

## Socio-cultural characteristics of people and the shape of transit-oriented development (TOD) in Indonesia: A mobility culture perspective

**Hayati S. Hasibuan** (corresponding author)  
School of Environmental Science,  
University of Indonesia  
[hayati.hasibuan@ui.ac.id](mailto:hayati.hasibuan@ui.ac.id)

**Chrisna T. Permana**  
Study Programme of Urban and Regional  
Planning, University of Sebelas Maret  
[chrisna.permana@staff.uns.ac.id](mailto:chrisna.permana@staff.uns.ac.id)

**Abstract:** Recent literature argues that many transit-oriented development (TOD) projects have failed because their approaches focus on “one-size-fits-all” technical provisions and/or pay little attention to local socio-cultural suitability. Through a sociological institutionalism lens, this article examines how the local socio-cultural characteristics of people reshape mobility culture in transit areas and lead to the potential emergence of locally based TOD concepts. Our discussions are guided by the socio-cultural mobility analysis framework, an extended version of the original mobility culture theory. This analytical framework divides mobility culture into land use, housing, and transport dimensions. Five TOD potential areas located in the periphery of Greater Jakarta, Indonesia, are presented as a research window in which data and information are collected through a mixture of primary surveys and documentary reviews. This article reveals that housing preference emerges as the most important aspect of reshaping mobility culture in transit areas in Indonesia.

**Keywords:** Transit-oriented development (TOD), mobility culture, Indonesia

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## 1 Introduction

In the wake of massive implementations in the Global South, many academics have begun to raise concerns over conceptual diffusions of Transit-Oriented Development (TOD). The main question has centered around whether the concept of TOD is internationally transferable (Thomas et al., 2018). In particular, this question emerged after the failure of many TOD projects to transform transit areas into mixed-use, compact, and sustainable living space in the Global South as expected. Instead of serving and benefiting local people, many TOD projects created tensions and complications in the form of market-led urban regeneration and its gentrification, displacement, and economic inequality issues (Hidayati, 2020; Padeiro et al., 2019).

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This article begins from the growing argument in the literature that explains that many TOD projects in the Global South have been focused on “one-size-fits-all” technical and design provisions, but have paid little attention to the socio-cultural characteristics of local people (Ann et al., 2019; Wood et al., 2016). City governments and planners rushed to adopt TOD concepts to encourage urban regeneration projects for economic purposes by simplifying local contexts, but then struggled to create well-functioning TOD that matched local needs (Ann et al., 2019; Thomas et al., 2018). In some cases where projects failed, TOD areas were not used well because the existing residents were pushed away while the newly targeted residents were not fully encouraged to move in (Mansury et al., 2012). TOD areas were also unable to promote sustainability values as people tended to continue to rely upon cars and motorcycles (Ann et al., 2019; Pongprasert & Kubota, 2019). In a few other cases, TOD areas failed to serve economic equality because more high and middle-class groups dominated the local housing market, built exclusive living space, and used their property for business and investment, while the lower class groups struggled to stay (Nakamura et al., 2016).

Exploring the socio-cultural characteristics of people has been the most challenging aspect of various urban development initiatives, including TOD (Loo et al., 2010; Robinson, 2002). Understanding socio-cultural characteristics can help planners to deal with a great variety of preferences as regards the TOD concept within specific localities, so they could plan more applicable and suitable TOD areas (Ann et al., 2019). By exploring the issue from a sociological institutionalism viewpoint, our intention is to examine the socio-cultural characteristics of people living in local transit areas. We define socio-cultural characteristics as the accumulation of individual features within a specific proximity and community, which are influenced by both formal and informal institutions.

This article introduces the socio-cultural mobility analysis framework, extended from the original mobility culture theory, to examine how socio-cultural characteristics of people living in local TOD areas reshape the overall mobility culture. This analytical framework divides mobility culture into the dimensions of land use, housing, and transport. Five potential TOD areas in the periphery of Greater Jakarta, Indonesia, are presented as a research window, in which data and information were collected through a mixture of primary surveys and documentary reviews. The overall finding reveals that among the three dimensions of mobility culture, housing emerged as the element most driven by local socio-cultural characteristics as well as reshape the local mobility culture and determine the efficacy of TOD concepts.

## **2 Mobility culture and transit-oriented development (TOD)**

As urban planning has increasingly intersected new institutionalism paradigms (Taylor, 2013), the emphasis on urban transport concepts has shifted from specific designs and systems to deal with generic urban issues in different places. It has encouraged a new perspective on looking at designs and systems as more dynamic and contextual formulas which are tailored to deal with specific issues and localities (Merriman, 2012). Mobility culture theory advanced under the latter assumption to explain that people’s mobility happens through daily interactions between material and symbolic elements of their activities and transport systems, which are attached to and influenced by specific local settings (Klinger et al, 2013; Taylor, 2013). Mobility culture, as a general theory, suggests transport planning to anticipate the socio-cultural, economic, and political settings of an urban area.

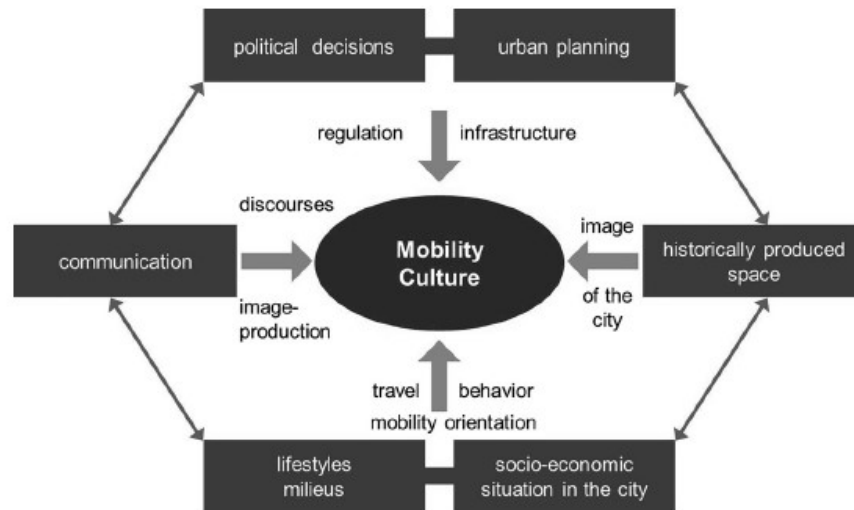
### **2.1 Mobility culture theory**

According to Klinger et al. (2013), mobility culture is comprised of two key elements: objective and sub-

