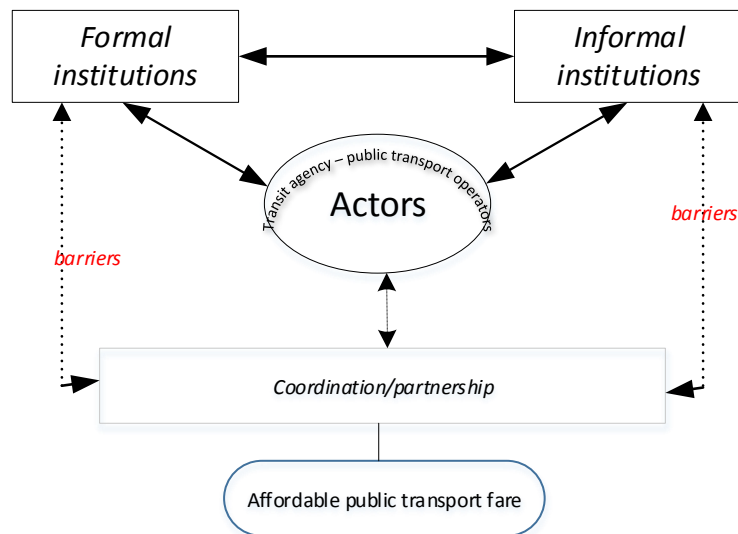
5.1 Affordable public transport fare

5.1.1 Illustration of Surabaya public transport institutional arrangements

Figure 19 illustrates the existing institutional arrangements (from the category of formal and informal) to incentivise actors (governments and public transport operator) coordination towards equitable TOD. The line helps to illustrate the strength influence of the element, the more solid it connects between those components, the stronger they influences each other. Formal institutions (laws and regulation) are dominating the behavior of *lyn* operator, yet they are not effective to foster their coordination to achieve affordable public transport. This is due to the strong influence of *informal institutions* (*lack of trust* from *lyn* operator which hinders their obedience toward the regulations). However, this constraint had encouraged some institutional change in the form of *sanction for the lyn operator* to prevent tariff fraud and further delay of public minibuss registration.

“ To anticipate fraud in tarrif, we imposed sanctions in for lyn’s operator. If the driver is seen or caught (by Department of Transport official) forcing passengers to pay higer tarrifs above the regulated fare, then the driver will be given a warning. If this keeps repeating, consequently the public transport route license will be revode. However, the problem is we dont have any effective methods to monitor the implementation of this regulation. We still rely on our officers or report from pessangers. So the existing regulations can not be implemented efficiently.. (PB1)

FIGURE 22. INSTITUTIONAL ARRANGEMENTS OF PUBLIC TRANSPORT FARE (Author, 2018)



5.1.2 Illustrative case

BOX 2. SINGAPORE PUBLIC TRANSPORT COUNCIL

Singapore Public Transport Council (PTC) was established as independent agency under Ministry of Transport in 1987 who has the authority of regulating: (1) public bus license; (2) public bus and train fare adjustment; and (3) evaluate and make recommendation to the government regarding public transport service improvement (bus, train, and taxi) under PTC Act (Chapter 259b). PTC have the right to approve (sometimes with attached conditions) or refuse the fare adjustment application from PTOs considering certain circumstances such as poor economic conditions or high unemployment (Ministry of Transport website, 2017). **The member of the council comprises from public service, business community, academia, labor unions and grassroots organisations** (Singapore Government Website, 2017).

*“Currently, the **integration on public transport organizational arrangements** under the management authority of the (local) government should be prioritized, especially for the current public minibus/lyn. Along with this integration, process of current public transport rejuvenation and application for subsidy can be followed up. Further plan of integration with AMC operator will be conducted easier this way. However, the problem is that there are not many public minibus operators who register their transportation, they are still not willing to manage and **they are worried if the profit from the minibus/lyn operation will not go into their pockets.**” (PB1)*

Following the fragmented integration of the current public minibus (*lyn*) as feeder, organizational rearrangements (between the current *lyn*, buses, and the planned AMC) should be prioritized. This amalgamation can improve partnership and trust between the public sector (government) and private PTO’s, and later can be followed by establishing independent agency as public transport operational and fare regulator (Box 2). *Surabaya Department of Transport* is currently in charge of integrated public transport management and regulation in Surabaya. This agency’s authority might be comparable with Singapore’s

Ministry of Transport (managing land, air, and sea transport management) as transit agency in a local context. Surabaya Department of Transport has responsibility of public transport registration, local roads, railways, riverways, and sea transport managements, (PB1). Thus, establishing local scale agency dedicated to regulates public transport fare (similar to PTC) might be useful, while ensuring sufficient proportion of its members from cross-sectoral representatives (private businesses, community, and university, etc.). Thus, the process of decision making on public transport fare are considered based on public, private, as well as community's benefit.

Formal/informal institutions

BOX 3. SINGAPORE PUBLIC TRANSPORT FARE REGULATION

Singapore's PTOs apply for bus/train fare adjustment to PTC (Public Transport Council) under condition of **fare adjustment formula** (based on consumer price index, change in annual average of monthly earnings, energy and electricity index, and productivity extraction) to ensure that they are inline with production/operational cost, but remain affordable for the commuters. PTC becomes an independent body under the Ministry of Transport which *regulates: (1) fare formulation and ticket payment, (2) promote and facilitate public transport integration*. As monitoring scheme, the council submit annual report on public transport fare to Minister of Transport (Singapore Government, 2012).

Public transport fare concession, card is integrated into a personal travel card for several groups of citizen: Person with Disabilities (PWD), children under 7 years old, students (school and diploma), senior citizen, National servicemen (armed-force, civil defense force, and police force), and Workfare Income Supplement (WIS) recipients. Concession for WIS (established in 2014) grant 15% fare discount from normal (adult) fare, which is aimed for citizen between 35 and 60 years old with income less than \$2,000 in the past 12 months, and received WIS payments from 2013 (Source: TransitLink website).

Surabaya's formal regulations on *Public Transport Fare cap* and *Special Student Tariff* can be potential basis for ensuring the public transport fare remains affordable. The municipality is also committed to provide AMC's fare subsidy to ease the low income household expense on transport (PB1, PB2, TO, A1). The existing student subsidy can be extended for particular groups such as: worker, elders, low-income citizen, person with disabilities, and improved within *integrated personal ticketing to implement fare concession (PB1)*.

5.1.3 Possibility of adoption

Table 14 shows the formal regulations drawn from the Singapore's examples, which were combined with commentary from the interviewees (related authority and experts) for the possibility of adoption in Surabaya.

TABLE 10. POSSIBILITY OF TRANSPORT FARE POLICY ADOPTION

Context	Tools	Currently used in Surabaya	Commentary
Actors/Organizational arrangements	Amalagamation of public transport operator	In the process of institutional amalgamation, but not effective	Possible to adopt, will be prioritized to facilitate management and subsidy from government, combined with formal agreement (PB1)
	Public transport fare regulator agency	Currently under the authority of Surabaya Department of Transport	Requires multi-sectoral and multi-tier decision (PB1; PB4) <i>"It is quite difficult to adopt in the near future. Considering that public organizational arrangements are highly depend on the political decision and related (national) regulation and policy. However, we often held discussion with thelyn transport operator and expert from universities before determining public transport fare. This kind of decision will not come only from us but also from PT. KAI and lyn operators, also with the higher decision maker and regulator from Ministry of Transport, city council, as it requires special financial allocation for this new agency."</i> (PB1)

Context	Tools	Currently used in Surabaya	Commentary
Formal institutions	Fare Adjustment Formula	No	<i>“Difficult to adopt, since the price cap had been determined (Mayor Regulation) at the lowest level. If the adjusted fares are determined below the price cap, it will increase financial burden for both the operator and government (PB1)</i>
	Concession fare	No	Very likely to be implemented (PB1) <i>“Expanding subsidy for bigger groups of transit riders should be discussed with the other public authority and the city council. Prior integration of multi-modal public transport should be done to adopt this scheme.” (PB1). “...Smart ticketing will be introduced in the public transit system.” (PB1).</i>

Box 2 illustrates adoption of organisational and formal institutions from the Singapore case in Surabaya, which requires continuous discussion between multitier level (national, local government) and multi-sectoral (government-operator-public transport constructor) stakeholders. In addition, establishing new agency and regulations requires collective approval by legislative actors/City Council. Concession fare regulations might be potential to be implemented in the framework of future public transport intergation, with consistent evaluation and monitoring from public officials and riders (citizen) to ensure that transport fare remain affordable. In regard with PTO’s lack of trust towards the government, building *trust* as social norms to create sustainable coordination between public official and PTO should be taken into account.

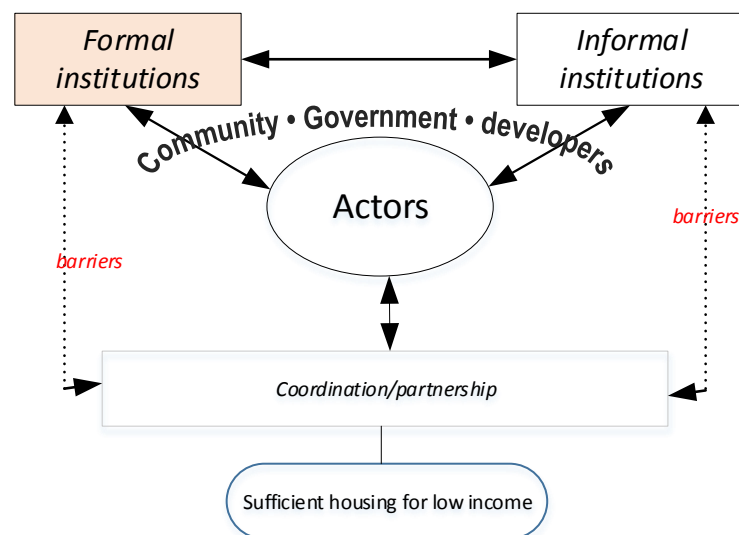
5.2 Sufficient housing

5.2.1 Illustration of Institutional Arrangements

Rusunawa development in Surabaya is heavily dominated by public authority (national/regional/local government) in coordination with state-owned enterprises. The

current public housing provision depicts the fragmented partnership/coordination between transit and the public housing agency, also the lack of involvement from market-rate developers to build affordable housing. Barriers arose from *physical (land) and financial limitation*, thus private developers play significant role to provide sufficient housing for all groups of income in the transit area (PB3). Formal institutions (balanced-housing ratio, fiscal and non-fiscal incentives) have been legalized to regulate private developer's to provide housing for the low-income. However, the market-rate developers are not too captivated by the current formal regulations (PV1) due to some barriers on *complex regulations*. Efforts on affordable housing development had been supported by the state-owned-enterprises who has the authority to construct affordable housing/flats through given by the government (PV2). However, social norms within public officials and developers (awareness of housing crisis, and willingness to collaborate) identified from the interviews can potentially encourage them to involve in the provision of sufficient-housing for the low-income communities.

