Bus rapid transit in Bandung:

A series of stories from the capabilities perspective

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Bus rapid transit in Bandung: A series of stories from the capabilities perspective

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To
Papse Kk Abe
and people in Bandung

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Abstract

This master thesis employs Sen's Capability Approach as a guiding conceptual framework in the exploration of the Bus Rapid Transit (BRT), an element of people's mobility in Bandung, Indonesia. The aim of the research is to shed light on variations in capabilities and valued functionings of people enabled by the use of this public transport mode, and to propose potential improvements through the identification of possible obstacles. The thesis arranged a set of Focus Group Interviews (FGIs) in which participants consisted of groups of workers and students, as well as a series of ride-along activities so as to operationalize the concepts of capabilities and functionings which were used as the main conceptual framework in the research. By referring to Nussbaum's Central Human Capabilities, the research has identified and grouped six capabilities enabled by the BRT use, including: bodily integrity; senses, imagination and thought; affiliation; play; relationship with other species; and control over one's environment. Working, visiting family, studying and doing school assignments, going to school, taking a rest, eating out, and enjoying recreation are among the valued functionings captured through the FGIs. In order to improve the BRT system, the research suggests to promote further development of mobility corridors and public facilities, including residences, schools or universities, city parks, business areas, and service points. Through the application of the Capability Approach, this research facilitates the diversification of mobility resources - namely by associating the concept of mobility as *human capability* and mobility as *human functioning* - of various groups of people relying on the use of the BRT system. The research opens up the possibility of enhanced public transport services at the scale of city planning by shedding light on the different capabilities and functionings of people that such services should consider, as well as the possibility to meet the objectives of urban planning by intervening on the factors hampering the use of the overall public transport system.

Key words: functionings, capabilities, the capability approach, bus rapid transit, mobility.

Summary

This master thesis discusses the recent implementation and the user experience of the Bus Rapid Transit (BRT) system through the perspective of the inhabitants of Bandung, Indonesia. The intent of the thesis is to address the public transport issues that brought the municipality to make the decision to invest and implement the BRT. The point of departure of the investigation is the observation that the expansion of the BRT corridors seems to be stagnant since the municipality has orientated its interest toward another transit mode, namely, light rapid transit (LRT). Therefore, the aim of this thesis is providing more understanding regarding the role of the BRT for people in Bandung in order to support the government's decisions regarding future expansions or further improvements of the BRT system. To do so, the thesis adopts the perspective of the capability approach (CA).

The perspective of the capability approach emphasizes the concrete ability of people 'to do and be' what they value (Nussbaum, 2003, Robeyns, 2005). In the framework of the CA, one's 'doing and being' correspond to people's functionings, while their *concrete* ability to achieve them are regarded as *human capabilities* (e.g. Sen, 1998, 2009). Considering the aim of the research, which is investigating whether the BRT system in Bandung constitutes a concrete 'means of enhancement' of people's capabilities, the research required collection and analysis of the opinion of the BRT users. This was used to explore what functionings they value, and are enabled by the system, and what are the inhibiting and supporting situations in relation to the use of the BRT. Relevant information was obtained through: 1. visiting transportation and planning institutions, 2. focus group interviews (FGIs), and 3. ride-along interviews. The information was analyzed by employing the method of discourse analysis (DA). The analysis of the collected responses led to the identification of 13 valued functionings, of which 7 are indeed enabled by the use of the BRT system, 14 inhibiting situations which discourage people in using the BRT, and 6 supporting situations which encourage them to make use of the BRT.

In accordance with these results, the government of the municipality of Bandung could acquire further insights on which to ground their decisions regarding the future of the BRT system. Such insights gravitate around people's experienced enhancement of 'doing and being' what they value daily, and are therefore inherently 'people-based' rather than based on the sole evaluation of the

economic feasibility and (dis)advantages of the BRT as an urban transport system. Differently put, the perspective adopted by this research for evaluating whether or not, and *how* the BRT system constitutes an expansion of people's capabilities in relation to daily needs and wishes provides a novel perspective from which orientating decisions regarding future expansion and improvement of the system.

Based on the results discussed in the following chapters, the research indicates that the development of new mobility corridors between the various neighborhoods of Bandung and public facilities - including residences, schools or universities, city parks, business areas, and service points – could constitute a valuable and valued expansion of the BRT system in the city. By suggesting to increase the possibilities for Bandung's public transport users to access facilities and services in the city through the BRT system, the research supports the endorsement of urban transport policies aimed at increasing the diversity of mobility resources, and at enhancing the citizens' capability of realizing 'mobility-related' functionings through, but also beyond, the use of the BRT system.

The core 'lesson learnt' from this research, indeed, relates to the conceptual perspective designed and adopted for investigating people's mobility-related functionings – and to the proposed, novel evaluative shift from the analysis of transport resources, to the analysis of what people can concretely achieve through them. This people-based approach to the evaluation of public transport systems – here limited to one element only of Bandung's transport system – opens up to new evaluative perspectives on public transport services in the urban planning at large. By understanding the different capabilities and functionings that people achieve through different modes and means of transport, the adopted 'capability approach' shows the potential of supporting the identification also of the factors encouraging or hampering the use of transport resources that, seen through economic or accessibility lenses only, could lead to distinctly different planning decisions. In this sense, the results of the research are not meant to replace the results generated through other approaches to the evaluation of transport resources used by the municipality of Bandung, the BRT system specifically, but are rather intended as insights and 'decisional tools' complementary to other more established ones.

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Name: Si Cepi
Designer: @rizkyramadhany
This mascot was competing in an "unofficial mascot contest for commemoration of the 60th Asia Afrika conference"

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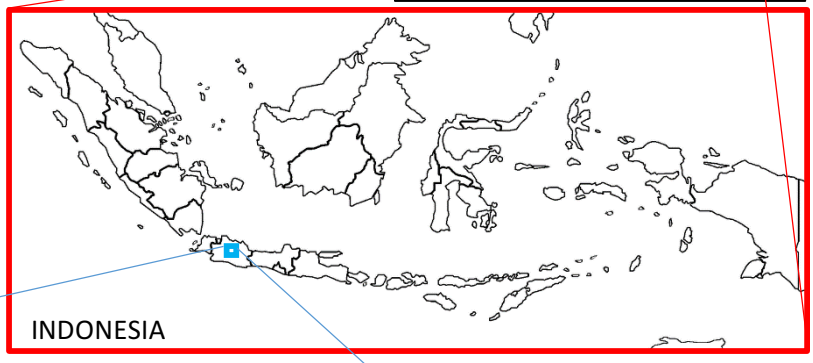
CHAPTER 1. INTRODUCTION

1.1 RESEARCH BACKGROUND

1.2 INITIAL AIMS OF THE RESEARCH


“Ever wonder where Bandung is located?”
si cepi
@rizkyramadhany


INDONESIA


BANDUNG
ORIENTASI WILAYAH
KABUPATEN BANDUNG BARAT
KABUPATEN BANDUNG
KOTA CIMAHI
Pintu Tol Pasteur
Pintu Tol Pasir Koja
Pintu Tol Kopo
Pintu Tol Moh. Toha
Pintu Tol Buah Batu
Kecamatan Sukasari
Kecamatan Cidadap
Kecamatan Cobong
Kecamatan Sukajadi
Kecamatan Cibeunying Kaler
Kecamatan Cibeunying Kidul
Kecamatan Bandung Wetan
Kecamatan Andir
Kecamatan Cicendo
Kecamatan Cibiru
Kecamatan Ujungberung
Kecamatan Antapani
Kecamatan Arcamanik
Kecamatan Panyileukan
Kecamatan Bandung Kulon
Kecamatan Babakan Ciparay
Kecamatan Batununggal
Kecamatan Lengkong
Kecamatan Astanaanyar
Kecamatan Cinambo
Kecamatan Bojongloa Kidul
Kecamatan Regol
Kecamatan Bandung Kidul
Kecamatan Buahbatu
Kecamatan Gedebage
Kecamatan Rancasari

1.1 Research background

This master thesis discusses the case of bus rapid transit (BRT) in Bandung municipality. The origin of the BRT can be traced back from Latin American planners and officials exploring a new transportation paradigm that offers a cost-effective solution in urban transport. The BRT system includes a surface metro system that utilizes exclusive right-of-way bus lanes in order to enable improved mobility of most people (Wright, 2003). In this thesis, the BRT refers to a rapid mode of transportation using road based vehicles with larger capacity than common city buses that are integrated in terms of infrastructure, payment, and communication systems. As an integrated system, the BRT combines stations, vehicles, and emergent services into one distinctive identity[1] (Levinson, et al., 2002). BRT has grown in popularity. Today, it has been increasingly utilized by cities throughout the world (Levinson, et al., 2003, 2002; Wright, 2003).

Increased concerns on environmental protection and compact urban development have strengthened interests towards BRT (Levinson et al., 2003). The growing interest of BRT deployment is due to its high performance, faster construction phase, and flexible route planning, as well as its low capital and operating costs. The system offers improved road safety, less fuel consumption per capita, and improved land values. It also provides sufficient transportation capacity to meet the transport demands for all populations, particularly those in cities which implement the entire key elements i.e. image and identity[2], sense of permanence[3], speed and reliability, in addition to dedicated bus lanes (Levinson et al., 2003, 2002). Thus, BRT is claimed to be more cost efficient and flexible compared to those of rail transit (Levinson et al., 2003).

These advantages brought Bandung municipality to invest in the BRT development. The construction of the BRT system was formally reported in its spatial planning document and local spatial law[4]. According to the law, the municipality planned to construct eleven BRT corridors by 2031[5] connecting all city centres

[1] Levinson, 2002 stated that distinctive identity refers to the use of graphics, signage, pavement markings, and appropriate traffic controls.

[2] As documented by Levinson, 2002, "image and identity should be emphasized and be consistent in the design of all BRT system physical elements, including stations, vehicles, and running ways. Special graphics, livery, and construction materials can combine not only to convey useful information (e.g., where to catch a BRT service), but also to provide constant advertising exposure."

[3] Levinson, 2003, stated that a BRT project needs the development of a unique system image and identity, and a sense of permanence, speed, and reliability. Here, sense of permanence is a part of key attribute which a play role to successful BRT project, in addition to the provision of a queue bypass, bus lane, or dedicated busway.

[4] Bandung Municipality Law Number 18 Year 2011 on Bandung Municipality Spatial Arrangement Plan 2011-2031.

[5] There are inconsistency regarding the number of corridors which will be developed in the city. According to Bandung Municipality Law Number 18 Year 2011 on Bandung Municipality Spatial Arrangement Plan 2011-2031, article 28 (8) d, the municipality will develop 11 corridors of BRT by 2031, on the other hand, based on Bandung Municipality Mayor Decree Number 1175 Year 2015 on Bandung Municipality Transportation Masterplan, article 20, the municipality will develop 9 corridors by 2031. Here, the research will refer to the spatial law in the argument that the law has higher hierarchy compared to the mayor decree.

(The Government of Bandung Municipality, 2011). The municipality developed three BRT corridors which connected two city centres[6] in 2015. The expansion of the corridors was getting slower as the municipal focused on constructing a light rail transit (LRT) system. The municipality argued that the LRT system intended to provide a sustainable transport mode with a larger capacity that could solve the city's congestion.