jective dimensions. Various literature described that among the objective dimensions include all aspects related to the dynamics of space and daily obstacles as well as challenges faced by individual life, all that are based upon the reality and beyond human perception (Duru-Bellat & Kieffer, 2008; Holz-Rau & Scheiner, 2010). In this regard, we consider objective dimensions include urban forms, transport infrastructure, and basic socio-economic indicators of the city or specific area. These represent countable and quantitatively measurable aspects. For example, urban form as a dimension relates to density, land-use diversity, and building design (Moore & Osiri, 2014). The transport infrastructure refers to transport capacity and variation (Loske, 2020). Socio-economic indicators of the city or area represent by income per capita, productive ages, unemployment, and investment rates (Cidell & Prytherch, 2015; Loo et al., 2010).

On the other hand, subjective dimensions refer to various aspects that are based on thoughts, opinions, and feeling of individuals, families, and groups in their interactions, relationships, and conflicts during mobility activities, such as working to office, going back home, traveling to other cities, and so forth (Holz-Rau & Scheiner, 2010). Subjective dimensions have certain degree of autonomous, and can be varied following the mark of individuals' personal and family history (Duru-Bellat & Kieffer, 2008). This article proposes several measured indicators, including lifestyle, attitude, and perception, all of which are categorized as uncountable and difficult to measure. Lifestyle refers to individual habits as regards land use, living space, and modes of travel (Holz-Rau & Scheiner, 2010). Attitude is defined as the general tendency of people as regards specific issues, say, in transport services, such as their willingness to trade travel time for expensive fares during peak hours (Pongprasert & Kubota, 2019). Whereas perception refers to individual opinions and beliefs as regards various urban elements, general beliefs refer to things such as living near a bus station is considered as unsafe, or a green activist having strong motivations to buy cheap electric rather than luxurious mainstream cars (Ann et al., 2019; Macharis et al., 2010; Wattanacharoensil & Sakdiyakorn, 2016).

In mobility culture theory, the socio-cultural characteristics of people are one of the most fundamental elements alongside political decision-making, planning, history, and communication (see Figure 1). These characteristics are categorized as subjective dimensions and perception-related indicators (Klinger et al., 2013). These characteristics consist of various rules, norms, values, and social practices, which are attached to the mobility behavior of individuals and accumulated over a long period (Klinger et al., 2013). All groups share specific socio-cultural characteristics, from asylum seekers to global leaders, from students to businessmen, from traditional villagers to artists, from local to international tourists. They are constantly changing, dynamics, and follow the daily interactions of people's values, habits, and preferences (Sheller & Urry, 2006).



**Figure 1.** Translation of Gotz & Defner's concept of the basic urban mobility culture Source: Klinger & Lanzendorf, 2016, p.4

## 2.2 Mobility culture and transit-oriented development (TOD) in the Global South

The connection between mobility culture and TOD has recently been explored by scholars to answer why particular TOD projects have failed to have an impact within specific localities. Many scholars argue that such failures were mainly caused by the inability of TOD projects to anticipate the demands or suitability of subjective factors, such as local lifestyles, attitudes, and perceptions (Klinger et al., 2013; Motieyan & Mesgari, 2017; Pan et al., 2011; Wood et al., 2016). For instance, some TOD projects in Thailand did not target the residents of TOD areas because planners were insensitive to the socio-economic lifestyles of local people (Nakamura et al., 2016). In other cases, TOD areas in India were full of paratransit services and motorcycles instead of pedestrians and cyclists, as planners were unable to change the existing local attitudes of “cheap travel with paratransit services” (Ann et al., 2019). Furthermore, a number of TOD projects in Chinese urban peripheries seemed to mismatch the demands because planners were focused on constructing large shopping malls, apartments, and office blocks, while the actual perceptions and expectations of local people were to have residential areas with community services, small markets, and neighborhood amenities (Pan et al., 2011).

We argue that the first trap of global “TOD-ism” was caused by the theoretical and conceptual ideas that are still dominated by the literature of the Global North. Our literature reviews unsurprisingly found that the majority of TOD concepts were introduced by references from the Global North, while the lessons learned from TOD practices increasingly came from Global South case studies. We realized that TOD-related research in the Global South has been focused on the practicality and efficacy of the Global North concept rather than endorsing their own concepts. In terms of general TOD definitions, for instance, many countries are still very much adopting Calthrope and Cervero's technical provisions (Ann et al., 2019; Gomez et al, 2019; Hasibuan et al., 2014; Lyu et al., 2016; Pongprasert & Kubota, 2019; Thomas et al., 2018).

Among the “directly absorbed” provisions of TOD are walking distance radius, building intensity level, and railway station designs. Calthrope's (1993) basic formula of a 2,000 feet (or 10-minute) walking distance between a transit station (core TOD area) to a boundary has been accepted almost everywhere in the Global South, while the actual willingness to walk and the local climate conditions are largely different (Ann et al., 2019; Pongprasert & Kubota, 2019). Cervero's (1997) and Salvensen's

(1996) arguments that emphasize the need to intensify residential land use near railway stations through high-density buildings in core areas have often been translated as a “basic standard” for both inner city, transition, and peripheral TOD areas by many governments in the Global South, while local people are actually less familiar with apartments or a vertical housing culture (Ann et al., 2019; ITDP, 2017; Mansury et al., 2012; Pan et al., 2011). We argue that the mobility culture and TOD are still less connected in practical terms in many cities in the Global South.