FIGURE 23. INSTITUTIONAL ARRANGEMENTS OF SUFFICIENT HOUSING (Author, 2018)



5.2.2 Illustrative case

To illustrate the potential gentrification from transit development, Box 1 presents illustrative example from the City of Burnaby, Greater Vancouver, Canada.

BOX 4. AFFORDABLE HOUSING INCENTIVE IN VANCOUVER

City of Burnaby is passed by the rapid transit SkyTrain (public transit within Greater Vancouver Area). The area is famous with the existence of aging (30-60 years old) rental apartment for the low-income, which are walkable, provide easy access to high quality amenities. However The City Hall legalized the *S-zoning* in those areas to encourage developers to participate in rental housing development through **Additional increase in the maximum Floor Area Ratio (FAR)** in exchange with provision of public amenities or non-market housing. Alternatively, developers can opt to contribute financial grant or *cash-in-lieu* for amenity and off-site affordable housing replacement. However, this regulation was unexpectedly induced higherclass property development (as developers tend to pay the fees instead of integrating affordable-units), which consequently increased the land value and rental price. This caused the demolition of the rental flats in exchange with high-rise condominium surrounding the transit area. since 2002 -2011, approximately 50 low-income rental apartment units were demolished, replaced by high-rise condominiums which increased annually. (Jones and Ley, 2016).

*“So what we’re doing is **accepting the inevitable**, which is that you can’t have a low a density around a SkyTrain station in the middle of an urban centre, And so we’ve only we’ve only got that broad sort of brush to paint with, which is saying by creating more housing, then hopefully, on the trickle-down theory, eventually this is going to create better housing opportunities for others.” (City Council of Burnaby in Jones and Ley, 2016 p. 18)*

Vancouver experienced failure of affordable housing policy in transit area, creating unintended outcome (demolition of the old affordable rental housing in exchange with high-rise condominiums) instead of increased inclusion of low-income housing. The above statement stressed the *lack of commitment* which leads them to accept further gentrification in transit area.



BOX 6. INCLUSIVE ZONING IN DENVER

City of Denver' adopted Heights Amendments at 38th and Blake transit station, allowing market-rate developers to **increase density (base height)** permit above normal zoning (up to 16 storeys) in exchange with affordable housing unit or paying *cash-in-lieu* (allocated to Denver's *Affordable Housing Fund*), or community serving uses in the area. For development of 50% or more residential uses, requirements of affordable housing within their properties is obligated (no option for cash-in-lieu) (DenverGov.org, 2018)

Non-residential developers in transit area have option to include affordable units or pay fee and provide community serving uses (artist studio/maker spaces) by signing called "**Community Benefits Agreement**", (a legally-binding agreement between the municipality, developers, and community with advocacy from/NGO which is incorporated within development permit approval) to provide jobs, affordable housing, and community facilities within their property. One successful CBA practice in Denver is the development of redevelopment of \$1 billion, 70-acre mixed-use destination point Cherokee Gates, Denver which are passed by a major light rail transfer station. To guarantee which requires three years of negotiations between the public officials, developers, and **Campaign of Responsible Development (RSD) Denver** – a community based coalition/non-profit advocacy. In the end, the developers agreed to include affordable housing, jobs, and public amenities within their project (Grady and LeRoy, 2006)

Mandatory Inclusionary Housing Ordinance (IHO) are established for market-rate developers who build 30 or more sale-dwelling units (>50% of which are sale-residential units) to include 10% of their units for Moderate Priced Dwelling Units (MPDUs). Developers may pay progressive percentage cash-in-lieu (allocated for Affordable Housing/TOD Fund or build off-site replacement in accessible locations, for example in location within 0.5 miles from rail station. In a voluntary basis, **Voluntary IHO** scheme is fiscal/rebate incentives based on distance to transit stations and needs of MPDU, with range from \$2,500 (Low Need Area), \$6,500 (Average Need Area), and maximum of \$25,000 (High Need) for each development of rental/sale MPDU. Determination of mandatory of voluntary compliance will be preliminarily determined by Office of Economic Development (OED). (City and County of Denver, 2015)

Johnston et al (2013) stated some key factor for success housing program from Regional Denver, which are *openness and nimbleness* from the government, **commitment** (Denver Business Journal, 2015) and **trust** between the city and its partners to deliver affordable housing opportunities.

TABLE 12. CITY OF DENVER IHO SCHEME

IHO

Mandatory

for market-sale developers who build 30 or more sale-dwelling -50% of which are sale-units

sale unit : shall be affordable to household earning $\leq 80\%$ AMI

Voluntary

(cash incentive)

For sale unit (low cost structures) : affordable to $\leq 100\%$ AMI

For-sale units (high-cost structures): affordable to ≤ 110 AMI

Rental units: rent shall not exceed 30% of household income of tenant earning at or below 65% of AMI

0.5 miles from rail/commuter rail stations
rental units: shall be affordable for $\leq 50\%$ AMI
sale units: shall be affordable for 60% AMI

Box 5 illustrates roles *Campaign of Responsible Development (RSD) Denver* as coalition between cross-sectoral groups with different interest (jobs, housing) as community representatives, showing Denver’s experience which shows their *awareness* and *commitment* to the provision of basic needs for society, such as affordable housing, jobs within transit corridor.

Gross Floor bonus and IHO also adopted to provide options for (a more strict) *mandatory and voluntary incentives* for private developers to develop affordable housing. The height/bonus density zoning policy is aimed for affordable sale residential units (high income housing), while IHO (Table 12) is aimed for both sale and rental units. These policies portray their experience on social issues of transit development, and *commitment* from the public officials, thus encourage willingness to contribute from the developers to accommodate equal transit development benefits for all groups of community.

5.2.3 Possibility of Adoption

TABLE 12. POSSIBILITY OF HOUSING POLICY ADOPTION

Context	Tools	Currently used in Surabaya	Commentary



Context	Tools	Currently used in Surabaya	Commentary
Actors/Organizational arrangements	Coalition of Affordable Housing	No	Difficult to adopt (PB2; PB3; A2) <i>“Currently there are limited initiatives from private or non-profit parties (from transport, housing, or environmental sector). Thus, they have to come with their own awareness of the issue and urgency to conduct this type of collaborative movement. There was a partnership programme held by PT. Intiland, a developers which collaborates with other developers to fund and build middle and low-income housing... it might be possible to collect funds from local revenue as well as private incentives, also with intensive monitoring and evaluation, and transparent management system. (PB3)</i>

Context	Tools	Currently used in Surabaya	Commentary
Formal institutions	Inclusionary Housing (mandatory and voluntary) for private developers	Currently exists through Law number 1/2011 without such formal incentives.	<p>Possible to adopt with: complemented with law enforcement and incentives; location-based policy (PB2; PB3; PV1; A1)</p> <p><i>If this regulation of balance residential ratio can be strengthen with local regulations, supported with comprehensive understanding about the purpose of this regulation, this regulation can be effective to reduce housing crisis and achieve inclusive housing.(PB2)</i></p> <p><i>“ fiscal incentives it is highly depend on political decision and government’s fiscal ability.” (PB3)</i></p> <p><i>“... affordable housing regulations for middle and low-income households should be adjusted to the context of each area’s characteristics need for affordable housing. So it requires specific location based tools to implement this kind of incentive., the voluntary can be implemented in the most accessible area (with high land price, such as Tunjungan or Pakuwon area), while mandatory tool might have been effective to be implemented in the outer area/less accessible area. (A1)</i></p> <p><i>It will be better to provide</i></p>

Context	Tools	Currently used in Surabaya	Commentary
			<p><i>incentives, but it should be complemented with information on housing needs for low and middle class and their location preferences. It can be provided through online spatial planning information, or through the housing authority. Thus, the developer can allocate the housing unit in preferred location next to the station area...Maybe profit- developer can help provide the middle-income class. While the government and state-owner enterprises focus on providing rental flats for the low-income. It will not give us financial burden, and rental/sale price rate can be more controlled.</i> (PV1)</p>
	<p>Bonus height zoning – for-rental housing units</p>	<p>No. But, it is already mentioned in TOD National Guideline</p>	<p><i>Possible to be implemented in Surabaya, as this was also encouraged in the National TOD Guidelines. However, possible maximum heights will be limited due to the Aviation Safety Area Standard, especially at the CBD/city centre that is dominated by private developers...But, after consideration, we can increase the coefficient of the building floor by 15% of the maximum height detailed plan draft. This scheme will be assessed as part of the development permit process.”</i> (PB2)</p>

Box 5 illustrates Denver’s approach on affordable housing regulations to incentivize developer’s involvement through Bonus Gross Floor Area and choice of mandatory and

voluntary IHO. Reflecting back to Surabaya, these approaches cannot be transplanted directly as they require adjustment on the local context (socio-economic characteristics and needs). Ineffective implementation of national-scale regulation on inclusive housing (Law Number 11/2011 on Housing and Settlement Areas, Government Regulation 64/2016 on Construction of Low Income Communities Housing) require context-specific local support of formal regulations, with clear law enforcement and incentives for private developers. In addition, coalition or collaboration requires awareness from the non-public sector, such as private sectors (developers), society, and social/environmental-based grassroot movements, which are rarely found in Surabaya.

“So far in the context of developing the area around the AMC, we are involved in the process of socialization of the AMC line plan which has now been marked on the potential points of tram stops. In addition, we have also been invited to coordinate the development plan of the area around the station and tramway, which complimented with park and ride station combined with modern shops and public facilities. In relation to the existence of NGO organizations, so far no NGOs have tried to facilitate in the issue of settlement relocation for AMC. But I remember that one of the NGO “Tunas Hijau” provide the local community for kampung site-visiting, learning about domestic-waste management to educate and inspire kampung inhabitants for improving waste and environmental management in the area.” (C2)

Considering significant role of this tram depot reactivation issue, the informal re-settlement requires further coordination and between transit operator, municipality, and Ministry of Transport (PB1, PB3). Public hearing and consultation become strategic steps to increase community participation through sharing of perception, insights, and hopes towards the development plan of their neighborhood area.

5.3 Accessible Public Amenities

5.3.1 Illustration of Institutional Arrangements

The provision of public amenities (public spaces, parks, community spaces) in Surabaya are based on government provision and voluntary movement from the private developers and the local neighborhood. Private developers are engaged with the Corporate Social Responsibility (CSR) scheme (in the form of public parks, public school renovation, etc.) in exchange with rewards from the government. Local neighborhood are engaged through C-KIP program through the establishment of *Kampung Foundation* (representatives from the community who had been appointed by the government to facilitates local community in terms of physical development of local basic amenities and facilities, e.a: local roads, sewerage system and local business cooperative (as a financial support for local small and medium enterprises improving local economic development) through fiscal assistance grant from the local government to the community through neighborhood representatives (RT/RW).