Bandung to build monorail prototype early 2016

The Jakarta Post
The Jakarta Post

Jakarta | Wed, October 21 2015 | 04:52 pm

Source: http://www.thejakartapost.com/news/2015/10/21/bandung-build-monorail-prototype-early-2016.html

A focus apart

"the expansion of the corridors is getting slower as the municipal focused on constructing light rail transit (LRT) system"

The intention to identify the role of BRT prompts an investigation using the capability approach. The capability approach (CA) emerged, as an outstanding work of Nobel laureate Amartya Sen, through his known *Equality of What?* lecture (1979). Sen's CA is an alternative political philosophy and evaluative framework, which challenges the utilitarian and primary goods rationales in the area of development and ethics. In his view, the utilitarianism framework has overlooked the unique characteristics of each person and is less sensitive to adaptive preferences of the marginal groups in society (Sen, 1979).

Preceding Sen's critiques on the utilitarian point of view, Rawls posed his different stance towards utilitarianism through *A Theory of Justice* (1971). The argument draws attention to the fact that assessing the goodness of an action through consequences and preferences neglects the variability of the physical condition of people; thus, the utilitarian framework fails to recognize unjust conditions in society. Responding to these weaknesses, Rawls established two principles of justice. These principles consider that people have the same basic rights, weigh the distribution of income and wealth, and take into account the diversity in the design of the organizations (Rawls, 1971). Here, inequality must be avoided unless it serves the interest of the worst-off groups. Rawls' principles of justice lead to the use of the primary goods index to determine how well people are doing regarding their possession of primary goods necessary for the development of a good life.

[6] The two city centers are located within Bandung municipality. According to the Bandung Municipality Law Number 18 Year 2011 on Bandung Municipality Spatial Arrangement Plan 2011-2031, article 24 (1) a-b, the city centers are located in Alun-Alun and Gedebage.

Taking a stance to challenge Rawls' primary goods, Sen states that even though the primary goods approach considers the diversity of people, it fails to recognize variability of actual abilities to convert resources into valuable outcomes (Sen, 1979). Sen arrives at the notion of basic capability equality in which he emphasizes on how to achieve capabilities through the availability of primary goods. Such notion of basic capability equality becomes known as the capability approach.

The capability approach highlights what goods 'do' to humans (Sen, 1979), and it is also known as a broad framework for the evaluation and assessment of well-being, social arrangements, policy design, and social change (Robeyns, 2003). In the context of this research, the definition of capability is related to that of Sen's CA for it includes two main notions, notably: *human functioning* and *capability*. Human functioning invokes 'being' and 'doing'; moreover, the spectrum of functionings can be spun from elementary to complex functionings, such as from being nourished or avoiding premature mortality, to taking part in a community or having the condition of self-respect. In addition, according to Sen's CA, capability refers to the concrete opportunities to 'do' and 'be' as the valued functionings (Sen, 1979, 1985, 1995, 2001).

The capability approach can be used in many different ways to address a myriad of endeavours. It can be used in academic applications to policy evaluations. It also involves various concerns, from theoretical to empirical, and from philosophical to practical perspectives. Consequently, its broad perspective has captured the attention of researchers and policy makers (Robeyns, 2005). One notorious example can be found in the Human Development Reports of the UNDP. The reports highlight that there is a shift in thinking from the use of GNP to measure the quality of life towards Sen's work in capability. Formerly, a nation's life quality measurement simply depended on its GNP per capita, thus the use of this economic proxy has been the most prevalent (Nussbaum, 2002). The use of this approach has sparked criticism stating that it overlooks the distribution of wealth and income, and finally fails to understand the distributional variations which occur between countries with similar GNP.

In contrast, the CA has not captured much attention of geographers and urban studies scholars who work on the issue of mobility; few of them (Corbridge, 2002; Kronlid, 2008; Shin, 2011) recognized the capability approach as a valuable evaluative framework in the domain of urban and mobility studies. Concerning mobility, Nussbaum recognized the ability to move freely from place to place in her list of ten human central capabilities (Nussbaum, 2003). Additionally, Robeyns (2003) recognized the ability to be mobile as capability number ten in her list of fourteen capabilities. Overall, these lists spotlight the ability to mobile within a space or ability to move between places.

In addition to the area of mobility, urban studies scholars (Basta, 2015) explored the capability approach in the planning domain. Concerning spatial planning, Basta (2016) proposed the notion of one's *urban*

functionings, which are *the functionings whose achievement depend on how cities are designed and governed* (Basta, 2016). Consequently, following the perspective of spatial planning, the notion of capability was aligning with Robeyns' relevant definition as the *concrete ability to do and be what people value* (Robeyns, 2006, 2005) *in their living environment* (Basta, 2015).

The capability approach is intended to provide an alternative insight to what BRT does with regards to the capabilities of people in the Bandung municipality. From the perspective of the CA, mobility through BRT will not only be seen as an end in itself but also regarded as a tool to achieve valued functionings. For instance, mobility through BRT implies the concrete ability to have a good health as it enables people to reach health facilities, or to pursue better education or work in the way that it facilitates the people to go to schools or workplaces. Hence, in this research, the ability to move will not only be examined as *an end in itself* but also *as a tool to a set of valued functionings that underlie other capabilities*. Consequently, the identification of the valued functionings that relate to mobility becomes the focal point of this research.

In this research, a preliminary set of functionings is identified through an examination of the Bandung municipality development plan. Here, the CA is used to understand what it means to be mobile in relation to the functionings derived from the plan. Furthermore, with the intention to determine the *valued* functionings from the perspective of people in Bandung, an empirical investigation is employed in the data collection process. The empirical investigation is chosen because it allows a direct interaction between the researcher and the informants during the collection of people's aspirations. As mentioned, the empirical research involves the people in Bandung municipality whom are asked to participate voluntarily in two steps of data collection, namely, focus group interviews and ride-along interviews. In the end, the result of the investigation on mobility is utilized to shed light on the role of BRT to Bandung's inhabitants, thus, the municipality can consider these evaluative outcomes before deciding possible future expansion. However, it is worth mentioning that the use of the CA is not designed to supplant other approaches used by the municipality to measure the feasibility of the BRT development, but rather intended as a complementary view to the more established approaches.

This master thesis manuscript is divided into seven chapters. In the first chapter, the research background and initial aim of the research is elaborated. The second chapter describes the theoretical framework, including the BRT in the frame of mobility, the CA in relation to utilitarianism, resourcism, and to other more established approaches, and the CA in relation to mobility. Subsequently, in Chapter 3, the problem statement is refined with the intention to explore the knowledge regarding the CA. In this chapter, the research objectives and the research questions follows the reformulated problem statement. In Chapter 4 the case orientation is developed to draw a complete picture of the area in which the research is conducted.

The fifth chapter comprises of four strategies of data collections, methods in data collection, the executions, and the challenges regarding data collection. Following the data collection, the findings are analysed in Chapter 6. In this chapter, the methods of analysing the findings, its interpretation and the role of the BRT for the people in Bandung is explained. Lastly, in Chapter 7 the discussions and the conclusion of this master thesis are included.

1.2 Initial aims of the research

The BRT has notable benefits namely: cost efficiency and flexibility. It has grown in popularity, thus, it has been widely implemented by some cities throughout the world (Levinson et al., 2002; Wright, 2003). Accordingly, planners and officials of Bandung municipality are deciding to deploy the BRT system. The BRT corridor plan is formally laid out on the municipality spatial plan and the local spatial law (The Government of Bandung Municipality, 2011). However, the actual system deployment is in a stagnant state as the corridor has not improved in numbers within the last five years. This research is aligned with the aim of *providing thorough context of BRT deployment in people's lives* as previously mentioned in the background. The significance of the research topic is framed in its aim that is in order to *providing more understanding regarding the role of BRT for people in Bandung in order to support the government's decision regarding future expansions or further improvements of the BRT system*. To do so, the thesis adopts the perspective of the capability approach (CA).

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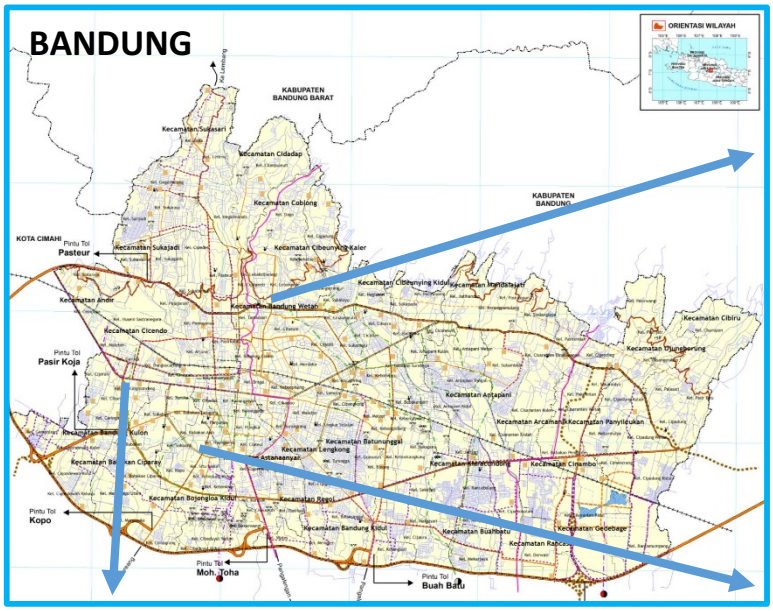
CHAPTER

2. THEORETICAL FRAMEWORK

Congestion in developing countries is caused by high population growth, rampant rise of motorization and high reliance on private vehicles –cars and motorcycles (Gakenheimer, 1999).



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2.1 BRT and mobility

Rapid growth in major cities in developing countries places a heavy strain on urban transport. Congestion has become a shared transportation characteristic in these cities as it reduces the speed of the vehicle and decreases mobility of motorized transportation both private and public. Congestion in developing countries is caused by high population growth, rampant rise of motorization and high reliance on private vehicles – cars and motorcycles (Gakenheimer, 1999). Some scholars argued that high dependence on private vehicles presents a string of environmental, economic, and social problems that reduce the quality of the environment (Schiller, Bruun, & Kenworthy, 2010).

BRT is projected to reduce the high utilization of private vehicles. BRT brings "*high-quality, customer-oriented transit that delivers fast, comfortable and cost-effective urban mobility"* (Wright, 2003). It has been implemented in Latin American cities, such as Curitiba RIT in 1973, Quito Metrobus-Q in 1995, the infamous Bogota TransMilenio in 2000, as well as many other cities in this continent (Hidalgo & Graftieaux, 2008). BRT offers improved urban mobility, shortened travel time and enhanced service reliability (Hidalgo & Graftieaux, 2008); Moreover, it provides cost-effective and flexibility in operation compared to rail transit. The benefits also include sufficient capacities to meet demands during peak hours and fast response to deal with urban transport problems (Levinson et al., 2003). In addition, lower initial investment as well as operating costs successfully promote the deployment of BRT throughout cities. Thus, all recognitions on BRT potentials and positive experiences in the cities which implement BRT has increased its adoption in most major cities throughout Asia, North America, Europe, Australia, and New Zealand (Hidalgo & Graftieaux, 2008).

The improved mobility by deploying BRT is placed under a spotlight in some transport studies. These have various dimensions, namely its operation (Hidalgo & Graftieaux, 2008; Levinson et al., 2003, 2002), policy guidance (Wright, 2003), impacts on land uses and land values (Cervero & Kang, 2011), and evaluation of the implementation (Currie, 2006; Hidalgo & Graftieaux, 2008; Levinson et al., 2003, 2002).