What this article means by inner city, transition, and peripheral TOD areas is three categories of TOD area based on their location (Dijkstra et al., 2018). Theoretically, inner city or, named as inner-city TOD in this article, is characterized by high density, high concentration of urban activities, and located within the core of urban area (Dijkstra et al., 2018). Meanwhile, the transition and peripheral TOD, or described in this article as inner-periphery and outer-periphery TOD, are defined as two areas with lower density, more concentration of a mixed of urban and rural activities, and located beyond the boundary of urban areas, indicated by lower land values and smaller scale of economic activities (Barbieri, 2019; Hudalah et al., 2010). In this regard, inner-periphery has more dominant characteristics of urban area, and sometimes classified as peri-urban (Ayambirea et al., 2019; Hudalah et al., 2010), while the outer-periphery has more dominant characteristics of rural area (Niu et al., 2019; Saxby et al., 2018). It needs to be understood that according to literature, inner-city, transition, and peripheral TOD applied in many countries do not have differences in terms of the general rule of radius area of 600-800 meters as mentioned by Calthrope (1993) and Cervero (2007).

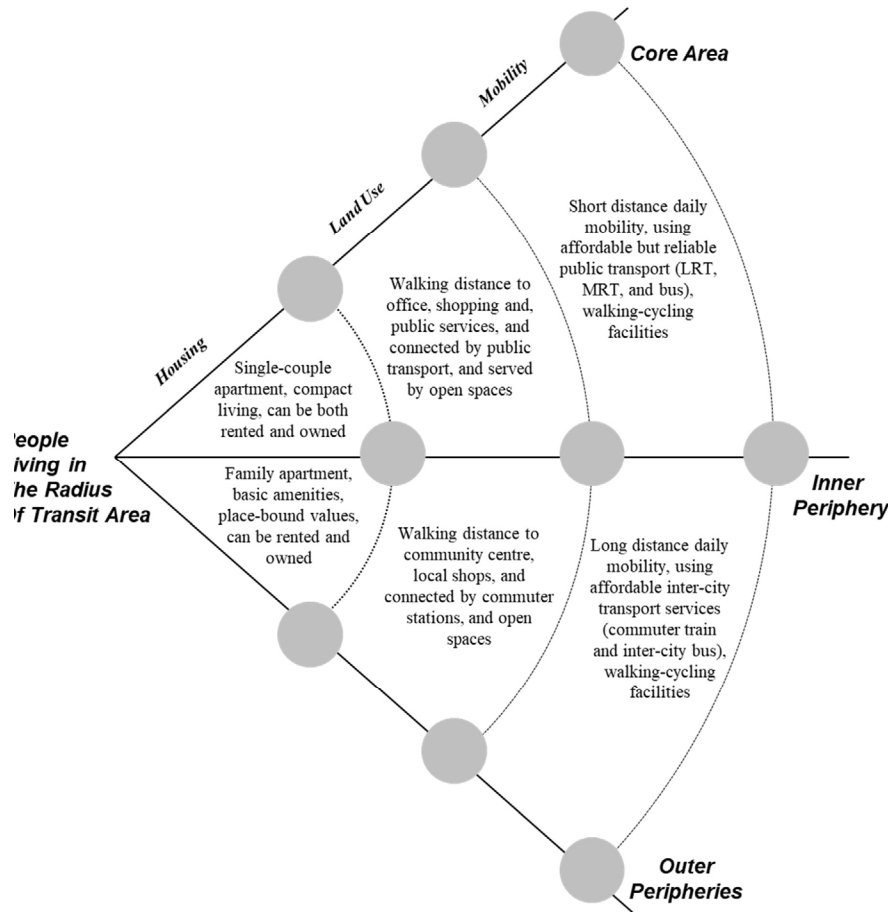
### **2.3 Analytical framework: Socio-cultural mobility analysis**

Early institutional theories did not clearly explain the failure of various planning projects, including TOD projects, in urban areas. They were unable to find the invisible causes of project failures because their views focused on the process, progress, and the meaning of planning products as defined by planners or urban designers (Healey, 2018). According to this judgment, a specific project is considered successful when all the technical issues, designs, and standards are strictly followed (Paling, 2012). Nevertheless, this logical approach cannot anticipate various obstacles behind the scenes, especially regarding whether planning products make a bad impression, or against the attitudes of the minority or particular groups within urban society (Jun & Musso, 2013). This approach is also incapable of capturing actual disagreements or hesitations of urban society as regards specific designs and programs (Boelens, 2011; Farías, 2011; Rydin & Tate, 2016).

In the last two decades, theorists have introduced new insights to unravel the hidden problems that were impossible to capture through earlier institutional theories. This new insight is called sociological institutionalism. Sociological institutionalism teaches us to see planning projects from both sides, as a product to serve the target audience, and at the same time, as something that is created by the dynamic changes in the social and political practices of the participants (Dembski & Salet, 2010; Goulden et al., 2017; Permana et al., 2018). Not only is there a focus on its functions, but this new institutionalism emphasizes planning projects in terms of the symbolic legitimation of people’s socio-cultural interactions, including their lifestyle, attitudes, and perceptions, which are reshaped by their formal and informal rules, norms, values, and practices (Cidell & Prytherch, 2015; Farías, 2011; Nareswari & Utari, 2020; Savini & Dembski, 2016). They are also continuously reshaped by the changes in social interactions that promote new practices and meanings (Dembski & Salet, 2010).

Drawing upon mobility culture theory, and with a consideration of sociological institutionalism views, this paper develops “the socio-cultural mobility analysis” (see: Figure 2). This approach is used as an analytical framework to identify the socio-cultural characteristics of people and examine such features in reshaping mobility culture and endorsing a locally based TOD concept. This framework especially

emerges from the subjective dimensions of mobility culture or those related to “the lifestyle milieus and the socio-economic situation of people” (see: Figure 1, page 4). In this framework, our intention is to explore the socio-cultural characteristics that are embedded in people’s lifestyles, attitudes, and perceptions in three dimensions: land use, housing, and transport.



**Figure 2.** Socio-cultural mobility analysis framework

As a basic premise, we first completed the analytical framework (Figure 2) with a hypothesis developed from a theoretical underpinning to describe the nature of the socio-cultural characteristics of people and how they affect mobility culture. Again, we focus on subjective dimensions of mobility culture, which comprise of lifestyle, perceptions, and attitudes. Such dimensions are explored within housing, land-use, and transport elements to draw socio-cultural characteristics of the people in mobility. A sentence in each box of the Figure 2 represents hypothetical characteristics from the literature reviews. For instance, people living closer to urban centers have more subjective reasons to choose simple housing and more compact land use, as well as cheap and convenient transport services (Cervero, 1993; Atkinson & Easthope, 2009). From the left (socio-cultural characteristics) to the right of the analytical framework curve (Figure 2), we intend to explain that a mobility culture is reshaped by socio-cultural characteristics comprising of preferences, lifestyles, and attitudes of people as regards housing, land use, and transport conditions, subsequently. Meanwhile, from the bottom to the top of the framework, we describe how the distance to the city center (core area) could produce a potential different mobility culture. We especially investigate the difference between the inner-city periphery and the outer-periphery areas.