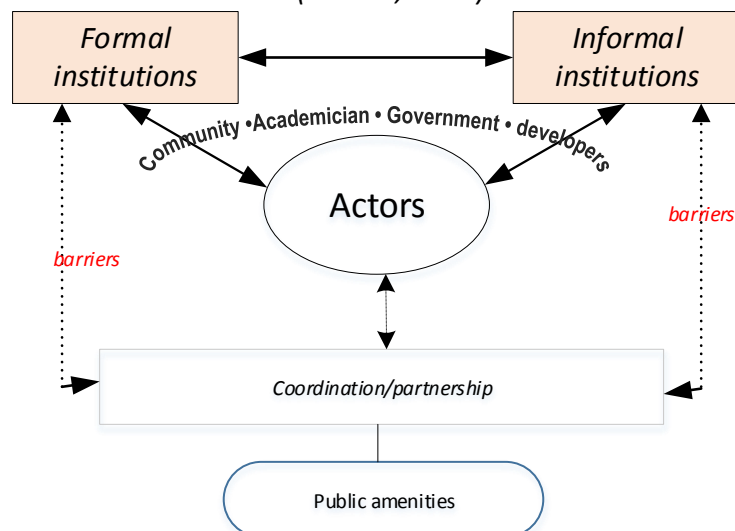
Private companies are given space to contribute voluntarily on developing public amenities/facilities public facilities through formal regulations, which was first established as

Partnership and Social Responsibility Programme /*Program Kemitraan dan Bina Lingkungan* which obligates state-owned enterprises/BUMN and natural resources-based private corporation to contribute their profit share through CSR (*Law number 40/2007 on Limited Liability Company; Per-05/MBU/2007 on Partnership Program for State-Owned Enterprises; Government Regulation 47/2012 on Social and Environmental responsibility of Limited Liability Company*). Regulation amendment creates expansion allowing non-natural resource-based developers (residential developers, financial cooperation, etc.) to participate in voluntary CSR.

Some good intentions as social (informal) institutions were identified from developers, such as their *awareness of social issue*, in order to prove their *willingness to contribute* towards social welfare and environmental improvement. From the community perspective, social norms were also identified in the form of community *trust* and *sense of belonging* with their neighborhood area, which encourage them to build and maintain local facilities within their living area (mosque, community space, worship place, sewerage system maintenance).

Several barriers emerge in the form of *limited formal incentive* to encourage private sectors (developers) to collaborate on the provision of public amenities near transit (A1, PV1, PV2). Informal barriers were perceived as dominant factors, which derived from the *lack of knowledge* regarding the ideal concept of TOD or equitable TOD (PB2; A1).

FIGURE 24. INSTITUTIONAL ARRANGEMENTS OF PUBLIC AMENITIES
(Author, 2018)



5.3.2 Illustrative cases

BOX 6. BONUS GFA FOR PUBLIC-COMMUNITY SPACES IN SINGAPORE

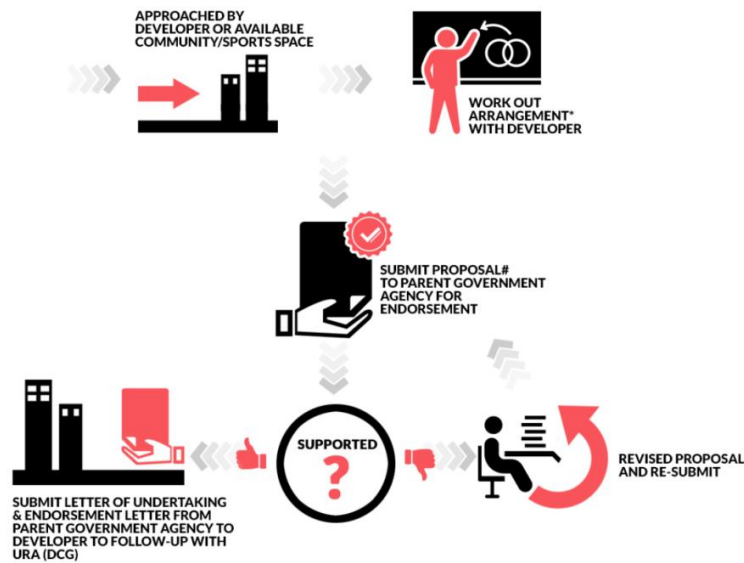
Privately Owned Public Space (POPS) is a voluntary incentive established by Singapore Urban Redevelopment Authority (URA) to encourage private developers in the provision of covered public spaces (city rooms, plazas, and urban parks in exchange with Ground Floor Area (GFA) bonus. This POPS scheme is aimed for property developers which are often passed by public or situated along popular routes with condition that such facilities should be accessible at all times (for example: Orchard Road). Such mandatory provision of covered public spaces also implemented for developers under the Government Land Sales (GLS) contracts. (Strait times, 2017)

Another GFA bonus scheme also takes form of *Community/Sports Facilities Scheme (CSFS)*. This scheme enables non-profit community organizations (sports/art/social organization) in collaboration with private developers to incorporate community space facilities (child care centre, disability service, family service, eldercare, public library, and sport facilities) in the ground floor of highly accessible commercial properties. This zoning incentive had successfully integrated many public amenities within transit station commercial development, such as National Council of Social Service's hub at Tiong Bahru Central Plaza, NTUC child care centre at Westgate shopping centre (URA, 2014; The Business Times, 2015)

*"As one of Asia's largest real estate companies, CapitaLand has long been **committed** to building safe, accessible, vibrant and quality real estate developments that enhance the lives of the community. Even before government guidelines, we have catered for community spaces on our properties, which are considered from the start of the development process," (Poon Hin Kong, Deputy Chief Development of Asia and Head of Design Management, CapitaLand in Propertyguru website, 2017)*

Singapore has been famous of its 'people/community-centered' planning approach, which also integrated in their city-planning blueprint, called "*Concept Plan*". Application for POPS scheme requires developers to submit proposal (as part of development plan at the Provisional Permission/PP stage) to URA's Development Control Group as part of development application process. Orchard road redevelopment is one of the successful examples of government-led POPS scheme which provide specific location of covered walkway needs. CSFS application process (Figure 26) requires the non-profit organization to be registered under its coordinating-government-institution (childcare under Early Childhood Development Agency (ECDA), disability or family service under Ministry of Social and Family Development, eldercare under MSF or National Council of Social Service, sport – Singapore Sport Council, etc.).

FIGURE 25. SINGAPORE CSFS APPLICATION PROCESS (National Art Council, 2018)



Singapore government heavily regulate and control private sectors by incorporating development instruments (Gross Floor Area, CSFS, POPS, public space requirement, etc) through Government Land Sales. These scheme stimulate cooperation between public private stakeholders in the provision of public facilities within accessible private properties in legally-binding basis. These formal incentives encourage developer's willingness, supportive attitude, and commitment to compensate their profit gains with increasing social value through their involvement on providing public facilities (Navaratnarajah, 2017; The Strait Times, 2017).

Mineapolis provides innovative incentive for community's innovation towards transit facilities (jobs, service) which is granted through competitive funding schedule assessed by Advisory team.

BOX 7. COMMUNITY INCENTIVE IN MINEAPOLIS

The Twin Cities – Mineapolis St.Paul create Livable Communities Demonstration Account (LCDA) which provide **fiscal grant for innovative development projects** initiated by the community to construct public infrastructure and site assembly (connecting housing, jobs, service, and transit). Application on LCDA is submitted using WebGrants (County's Council online grants managements system), which will be assessed through two-step review process by Council staff and Livable Communities Advisory Committee (local government representatives from planning, economic, community development, finance, transportation, environment, site design- and community-based development organization) (Twin Cities Metropolitan Council website, 2018)

5.3.3 Possibility of adoption

In Surabaya, the development of public facilities depends on local government's fund and voluntary programme from private developers. Such voluntary initiatives are delivered in the form of CSR managed by relevant local department within Surabaya municipality (for

example: developers who develop public park as CSR must coordinate with the Surabaya Department of Cleaning and Parks). Several formal incentives mentioned above (Bonus GFA, fiscal incentive for developers and community) designed specifically for transit area are still limited.

TABLE 13. POSSIBILITY OF PUBLIC AMENITIES POLICY ADOPTION

Context	Tools	Currently used in Surabaya	Commentary
	Development Permit Assessment Team	Yes, similar (Ad-hoc team)	<p><i>“Possible to adopt with government’s commitment, eventhough we are not yet familiar with the incentive and disincentive mechanisms.” (A1)</i></p> <p><i>“ We have similar team with development permit assessment. However, decision on incentive scheme requires a comprehensive assessment involving relevant stakeholders. We already established ad-hoc organisation/forum dealing with spatial planning issues called BKPRD. If we adopt such incentive such as bonus zoning or GFA, the restructurisation of the assessment team will follow afterwards.” (PB2)</i></p>
Formal incentive	Bonus GFA - POPS	No	<p>Possible to be adopted (PB2, A1, A2)</p> <p><i>“This scheme can be integrated with zoning plan, and in the form of CSR from private developer. This can be a legally-binding tool for developer during the development permit process (IMB). Mayor Tri Rismaharini has also mandated to provide information (location and form of CSR) for private developer, so this voluntary movements are considered based on community’s need.” (PB2)</i></p>



Context	Tools	Currently used in Surabaya	Commentary
	Bonus GFA - CSFS	No	<p>Possible to be adopted, depends on government's commitment and willingness (PB2, A1)</p> <p><i>"... We should focus on building facility that supports the use of AMC such as shelters, covered pedestrian and station/shelter. In addition to that, this scheme can be adopted for the provision of space for local retails and business such as traditional market or hawker center. This form of community space can be integrated in the form of CSR for developers, and this should be informed by the relevant public agency. "(PB2)</i></p> <p><i>This scheme is innovative, But it depends on the government and developers willingness to prioritize the interests of such social facilities. So far, such integration of community space located within private property is commercialized by the building owner. So, this voluntary integration of social space with exchange of bonus floor area can be a good form of CSR. "(A1)</i></p>



Context	Tools	Currently used in Surabaya	Commentary
	Fiscal grant for community innovations	C-KIP Programme	<p>Possible after the AMC is constructed – with continuous public hearing/consultation (PB2, A1, A2)</p> <p><i>“This scheme can be expanded financial grant for developers who are willing to renovate public facilities surrounding them next to their surrounding low-income area such as kampung (for example: public pedestrian to connect transit area and kampung, food/hawker center) as part of their CSR. This funding mechanism for community incentives is possible after AMC and TOD has been developed and linked with specific TOD Fund. But this needs to be prepared with TOD fund allocation and complemented with organizational structure for AMC operator as well as coordinator of TOD. Some public hearing/consultation should be conducted to raise awareness for the community to be willing to participate in this incentive scheme.” (PB2)</i></p> <p><i>“The municipality has allocated funds in the form of grants for C-KIP for development/improvement of kampung and local economic empowerment, which we are also involved in it. However, this scheme has not yet been integrated with transit development.” (A2)</i></p>

CHAPTER 6

CONCLUSION & DISCUSSION

This chapter compiles conclusion as explanations from research questions, which were formulated from the empirical findings reflected back to research conceptual model. Consequently, further discussions were revealed for possible further research development, generalisation and reflection towards the research process.