However, most researchers (Currie, 2006; Hidalgo & Graftieaux, 2008; Levinson et al., 2003, 2002) still point out technical issues (running ways, stations, and fare collection), performance (ridership, speed, and travel times), benefit and costs (land development and construction costs), implications (planning and urban development, market considerations, land use integration, system design and operations, and services). Hence, further exploration is needed in the area of BRT evaluation, as most studies rely on the technical rather than the social approaches. This prompts a question of how the deployment of BRT is taking a role in people's ability to do and be what they value. Here, the capability approach stands out as an alternative perspective which is further elaborated in the following section.

2.2 The capability approach

The notion of capability started to emerge through, to mention one of the most known sources, Sen's *Equality of What?* in 1979, a lecture material at Stanford University. The lecture concentrated on three types of equality, namely utilitarian equality, total utility equality and Rawlsian primary goods equality. The lecture exposed their respective limitations and, finally, presented an alternative formulation of equality which Sen states as a *basic capability equality*. Later known as *the capability approach*, which takes a firm stance against the utilitarian calculus and Rawls primary goods (Sen, 1979).

The utility-based assessment came from the utilitarian perspective which assessed actions in terms of their consequences and subjective sides of individuals. Utilitarian framework saw value through individual utility with regard to the state of one's mental conditions, such as pleasure, happiness and the fulfilment of desire. According to Sen, the use of subjective mental metric utility could be misleading, mainly because it may fail to recognize real deprivation of a person (Sen, 1979, 2007). For example, a deprived person may have adjusted their economic condition, and consequently, may exhibit adaptive preferences that have been conditioned to their deprived economics (Sen, 2007). Preceding the critiques of Sen to the utilitarian-based assessment, Rawls challenged the utilitarian view in A Theory of Justice published in 1971. Rawls stated that the subjective perspective failed to recognize distinction and plurality between persons and missed to recognize the differences of individuals as the basis of justice to which people would concern (Rawls, 1971). Hence, responding to the shortcomings of the utilitarian view, Rawls arrived to two principles of justice.

Rawls (1971) stated the first statement of two principles of justice as follows:

"first, each person is to have an equal right to the most extensive basic liberty compatible with a similar liberty for others; second, social and economic inequalities are to be arranged so that they are both (a) reasonably expected to be to everyone's advantage, and (b) attached to positions and offices open to all" (Rawls, 1971, p.60).

The first principle states equal liberty. It considers all people to have the same basic rights. The second principle was grounded on the emphasis to reduce social and economic inequality, unless it serves to the benefits of the worst-off group. Additionally, this principle emphasizes that offices and positions open to *all* under the condition of equal opportunity (Rawls, 1971). The overall focus of Rawlsian principles of justice is in the possession of primary goods of different people in making interpersonal comparisons (Sen, 2007). In the perspective of spatial planning, Moroni (2004) saw Rawlsian primary goods as spatial primary

goods which comprised of decent housing, accessibility of basic transport, availability of green areas, and of a safe living environment (Moroni, 2004).

On the other hand, Sen states that there is a catch in Rawlsian primary goods. In Sen's view, the entire list of Rawlsian primary goods puts heavy concerns on the possession of goods. According to Sen, the problem with the Rawlsian primary goods is that on the variability of people's ability to convert primary goods into valuable outcomes. Hence, Sen suggested that rather than seeing the possession of primary goods as an end, it should be seen as *a means*. In this perspective, the primary goods were seen as a tool to help people achieve what they aspired (Sen, 2007). In the context of spatial planning, the emphasis should not be focused on the mere provision of spatial primary goods, but rather on different abilities to convert spatial primary goods in order to realize what people want to achieve. This could be examined from Sen's famous example of the difference in the ability to move between disabled people and normal people. Here, Sen argued that, even though the number and distribution of public transports were well-managed, this could not guarantee that the opportunities among people were equal (Sen, 1979). Therefore, Sen firmly took a stance focusing on the ability of primary goods in serving the people.

In conclusion, the CA has certain advantages over the utilitarian or the preference-based approach, as well as over Rawlsian primary goods or the resource-based approach. The advantages include the inclusion of morality of *the process* by not merely focusing on *the consequences* of an action (Sen, 2009). In addition to the advantages of the preference-based approach, the CA goes beyond subjective mental metric. The metric that refers to the subjective preferences of individuals that may lead to a distorted reflection of a person's real deprivation that affects their preferences, in term of adjusting the preferences based on their experiences in a deprived condition (Sen, 2007). Furthermore, the CA offers a clear advantage compared to the Rawlsian primary goods. Through the resource-based approach, Rawls puts much attention on the primary goods provision to people, rather than people's actions in developing a good life and in building various actual abilities to achieve resource possession (Sen, 1979).

The discussion about capability draws the attention onto two main concepts, namely functioning and capability. A functioning is a thing a person may value doing or being. It represents various things in life that people value, and it varies from basic to complex functionings, such as being nourished or avoiding premature mortality, to taking part in a community or having self-respect. Capability, instead, refers to the concrete conditions people have to do and be these functionings. Therefore, the notion of capability is concerned with the real opportunity that people have to pursue their values or objectives according to their choice (Sen, 1985, 1995, 2001, 2009). Together with functioning, capability is used as a focal point for the overall discussion of this research.

In constructing the CA, Sen argues that the capability approach is intended to be incomplete (Sen, 2009). Incompleteness allows scholars to work on diverse issues. As a result, the incompleteness of the capability approach sparks pluralistic investigations. It allows further exploration concerning the capability approach through practical lenses (Alkire, 2002a; Sen, 2009), and there has been many scholars who are determined to apply this approach to their work. These are spanning from the area of human development (Alkire, 2002a; Nussbaum, 1999, 2001), poverty (Alkire, 2002b, 2007; Hick, 2012; Rosano, et al., 2009; Schischka, et al., 2008), justice (Basta, 2015; Nussbaum, 2002, 2001; Sen, 1995, 2009), tourism (Croes, 2012), participation (Alkire, 2005; Robeyns, 2005; Schischka et al., 2008), education (Unterhalter, 2003; Walker, 2005), and planning (Claudia Basta, 2015). These strings of research in capability prove that the incompleteness of the capability approach opens the possibilities to rule out clearly on matters that are unclear or undecided.

Concerning the incompleteness and the pluralism of the CA, Sen decides to leave the priority of selecting the fundamental capabilities to others who have engagement with a problem. Sen also emphasizes that the process of selecting the priority should be grounded upon participation and public debates (Alkire, 2002a, 2002b, 2005). Thus, in the CA, the participation process becomes necessary as it has the ability to raise the level of deliberative discussion and deepen the understanding of the examined capabilities (Alkire, 2007).

Therefore, in this research, *the capability approach is chosen among other approaches based on its incompleteness and pluralism*. *The incompleteness and the pluralism that allow people with diverse characteristics to participate in the process of prioritization of fundamental capabilities*. Nevertheless, the use of the CA is not designed to replace other approaches used by the municipality regarding BRT development, but it is intended to provide an alternative insight into the problem. Furthermore, the discussion of other most utilized approaches in the area of policy evaluation and the examination of complementary views provided by the CA are elaborated in the following section.

2.3 Capability and other evaluation tools

In addition to the CA, there are a lot of other tools that are employed in the area of evaluation and policy analysis, namely the Cost-Benefit Analysis, the Analytical Hierarchy Process, and the Delphi method. In order to understand the reasons for using the CA in this research, the descriptions of the essence, strengths, and weaknesses for each tool, and how the CA helps to address these weaknesses are elaborated in the following paragraphs.

Cost-Benefit Analysis (CBA) is the quantitative tool in the form of evaluation research emphasizing program continuation, program strategy, and techniques of improvement, or resource allocation among competing programs (GAO, 1991; Poister 1978; Weiss, 1972 cited in Miller & Robbins, 2007) The craft of CBA is to determine benefits (B) and costs (C), and to find the ratio between B/C for a particular policy. Accordingly, if the ratio value is more than one, then the analysis suggests that the benefits are greater than costs, thus, the policy should be considered to be funded through the government budget (Miller & Robbins, 2007). The strength on comparing the benefits and costs of a policy has brought this approach to a limelight. The CBA advocates are everywhere and its even popular among the agencies as it helps to determine benefits and costs of their policies (Hahn and Dudley, 2004 cited in Miller & Robbins, 2007).

However, there are shortcomings in this tool; the critics mainly state that CBA depends on mathematical approaches that are used in determining the quantification of benefit, especially those that are intangible and immeasurable, and depends in the assumption that each person who gives their opinion can judge the benefits and costs of the policy based on the foundation of their preferences (Miller & Robbins, 2007). Additionally, even though CBA involves people's judgment of a certain policy, the ultimate decision is determined by voting. The final decision is taken in the constellation of policy-making since the analysis of voting is conducted by legislative bodies (Miller & Robbins, 2007). Thus, it is clear that CBA does not necessarily include the individual's vote.

Responding to those weaknesses, the CA suggests to avoid subjective preferences by identifying concrete ability to do and be what people value with regard to specific policies. The use of the CA enables independency of the subjective preferences as the subjectivity may lead into a false reflection of real benefit and cost. Referring to the generalization of people's preferences during the process of voting, the use of the CA offers the attention to each opinion and regards all opinions as unique and valuable (Sen, 2009).

Table 1. Cost-Benefit Analysis at a glance and what the CA offers to overcome its weaknesses.

The craft and strength of CBA	The weaknesses of CBA	What the CA offers to overcome the weaknesses
The craft of CBA: To determine benefits (B) and costs (C) and to find the ratio between B/C for a particular policy. The strength of CBA:	(1) CBA depends on mathematical approaches that are used in determining the quantification of benefit, especially those that are intangible and immeasurable, and (2) CBA depends in the assumption that each person who gives their	(1) The CA suggests to avoid subjective preferences by identifying concrete ability to do and be what people value with regard to specific policies.

The craft and strength of CBA	The weaknesses of CBA	What the CA offers to overcome the weaknesses
The ability to compare the benefits and costs of a policy.	opinion can judge the benefits and costs of the policy. (3) The process of gathering opinion from every individual is based on the foundation of their preferences. (4) The ultimate decision is determined by voting which is conducted by legislative bodies.	(2) The use of the CA offers the attention to each opinion and regards all opinions as unique and valuable.

Source: The literature reviews, 2016

Another known quantitative-based tool in the area of policy evaluation is the Analytical Hierarchy Process (AHP). AHP is a method in which a multi-criteria of decision-making is employed to help the decision-maker facing a complex problem with multiple conflicting and subjective criteria (Ishizaka & Labib, 2009). The kernel of AHP is decomposing problems into a hierarchy of goal, criteria, sub-criteria, and alternatives. Further, the experts or decision-makers rate the pairwise comparison of alternatives on a qualitative scale based on the strength of the pairwise alternatives. Lastly, after undergoing the statistical measurements to judge the importance of alternative over another with respect to the criteria, the AHP produces values for each alternative (Yavuz & Baycan, 2013). The AHP has proven to be a popular method which provides a sound methodology, and its ease of implementation has made great applications in many areas, including policy evaluation, and urban and regional planning (Bhushan & Rai, 2004; Ishizaka & Labib, 2009; Yavuz & Baycan, 2013).