Nevertheless, the case of Global South is unique and may differ from the characteristics of urban-rural in the Global North (Parnell & Oldfield, 2014). The subdivision of urban-rural areas in the Global South is far more complicated than in the Global North (Campbell, 2016; Hudalah et al., 2010). Following the massive and uncontrolled urbanization and sprawling in the majority of large cities, the actual characteristics of rural and urban in the Global South have become more difficult to distinguish (Ayambire et al., 2019; Parnell & Oldfield, 2014). Satellite towns and out-of-town urban housing are increasingly flourished in the peripheries without significant land use and building control, which result many urban people moving into the transition areas and gradually affect the way of living of surrounding people that was previously rural into more urbanized socio-cultural characteristics (Gu & Smith, 2020; Hudalah et al., 2016; Mirafatab & Kudva, 2015).

### **3 Methodology and case studies**

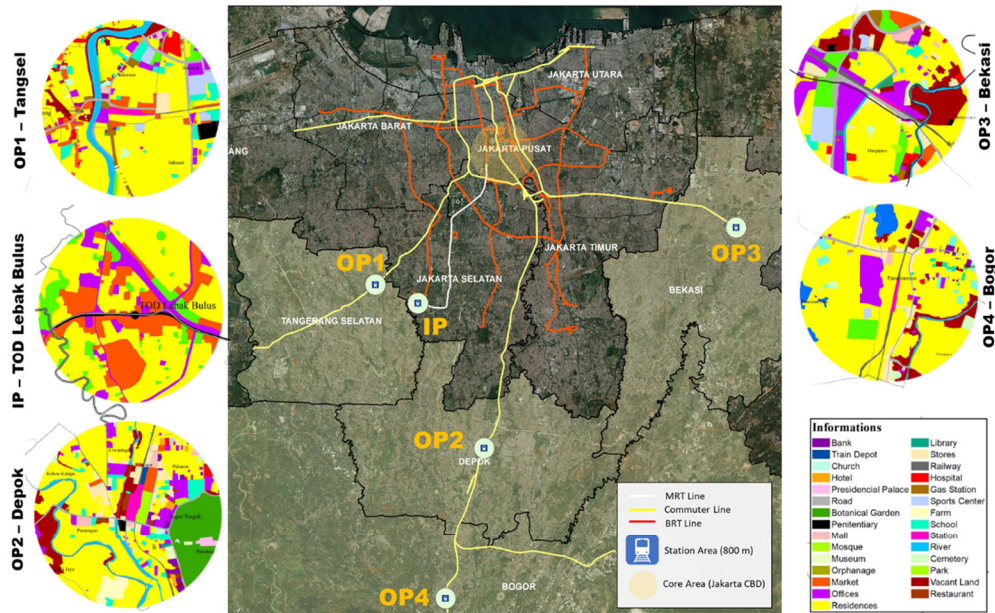
This article uses a qualitative methodology. This methodology provided more flexibility in terms of identifying the socio-cultural characteristics of people, or those that are deeply embedded in people's lifestyles, assumptions, and perceptions. In this regard, we applied the case study approach. Five potential TOD areas located in the periphery of Greater Jakarta, Indonesia, were involved. While Lebak Bulus represents a case of the inner-periphery area, the other four cases—Bekasi, Tangerang, Depok, and Bogor—represent the outer-periphery areas. This subdivision was applied to anticipate the potential differences in the socio-cultural characteristics of people living closer to and further from the core urban area as predicted by the theory.

As we required additional in-depth information with more flexible analytical processes, we used a mixture of questionnaire surveys and documentary reviews for data collection. We used a questionnaire survey to explore: 1) basic socio-economic information, 2) living conditions and preferences, 3) travel preferences and behaviors, and 4) residence and workplace location. We applied the convenient sampling method. The questionnaire survey was completed by a total of 400 residents within a 1 km radius of the case study areas. Although we were aware of the actual TOD plans are around 600-800 meters, we decided to conduct surveys within 1 km radius to cover areas and buildings within the transition boundaries and the people living there, which also may have relevance to be our respondent. The survey participants were limited to those living in potential TOD areas and they completed the questionnaire in their homes.

Along with a huge stream of commuting activities, traffic congestion, increased air pollution, and land-use shortages, the TOD concept has been encouraged in the Greater Jakarta area with a view to transforming the transit station areas into compact and more sustainable urban settlements. In the beginning, the concept was organized to manage the integration of land use and transportation services along with the MRT stations, however, its implementation has recently been extended to lead the development process in local LRT, commuter train lines, and BRT station areas (JICA, 2012; Sulistyaningrum & Sumabrata, 2018; Taki et al., 2018). TOD projects in Jakarta represent one of the most challenging models, considering they need to serve 30 million inhabitants in the fifth most populous region in the world. TOD areas are also expected to facilitate more than 80 million trips per day (Hasibuan et al., 2014; ITDP, 2017).

Our five case studies (see Figure 3) are in Greater Jakarta's TOD-planned areas, as stipulated by Presidential Regulation No. 55/2018 regarding the Masterplan of the Greater Jakarta Transportation 2018-2029. Except for Lebak Bulus, the other four case studies have not received formal TOD interventions and still serve as ordinary transit areas. Although it is located at the inner-periphery, Lebak Bulus area is the focal point of the first MRT line. It strategically functions as the first station and starting

point for the service corridor. Its land use comprises a mixture of high-density apartments, hotels, an MRT station, an MRT Depot, a few large shopping centers, as well as low-story houses. Adjacent to Lebak Bulus bus terminal is one of the busiest terminals in the city, and Grab-bike Pool, one of the most popular online taxi pool stations. This area is a popular business district in South Jakarta, with the upper-middle-class dominating and working-class families living in the surrounding area. On the other hand, Bojong Gede, Depok Baru, Bekasi, and Pondok Ranji are typical outer-periphery transit areas, which are comprised of a small number of low-story houses, a small-scale community center, open spaces, parking areas, and community markets, circling the electric railway station.