6.1 Equitable TOD – what and how to achieve it

Equitable TOD arises as socio-economic perspective of sustainable TOD, which prioritizes community's benefit of transit development. This research focuses on low-income community who depend most on public transit/transit dependent (Cervero et al., 2004; Jiao and Dillivan, 2013; Litman, 2012) to minimize the potential consequences of gentrification and displacement from transit development (PolicyLink, 2006; Kralovich, 2012; Rayle, 2014; Zuk et al., 2015; Dawkins and Moeckel, 2016).

This research departs with the current societal issue of public transit (*Angkutan Massal Cepat/AMC*) development in Surabaya, which could potentially gentrify the surrounding neighborhood due to the rise of the land value in area which are mostly owned by private developers (Tunjungan) and potential displacement due to ex-tram depot reactivation in Bumiarjo (Joyoboyo). Three equitable components found from literatures were used as units analysis: (1) *affordable public transport fare* as one biggest components of low-income household's expenditure (Pollack & Prater, 2013; Dwight, 2016); (2) *sufficient housing* which enact to the issue of community gentrification and displacement with purpose of promoting public transit use (Policy Link, 2006; Suzuki et al, 2015; Zuk et al, 2015) and; (3) *accessible public amenities* for transit community (public parks and open spaces, community spaces) as complementary facilities that must be accessed by all groups of community (PolicyLink, 2008; Carlton&Fleissig, 2014; Suzuki et al, 2015).

Achieving equitable TOD requires coordination and partnership among actors from various sectors with different objective, capacity and knowledge. Institutional arrangements become significant factor to pursue equitable TOD (ULI, 2011; Lane, 2017)., which is framed as sets of rules and informal institutions (North, 1991; Ostrom, 1990) to induce stakeholder coordination and partnership towards equitable TOD.

6.2 Who is involved – actors to achieve equitable TOD

Literature reviews emphasized significant role of planning agency, transit operator, private developers, non-profit organization, and community (Poticha and Wood in Curtis, Rene, and Bertolini, 2009; ULI, 2011; Bates, 2013) to pursue equitable TOD. This research, however, shows that combination of actors in each components of equitable TOD may vary.

- **Affordable public transport fare** in Surabaya illustrates the fragmented cooperation between transit agency and the current *lyn* operator. Singapore provides example from the existence of Public Transport Council (PTC) as public transport fare regulator which consist of representative from PTOs, public officials, university, and community). This depicts the *organisational amalgamation* in the public transport fare decision making, by ensuring financial viability for PTO as well as maintaining affordability for various groups of community.
- **Sufficient housing** requires cooperation between public and private developers. Surabaya's low income housing depends highly on the public officials with close coordination with BUMN (multi-storey housing/*Rusunawa*), with lack involvement of private developers. Illustrative examples (Denver) has shown *public (regional and local government) and private (developers) partnership*, and assigned TOD group and TOD manager. Additionally, non-profit developers and community-based collaborative movement are actively contribute to accelerate affordable housing provision, such as TOD Fund (initiated by ULC-non profit organization) and MileHigh Connects.
- **Public amenities** Private developers participate through mandatory legally-binding development permit or voluntarily through Corporate Social Responsibility (CSR). Singapore demonstrates the role of planning agency (URA) which encourage developers through legally binding agreement and permit to provide community's facilities, while in Surabaya provision of public amenities within private properties are. In Surabaya *Community involvement* is depicted through C-KIP which appoint *Kampung Foundation* as community's representatives are appointed for project execution, monitoring and evaluation, although their involvement is still limited in the transit development context. Social/environmental activities on voluntary basis by NGOs were also done partially. Minesota offers example of the Assessment Team (initiated by the City Council) for delivering financial grant for innovative ideas from community to construct public infrastructure and site assembly (connecting housing, jobs, service, and transit).

The role of *ADVOCACY*, which is also suggested by literatures (ULI, 2011; Saldana, 2012; MZ Strategies- LLC, 2016) were identified in Singapore's PTC, Denver collaborative movement by engaging public officials, expertise from university. In Surabaya, university representatives helps advocating community in C-KIP Programme, as they have knowledge and resource capacity to assist, empower, and upscale grassroot/community movement into public policy and decision making arena.

6.3 Formal and informal institutions to foster equitable TOD

Institutional arrangement is defined as configuration of formal rules and informal norms (North, 1991; Ostrom, 1990) that incentivize and constraint behavior of actors. Literatures highlighted urgency to identify clarity of roles and rules to attract coordination, which implicitly stated the importance of social norms (trust, transparency) (ULI, 2011; Lane, 2017) to accelerate equitable TOD. This research identified formal rules/regulations as

incentive, as well as informal institutions to induce coordination/partnership between actors to provide the three components of equitable TOD.

6.3.1 Affordable public transport fare

FARE FORMULATION CAP • PUBLIC TRANSPORT CONCESSION

Findings from the case study and illustrative case portray top down and flexible regulations (Fare Formulation Cap) to regulate transport cost annually (or if it is needed) by taking into account its affordability and financial viability to Public Transport Operators (PTOs), with support of fiscal subsidy/concession for range groups of community (elderly, students, person with disability).

6.3.2 Sufficient housing

DENSITY BONUS • MANDATORY HOUSING ORDINANCE • VOLUNTARY HOUSING ORDINANCE (BONUS FLOOR AREA) • COMMUNITY BENEFIT AGREEMENT

Inclusionary housing has been implemented through national regulation of balanced-residential-ratio to encourage private developers to incorporate low and middle-income housing within high-cost housing. City of Denver (see Box 4&5) provides package of incentive from mandatory (for high income housing development) and *voluntary* (Bonus floor area/bonus density and cash incentive through voluntary IHO) for private developers to include affordable housing within their property. *COMMUNITY BENEFIT AGREEMENTS* emerged as informal agreements through continuous negotiation between developers and community (advocated with non-profit organization). These types of agreements are often included in the government's legally-binding development permit.

6.3.3 Public amenities

BONUS GROSS FLOOR AREA (POPS & CSFS) • 'FISCAL INCENTIVE/GRANT

Development of public amenities in Surabaya are driven through government provision. As for the voluntary involvement of public amenities development in transit area are still limited and often conducted partially within each building plots, since there are lack of incentive in exchange to their involvement. However the transit corridor development blueprint (Surabaya Urban Corridor Development Program) incorporated Comprehensive Kampung Improvement Program (KIP) with transit corridor development, which is maintained through local government's budget to support *kampung's* physical development

(housing, road, bridges, sewerage, etc.) and local economic development.

Singapore with its characteristic of strong state-led development, has successfully performed legally-binding agreement incorporated within the development permit (Government Land Sales), in the form of density bonus for properties in accessible area (city center or station) who include public parks and space (POPS) and non-profit based community space (sport center, childcare, eldercare, family assistance, etc) (CSFS) within their land/property (see box 6). This scheme is already stated in the current Zoning Regulation with limited amount of Minneapolis provides innovative approach of fiscal incentive/grant as reward for community's innovative ideas to improve their surrounding (jobs, service, housing and transit) under Livable Communities Demonstration Account (LCDA) scheme. The above tools can be considered as incentive for public amenities development from the private and communities.

SOCIAL NORMS: COMMITMENT • PROACTIVE ATTITUDE • AWARENESS OF SOCIETAL ISSUE • WILLINGNESS TO PARTICIPATE • SOCIAL COHESION • TRUST

Social norms and value persist within government, developers and community institutions were discovered through empirical finding. Positive norms or attitudes should be taken into account to establish cooperation among actors to collectively contribute towards equitable development. However, they are often neglected as they are not written upon formal agreement or regulation. Findings have shown its significant role to induce and maintain long term governance (corporation or partnership) between actors. *Commitment* and *proactive attitude* (Saldana and Wykowski, 2012) to accelerate the willingness to adopt policies and make a collective action of inclusive-based policies toward equitable TOD. Surabaya formulated many proactive and innovative idea of combining sustainable transport with pro-poor and pro-environment principle (see 4.2.1.2), which emphasize the city mayor's *commitment* to implement sustainable living and her concern towards the low income communities.

Positive social norms were identified from developers are rising as *awareness of societal issue*, *willingness to contribute*, as well as *social cohesion* (strong bonds and sense-of belonging) within community. Strong *bond* and *social cohesion* were found as strong and significant factors within the community to enhance willingness to contribute and collaborate to their surrounding development. Moreover, Lane (2017) adds the importance of *trust* building between municipal, council, private parties and communities through open forums and on-going community approach, which is barely found in Surabaya given the complex regulations and lack of early involvement in development project. Trust is significant built between government and private parties (PTO's, developers) and community to preserve longterm partnership of providing reliable, integrated and affordable public transport system.

6.4 Barriers to implement equitable TOD

FORMAL: Financial Barriers • Limited amount of Land • Limited Authority • Land Use and Transport Fragmentation • complex regulation • Lack of Incentive • Lack of Enforcement

SOCIAL NORMS: Lack of Knowledge • Lack of Awareness • Distrust

CULTURE: Lack of Involvement in Planning Process

Various barriers were found differing in physical, financial, and institutional (formal regulatory framework and informal/social norms or perception) (Dumbaugh, 2004; ULI, 2011) which impede the coordination/partnership to implement equitable TOD. *Financial* and *physical (land) limitations* are problematic barriers to provide transit facilities, which consequently require partnership between government and profit and non-profit developers as well as community.

Institutional barriers precedes such as *lack of institutional integration* hampers cooperation between AMC operator and the public minibus operator (*lyn*) which hinders pursuit of integrated public transport service (Marsden and May, 2006). Transit agency (Department of Transport) is *given limited roles* in transit area development was found as stated by Cervero (2004) and Dumbaugh (2004) which limits its power to manage land use and facilities surrounding the area separately (by planning agency). This becomes the barrier of integration between transport and land use (Tan, 2014a), that emerges as fundamental principle of TOD. Other formal barriers were also found such as complex and ambiguous regulation, *lack of incentives* and inadequate law enforcement which impede participation from private and community.

Informal barriers emerge from social norms within actors, such as *distrust* (from *lyn* operator), *lack of awareness* of societal issues (local economic improvement, accessible public facilities) as well as *lack of knowledge* from public decision maker requires sufficient examples and experience for lesson learning which can be used for policy knowledge source for further (formal and informal) institutional improvement. *Lack of involvement* from stakeholders, particularly private sector and community might increase reluctance to contribute and create resistance to pursue successful transit development. This is shown by the lack of community engagement in the resettlement relocation plan in Bumiarjo. Active engagement in the planning process is required to build up awareness and mitigate downside of transit projects (Lane, 2017), such as public hearing and consultation.

6.5 Possible adoption of institutional arrangements in Surabaya

Thomas et al (2018) stressed the difficulties of transnational TOD policy transfer considering difference of political planning and cultural context in each country. Singapore has been known as its state-led development by controlling private development through

Government Land Sales, thus their formal instruments might not be easily implemented in Indonesia's fragmented system of land tenure and spatial planning control. Moreover, the aforementioned illustrative cases have long experienced of TOD practice, thus they have come through abundant experience of trial and error of transit development policies. However, formal institutions were assessed by gaining insights from relevant stakeholders through interviews to consider policy learning and possible modification for the context of Surabaya. This can be used as well as basis for policy recommendation.