On the other hand, AHP has shortcomings. These include what Yafuz and Baycan (2013) state, that *"AHP requires data based on experience, knowledge, and judgment that are subjective for each decision-maker"*. Additionally, it does not provide sufficient guidance with regards to structuring the problem and forming the level of hierarchy for criteria and alternatives (Bhushan & Rai, 2004; Ishizaka & Labib, 2009; Yavuz & Baycan, 2013). Consequently, AHP may derive different hierarchies for identical decision situations. Hence, it will draw different solutions (Yavuz & Baycan, 2013). To sum up, both the subjective preferences of the decision-makers and subjective preferences while structuring problems and levels may lead to the different solutions even for identical situations.

Referring to the weaknesses of AHP, the CA offers a solution towards the subjective preferences through the identification of information from the perspective of the people instead of gathering experts to provide

the solutions. The work of evaluation under the CA will be in the form of a collaborative action that incorporates various parties rather than a sole involvement of an expert group. In the CA, various parties will have to keep communicating as its operationalization depends upon the thoughtful participation from all these involved parties (Alkire, 2002b).

Table 2. Analytical Hierarchy Process at a glance and what the CA offers to overcome its weaknesses.

Tools, its crafts and strengths	The weaknesses	What the CA offers to overcome the weaknesses
The craft of AHP: Decomposing problems into a hierarchy of goal, criteria, sub-criteria, and alternatives. The strengths of AHP: (1) This method provides a sound methodology that requires quite simple implementation. (2) It can be employed in many areas, including policy evaluation, and urban and regional planning.	(1) The obtained data based on the subjectivity of each decision-maker. (2) It does not provide sufficient guidance with regard to structuring the problem and forming the level of hierarchy for criteria and alternatives. (3) AHP may derive different hierarchies for identical decision situations. Hence, it will draw different solutions.	(1) The CA suggests obtaining the information from the perspective of the people instead of gathering experts to provide the solutions. (2) The CA works in the form of a collaborative action that incorporates various parties rather than a sole involvement of an expert group. (3) The CA requires the thoughtful participation from all involved parties through continuous communication.

Source: The literature reviews, 2016

After the elaboration of two quantitative-based tools, the Delphi method appears to offer a different perspective. It emphasizes on structuring a group communication process through collecting and distilling the judgments from a group of experts in the iteration steps in order to provide valuable contribution. Thus, it allows the user of this method to deal with a complex problem (Landeta, 2006; Linstone & Turoff, 1975; Skulmoski, et al., 2007). The Delphi method is best implemented in the situation involving incomplete knowledge about phenomena (Landeta, 2006). Formerly, this method is aimed to obtain consensus from a group of experts, but in later applications, the search for a consensus has been eliminated (Linstone & Turoff, 1975; Skulmoski et al., 2007), although it depends on the discretion of the users (Linstone & Turoff, 1975). The heart of this method lies in the application of an iterative procedure during the process, the anonymity of the identity or opinion of the experts involved, a controlled feedback when exchanging the information among the experts, and the multiple varieties of methods that range from qualitative,

quantitative, to mixed-method Delphi (Rowe & Wright, 1999 cited in Landeta, 2006; Skulmoski et al., 2007).

In accordance with its core characteristics, the strength of the Delphi method mainly lies in its flexibility. Its flexibility declares that this method does not belong exclusively to one variety of methods, even though it is typically used as a quantitative technique, the Delphi method can be employed to capture qualitative data (Skulmoski et al., 2007). Consequently, it becomes a popular method in a wide range of areas. As documented by Linstone & Turoff (1975), the areas range from the exploration of urban and regional options, to the development of education planning and curriculum, to the identification advantages and disadvantages for potential policy options, and finally to the examination of historical event significance (Linstone & Turoff, 1975).

Nevertheless, there are weaknesses in the application of the Delphi method. The first weakness is on the basis of the information source, for instance, potential subjectivity in defining who the experts are and potential biases that are brought by the experts. Another weakness is in the application of this method, where it is seen to be prone to the manipulation by the user who runs the study (Landeta, 2006). It also discourages the dissenting opinions from the experts (Linstone & Turoff, 1975). Moreover, determining the accuracy of Delphi method is considered to be difficult and requires a considerable amount of time (Landeta, 2006).

Responding to Delphi method's weaknesses, the CA offers the independence from potential subjectivity. To define the experts or participants, the CA suggests that as long as the participants have direct engagement with the problem, none of their aspirations can be regarded as insignificant (Alkire, 2002b; Sen, 2009). Moreover, potential biases from the participants can be overcome through the deliberative process where public debates are encouraged (Sen, 2009). Thus, this process will ensure the accuracy of the result as it is determined through a thoughtful participation process of all participants.

Table 3. Delphi method at a glance and what the CA offers to overcome its weaknesses.

Tools, its crafts and strengths	The weaknesses	What the CA offers to overcome the weaknesses
The craft of Delphi method: **Gaining the information from the experts by applying an iterative procedure while maintaining the**	(1) The basis of the information source, for instance, potential subjectivity on defining who the experts are and potential biases that are brought by them.	(1) The CA offers the independence from potential subjectivity. For example: to define the experts or participants, the CA suggests that as

Tools, its crafts and strengths	The weaknesses	What the CA offers to overcome the weaknesses
the anonymity of the identity or opinion of the experts involved. The strength of the Delphi method: This method does not belong exclusively to one variety of method (quantitative or qualitative), even though it is typically used as a quantitative technique, the Delphi method can be employed to capture qualitative data.	(2) It is seen to be prone to the manipulation by the user who runs the study. (3) It discourages the dissenting opinions from the experts. (4) It is hard to determine the accuracy of Delphi method. (5) It requires a considerable amount of time.	long as the participants have direct engagement with the problem, none of their aspirations can be regarded as insignificant (Alkire, 2002b; Sen, 2009). Moreover, potential biases from the participants can be overcome through the deliberative process where public debates are encouraged.

Source: The literature reviews, 2016

Finally, with regard to the ability of the CA in offering complementary views to the weaknesses of preceding most utilized approaches, the research on the evaluation of bus rapid transit in Bandung municipality is grounded on the perspective of the CA. However, the recognition of the strengths of the CA are incomplete without the awareness of its limitations. The concept of incompleteness and the pluralism of the CA has sparked numerous critiques towards this approach. The critics of the CA state that Sen's open framework tends to be vague, since there was no guideline on how the capability should be measured or how to combine the capability. Incompleteness of Sen's capability approach provokes various critiques which demand a specific list of capabilities (Robeyns, 2005). The critics proposed that the CA must have a specific and well-defined list of capabilities in order to bring this approach in touch with practical use (Nussbaum, 2003). Hence, Nussbaum (2003) and Robeyns (2003) proposed a list of capabilities which specify the principles that every individual should be entitled to. Furthermore, these lists are employed to understand the relation between capability and mobility which will be elaborated in the next section.

2.4 Capability and mobility

Mobility, people's ability to move from one place to another, is seen as one central aspect of human beings (Kronlid, 2008). David Kronlid (2008) in Mobility as Capability suggested that mobility *should be considered as a fundamental distinctive capability for a life of dignity*, as to be mobile is intrinsic to human well-being. In brief, mobility is intrinsic to what people are able to be and do (Kronlid, 2008). In relation to mobility as capability, this research examines the intersection between capability and mobility which is

recognized within the list of Nussbaum's ten central human capabilities. Furthermore, the discussion on the use of Nussbaum's list of capabilities is elaborated in the following paragraphs.

Nussbaum developed the list of ten central human capabilities (Nussbaum, 2003). Nussbaum's list of capabilities offered clarity as it provides the dividing line between human and truly human lives in which every authority should be concerned (Alkire, 2002b). Concerning the list, Nussbaum argued that the list represented ten capabilities that reflected at central requirements of life with dignity and most importantly, it was an open-ended list (Nussbaum, 2003). Nussbaum specified the capabilities at a high level of generality in order to protect diversity and pluralism, and welcomed different interpretations of a capability and further modifications (Nussbaum, 2003).

Finally, with the intention to provide the whole picture about Nussbaum's ten central human capabilities (Nussbaum, 2003), the list is presented below:

1. **Life.** Being able to live to the end of a human life of normal length; not dying prematurely, or before one's life is so reduced as to be not worth living.

2. **Bodily Health.** Being able to have good health, including reproductive health; to be adequately nourished; to have adequate shelter.

3. **Bodily Integrity.** Being able to move freely from place to place; to be secure against violent assault, including sexual assault and domestic violence; having opportunities for sexual satisfaction and for choice in matters of reproduction.

4. **Senses, Imagination, and Thought.** Being able to use the senses, to imagine, think, and reason - and to do these things in a "truly human" way, a way informed and cultivated by an adequate education, including, but by no means limited to, literacy and basic mathematical and scientific training. Being able to use imagination and thought in connection with experiencing and producing works and events of one's own choice, religious, literary, musical, and so forth. Being able to use one's mind in ways protected by the guarantees of freedom of expression with respect to both political and artistic speech, and freedom of religious exercise. Being able to have pleasurable experiences and to avoid non-beneficial pain.

5. **Emotions.** Being able to have attachments to things and people outside ourselves; to love those who love and care for us, to grieve at their absence; in general, to love, to grieve, to experience longing, gratitude, and justified anger. Not having one's emotional development blighted by fear

and anxiety. (Supporting this capability means supporting forms of human association that can be shown to be crucial in their development.)

6. **Practical Reason.** Being able to form a conception of the good and to engage in critical reflection about the planning of one's life. (This entails protection for the liberty of conscience and religious observance.)

7. **Affiliation.**

   A. Being able to live with and toward others, to recognize and show concern for other human beings, to engage in various forms of social interaction; to be able to imagine the situation of another. (Protecting this capability means protecting institution that constitute and nourish such forms of affiliation, and also protecting the freedom of assembly and political speech.)

   B. Having the social bases of self-respect and non-humiliation; being able to be treated as a dignified being whose worth is equal to that of others. This entails provisions of non-discrimination on the basis of race, sex, sexual orientation, ethnicity, caste, religion, and national origin.

8. **Other Species.** Being able to live with concern for and in relation to animals, plants, and the world of nature.

9. **Play.** Being able to laugh, to play, and to enjoy recreational activities.

10. **Control Over One's Environment.**

    A. Political. Being able to participate effectively in political choices that govern one's life; having the right of political participation, protections of free speech and association.

    B. Material. Being able to hold property (both land and movable goods), and having property rights on an equal basis with others; having the freedom from unwarranted search and seizure. In work, being able to work as a human being, exercising practical reason, and entering into meaningful relationship of mutual recognition with other workers.

As seen in the list of ten central human functional capabilities, mobility is included under the third capability of *Bodily Integrity* as "*being able to move freely from place to place"* (Nussbaum, 2003).

Even though, mobility was regarded as one central aspect of a human being; there were only a few researchers (Kronlid, 2008; Mitra, 2006; Nordbakke, 2013; Ryan, et al., 2015; Shin, 2011) who had already

acknowledged mobility and its relation to capability. They focused on the diverse areas of interests including gender and mobility (Kronlid, 2008; Nordbakke, 2013; Shin, 2011), disability (Mitra, 2006), and mobility among senior citizens (Nordbakke, 2013; Ryan et al., 2015). From this plethora of researcher works, it is indicated that there are areas in the intersection of capability and mobility that had not been extensively explored, for example, the area of mobility endorsed by public transport and the area of the capabilities that is functional to the mobility.