**Figure 3.** Map of five TOD-potential areas

## 4 Discussion

In this section, we divide our analysis into two main parts. The first part discusses the findings of the socio-cultural characteristics of people in the case studies. Here, we present the findings based on the analytical framework, housing, land use, and transport. The second part discusses the synthesis, and how the socio-cultural characteristics of people in all the case studies reshape the pattern of the local mobility culture in the transit area. We also begin to apply the socio-cultural mobility analysis framework to describe the mobility culture and anticipate how the proximity to the core city, among the five case studies, could produce different characteristics, especially between the inner and outer-periphery areas.

### 4.1 Housing dimension

Using five case studies, this study explores the socio-cultural characteristics of people living in transit areas through their perception of housing ownership, house building type, and attitudes toward living in housing blocks in the TOD area. Perception of housing ownership describes people's living preference with regards to house status, whether owned or rented. House building and living preferences indicate how people are willing to adapt to the lifestyle in the TOD area. These factors explore whether people



are happy to live in small and compact vertical buildings or whether they wish to remain in ordinary landed houses with spacious front and backyards. It also aims to see if people wish to live as an individual, couple, or family in a local TOD area. In terms of attitudes to living in a TOD area, the discussion provides clues to supporting aspects of housing that need to be provided by the TOD project to attract local people. The following table explains the findings:

**Table 1.** Socio-cultural characteristics of people in the housing dimension

No	Socio-Cultural Characteristics		Preference of Individual living in TOD-Planned Area (%)				
			Lebak Bulus	Tangerang	Depok	Bogor	Bekasi
1	Housing Ownership	Owned	70	80	50	90	80
		Rented	30	20	50	10	20
2	House Type	Landed	90	All	90	All	All
		Story	10	-	10	-	-
3	Living Companion	Family	50	60	90	90	80
		Individual	50	40	10	10	20
4	Length of Stay	Long-term	60	70	50	80	80
		Short-term	40	30	50	20	20
5	Attitudes of Living in TOD Area)*	Accessibility	1	2	3	3	2
		Social Reasons	2	1	1	1	1
		Natures	4	3	4	4	3
		Affordability	3	4	2	2	4

Source: Primary Survey, 2020; \*Value in No. 5 indicates priority (1 = highest, 4 = lowest)

In Table 1, we discuss the overall socio-cultural characteristics of people in housing dimension. In terms of housing ownership status, the survey result indicates that people were happier to live in an owned house rather than a rented house. This is linked to the fact that many people of working age are still living with their family, especially their parents. It is common in many places in Indonesia, for a number of reasons. First, the majority of people living in the peripheries are middle to low income which, in many cases, mean that they are still unable to afford their own house. They live with their parents to reduce living costs, and to reallocate the cost of renting a house to other basic purposes like costs of transport, health, or children’s educational services. Second, the majority of people also feel that living with their family is safer. For new families with children, for instance, living with their parents would help them to work with more time and flexibility outside home, as their children can be entrusted to their parents on weekdays.

The above discussion also helps us to understand why many people in Indonesia prefer to live in a landed house rather than an apartment. Table 1, for example, explains that many people were not familiar with living in vertical housing. In their view, a landed house usually provides more space than an apartment block. Landed house is more suitable in terms of the local culture, because they can accommodate people living together, and can help with family gatherings and looking after each other. Furthermore, people are also attracted to a landed house because they feel that living in a landed house provides a sense of real individual property ownership, in terms of a physical lot and a building unit compared to an apartment block and its land ownership sharing. These social and economic preferences, as mentioned above, are rarely a concern for people living in the Global North (Allen, 2007).

Reflecting upon preferences in housing ownership and type, general attitudes of people toward the TOD area have been influenced by social reasons. People prefer to move to or to live in certain

neighborhoods that are familiar to them. Similarity in social background such as race, job, community group, or even religion helps people to settle in a new neighborhood. People believe that social bonding built through close relationships over a long period could help them to live better and more productive. In addition, many people want a neighborhood with housing units that have the ability to provide adequate capacity and a more familiar design, and to ensure the sustainability of their social activities, for both family members and neighbors so they can conduct socio-cultural and religious activities together.

#### 4.2 Land-use dimension

After housing dimension, this study explores the socio-cultural characteristics of people living in transit areas through the land-use dimension. It involves attitudes towards working location and the importance of living in a compact area (walking accessibility to essential buildings such as hospitals, schools, public services, and shops). In addition, this dimension also covers discussions about people's opinions as regards ideal land-use compositions in TOD areas. Attitudes on working location allow us to understand how people in the case studies selected their workplace and house, which also affected their daily mobility. Attitudes on compact living or accessibility to important buildings refers to people's expectations with regards to connectivity and ease of moving from home to public services. Such attitudes also relate to other factors such as walking or cycling instead of driving private vehicles or using commuter transports. Finally, the ideal land-use composition provides important insights into how land use should be planned in a TOD area in the context of the case study. The following table explains the findings:

**Table 2.** Socio-cultural characteristics of people in the land-use dimension

No	Socio-Cultural Characteristics		Preference of Individual living in TOD-Planned Area (%)				
			Lebak Bulus	Tangerang	Depok	Bogor	Bekasi
1	Working-Home Location	Close to Home	10	2	17	3	4
		Close to Transport	66	88	40	90	86
		Not Specified	24	10	33	7	10
2	Compact Living	Important	30	8	15	10	24
		Not Important	40	71	52	64	37
		Not Specified	30	21	33	23	49
3	Preferred Land Use in TOD Area	Railway Station	23	16	18	27	23
		Park & Open Space	10	8	19	13	8
		Public Services	2	13	11	7	11
		Social Facilities	19	21	26	18	15
		Leisure	15	5	3	6	2
		Shopping Centre	5	11	5	10	11
		Pedestrian & Cycling	3	5	6	13	21
		Feeder Shelter	23	21	12	6	9

Source: Primary Survey, 2020

Working location refers to people's lifestyles in terms of their daily journey to work. Many people in the Global North prefer to live near their public services including offices, and do short-distance journeys by public transport, cycling, and walking. Based on a number of cities in the US, for example,

Lund (2006) explained that many people prefer for a compact urban living where schools, public services, offices, and transit stations are within walking distance or short traveling by public transport (Lund, 2006). Kotulla et al. (2019), using case studies of cities in Ireland, Norway, and Amsterdam, also described that compact living and mixed-use are increasingly attractive for working class, so they could live closer to their offices, public services, and other amenities (Kotulla et al., 2019). In this regard, people use a great variety of modes including cycling, bus, as well as underground and light rapid transit to go to office and other primary destinations (Haustein & Nielsen, 2016). However, this is not the case in the majority of Global South. Many people live in the peripheries and have to travel more than 10 km every day for the purposes of work (JICA, 2012).