Public transport fare formulation and concession will be difficult to adopt without prior institutional integration of private operators under the central management of public transport authorities. Such policies such as integrated-ticketing, and fare concession might be potential to be implemented in the framework of future public transport intergration, with consistent evaluation and monitoring from public officials and riders (citizen) to ensure that transport fare remain affordable.

Housing - Lessons from Denver provide knowledges of policy adjustment of to encourage private developers to participate in the provision of sufficient housing in transit area in *mandatory and voluntary approach*. However, such policy adjustments should be made for implementation depending on the characteristisc of each transit area. Since the main cause of inefficient implementation of inclusive housing regulation (balanced residential ratio), the local government are urged to establish local government regulation (*Peraturan Daerah*) which incorporate legit sanction/incentive as proof of their commitment on the inclusive housing regulation enforcement.

Public facilities - Singapore and Minneapolis provide unconventional ideas by encouraging accessible public facilities for community within accessible private-owned property. Several barriers of adoption/transfer were identified arise from zoning limitation such as maximum building heights from Aviation Safety Area Standard, which limit possible additional floor bonus for developers. Adoption of Comprehensive Assessment Team –which requires role assessment and depend highly on the high-level political decision. TOD collaboration with non-profit organization is less-likely to be applied in the near future, as TOD has yet to be fully embraced in practice.

6.6 General conclusion

Equitable TOD arises as one concept of sustainable TOD in social perspective which prioritize potential benefit of TOD for all groups of communities. This research took focus on the low-income community as transit dependent, by exploring concept, criteria and strategy of equitable TOD through literature review (desktop research) as guidance for performing empirical research in local city-scale TOD in Surabaya. Several literatures specifically mentioned the importance of identifying institutional arrangements as strategic approach to achieve equitable TOD in superficial way. Observing some relevant societal issue of transit development plan in Surabaya, a case-study approach using illustrative examples helps to answer research question:

“How can institutional arrangements contribute to make TOD more equitable?”

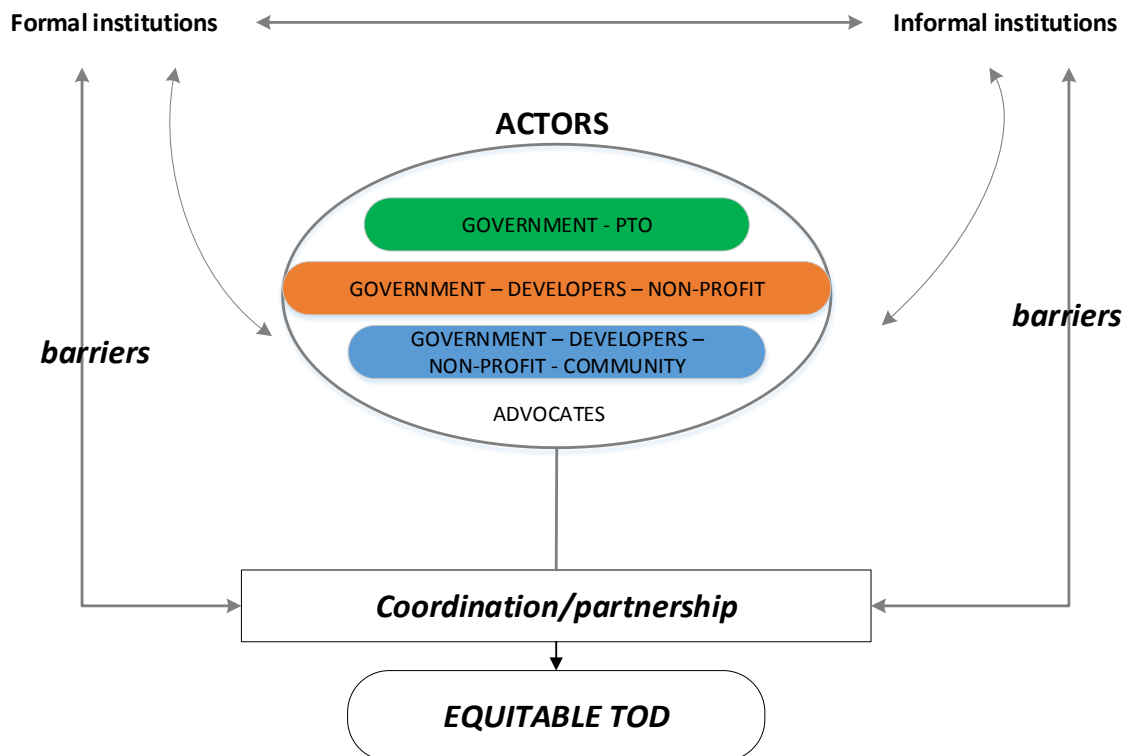
This research had retrieved significant components of equitable TOD from literatures particularly for the low-income communities as transit dependent by highlighting three components (transport fare, housing, and accessible public facilities). Result from desktop research and empirical findings explains how such institutional configuration contribute to pursue equitable TOD as illustrated in Figure 27.

FIGURE 26. INSTITUTIONAL ARRANGEMENTS TO ACHIEVE EQUITABLE TOD (Author, 2018)

Fare formulation • concession • trust

Density bonus • inclusionary housing • commitment • trust • willingness to participate • awareness

Bonus floor zoning • fiscal incentive • awareness • willingness to contribute • maintaining company's image • commitment • trust • social cohesion



This research confirms the importance of identifying institutional arrangements consists formal and informal institutional (North, 1991) as governance strategy to achieve equitable TOD (Lane, 2017). As transit development requires huge amount of resource (financial, land), cooperation and partnership between public and non-public actors (developers, academician, community) is important to achieve successful implementation of equitable TOD. Formal institutions incorporating equity concept were identified in the current public policy, guidelines, and policy recommendations (fare regulation, balanced housing ratio, CSR regulation), combined with persisting informal norms (awareness of societal issue, willingness to contribute, social cohesion), enable/incentivize relevant actors to coordinate collectively in the pursuit of equitable TOD.

Surabaya has shown how informal institutions (commitment, awareness toward urban issues such as poverty/environmental issues) led to the reformation of formal institutions/regulation (see quotation on 4.2.1.2). Government commitment and proactive effort toward pro-poor and sustainable development, awareness and support towards inclusive based regulations from the developers and universities, as well as sense of belonging within the community could increase their willingness to contribute and collectively pursue three equitable TOD. By combining strength from formal regulations and informal norms within public and non-public sectors, in complementary with suitable incentive and sanction, they can create more effective and stronger law enforcement which induce non-public sector to contribute to equitable TOD. Some positive norms (informal institutions) should be preserved and maintained with continuous public and community engagements to increase trust as well as reducing lack of involvement (planning culture),

To conclude, configuration of formal and informal rules and social norms helps regulating actor's behavior to coordinate/join the partnership to collectively achieve equitable TOD. Informal institutions (social norms) within individuals/jurisdictions such strong bond, sense of belonging, commitment, and awareness should be influenced outside jurisdictions, so that coordination/partnership can be developed. By taking consideration of social norms and planning culture, formal regulations/policies can accommodate non-public needs and perspectives, thus foster coordination and partnership, which is crucial to reduce government's burden for implementing transit development.

In the meantime, barriers are inevitable components in the implementation and governance process, which might hamper the implementation. Given the current policies aim to induce collaboration of public facilities development, developers and non-public sectors are not captivated or reluctant to collaborate due to the lack of incentive within formal regulations. This can create a great window of opportunity to conduct formal policy readjustment/reformulation to a more inclusive approach. Combining formal regulatory reformulation and positive norms (sense of belonging, social cohesion, as well as commitment, proactive movement, willingness to collaborate) from the non-public sector

can help encouraging strong coordination/partnership to implement equitable TOD. This process evolves in cyclical process (Tan et al, 2014a) towards more effective implementation of equitable TOD.

6.7 Generalisation

As contribution for planning theory, this research enrich the social/behavioral approach of institutional perspective towards more socially sustainable development planning, which is emphasized as equitable development. From the academic relevance, the concept equitable development to increase development benefit for society is relevant for other development planning sectors, as this concept has vastly moved into the international development agenda. This allows the possibility to apply this development approach into broader planning context/sectors that has close connection with society/community.

Institutional research aligned the connection between roles of actors and rules as well as social norms and culture to govern behavior and create networks, even empower non-public realm to participate in the development agenda. This research potrays that, the closer coordination/partnership reach the non-public actors (developers, non-profit, community), the stronger existence of informal institutions will influence, as they also have the option not to participate in the development process. However, the conclusion of institutional configuration might differ in each development sectors, knowing the difference scale of development, actors involved, and constitutional, law and policy, as well as persisting social norms and planning culture.

6.8 Policy Recommendations

Research findings help providing adjustment to formulate policy recommendation regarding strategies toward equitable TOD for Surabaya and other developing cities. The most prioritized recommendation is the amalgamation of public transport agency between the *lyn* operators with the (selected) AMC operator. As transit agencies play important role in the implementation of TOD projects, in the case of Surabaya, PT. KAI has limited authority in the operational of AMC and the land owner of the planned route of AMC. Instead, it should be given a proactive role in the transit area development.

Formal institutions in the form of incentives (bonus zoning, fiscal, regulatory, and streamlined development approval process) can be incorporated within existing regulations, with location-specific adjustment given the various characteristics of each area. The significant roles of informal institutions (commitment, willingness to contribute, proactive attitude, social cohesion) and barriers (distrust, lack of knowledge, lack of involvement) which were often overlooked, should be considered in the formulation of formal institution. This is relatable in Surabaya, and Indonesian case general, in which informal institutions dominates within the development stakeholders such as strong social cohesion attached within the low-income society in *kampung* area. Strong commitment to reduce poverty from

the mayor of Surabaya can be a great booster to catalyze equitable policies in Surabaya.

To foster the effective implementation of equitable TOD, social norms (awareness, knowledge, commitment) should be disseminated across jurisdiction to non-public actors/developers, and communities. Thus, strategies of developing long-term partnership can be adopted such as community outreach and engagement, as well as early public involvement in planning (public consultation, community mapping, or Focus Group Discussion with the *lyn* operators, communities, advocacies from universities, and existing grassroots movements/NGOs). The most urgent matter is to involve public transport operators in the preparation of AMC development. Regular meeting, coordinations, and public discussion can foster trust building between stakeholders. These strategies help minimize potential barriers (financial, formal-regulatory, social norms) by identifying it beforehand, as it might arise in a cyclic phase in the implementation of TOD strategies.

In general, adoption of formal regulations/policies from illustrative examples (chapter 5) should be strengthened with streamlined development permit process and efficient bureaucracy to improve public service can enact as incentive to reduce barrier of complex regulation. This will take longer time in practice, which requires consistency and assertive rules (standard operating procedures) of public service.