Therefore, this research is focused on mobility and capability, and is set within the frame of capability as the *concrete ability to do and be what people value* (Robeyns, 2006, 2005) *in their living environment* (Claudia Basta, 2015). The capability to move will not only be examined as *an end* but also *as means to achieve a set of other fundamental functionings* such as those listed previously.

CHAPTER 3. FOCUS OF THE RESEARCH

The BRT has a bright blue color with high doors in the middle of its body. People like to call it by its nick name, e.g. 'bus trans' or 'TMB' (the abbreviation of its official name, Trans Metro Bandung)

This research aims to advance understanding on mobility and capability. With this intention, the BRT in the municipality of Bandung was chosen as a case study. The BRT system was deployed in the path of sustainable urban transport. However, the expansion of BRT corridors has been stagnant since the date when the municipal spatial plan was established and signed as a local law. On the other hand, the municipality shifted the focus to the development of LRT. Hence, a proper evaluation on the effectiveness of the system in facilitating daily public activities must be conducted. This prompts to an intention to evaluate BRT from the perspective of the CA.

3.1 Problem statement

The literature review has recognized that there are spaces to be explored regarding capability and mobility. The literatures on subjects of mobility and capability indicate that interrelation between mobility endorsed by public transport and mobility-related capability has not been explored thoroughly. In this research, public transport refers to the BRT system and the people refer to those who use the system in their mobility. Therefore, it is necessary to identify the preliminary set of fundamental functionings which underlie the concrete ability to do and be of things that people value based on the specified characteristics of Bandung.

In order to understand the characteristics of Bandung, there is a call on examining the future vision of Bandung municipality. The endeavour of the examination is acquiring a preliminary list of most valued functionings underlying the capabilities that are crucial for people. Therefore, further elaboration weighs on the vision of Bandung municipality, and this vision is derived from the long-term development plan of Bandung. The choice of using the long-term development plan of Bandung municipality is grounded on the fact that the plan has great roles in determining the contents of detailed plans and in providing development guidance (Republic of Indonesia, 2004, article 5, p. 10). In addition, the use of a long-term development plan has involved all stakeholders in its making, namely local government agencies, legislative body, local communities, and private sectors. As obliged by national law, the plan making is a participative process (Republic of Indonesia, 2004, article 11, p. 13). By assuming that the plan represents true aspirations of all stakeholders, the plan is employed as a basis to excavate fundamental functionings as well as capabilities that are close to the people in Bandung.

The long-term development plan of Bandung municipality is stated in the Municipal Law Number 8 Year 2008 concerning, The Long-term Development Plan of Bandung Municipality 2005-2025. According to this plan, the municipal vision for the next 20 years is *"Bandung Dignified City"* (The Government of

Bandung Municipality, 2008)[7]. This vision underlies six missions which function as strategies to achieve the vision. Those missions are (The Government of Bandung Municipality, 2008):

1. The improvement of life quality of the people in Bandung, which is viewed not only in the advancement of *education* and *health* but also in the advancement of *religious* life.

2. The improvement of economic competitiveness which requires the acceleration of *labour quantity and quality*, *infrastructure* development and *institutional* reform.

3. The development of *creativity, participation, social capital* and *religiosity* in the appropriate social and culture atmosphere.

4. The improvement of urban environmental quality that focuses on the *reduction of air pollution*, the enhancement of *planning quality*, and the enhancement of *transportation systems* which assure *safety* and *mobility*, and meet the sustainability criteria.

5. The improvement of the government's performance in its effectiveness, efficiency, accountability, and transparency.

6. The *involvement* of government, private sectors, and civil society in the city budgeting process through active *participation* in planning and fundraising.

The first mission focuses on the fulfilment of people's rights in the area of having a good education, to be healthy as well as having freedom in their religious exercise. Here the municipality states that having a good education and being healthy are the prerequisites to achieve the vision. However, having a good education and health alone are not enough. The municipality argues that people should also be free to exercise their religion without any discrimination (The Government of Bandung Municipality, 2008, p.78).

Meanwhile, the second mission emphasizes on people's rights to seek employment and work. To decrease the number of unemployment, and to improve the labour quality, are also the focus of the municipality. In addition, this mission emphasizes the importance of infrastructure and institution as the fundamental resources to thrive in the economic competition (The Government of Bandung Municipality, 2008).

[7] According to this plan, the vision of this city is originally stated as "Bandung Bermartabat" and with regard to this vision, the municipality has provided its English version. However, except for the vision statement, the whole part of original document of the Municipal Law Number 8 Year 2008 on the long-term development plan of Bandung Municipality 2005-2025 is in Bahasa Indonesia. Hence, the description regarding content and information within this document is the result of interpretation and translation of the researcher.

In the third mission, being able to participate, develop creativity, engage in social interaction, and exercising religion are identified as the essential rights. The notion of participation has been a popular word in the contemporary development planning and practice since the demand towards a bottom-up development process has been flourishing. Corresponding to these increasing demands, the municipality emphasizes the need for people's participation in every process of development, from planning to budgeting (The Government of Bandung Municipality, 2008).

The fourth mission highlights the significance of the right to enjoy the healthy living environment and the improvement of the urban infrastructure, namely transport systems. The advancement of the transport system is directed toward the provision of a system that ensures people's safety during the trip and guarantees people's mobility (The Government of Bandung Municipality, 2008).

Finally, based on six municipal missions, a set of capabilities and functionings which are relevant to the people of Bandung is identified. The following is the list of capabilities and functionings derived from the long-term development plan of the municipality of Bandung:

1. **Bodily Health.** Being able to have good health.

2. **Bodily Integrity.** Being able to move freely from place to place.

3. **Senses, Imagination, and Thought.** Being able to have adequate education. Being able to experience and produce works and events of one's own choice, religious, literary, musical, and so forth. Being able to use one's mind in ways protected by the guarantees of freedom of expression, and freedom of religious exercise.

4. **Affiliation.**

   A. Being able to engage in various forms of social interaction. Being able to be treated as a dignified being whose worth is equal to that others. This entails provisions of non-discrimination on the basis of religion.

5. **Control Over One's Environment.**

   A. Being able to participate effectively in political choices that govern one's life; having the right of political participation, protections of free speech and association.

   B. Material. Being able to work as a human being.

Referring to the preceding list, the empirical investigation is designed in such a way to scrutinize the underlying functionings that people value, so as to identify the *most valued* among them. The investigation is also designed to discover the main reasons behind the answers of the informants. The information gathered through the data collection phase is used to identify concrete capabilities 'to do and be' the functionings that the informants reveal as valuable throughout the investigation (Sen, 1979, 1985, 1995, 2001).

3.2 Research objectives

The capability approach is used to provide alternative insights to what BRT does in relation to the capabilities of people in Bandung municipality. In this research, the capability to move will not only be examined as an end in itself but also as a means to a set of fundamental functionings. The perspective of the CA will help *to understand whether BRT enables the ability to move as an end for the people and as a means to other capabilities*. Therefore, the identification of a set of fundamental functionings that relate to mobility as an end in itself and as a mean to achieve other capabilities is established as the focal point of this research.

A preliminary set of functionings is identified through the examination of Bandung municipality development plan. This list of functionings is designed as a frame to scrutinize the underlying functionings that people value and to excavate the main reasons behind the answers of the people. Thus, there is a call on an empirical investigation which incorporates the voluntary participation of the people in Bandung. Furthermore, the information gathered through the data collection phase will be used to identify concrete capabilities 'to do and be' the functionings that the informants revealed as valuable throughout the investigation.

The empirical investigation uses focus group interviews to gather the information about valued capabilities and fundamental functionings. In further steps, the result of this interview is validated through ride-along activities. The endeavour of conducting this activity is providing in-depth insights regarding the outcome of the interviews and to provide a validation of the findings. In the end, the result of the investigation will be utilized *to provide an alternative view for the municipality*, thus, they *can understand the role of BRT in relation to the capabilities of people in Bandung, and finally they can determine their future decision on the BRT expansion*.

3.3 Research questions

In pursuance of the research objective, an empirical investigation is needed. However, prior to the investigation research questions are formulated in order to bring more clarity about the trajectory of the research outcomes (Creswell, 2014). Hence, with accordance to the research objective, the general research question for this research is:

"How does the mobility given by the BRT enable people in Bandung to do and be what they value?"

In addition to the earlier general research question, specific research questions which correspond to the general research question are formulated as follows:

1. What are the fundamental functionings valued by people in relation to mobility?
2. What capabilities are to be enabled in such a way to secure these mobility-related functionings?
3. Which supporting and inhibiting situations play roles in realizing people's capabilities with relation to mobility?

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CHAPTER

4. CASE ORIENTATION

The figure shows the interior of the BRT. Comfortable seats are attached to the side of the bus, and spaces for disabled, elderly, pregnant women, and those travelling with children are provided.

Bandung municipality, which is located in the heart of West Java Province, is the capital of West Java province. It is situated approximately about 180 kilometres southeast of Jakarta, the Indonesian capital. Moreover, it is placed on unique geographical features with an elevation of 791 metres above sea level and surrounded by high volcanic terrain (Statistical Agency of Bandung Municipality, 2015a, 2015b; The Government of Bandung Municipality, 2011). These characteristics create a pleasant climate and has been known as Parijs van Java since its establishment as a municipality in 1906. Ultimately, it became an important city for the Dutch inhabitants and served as a resort city for the plantation owners until the Indonesian declaration of independence in 1945 (Voskuil, 2007).

Further elaboration of Bandung characteristics after independence with regard to its spatial context is examined according to the elements of urban form. According to Dempsey et al. (2010), examining the urban form should involve five elements, namely housing, layout, land use, density, and transport infrastructure. In this section, the description of the case is focused on the relation of urban elements and transport infrastructure. Such description is elaborated in the following paragraphs.

The urban form of Bandung follows a radial urban layout. This urban layout depicts a combination between colonial and postcolonial spatial arrangement. The postcolonial expansion has been mainly developed to answer rapid urban growth (Voskuil, 2007). The artefact of colonial spatial arrangement can clearly be seen in the Alun-Alun, an area known as the city centre since the colonial era. Nowadays, this area is still a city centre, together with Gedebage, a new city centre in eastern Bandung (The Government of Bandung Municipality, 2011). In relation to the BRT, these two city centres are connected through a BRT corridor of Cibiru-Cibeureum. Another corridor, Cicaheum-Cibiru, connects Alun-Alun and other sub-centres, namely Cicaheum and Cibeureum. The corridor of Cicaheum-Sarijadi connects two sub-subcentres, such city centres are Cicaheum and Sarijadi (see Figure 1).

The second element of urban form is the land use. In Bandung, land uses are formally divided based on its functions; although in most locations the distinction of land use parcels cannot be recognized. The land use for housing placed in the suburban area and the commercial area is located near the city centres or sub-centres (The Government of Bandung Municipality, 2011). This type of spatial arrangement causes routine commuter activities from suburban areas to the city centres or sub-centres, and vice versa (The World Bank Institute, 2014). On the other hand, in less distinctive land use function, there are mixed land uses between housing, services, and commercial functions. Service and commercial activities usually occupy strategic land parcels along the street, while housings fill the rear of commercial uses.