In Indonesia, for instance, people do not have a choice over their jobs, and instead, they tend to secure the first available job that matches their skills, even if the location is far from their home (Hanan & Hemanto, 2019). Many people are caught in a “client–patron relationship,” where workers are engaged in a contract arrangement with a company or a person that is a dominant authority with social and economic status. This pushes people to adapt, serve, and be loyal. This patron–client relationship also encourages people to respect the decision of their company or directors regarding office location.

As they are influenced by the client–patron relationship, people in Indonesia are less familiar with compact city living (see Table 2). Accessibility to important buildings within walking or cycling proximity is not important because many people are living and working according to opportunity, and not through preference (Pieterse, 2008; Parnell & Oldfield, 2014). Their priority in choosing a location is based on affordability and availability in an area that can serve them with minimum basic amenities. In addition to that, people in Indonesia are not familiar with walking or cycling. Their preference in terms of travel, especially for working, is end-to-end services, assisted by private hire transports or paratransit, such as local motorcycle-taxis (ojek), online-taxis, tricycles, and car-sharing transport. These end-to-end services are available on a daily basis, easy to obtain, affordable, faster, and more convenient in comparison to ordinary public transport like commuter trains and buses.

Looking at the overall expectations of people as regards land use in a TOD area, we can see that social aspects are a high priority. As described in Table 2, people in all the case studies expected public and social facilities to be the main elements that should be provided by TOD, in addition to the main transit station. In this regard, we can see that social facilities in a TOD area are the most essential and attracting aspect. Social facilities, such as religious facilities (prayer halls), gathering facilities, or parks, and many other types of buildings that serve social interactions and informal meetings, are favorable and attracting people to utilize TOD areas on a daily basis. However, based on the survey, only a few people mentioned that walking and cycling facilities were important, showing that they would still prefer to travel by motorized transport, like private vehicles or public transport, despite the shorter distances involved.

### **4.3 Public transport dimension**

Finally, this study discusses the third element of socio-cultural characteristics from the point of view of public transport. Four indicators are examined, which are travel distance, travel time, willingness to pay, and public transport alternative preferences. Travel distance and time tell us about the characteristics of people as regards their occupation and lifestyle, and how they are traveling every day. For instance, a case study in India indicated that due to a long history of traveling using cheap paratransit methods, many people were still hesitant and less motivated to walk (Lee et al., 2016; Ann et al., 2019). Willingness to pay and public transport alternative preferences indicate the characteristics of people as regards their intention to utilize a TOD area as the trip generation point. After all, this aspect also provides a clue to how planners are supposed to provide transport services in TOD areas. All findings are provided in the following table:

**Table 3.** Socio-cultural characteristics of people using public transport

No	Socio-Cultural Characteristics		Preference of Individual living in TOD-Planned Area (%)				
			Lebak Bulus	Tangerang	Depok	Bogor	Bekasi
1	Average Daily Travel Distance	< 5 km	14	5	12	11	7
		5-10 km	32	13	26	4	12
		10-20 km	47	24	44	14	18
		> 20 km	7	58	18	71	63
2	Average Daily Travel Time	< 30 minutes	18	17	9	9	7
		31-60 minutes	68	22	11	5	10
		61-90 minutes	9	43	72	18	20
		> 90 minutes	6	18	8	68	63
3	Average Daily Travel Cost	0-10,000 IDR	6	13	12	5	11
		10,000-30,000 IDR	28	24	16	6	31
		30,000-50,000 IDR	40	22	37	63	26
		50,000-80,000 IDR	21	23	26	18	19
		> 80,000 IDR	5	18	9	8	13
4	Transport Mode Alternative Preference	MRT & LRT	53	18	23	35	31
		Bus	21	22	19	12	35
		Pedestrian & Cycling	4	6	3	8	2
		Public-Private	6	22	27	23	18
		Private	16	32	28	22	14

Source: Primary Survey, 2020

Travel distance and time indicate people's lifestyles as regards public transport service uses. In our case studies, as shown in Table 3, we found that almost all people are categorized as having a long journey to work. Many people did more than 10 km or traveled for more than one hour to go to the office on weekdays. According to JICA (2012), their focus was still on housing affordability and not on the distance to the office, and therefore, many people were willing to travel by train, bus, private vehicles, or a mixture (JICA, 2012).

To understand this phenomenon, we need to re-examine the lifestyles, attitudes, and perceptions of people in terms of their housing preferences. Many people preferred to live with or closer to their family, especially their parents. This was triggered by a number of reasons, such as affordability and efficiency, as people are not fully capable of buying a house and have to stay with their parents; safety and convenience, as people feel that it is safer and more convenient to live closer to their family as they can look after each other and their house and children; and social reasons, as certain people prefer to live alongside neighbors who have the same race, religion, and social activities. Our study reveals that people still have a general assumption that living in a neighborhood with strong social values (such as the ability to engage with family and friends or with people who are similar in terms of race, religion, culture, and social activities) is more important than living in a new and strategic neighborhood but with a lack of similar social values (mixed-race, religion, and culture).