6.9 Further Research

As aforementioned as limitation of this research to conduct comparative case-based research, further research on comparative case strategy might be more suitable to describe comprehensive analysis of institutional arrangements towards equitable TOD. Also, as institutions affect performance of governance, further research on governance perspective would be interesting step to define suitable governance approach (participatory, collaborative planning) to achieve equitable TOD. Additionally, as recommended by many literatures, TOD demands intervention from regional scale, further research on regional scale of equitable TOD case will be interesting to provide comprehensive strategy from surrounding municipality.

6.10 Reflection

Since this research aims to identify institutional framework with huge difference of actors/agency involved, policy, more importantly the informal aspects compared with the (more developed) illustrative cases. Generally, institutional research requires comparison with similar data collection and analysis method. Due to time and resource limitation, illustrative example method was used instead of intensive empirical data as equal comparison. Consequently, the gaps of physical, institutional context and barriers between Surabaya and the illustrative case might reduce possibility of adoption.

This research departs from public transit development plan and its potential issue of displacement and gentrification, however it is very difficult to identify and observe it

empirically since the AMC project itself has not been started yet. Whereas literatures on illustrative cases used in this research were framed in way more established and experienced practice. Consequently, selecting potential cases as comparison was challenging and Surabaya's context of gentrification and displacement might not be comparable with cases in equitable TOD literatures.

Exploration of three components of equitable TOD required abundance primary and secondary data collections, which make it difficult to focus and select significant concept into valuable research findings. If this research should be repeated, it might be useful to just focus on the aspect of housing and public amenities which are more observable and have direct relation on spatial planning context. However, this research has proven that affordable transport along with affordable housing which dominates neighborhood outcome are probably more relevant as input for research focusing for the low income.

Reliable source from the government and online documents findings regarding illustrative examples were limited, which inhibits comprehensive description of the case study, such as of socioeconomic data of transit neighborhood to describe comprehensive condition or to identify potential gentrification (change of socioeconomic structure within community).

In the context of formal policy possible adoption, Focus Group Discussion method would have been more relevant to perform in-depth exploration which leads to more significant outcome for institutional analysis. Furthermore, the possible adoption might not be executed within short time. This is because Surabaya has not fully embraced TOD in their policy concept as the public transit construction has not been prosecuted yet.

Reference

- Arrington, G. B.& Cervero, R. (2008). *Effects of TOD on Housing, Parking, and Travel*. Washington, DC: Transportation Research Board
- Asian Development Bank, 2012. *The Handbook on Poverty and Social Analysis: A working Document* [online]. Philippines: Asian Development Bank Institute
- Bajic, Vladimir (1983). The Effects of a New Subway Line on Housing Prices in Metropolitan Toronto. *Urban Studies*. 20 (1983). pp. 147-158.
- Banister, D. (2005) *Unsustainable transport : city transport in the new century*. London: Routledge (Transport, development and sustainability).
- Banister, D, & Marshall, S (2007), *Land Use And Transport: European Perspectives On Integrated Policies*, Amsterdam: Elsevier Science Ltd, eBook Collection (EBSCOhost), EBSCOhost, retrieved January 2, 2017.
- BAPPEDA Provinsi Jawa Timur (2017). *Data Dinamis Provinsi Jawa Timur Triwulan IV-2017*. Surabaya: Badan Perencanaan Pembangunan Daerah Pemerintah Provinsi Jawa Timur.
- Bappemas Kota Surabaya (2012). *Jumlah Rumah Tangga dan Rumah Tangga Miskin menurut Kecamatan di Kota Surabaya Tahun 2012*. Surabaya: Badan Pemberdayaan Masyarakat

Kota Surabaya.

- Bates, L. K. (2013). *Gentrification and Displacement Study: Implementing an Equitable Inclusive Development Strategy in the Context of Gentrification*. Commissioned by City of Portland Bureau of Planning and Sustainability. May, 2013, Portland.
- Bertaud, A. and Bertaud, M. (2012). *Note on Surabaya mobility and housing issues*. retrieved on 21 February 2018 from: http://alainbertaud.com/wp-content/uploads/2013/10/AB_Note-on-Surabaya-land-use-andtransport_Aug_23_back_up.pdf
- Bryman, A. (2012) *Social research methods*. 4th ed. Oxford: Oxford University Press.
- Carlton, I., Fleissig, W. (2014). *Steps to Avoid Stalled Equitable TOD Projects*. Living Cities, April 2014, United States: Living Cities.
- Center of Transit Oriented Development (2008). *Capturing the Value of Transit*. Center for Transit-Oriented Development, Retrieved October 2016 from Reconnecting America Website: www.reconnectingamerica.org/public/projects/318.
- Cervero, R. (1998), *The Transit Metropolis : A Global Inquiry*, Washington, D.C.: Island Press , retrieved 13 November 2017 from Book Collection (EBSCOhost).
- Cervero, R., Murphy, S., Ferrel, Co., Gpgus, N., Tsai, Y-H., Arrington. G.B., Boroski, J., Smith-Heimer, J., Golem, R., Peninger, P., Nakajima, E., Chui, E., Dunphy, R., Myers, M., & McKay, S. (2004). *Transit-Oriented Development in the United States: Experience, Challenges, and Prospects*. Transit Cooperative Research Program (TRCP) Report 10. Washington: Transportation Research Board.
- Chava & Newman, 2016 Chava, J. , Newman, P. (2016). Stakeholder Deliberation on Developing Affordable Housing Strategies: Towards Inclusive and Sustainable Transit-Oriented Developments. *Sustainability* 2016, 8:1024. 1-21
- City & County of Denver. (2014). *Transit Oriented Development Strategic Plan* [online]. Denver : City & County of Denver. Available from: https://www.denvergov.org/content/dam/denvergov/Portals/193/documents/TOD_Plan/TOD_Strategic_Plan_FINAL.pdf [accessed
- City & County of Denver (2015). *Inclusionary Housing Ordinance Administrative Rules and regulations (amendment)*. Denver: City & County of Denver
- Curtis, C., Renne, J. L., & Bertolini, L. (2009). *Transit oriented development: making it happen*. Farnham, England: Ashgate (Transport and mobility series).
- Curtis, C. & Low, N (2012) *Institutional Barriers to Sustainable Transport*. Farnham : Ashgate
- Davey, L. (1991). The application of case study evaluations. *Practical Assessment, Research & Evaluation*, 2(9).
- Dawkins, C., Moeckel, R. (2016). *Transit-Induced Gentrification : Who will stay, and who will go?*. *Housing Policy Debat* (26), NOS. 4-5, 801-818
- Debrezion, G., Pels, E. and Rietveld, P. (2007) The impact of railway stations on residential and commercial property value: a meta-analysis, *The Journal of Real Estate Finance and Economics*, 35, pp. 161-180.
- Dianingrum, A., Faqih, M., Septanti, D. (2017). Development of Kampung Improvement Program in Surabaya, Indonesia. *The International Journal of Engineering and Science* 6



- (7), pp. 41-47
- Dong, Hongwei (2017). Rail-transit-induced gentrification and the affordability paradox of TOD. *Journal of Transport Geography*. vol. 63 (C), p. 1-10.
- Dumbaugh, E (2004). *Overcoming Financial and Institutional Barriers to TOD : Lindbergh Station Case Study*. *Journal of Public Transportation* 7(3), p. 43-68
- Dolowitz, D. P., Marsh, D. (2000). Learning from Abroad: The Role of Policy Transfer in Contemporary Policy Making. *Governance: An International Journal of Policy and Administration*. Vol 13 (1). p.5-24
- Dwight, M (2016). Tools for Equitable TOD (eTOD): Improving Outcomes along Transit in the Chicagoland [online]. Illinois: Department of Urban & Regional Planning University of Illinois at Urbana Champaign. May 2016
- Espeseth, D (2017). *Equitable TOD in Halifax: Exploring affordable rental housing strategies and partnership in TOD*. Retrieved in January 21, 2018 from https://libguides.scu.edu.au/ld.php?content_id=31222394. Dalhousie, Canada: School of Planning, Dalhousie University.
- Flint, R.W. (2013). *Practice of Sustainable Community Development: A Participatory Framework for Change*. New York: Springer.
- Gagnon, Y. C. (2010). *The Case Study as Research Method: A Practical Handbook*. Quebec, Canada: Presses de l'Universite du Quebec.
- Grady, S., LeRoy G. (2006). *Making The Connection: Transit-Oriented Development and Jobs* [online]. Good Jobs First - March 2006. Good Jobs First
- GTZ (2003). Introductory module: sourcebook overview, and cross-cutting issues of urban transport. *Sustainable transport: a sourcebook for policy-makers in developing cities*, i, p. 28.
- Guthrie, A. & Fan, Y. (2016). Developer's Perspectives on transit-oriented development. *Transport Policy* (51), 108-114
- Hay, A. and Trinder, E. (1991). Concepts of equity, fairness, and justice expressed by local transport policymakers. *Environment and Planning C: Government and Policy*, 9(4), pp. 453-465. doi: 10.1068/c090453.
- Hansen Partnership & SUTC City Form Lab. (2014). *Program Pembangunan Koridor Kota Surabaya - Laporan Akhir*. June, 2014. Surabaya: Surabaya City Government
- Hersey, J., Spotts, M. A. (2015) Promoting Opportunity through Equitable Transit-Oriented Development (eTOD): Making the Case', (April).
- Hess, D., Almeida, T., (2007). *Impact of Proximity to Light Rail Rapid Transit on Station-area Property Values in Buffalo, New York*, *Urban Studies* 44:5/6. 1041-1068.
- Howe, A., Glass, G., & Curtis, C. (2009). Retrofitting TOD and Managing the Impacts: The Case of Subi Centro. In Curtis, Renne & Bertolini, *TOD: Making it Happen* (65-74). Farnham, England: Ashgate
- Jiao, J & Dillivan, M. (2013). Transit Deserts: The Gap Between Demand and Supply. *Journal of Public Transportation*. Volume 16, No. 3, 2013. p 23-39
- Johnston, S. A., Nicholas, S. S., Parzen, J. (2013). *The Guide to Greening Cities*. New York: Island Press