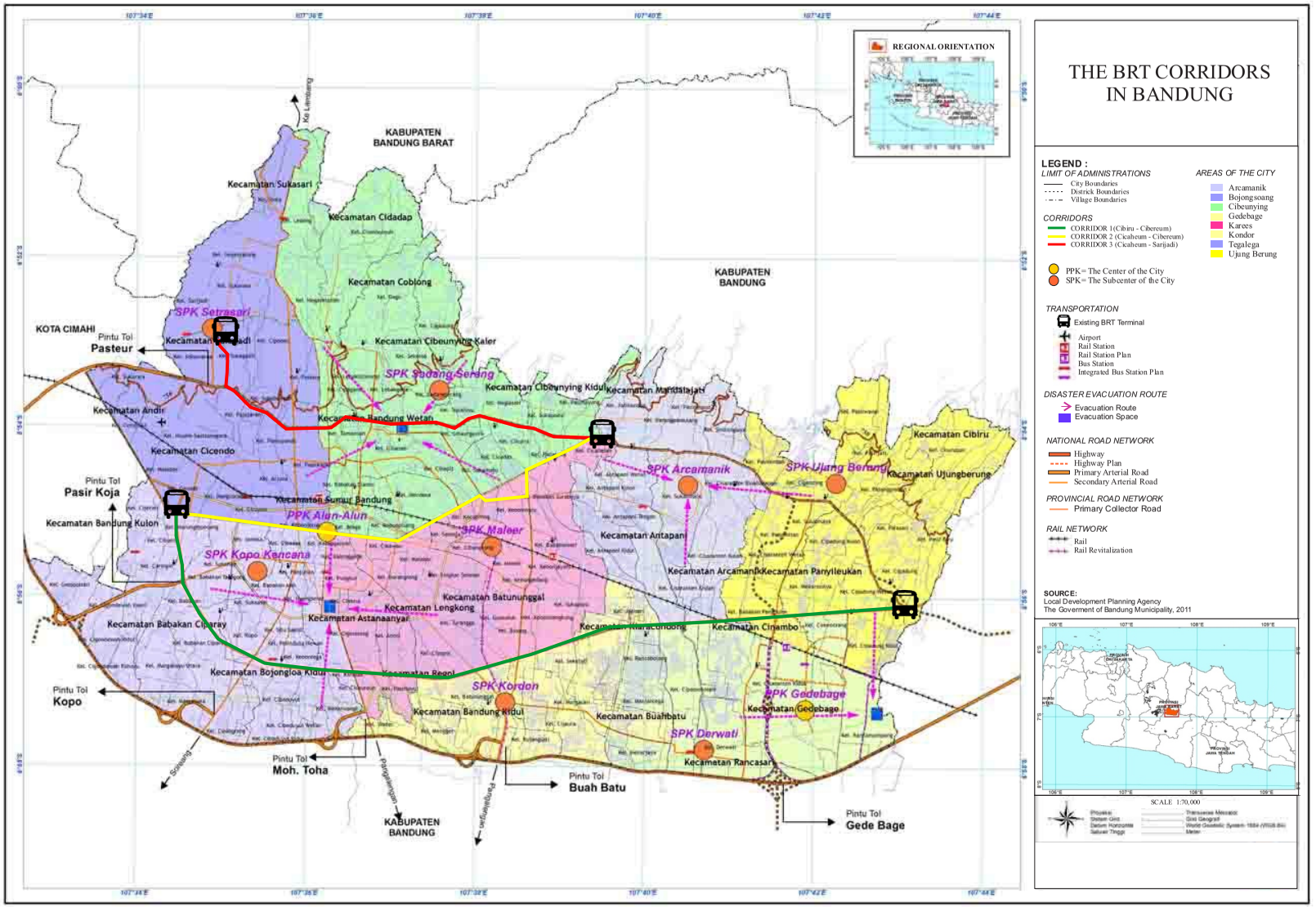

Figure 1. Three BRT Corridors in Bandung

Consequently, ribbon development of economic activities, such as shops, offices, street vendors, which are located along the street, instigates people to stop on the non-designated places. In this case, many people stop wherever convenient for them, and this inevitably cause congestion on strategic corridors.

Concerning the density, Bandung municipality has experienced a massive growth in population. It has transformed into one of the largest cities in Indonesia with approximately 2.4 million[8] with the average population density of 15,713 people per square kilometre (Statistical Agency of Bandung Municipality, 2015b). However, that population growth has not been followed by infrastructure expansion, even basic infrastructures such as water, drainage, sewerage system, as well as road infrastructure. In addition to those developmental gaps, the most notable lagging infrastructure development lies in the domain of public transport provision. One of the causes is the rapid growth of private vehicle ownerships. The data from the Transportation Agency of Bandung Municipality stated that private cars and motorcycles ownership has increased in 2009 by 7% and in 2011 by 21% (Transportation Agency of Bandung Municipality, 2014b).

In an attempt to address transport issues, the municipality responds in the form of multiple plans and transportation projects. One of their responses is developing a transit system that is cost-efficient and able to be immediately implemented. Regarding this response, the municipality developed BRT in 2004 and formally stated this policy in local spatial law in 2011. Supporting facilities, such as bus stops, have been developed along the corridors. According to the law, this system will be expanded from three existing corridors into eleven corridors that connect all city centres and sub-centres (The Government of Bandung Municipality, 2011).

In Bandung, BRT stands as the main mode of transport which has the characteristic of mass-rapid transit as it can carry larger number of passengers. Other modes of transportations have more limited capacity compared to that of BRT, such as paratransit modes in the form of private minivan services called Angkot with ten passengers or taxis with four passengers as maximum. There are also other paratransit modes, namely the motorcycle taxi called Ojeg and non-motorized tricycle called Becak. Currently, Angkot and Ojeg are more attractive to the citizens as they cover wider service areas.

Finally, the BRT's role in the transport system cannot be crowned as a strategic mode of transportation, even though it has been established since 2004. The BRT only operates on three corridors compared to eleven corridors as planned. This current circumstance is the evidence of the stagnant expansion of the system. Conversely, instead of expanding the corridors for the BRT, the municipality switches the target to

[8] This number was a result of a population trend analysis which employed the data from The 2010 Indonesian population census as the basis of analysis. However, with regard to the use and choice of population forecasting method, the government agency that has a responsibility to this analysis is the Statistical Agency of Bandung municipality. Here, the writer has only adopted the result for the case description.

an LRT project (Transportation Agency of Bandung Municipality, 2014a). Despite striking evidence about the advantages of BRT to unravel transportation issues in other major cities, it seems the municipality stands on the crossroad in an attempt to continue the expansion of the BRT corridors. Hence, the understanding of the role of BRT for people in Bandung in order to support the government to decide regarding future expansions or further improvements of the BRT system has a critical edge.

CHAPTER

5. DATA COLLECTION

5.1 FOUR STRATEGIES OF DATA COLLECTION

5.2 KEY-TERMS: DEFINITIONS AND OPERATIONALIZATIONS

5.3 METHODS OF DATA COLLECTION

5.4 DESIGN AND EXECUTION OF DATA COLLECTION

5.5 FGIs AND RIDE-ALONGs: RESPECTIVE CHALLENGES

Source: http://www.skyscrapercity.com/showthread.php?t=1582750&page=20

Most informants recalled that previously bus stops were relatively well-maintained. However, nowadays, most bus stops are dirty and full of graffiti, windows and tables are broken, and sometimes those are dwelled by the homeless and street children.

Related to the research objective, a case-study is designed and employed to provide a suitable framework for the case (Berg & Lune, 2014; Yin, 2014), as well as to offer holistic understanding for the whole context (Vaus, 2001). In this research, the case is focused on new alternative mobility enabled by the BRT.

In the next section, the four strategies of data collection are elaborated. In section 5.2, methods of data collection depicting the method of the focus group interviews and ride-along interviews are explained. Following this section, design and execution of data collection are further described. Finally, challenges emerging through empirical investigation are further elaborated.

5.1 Four strategies of data collection

Before developing further steps in data collection, there were four strategies in collecting research data which had been considered in designing data collection. Four strategies were adapted from Creswell (2014), namely triangulation of data sources, making use of thick description, clarifying bias, and presenting discrepant information (Creswell, 2014). Such strategies can be examined in the following paragraphs.

Triangulation. This refers to the use of different data sources. This research employed triangulation of data sources by obtaining data and information from the governmental institution, informants through focus group interviews, and ride-along activities.

Using thick description to convey findings. In this research, the researcher provided detailed descriptions of functionings that were valued by the informants. Such descriptions were based on the transcripts of interviews and ride-along activities.

Clarifying bias. In clarifying the bias, the researcher conducted self-reflection to create open and honest narrative. In this research, the reflection contained descriptions of the way interviews of informants, translation, and interpretation of transcript were done.

Presenting the negative or discrepant information. In describing information and findings, the different perspectives about BRT that contradict the perspectives of other informants were also presented. Finally, by presenting such perspectives, the descriptions became more valid.

In this research, all four strategies were taken into consideration in designing the empirical investigation. The next sections thoroughly describe methods in collecting data, its design, executions, and challenges that emerged during the empirical investigation.

5.2 Key-terms: Definitions and operationalization

The key-terms are those which hold a substantial role in this research, notably *functioning*, *capability*, and *mobility*. The following paragraphs elaborate on their definitions as used in this research.

Human functionings refer to one's 'beings and doings'. Moreover, functionings span widely from elementary to complex functionings, such as from being nourished to taking part in the community. Regarding this research, the notion of functioning will emphasize on one's *urban* functioning, which are *the functionings whose achievement depend on how cities are designed and governed* (Basta, 2016).

After having done an examination of the long-term development plan of Bandung, a set of fundamental functionings aligning with specific characteristics of Bandung were identified. A preliminarily identified set of fundamental functionings that underlie the central human capabilities, among which mobility is regarded as an end as well as a means to achieve other capabilities[9], is reported below:

1. **Bodily Health.** Being able to have good health

2. **Bodily Integrity.** Being able to move freely from place to place

3. **Senses, Imagination, and Thought.** Being able to have adequate education. Being able to experience and produce works and events of one's own choice, such as religious, literary, musical, and so forth. Being able to use one's mind in ways protected by the guarantees of freedom of expression, and freedom of religious exercise.

4. **Affiliation.**

   A. Being able to engage in various forms of social interaction. Being able to be treated as a dignified being whose worth is equal to that of others. This entails provisions of nondiscrimination on the basis of religion.

[9] The 'common denominator' among these human capabilities is the relevance, for their achievement, of the fundamental functioning of moving, and thus of the human capability of having concrete mobility opportunities. The second capability, namely, the capability of moving freely from place to place, is therefore simultaneously an 'end' in itself, and a fundamental means for achieving other ends, represented by the other ends implicit or explicit in the other capabilities listed above.

5. **Control Over One's Environment.**

   A. Being able to participate effectively in political choices that govern one's life; having the right to political participation, to protection of free speech and association.

   B. Material. Being able to work as a human being.

Based on these identified capabilities, the investigation was designed in such a way so as to scrutinize the underlying functionings that people value and to determine the main reasons behind the answers of the informants. The information gathered through the data collection phase will be used to identify concrete capabilities 'to do and be' the functionings that the interviewees revealed to value throughout the investigation. (Sen, 1979, 1985, 1995, 2001).

In addition to the notions of human functionings and human capabilities, there is another key-term that plays a significant role in this research, and that is the notion of mobility. When referring to Nussbaum's list of ten central human capabilities (Nussbaum, 2003), mobility could be defined as being able to move freely from place to place (Nussbaum, 2003). This is consistent with the list of fourteen capabilities of Robeyns (2003), in which mobility appears as being able to be mobile (Robeyns, 2003).