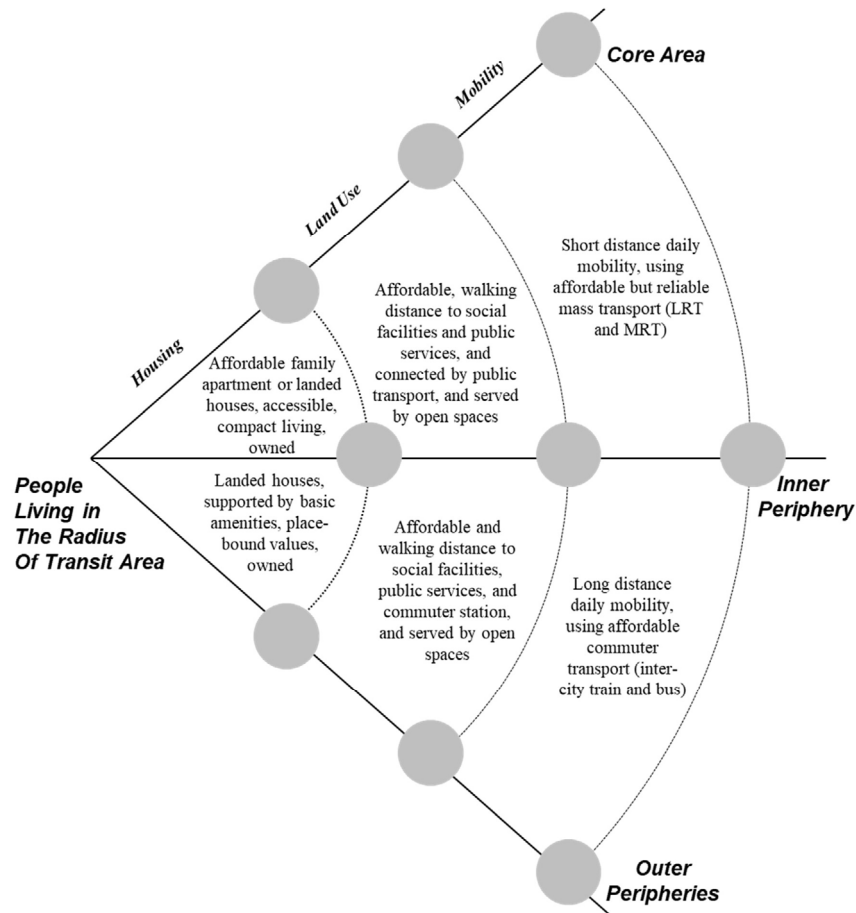
The question concerning what kind of transport services should be provided by the TOD area can be answered by people's willingness to spend on public transport and their preferred types of public transport. While the majority of people living in the Global North began to travel by walking and cy-

cling to work (Lund, 2006), Indonesian people are still dependent on private or commuting transport. Their average spending was also higher as regards their monthly income of Rp. 3,000,000 (equal to approximately US\$ 200) (JICA, 2012). The fact that many people still depend on private vehicles is also linked to the situation concerning local socio-cultural conditions. Many people in Indonesia living in the periphery tend to travel for a single purpose rather than many reasons. For example, a family with two kids would rather choose to travel separately. The parents travel from home to office, while the kids travel from home to school, using two different modes. Therefore, from a house, there is a possibility of more than one transport activity being used every single day. Again, this behavior is motivated by efficiency and the need to save time because their destinations are usually scattered.

#### **4.4 Overall mobility culture and locally based transit-oriented development**

By considering the socio-cultural characteristics of people as described earlier, this section discusses the overall mobility culture of people in TOD-planned areas (see Figure 4). Our findings reveal that the key aspects of socio-cultural characteristics that have driven the overall mobility culture are living with parents, routine social and religious events, and social and family gatherings, all of which are centered on people's decisions as regards housing and their neighborhood. Socio-cultural characteristics that are deeply embedded in people's attitudes, lifestyles, and preferences in terms of housing have reshaped their overall mobility culture, especially preferences in other aspects, including land use and public transport.

Living with parents and social gatherings are more important than convenient transport so many people focus on living in areas that suit their social preferences, i.e., facilitating family gatherings and social events more regularly, even if they have to travel a longer distance to the office. In terms of land use, the need to have access to social activities and to live in a neighborhood that offers a more familiar social and cultural life (race, religion, and community similarities) has also driven people to neighborhoods that have more public spaces and social facilities which support social gatherings and activities that can facilitate the achievement of social harmony. This has also encouraged many people to ignore the importance of having a compact living space and an area where you can walk to work and other activities. Their preference for TOD, especially in terms of public transport, has been more reliable and affordable public transport services for long-distance travel, especially various types of railway services (including MRT, LRT, commuter trains, and regional buses).



**Figure 4.** Socio-cultural interactive mobility culture in TOD in Greater Jakarta

The local mobility culture reflected in the case studies (as shown in Figure 4) endorses a locally based TOD concept that emphasizes social spheres as the most prominent development. This concept is slightly different from the TOD concept in the Global North due to its tendency for social, economic, and physical values. In the majority of the Global North TOD areas, for instance, many initiatives were directed at accelerating economic development through urban regeneration projects in the form of shopping centers, high-density offices, and modern and compact apartments (Cidell & Prytherch, 2015; Thomas et al., 2018). However, in the Global South, more specifically Indonesia, initiatives should stress the importance of the social sphere or the promotion of social inclusion and harmony. The TOD concept should be able to encourage various physical developments, including buildings, streets, stations, and parks, which preserve and facilitate local cultural values and social needs, and promote local identity. Among the most important buildings are houses that are capable of promoting a social life, a mixture of blocks and low-story houses or flats with more spaces and community facilities, large prayer halls, and public spaces or parks supported by strong landmarks that promote local identities. In this way, TOD areas can be transformed as social landmarks that engage and attract local people. TOD areas can be expected to serve as strategic zones to enhance social activities, in addition to their primary roles of connecting the neighborhood with the city center, providing compact living, and encouraging mobility. The overall differences between the characteristics of the Global South and North are presented in Figure 5.