- Jones, C. E. and Ley, D. (2016). Transit-oriented development and gentrification along Metro Vancouver's low income SkyTrain Corridor . *Canadian Geographer/Le Geographe canadien* 60 (1).pp. 9-22
- Kahn, M.(2007) Gentrification trends in new transit-oriented communities:evidence from 14 cities that expanded and built rail transit systems .*Real.Estate Econ.* 35(2),155–182.
- Klijn, E-H. & Koppenjan, J. F. M. (2006) Institutional design: Changing institutional features of networks. *Public Management Review*, Volume 8 (1), pp. 141-160,
- Kralovich, M. (2012). *Cultivating Successful Transit-Rich Communities in Los Angeles : Strategies for Equitable TOD*, Los Angeles: Occidental College, Los Angeles.
- Kuhonta, Erik Martinez. 2011. *The Institutional Imperative : The Politics Of Equitable Development In Southeast Asia*. Palo Alto. Stanford University Press,
- Land Transport Authority Singapore, 2013. Land Transport Masterplan 2013. Singapore. Accessible at <https://www.lta.gov.sg/content/dam/ltaweb/corp/PublicationsResearch/files/ReportNewsletters/LTMP2013Report.pdf> (accessed on 20 May 2017)
- Lane, B.G (2017). *Governance in Inclusive Transit-Oriented Development in Brazil*. Retrieved in January 10, 2017 from: <http://www.wri.org/publication/governance-inclusive-TOD>. Washington, DC : World Resources Institute.
- Lees, Loretta (2008) Gentrification and Social Mixing: Towards an Inclusive Urban Renaissance? *Urban Studies* 45 (12). p 2449-2470
- Litman, T. (2005). *Evaluating Transportation Equity: Guidance for Incorporating Distributional Impacts in Transportation Planning* [online]. Victoria Transport Policy Institute: Victoria, Canada.
- Machell, Erin; Reinhalter, Troy; Chapple, Karen. (2009) *“Building Support for Transit-Oriented Development: Do community engagement toolkits work?”* [online] Centre for Community Innovation: Berkeley, CA.
- Marsden, G., May, A.D. (2006). Do institutional arrangements make a difference to transportation policy and implementation? Lesson for Britain. *Environment and Planning C: Government and Policy* 2006. Volume 42. pp. 771-789
- Mu, R. and de Jong, M. (2016). *A network governance approach to transit-oriented development: Integrating urban transport and land use policies in Urumqi, China*, *Transport Policy* 52, 55–63.
- MZ Strategies - LLC (2016). *Advancing Equitable Transit-Oriented Development through Community Partnerships and Public Sector Leadership*. October 2016. City of Phoenix: MZ Strategies
- Ngo, V.D (2012). *Identifying Areas for Transit Oriented Development in Vancouver Using GIS*. Trail Six : Undergraduate Journall of Geography (6). 91-102. retrieved 7 December 2017
- North, D. (1990a). *A transaction cost theory of exchange*. *Journal of Theoretical Politics* 2(4). 355-367
- North, D. (1990b). *Institutions, Institutional Change and Economic performance*. Cambridge :

- Cambridge University Press
- North, D. (1991). *Institutions*. *The Journal of Economic Perspective*. 5(1): 97-112
- North, D. (2005). *Understanding the process of economic change*, Princeton : Princeton University Press
- Oranga, Beryl (2015). *Measuring Equity in Transit-Oriented Development : Application to Affordable Housing*. Capston Collection. 2811.
- Ostrom, E. (1990). *Governing the Commons*. Cambridge: Cambridge University Press
- Ostrom, E. (2005) *Understanding institutional diversity*. Princeton: Princeton University Press (Princeton paperbacks).
- Ostrom, E. (2011). *Background on the Institutional Analysis and Development Framework*. *Policy Studies*, 39(1), 7–28.
- Pemerintah Kota Surabaya (2014). *Rencana Tata Ruang Wilayah Kota Surabaya 2014-2034*. Surabaya: Pemerintah Kota Surabaya
- PolicyLink, (2008). *Equitable Development Toolkit Transit Oriented Development*. Oakland, CA: PolicyLink.
- Pollack, M. and Prater, B. (2013) *Filling the Financing Gap for Equitable Transit-Oriented Development*. Retrieved November 13, 2016 from Living Cities : <https://www.livingcities.org/resources/151-filling-the-financing-gap-for-equitable-transit-oriented-development>
- Pollack, S., Bluestone, B. and Billingham, C. (2010). *Maintaining Diversity In America ' s Transit-Rich Neighborhoods* . Retrieved December 23, 2016 from Dukakis Center for Urban and Regional Policy : http://www.northeastern.edu/dukakiscenter/wp-content/uploads/2011/12/TRN_Equity_final.pdf.
- Poticha, J., Wood (2009). *Transit Oriented for All; Delivering Mixed-Income Housing in Transit Served Neighborhood*. In Curtis, Renne, and Bertolini (2009), *Transit Oriented Development: Making It Happen* (153-170). Farnham, England: Ashgate
- Rayle, L. (2014). *Investigating the Connection Between Transit-Oriented Development and Displacement: Four Hypotheses*. *Housing Policy Debate*. Volume 25, 2015 - Issue 3. p. 531-548.
- Renne, J. L. *et al.* (2016). *The Cost and Affordability Paradox of Transit-Oriented Development: A Comparison of Housing and Transportation Costs Across Transit-Oriented Development, Hybrid and Transit-Adjacent Development Station Typologies*. *Housing Policy Debate*. Routledge, 26(4–5), pp. 819–834. doi: 10.1080/10511482.2016.1193038.
- Renne, J. L. (2017). *Make Rail (and Transit-Oriented Development) Great Again*. *Housing Policy Debate-Routledge*, 1482(May), pp. 1–4.
- Rietveld, P. and Stough, R. (2004). *Institutions, Regulations and Sustainable Transport: A Cross-national Perspective*. *Transport Reviews*, 24(6), pp. 707–719.
- Saldana,R., Wykowski,M. (2012). *Racial Equity: New Cornerstone of Transit Oriented Development*. *Urban Habitat- the Race, Poverty, Environment* Volume 19 No.2-2012. pp. 13-15

- Silas, J. (1992). Government community partnerships in kampung improvement programmes in Surabaya. *Environment and Urbanization*. Volume 4 (2). pp. 33-41
- Singapore Government (2012). *Public Transport Council Act*. Singapore: Singapore Government
- Singh, Y. J., Zuidgeest, M.H.P., Flacke, J., van Maarseveen, M. F. A. M. (2012). A design framework for measuring transit oriented development. *Urban Transport XVII*. pp. 719-730
- Suzuki, H. et al. (2007) *Financing Transit-oriented development with land values, Adapting land value capture in developing countries, Environment and Planning A*. doi: 10.1068/a38377.
- Tan, W. G. Z., Janssen-jansen, L. B. and Bertolini, L. (2014a). Identifying and conceptualising context-specific barriers to transit-oriented development strategies: The case of the Netherlands. *The Town Planning Review* 85 (5). pp 639-663
- The World Bank (2003). *Sustainable Development in a Dynamic World*. Washington DC: copublication of The World Bank and Oxford University Press
- Thomas, R. and Bertolini, L. (2014). *Beyond the Case Study Dilemma in Urban Planning: Using a Meta-matrix to Distil Critical Success Factors in Transit-Oriented Development'*, *Urban Policy and Research*, 32 (2). 219–237
- Thomas, R. and Bertolini, L. (2017). *Defining critical success factors in TOD implementation using rough set analysis*, *The Journal of Transport and Land Use* 10. 1–16.
- Thomas R, Pojani D, Lenferink S, Bertolini L, Stead D and van der Krabben E (2018). *Is Transit-Oriented Development (tod) an Internationally Transferable Policy Concept?*, *Regional Studies*, 1-13, pp. 1–13. doi: 10.1080/00343404.2018.1428740.
- Titheridge, H; Mackett, RL; Christie, N; Oviedo Hernández, D; Ye, R; (2014) *Transport and poverty: a review of the evidence* [online] . UCL Transport Institute: University College London: London, UK. Available from: <https://www.ucl.ac.uk/transport-institute/pdfs/transport-poverty> [Accessed 1 January, 2017]
- UN Habitat (2013). *Urban Equity in Development - Cities for Life Inequality : The Gap is Widening* [online]. Concept paper for World Urban Forum 7 - Medellin (Colombia). Available from: http://mirror.unhabitat.org/downloads/docs/12320_1_595236.pdf [accessed 29 November 2017]
- UN Habitat (2010). *Bridging the Urban Transport Divide* : Summary report of the Urban Researchers Roundtable. World Urban Forum , "The Right to the city : Bridging the urban divide. Rio de Janeiro, Brazil. March, 2010
- Urban Land Institute (2011). *Promoting Cross-Sector Partnerships for Equitable Transit-Oriented Development*. April 2011. Washington: Urban Land Institute.
- Urban Redevelopment Authority Singapore (2013). *A High Quality Living Environment for All Singaporean Land Use Plan to Support Singapore's Future Population*. Accessible at <http://www.mnd.gov.sg/landuseplan/e-book/index.html> [accessed 20 May, 2017]
- Van Lierop, D., Maat, K. and El-Geneidy, A. (2017). Talking TOD: Learning About Transit-Oriented Development in the United States, Canada, and the Netherlands. *Journal of*

- Urbanism: International Research on Placemaking and Urban Sustainability*, 10(1), pp. 49–62. doi: 10.1080/17549175.2016.119255
- Vasconcellos, Eduardo, A (2001). *Urban Transport, Environment and Equity : The Case for Developing Countries*. New York : EarthScan
- Wibowo, S. S., Tanan, N., Tinumbia, M. (2015). Walkability Measures for city Area in Indonesia. *Journal of the Eastern Asia Society for Transportation Studies*. Vol. 11, pp. 1508-1521.
- Williamson, C. R. (2009). Informal Institution Rule: Institutional Arrangements and Economic Performance. *Public Choice*. 139 (Issue 3-4), 371-387
- World Bank (2014). *Indonesia's Rising Divide*. Available online from: <http://pubdocs.worldbank.org/en/16261460705088179/Indonesias-Rising-Divide-English.pdf> [accessed 9 December 2017]
- World Bank Tokyo Development Learning Center (TDLC) (2016), *Technical Note on Transit-oriented Development*. Technical note on TOD Technical Deep Dive (TDD). Available from : Jointokyo website [accessed 29 November 2017]
- Yang, P. P.-J., Lew, S. H. (2009). An Asian Model of TOD: The Planning Integration in Singapore. In Curtis, Renne, and Bertolini (2009), *Transit Oriented Development: Making It Happen* (153-170). Farnham, England: Ashgate
- Yin, R. K. (1989). *Case study research: Design and methods*. Second Edition. London: Sage Publications
- Zuk, M., Bierbaum, A. H., Vhapple, K. , Karolina, G., Loukaitou-Sideris, A., Ong, P., Thomas, T. (2015). Gentrification, Displacement, and The Role of Public Investment. *Journal of Planning Literature*, 33 (1), pp.31-44
- Zuk, M. , Carlton, I. (2015). *Equitable Transit Oriented Development : Examining the progress and continued challenges of developing affordable housing in opportunity and transit rich neighborhoods*. Retrieved on September 21, 2016 from <https://prrac.org/pdf/EquitableTOD.pdf>
- Zhao, Z.J., Das, K. V., Larson, K (2012). Joint Development As a Value Capture Strategy for public transit finance. *The Journal of Transport and Land Use* Vol. 5 No.1 (Spring 2012), pp 5-17

WEBSITE :

Berita Satu (2015). Bangun Trem, Warga Bumiharjo Surabaya Akan Direlokasi [online]. Available from <https://www.beritasatu.com/nasional/305213-bangun-trem-warga-bumiharjo-surabaya-akan-direlokasi.html> [Accessed 19 March, 2017]