Referring to those definitions, in the context of this research, the notion of mobility on which the investigation has specifically focused refers to being able to be mobile and move freely from place to place using the BRT as a public transport. It is important to stress again that the capability to move will not only be examined as an end, but also as means to achieve a set of other fundamental functionings such as those listed at the beginning of this section.

5.3 Methods of data collection

Data collection was divided into two parts, namely, several visits to organizations and institutions which could provide relevant information and field research. The former visits were instrumental to collect data and information concerning the Bandung's development plan, spatial plan, transport plan, municipal statistics, and government reports produced by transportation and planning agencies (see **Appendix 1** for the data checklist). All in all, the collection of this information has been helpful for contextualizing the case in concrete terms, and for positioning the BRT developments in terms of its actual performance and future expansion.

The second part consisted of field research and, specifically, eight focus group interviews (FGIs). These were complemented with four ride-alongs. The ride-alongs were done to validate the result of the FGI. The description of these methods and of their combination are reported in the section below.

5.3.1 Focus group interviews

A FGI is a method of interview designed for a small group of people and led in the form of a discussion in a particular topic (Barbour, 2008 cited in Berg & Lune, 2014). The discussion addresses a topic of interest or a topic that is relevant to the group and the researcher (Edmunds, 2000 cited in Berg & Lune, 2014). The use of a FGI is frequently combined with individual interviews as a validation check on the findings, even though FGIs can be employed as a stand-alone data collection strategy (Berg & Lune, 2014).

In this research, FGIs were chosen as they were the most suitable tool to gather a large amount of information from a large group of people in a short period of time (Berg & Lune, 2014). Moreover, Berg & Lune (2014) emphasize that a FGI offers flexibility in terms of the number of participants, groups, costs, and duration. Accordingly, it also can generate important insights, thus allowing the researcher to better understand the topic of investigation.

Every method, though, has problems in its operationalization – and so does the FGI. According to Berg & Lune (2014), the first problem is that the researcher may formulate vague FGI objectives. It is therefore quite critical to clarify the objectives and focus of the investigation *before* involving interviewees in the discussion of the topic. The second problem is the 'overreaching' of answers during the group interview, which may create pressure to speed the process of the FGI. This may lead to the researcher stimulating the interviewees to provide shorter answers and/or to limit the discussion to its defined objectives. A relaxing atmosphere and much clarity regarding the objectives of the interviews are suitable to enable in-depth discussions within the available time frame and therefore overcoming this second problem. Another potential problem within FGIs lies on the dynamics of the interviewees. There will be a tendency of having dominating interviewees while others may be drawing themselves back. In this case, the FGI design must concentrate on including all interviewees in the group interview (Berg & Lune, 2014). To address these weaknesses, prior to the FGIs, the researcher must clearly formulate the objectives of the research and the focus of the investigation. A relaxing atmosphere during the interviews and equal opportunity to speak freely among the interviewees must also be developed.

5.3.2 The ride-along activities

The findings from the FGI were further validated through the information collected during four distinct 'ride-alongs'. The ride-along is one of the most common and practical types of the 'go-along' interviewing method. In the go-along method, the researcher follows informants into their familiar environment, whereas in the ride-along method, the researcher follows informants while using a vehicle, e.g. bicycle or bus or other modes of transport (Kusenbach, 2003).

Through this activity, experiences and interpretation of the interviewee are directly accessible and, at the same time, the researcher can ask questions, listening and observing, while both the informant and the researcher move through and interact with their environment. Ride-along interviews, therefore, should always be conducted with respect to the regular trip routes on the particular day and time (Kusenbach, 2003).

In this research, the researchers were joining informants while using the BRT on natural outings. The ride-along was chosen as it allowed the researcher to learn of the environmental engagement of the informants, mainly during their outings. The strength of ride-along activities is its flexibility as the informants can share their experiences during routine trips. However, the awareness about the weaknesses of this method should also be raised. The weaknesses of the ride-along method are in term of intrusions to the informants' routine activity and disturbance of the informants' daily trips. Hesitation to be accompanied and engaged in the discussion during the trip will also be the main obstacle (Kusenbach, 2003).

Even though Kusenbach (2003) found ride-alongs to be less effective than walk-alongs because *"the ride-along is a much faster and more urgent pace of events, making it difficult to ask informants for clarifications and to mentally keep track of sequence of situations"* (Kusenbach, 2003, p. 465); that would not become an issue in this research. The reasons to keep using ride-along were the length and traffic conditions of the BRT's corridor in Bandung.

Each BRT corridor in Bandung is approximately 16 km long, and assuming that the speed of a BRT in moderate traffic congestion is less than 25 km/hours, then, time travel on the BRT is about 40 minutes. Considering these circumstances, there is sufficient time to engage in conversation regarding their experience and interpretation of the places, observing and immersing into the environment, and taking evidence such as photos.

Additionally, to address the weakness of a ride-along, before conducting them, the selected informants were informed about the activity, so they had a clear idea of what to expect from the activity. In this research, the informants were people who usually have a long trip using BRT, as a longer trip provided adequate time

and more relaxing atmosphere during the interaction with the informants. Finally, overall process of this research can be examined in Figure 2.

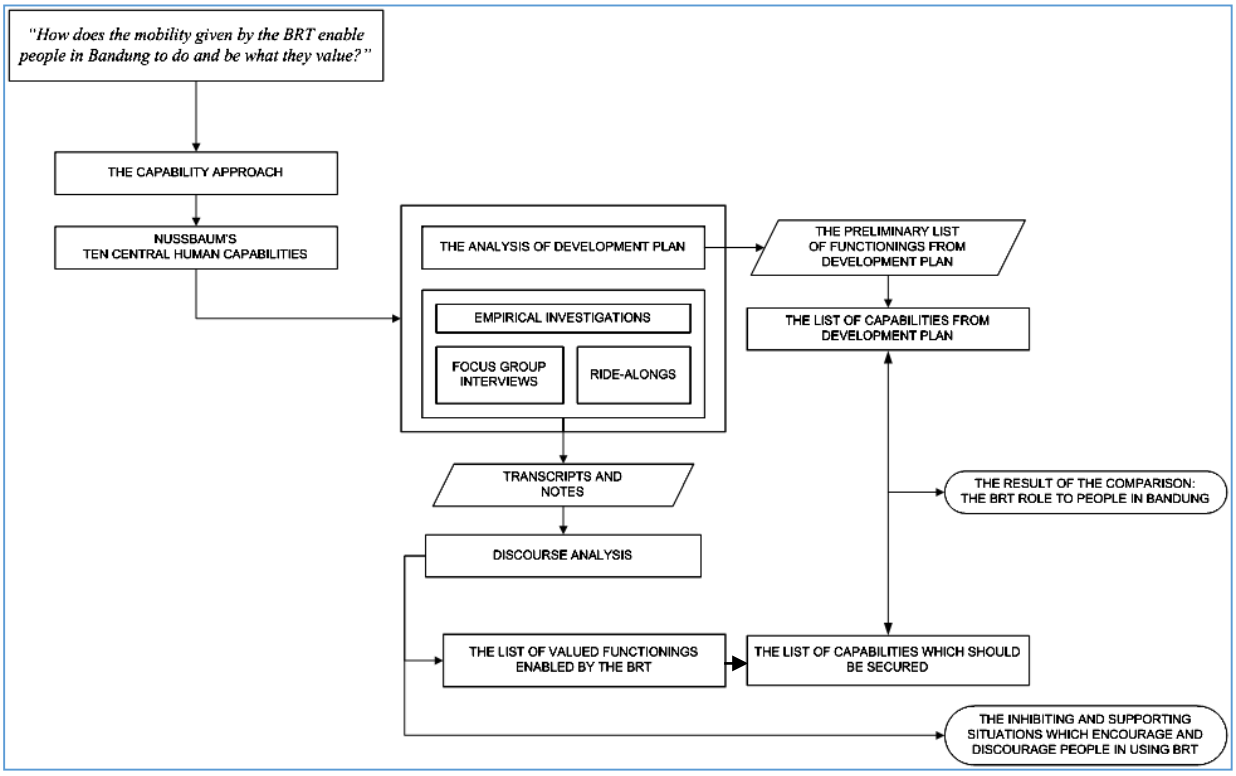

Figure 2. Flowchart of the research process

5.4 The design and execution of data collection

The field survey was conducted and focused on the investigation of the new alternative mobility that was enabled by the BRT. Prior to the field survey, a preliminary set of functionings were identified in relation to Bandung's development plan. This latter set of functionings will be compared to the set of the functionings *valued* by the people in Bandung. In this research, the functionings valued by the people was obtained during the empirical investigation. Therefore, the investigation underlines the importance of taking people's aspirations into consideration concerning the functioning of 'being mobile', and how this relates to other fundamental capabilities valued 'in place'.

Information and data were obtained through the methods of Focus Group Interviews (FGIs) and ride-along activities. These methods of data collection relied on the voluntary participation of a sample of people in Bandung. The field survey took place in Bandung from January 25, 2016 to February 25, 2016. During the

field survey, eight focus group interviews and four ride-along activities involved forty informants in the FGI and four informants in the ride-along activities.

5.4.1 Focus group interviews

The FGIs were conducted to collect a large amount of information from a large group of people in a short period of time. The FGI offered flexibility in terms of the number of participants, groups, costs, and duration. The FGI could generate important insights from the informants regarding a particular topic that previously was not well understood (Berg & Lune, 2014). Therefore, in this research, the FGI was designed to minimize the influence of the researcher's point of view and to reduce the impact of the survey on those involved.

Minimizing the influence of the researcher was accounted for in the design of the FGI. For example, the FGI included open-ended questions so as to encourage the informants to answer the question freely. Then, during the FGI, the researcher minimized the urge to cut or to interfere the comments or answers of the informants. In the effort to minimize the impact of the survey on the informants, the FGI was carefully planned in such a way to take place in the locations that were more familiar to the informants, for example, student groups were interviewed in their school, or near the facility of the student association. In this research, the locations for interviewing the group of workers consisted of the house of the informant and the office of the neighbourhood[10]. Most importantly, the schedule for both groups was designed according to the schedule of the informants; hence, the FGI did not interrupt any of their school or work activities.

Focus group interviews involved both users and non-users of the BRT. The inclusion of users and non-users' perspectives were based on the intention to collect a balanced amount of information in order to reduce the potential subjectivity[11] brought by the group of users. Hence, in this research, the users and non-users of BRT were categorized into two groups, namely the main group and the control group. The group of people who use the BRT was mentioned as *the main group*, on the other hand, the group of people who do not use the BRT was mentioned as *the control group*. Furthermore, each of the main groups and the control groups were divided into student groups and worker groups. The group of students comprised of two sub-groups, namely ten university students and ten high school students. On the other hand, the group

[10] The office of the neighborhood is the public building which is located in the heart of the neighborhood. This office is usually used to hold neighborhood activities, such as neighborhood gatherings, socializing government programs, and other activities which involve the members of the neighborhood.

[11] In this research, a balanced set of information was used to prevent the subjectivity brought by the experience of the informants who have been using the BRT. To prevent subjectivity from the group of informants who have been using the BRT the survey design involved informants who had never been using the BRT.

of workers involved 20 people who either worked as an employee or were self-employed. The details about the design of the FGI can be examined in Figure 3.