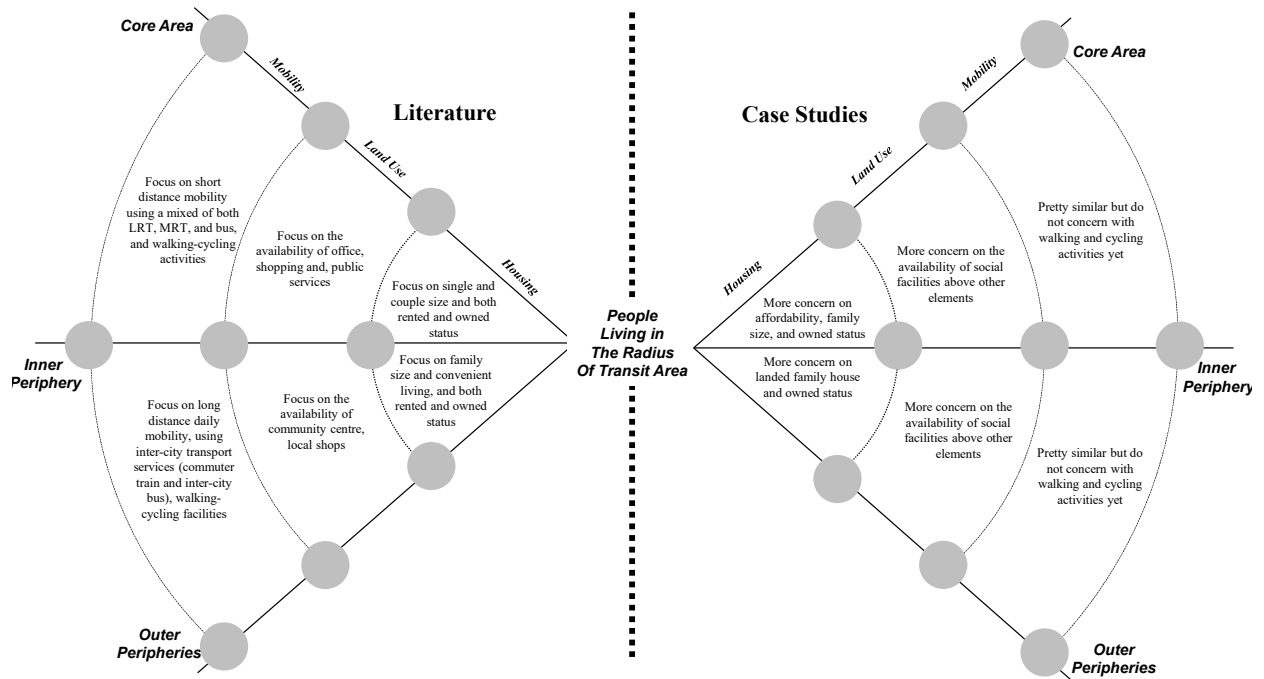


Figure 5. Socio-cultural mobility culture in comparison: Theory vs case studies

Our study also reveals that there was only a small difference in the mobility culture of people in the inner-periphery and the outer-periphery transit areas. As shown by Figure 4, we can understand that people in the inner-periphery have generally experienced a gradual transformation in their mobility culture. We found, for instance, in terms of housing type, a few people in the inner-periphery area began to accept and be attracted to the idea of living in an apartment. Furthermore, in terms of public transport type, there was also an indication that a very few people living closer to the city (inner-periphery) are beginning to consider cycling and walking facilities as an attractive factor to support their mobility, while the majority of people living in the outer periphery were still highly dependent on private vehicles or paratransit services to get to the nearest transit station.

After all, our study confirms such a small difference in the mobility culture between the inner and outer peripheries is caused by what literature explain as the massive and uncontrolled urbanization and sprawling (Ayambire et al., 2019; Parnell & Oldfield, 2014). In our case studies where the outer-periphery stations located, South Tangerang, Depok, Bekasi, and Bogor, satellite towns and out-of-town housing projects are continuously erected and have affected the changing of socio-cultural lifestyle, attitudes, and preferences of people in the area. Many of them become more familiar with urban living and mobility characteristics (Gu & Smith, 2020; Hudalah et al., 2016; Mirafatab & Kudva, 2015). These phenomena similarly happened in all case study areas.

Our discussion concludes that the socio-cultural characteristics of people determined the efficacy of the concept of TOD in Indonesia. Elements such as houses that are able to promote the socio-cultural identity of the owners and can serve the family as well as interactions between individuals and groups, land uses that are affordable and also serve the social activities of the people, and public transport that is efficient, easy to access, but reliable when serving long-distance travel, have confirmed the theoretical assumptions regarding the contextual differences between TOD in the Global North and the Global South. There are, as described by Robinson (2002) and Ward (2012), “specific conditions” evident in

the local social life, including a tendency to live with family or with people of a similar race, ethnicity, and history.

Reflecting upon the study findings, we suggest that planners and policymakers adopt certain socio-cultural values in the development of TOD projects in Indonesia. While the majority of TOD projects in many other countries highlight the importance of economic or environmental sustainability, we should be aware of the fact that social sustainability is more important in Indonesia. Having understood that housing has emerged as the most crucial element that determines the efficacy of a TOD area, it is important to provide a TOD plan with more housing development strategies that are able to serve family and social activities, to make the project more attractive and beneficial for local people.

## 5 Conclusion

Through the lens of sociological institutionalism, this article examines how the socio-cultural characteristics of people could reshape the overall mobility culture of transit areas, and lead to the potential emergence of locally based TOD concepts. Our discussions were guided by the socio-economic mobility culture analysis, which is an extension of the original mobility culture theory. This analytical framework divides the mobility culture of people in terms of the dimensions of land use, housing, and transport. Five potential TOD areas located in the periphery of Greater Jakarta, Indonesia, were presented as a research window, and it was found that among the socio-cultural characteristics of people living in the transit areas, housing characteristics played the most important role in reshaping the local mobility culture and determining the efficacy of the TOD concept.

As a reflection of the overall study process, this article also highlights the capacity of the socio-cultural mobility analysis as an analytical framework to capture the socio-cultural aspects of the community. The framework helps authors to organize the data and information relating to people's lifestyles, attitudes, and perceptions into discussions that can explore the importance of formal and informal rules, norms, values, and practices within planning processes, including the TOD plan (Cidell & Prytherch, 2015; Farías, 2011; Nareswari & Utari, 2020; Savini & Dembski, 2016). The socio-cultural mobility analysis was also able to connect the socio-cultural characteristics of people with the overall local mobility culture to explore a locally based TOD concept and its key characteristics. However, a limitation of the study to be anticipated appears in the potential bias of respondent opinions. As our study was conducted in the TOD potential areas, we anticipated that some minor bias opinions and preferences of the respondents could be happened because they do not have any experience of living in the real (already built) TOD areas.

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