BKKBN (2017). *Jumlah Kepala Keluarga dan Jumlah Jiwa dalam Keluarga Menurut Jenis Kelamin Berdasarkan Tahapan* [online]. Available from

<http://aplikasi.bkkbn.go.id/mdk/MDKReports/Kependudukan/Tabel55.aspx> [accessed 2 May, 2017]

BPS Kota Surabaya (2017). *Laju Pertumbuhan PDRB Kota Surabaya Atas Dasar Harga Konstan 2010 Menurut Lapangan Usaha Tahun 2011-2016* (Persen) [online]. Available from <https://surabayakota.bps.go.id/statictable/2017/07/05/544/laju-pertumbuhan-pdrb-kota-surabaya-atas-dasar-harga-konstan-2010-menurut-lapangan-usaha-tahun-2011-2016-persen-.html> [accessed 17 January 2018]

Denver Business Journal (2015). *Denver launches \$10million affordable housing fund* [online]. Available from https://www.bizjournals.com/denver/blog/real_deals/2015/02/denver-launches-10-million-affordable-housing-fund.html [accessed 12 May 2018]

Dinas Pengelolaan Bangunan dan Tanah Kota Surabaya (2017). *Rekapitulasi Rumah Susun Kota Surabaya* [online]. Available from <http://dpbt.surabaya.go.id/pelayanan-pemakaian-rumah-susun/> [Accessed on 02 May 2017]

Jawa Pos (2017). *APBN Batal Proyek Trem Full Swasta Pemkot Berencana Subsidi Tiket* [online]. Available from <https://www.jawapos.com/radarsurabaya/read/2017/09/30/16590/apbn-batal-proyek-trem-full-swasta-pemkot-berencana-subsidi-tiket> [accessed 9 November 2017]

Jakarta Globe (2018). *Surabaya to Star construction of new tram network by years end*. Available from: <https://jakartaglobe.id/context/surabaya-to-start-construction-of-new-tram-network-by-years-end> [accessed 16 April 2018]

Kompas, 2014. *Proyek Trem di Surabaya Akan dibiayai PT.KAI* [online]. Accessible from <http://bisniskeuangan.kompas.com/read/2014/09/12/100137126/Proyek.Trem.di.Surabaya.Akan.Dibiayai.PT.KAI> (accessed 2 February, 2017)

Liputan 6. Rata-rata harga rumah di Surabaya Rp 1.259 juta/meter persegi. [online]. Available from: <http://bisnis.liputan6.com/read/2988157/rata-rata-harga-rumah-di-surabaya-rp-1259-juta-per-meter-persegi> [accessed 9 December 2017]

Media Indonesia, (2017). *Sulitnya Hunian MBR di Kawasan TOD* [online]. Available from <http://mediaindonesia.com/news/read/95741/sulitnya-hunian-mbr-di-kawasan-tod/2017-03-10> [accessed 5 March, 2017]

Mineapolis Metropolitan Council. *Livable Communities Demonstration Account* (LCDA) [online] available from <https://metro council.org/Communities/Services/Livable-Communities-Grants/Livable-Communities-Demonstration-Account->

[\(LCDA\).aspx?source=child](#) [accessed 12 May, 2018]

MyTransport.sg, (2017). *Singapore Transport Fare Calculator* [online]. Available from https://www.mytransport.sg/content/mytransport/home/commuting/busservices.html#Fare_Calculator [accessed 25 May 2017]

National Arts Council (2018). *Community/Sports Facility Scheme*[online]. Available from <https://www.nac.gov.sg/whatwedo/support/arts-spaces/framework-for-arts-spaces/community-sports-facilities-scheme.html> [accessed 12 May 2018]

Public Transport Council Singapore (2017). *Singapore Public Transport Fare*. Available at : http://www.ptc.gov.sg/FactsAndFigures/lww_20161230.htm [accessed 25 May, 2017]

Navaratnarajah, Romes (2017). URA: New Guidelines For Privetely-Owned Public Spaces [online]. PropertyGuru website. Available from <https://www.propertyguru.com.sg/property-management-news/2017/1/145267/ura-new-guidelines-for-privately-owned-public-spaces> [accessed 12 February, 2018]

Presiden RI.go.id (2017). *Rumah subsidi untuk masyarakat berpenghasilan rendah*. Available from: <http://presidenri.go.id/program-prioritas-2/rumah-subsidi-untuk-masyarakat-berpenghasilan-rendah.html> [accessed 23 April 2018]

Singapore Dat.gov.sg, 2015. *Total Land Area of Singapore*. Available at : <https://data.gov.sg/dataset/total-land-area-of-singapore> [accessed 13 March, 2017]

Singapore Land Transport Authroity. *Singapore's Bus Operators*. Available at : <https://www.lta.gov.sg/content/ltaweb/en/public-transport/buses/bus-operators.html> [accessed 25 May 2017]

Strait Times (2017). *URA sets new Standards for Public Spaces in Private Properties*. Available online from: <https://www.straitstimes.com/singapore/ura-sets-new-standards-for-public-spaces-in-private-properties> [accessed 2 May, 2018]

Transit Link . <https://www.transitlink.com.sg/PSdetail.aspx?ty=art&Id=50>

ArcGis, 2014. *Singapore MRT and LRT Network*. Available at : <http://www.arcgis.com/home/item.html?id=d9b064a21598437c98d68d3f200831c8> [accessed 30 May, 2017]



APPENDICES

A. INTERVIEW GUIDELINE

Institutional Arrangements to Achieve Equitable TOD (Study Case : Surabaya)

Sir/Madam,

My name is Endira Siti Rahmasari (Era). I am a master student of Environmental and Infrastructure Planning in University of Groningen. I am currently doing a master thesis research about “Institutional Arrangements to Achieve Equitable TOD”, using Surabaya as the case study.

Therefore, I need you to answer the following questions and your response to the questionnaire will be kept confidential. You are not required to write your name, department or any confidential detail on this survey. Your individual response will be recorded anonymously and your participation will not be damaging your organization, your employability or your reputation. If you have any concerns or want to know the result of this survey, please do not hesitate to contact me.

Best regards,
Endira Siti Rahmasari

Kepada Yth. Bapak/Ibu,

Perkenalkan, nama saya Endira Siti Rahmasari mahasiswa Master di University of Groningen di Belanda. Saya sedang mengerjakan thesis mengenai Bagaimana Institutional Arrangements (peraturan/kebijakan) dapat berkontribusi dalam mewujudkan Transit Oriented Development (TOD) yang Adil (adil yang didefinisikan dalam thesis ini adalah mudah diakses (bagi orang berpendapatan rendah/MBR). Transit Oriented Development yang dimaksud disini adalah rencana pengembangan guna lahan di sekitar calon stasiun yang akan dikembangkan dalam pembangunan Angkutan Massal Cepat (AMC) di Surabaya.

Berikut ini adalah beberapa pertanyaan yang perlu diidentifikasi dalam rangka menemukan jawaban dari pertanyaan research saya. Saya mohon bantuannya untuk mengisi pertanyaan berikut karena sangat membantu dalam pengerjaan thesis saya saat ini. Besar harapan saya output dari thesis ini dapat berkontribusi untuk mewujudkan TOD yang akan dikembangkan ke depannya akan lebih berkeadilan dan dapat dirasakan manfaatnya untuk semua kalangan di Surabaya. Apabila Anda ingin memberikan pertimbangan atau ingin mengetahui hasil dari riset ini, jangan ragu untuk menghubungi saya.

*Hormat saya,
Endira Siti Rahmasari (ERA)*

Can you explain about your/your institution’s role and responsibility, and how you are involved in TOD development?

Dapatkah anda menjelaskan mengenai peran dan tugas anda (institusi anda), dan bagaimana anda terlibat dalam pembangunan berbasis transit/TOD di Surabaya?

Is there any specific rules or scheme in the current TOD regulation in regard to increase TOD’s benefit of TOD for the communities (particularly the low-income)?

Apakah terdapat peraturan atau kebijakan terkait TOD yang berkaitan dengan kepentingan masyarakat/komunitas, terutama masyarakat berpenghasilan rendah/MBR?



How are principles of equitable or fair transit development depicted in the current TOD/public transport and land use policy, design and regulation?

Bagaimanakah konsep pembangunan yang berkeadilan tercermin dalam regulasi atau peraturan terkait dengan TOD di Surabaya?

How private sectors are involved in the public transit operation, as well as the development surrounding the transit area?

Bagaimana pihak swasta (pengembang perumahan dan property, transit operator) dilibatkan dalam operasional AMC dan pembangunan di sekitar transit?

How communities, community-based organization or NGOs are involved in the development surrounding the transit area?

Bagaimana masyarakat atau organisasi non-profit berbasis komunitas dilibatkan dalam pembangunan di sekitar transit?

What are the barriers in the implementation in regard to achieve equitable TOD (affordable transport fare/public housing for low-income/public amenities)?

Apakah kendala dalam proses kolaborasi antar aktor (pemerintah, swasta, masyarakat, dll) dalam rangka mencapai TOD yang berkeadilan (penyediaan tarif terjangkau, perumahan terjangkau, dan fasilitas publik)

Is there any specific regulations and/or institution/agency to control and monitor public transport fare to be affordable for the low-income?

Saat ini, apakah terdapat kebijakan atau institusi/agensi khusus yang mengawasi dan mengontrol ongkos AMC?

Is there any specific rules/regulations for providing affordable housing from the government or private developers surrounding the transit area?

Apakah terdapat kebijakan peraturan khusus mengenai penyediaan perumahan terjangkau untuk MBR baik oleh pemerintah maupun pengembang perumahan swasta?

Is there any specific rules/regulations for private developers to provide public facilities for the community near the transit area?

Apakah terdapat kebijakan peraturan khusus mengenai penyediaan fasilitas untuk public (Ruang terbuka public/ruang terbuka hijau) untuk baik oleh pemerintah maupun swasta?

What is your interests and motivations in TOD development?

Apakah motivasi dan kepentingan anda/institusi anda dalam pembangunan di sekitar transit?



How do you perceive the government policy to oblige private developers for providing affordable housing near transit area?

Bagaimana respon anda terhadap kebijakan pemerintah untuk menyediakan perumahan MBR di sekitar transit?

What kind of actions/regulations motivates you to provide affordable housing or public facilities for communities near the transit area?

Menurut anda, mekanisme peraturan seperti apakah yang dapat memotivasi institusi anda untuk membangun perumahan terjangkau dan fasilitas publik bagi masyarakat di sekitar transit?

What are the conditions and barriers to implement regulations (transport fare concession, balance housing ratio, incentive based on FAR (Floor Area Ratio), incentive to construct public spaces/parks and pedestrian) in Surabaya?

Bagaimana peluang dan kendala dalam mengadopsi peraturan dan insentif (subsidi untuk transportasi public, hunian berimbang, insentif penambahan lantai bangunan/KLB, dan insentif untuk penyediaan fasilitas public untuk umum)?

Thank you for your cooperation/ *Terimakasih atas kerjasamanya*