The university students are representative of the set of travellers along the corridor of Cicaheum-Sarijadi, while high school students are representative of the travellers who commute along the corridor of Cibiru-Cibeureum. The university students were further divided into the main group and the control group and those groups were interviewed in the university area. The interviews were carefully arranged, thus, the schedule of the FGIs did not interrupt the schedule of the students. In this research, both FGIs for the university students were held on Tuesday, 26 January 2016.

Accordingly, the high school students were also subdivided into a main group and a control group. They were interviewed in their school area. The schedule of the interview was arranged with the help of their teachers, so the interview did not cause the students to skip their school activities. The interview of the main group and the control group were conducted on Wednesday, 17 February 2016.

In addition to the student groups, FGIs included groups of workers operating in the Cicaheum and Muararajeun areas. The first group is representative of the travellers along the corridor of Cicaheum-Cibeureum, meanwhile the second is representative of the travellers along the corridor of Cicaheum-Sarijadi.

Similar to the design of the FGI for the student groups, the FGI of the Cicaheum workers were divided into two groups, namely the main group and the control group. The neighbourhood leader arranged the FGI and offered his house as a place to conduct both interviews. Hereafter, the interviews were held on Sunday, 31 January 2016, so this schedule did not interrupt their working schedule. In this neighbourhood, the FGIs attracted the curiosity of people in the people living nearby the location of the FGIs. Some of them attended the FGIs and occasionally gave comments.

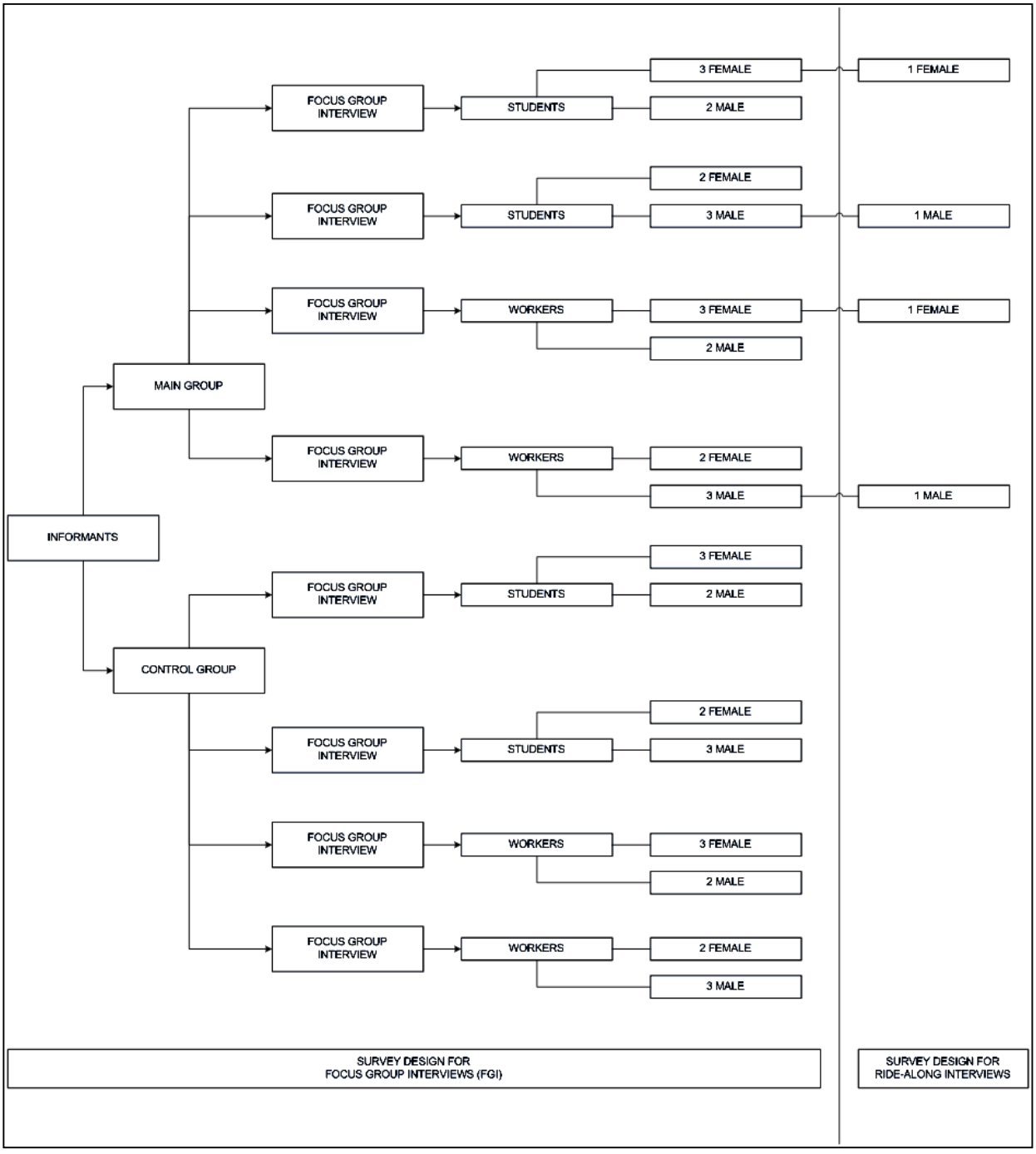

Figure 3. Design of focus group interviews and ride-alongs

Another FGI for the workers was held in the neighbourhood of Muararajeun. The interview was also divided into two parts: for the main group and for the control group. FGIs were organized by the leader of the neighbourhood as well as his spouse and were held after the office hours on Wednesday, 3 February 2016 at the neighbourhood office. The situation during the FGI was better compared to the group of Cicaheum

workers in which there was no interruption from the non-informants. To give a clear orientation about the location of the FGI, the locations for each FGI can be seen in Figure 4.

5.4.2 The ride-alongs

The results of the FGIs were validated through the ride-alongs. The ride-alongs were aimed to learn about the engagement of the informants with their environment, mainly during their outings (Kusenbach, 2003). In this research, the researcher followed the informants while they travelled using the BRT. Moreover, in all ride-alongs, the schedule of ride-alongs were determined by the informants. The schedule relied on the willingness of the informants and their invitation to the researcher to do the activity.

During the ride-alongs, the researcher observed the informants and their interaction with their environment, e.g. the BRT, the bus stops, the destinations. The researcher also wrote a note about the observation and took photographs of the BRT and the bus stops. During the ride-alongs, the researcher encouraged the informants to share their views regarding the BRT through casual conversation. Such casual conversation facilitated the "natural" interaction between the informants and the researcher. Having a natural interaction between the researcher and the informants was necessary to allow deeper exploration of opinions from the informants. Hence, the results of the ride-alongs were documented in the form of a researcher's note.

The informants were determined by non-probability sampling design. Here, the researcher chose the judgemental or purposive sampling. The objective of using this sampling method was to select informants who can provide the best information (Creswell, 2014). Therefore, the ability to provide best information for the researcher was set as a criterion for choosing the informants for the ride-alongs. In addition to previous criterion, the researcher selected informants based on their frequency in using the BRT. In this research, frequent users have higher possibility to be chosen as informants. Another criterion was the representation for each corridor. Each corridor should be represented at least by an informant to obtain complete information of the corridor. Finally, the balanced number between female and male informants was taken into account in selecting informants.

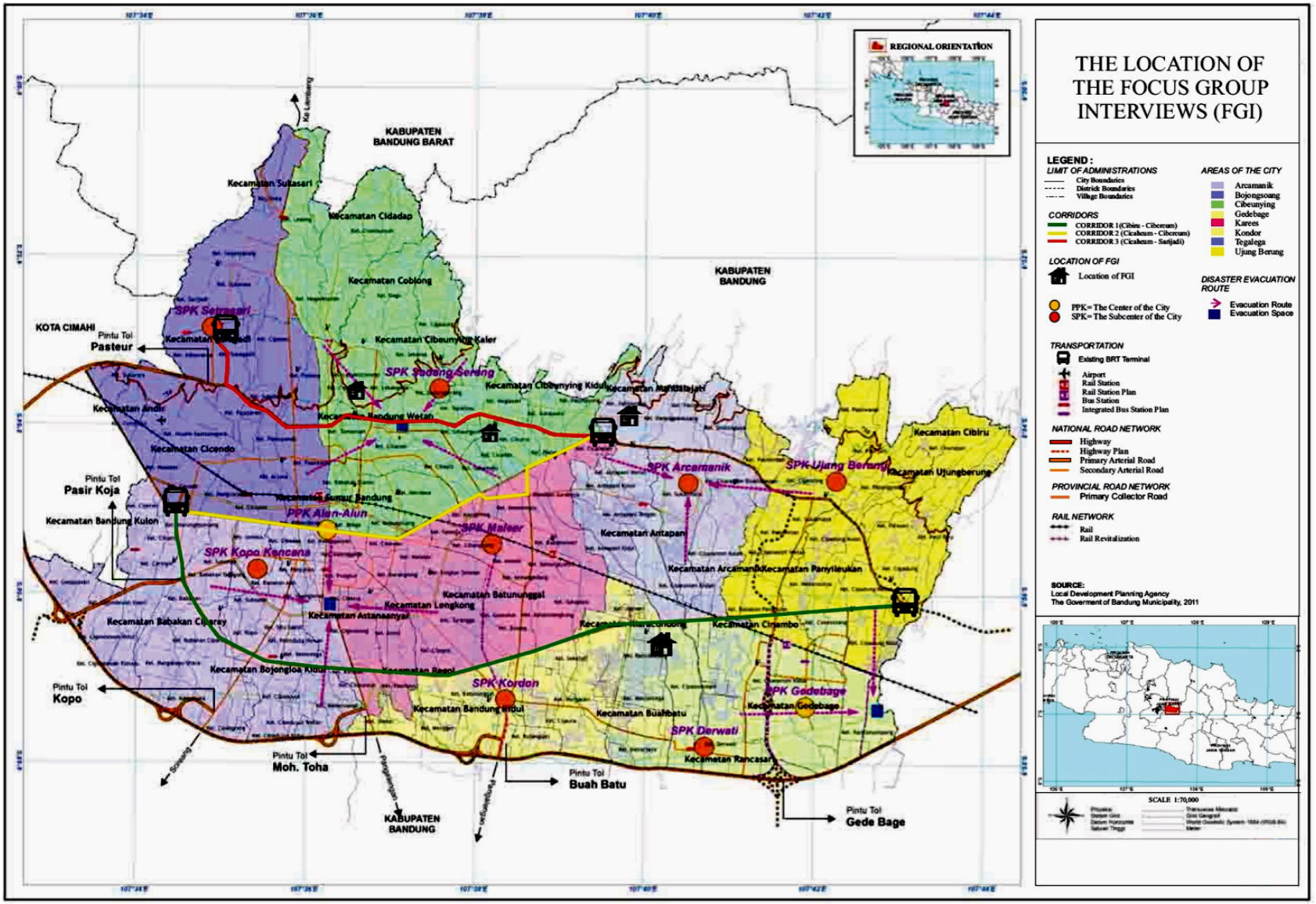

Figure 4. Locations of focus group interviews

The informants for the ride-alongs were selected from the FGIs' informant list. The FGI informants were comprised of the worker and student groups. Consequently, the ride-alongs involved selected informants from worker and student groups. The workers who were selected as the informants for ride-alongs were Asep and Sri. Asep, a male informant, was self-employed, while Sri, a female informant, was working as a preschool teacher. Students appointed for this process were Devi and Ilham. Both were high school students who used BRT on a daily basis.

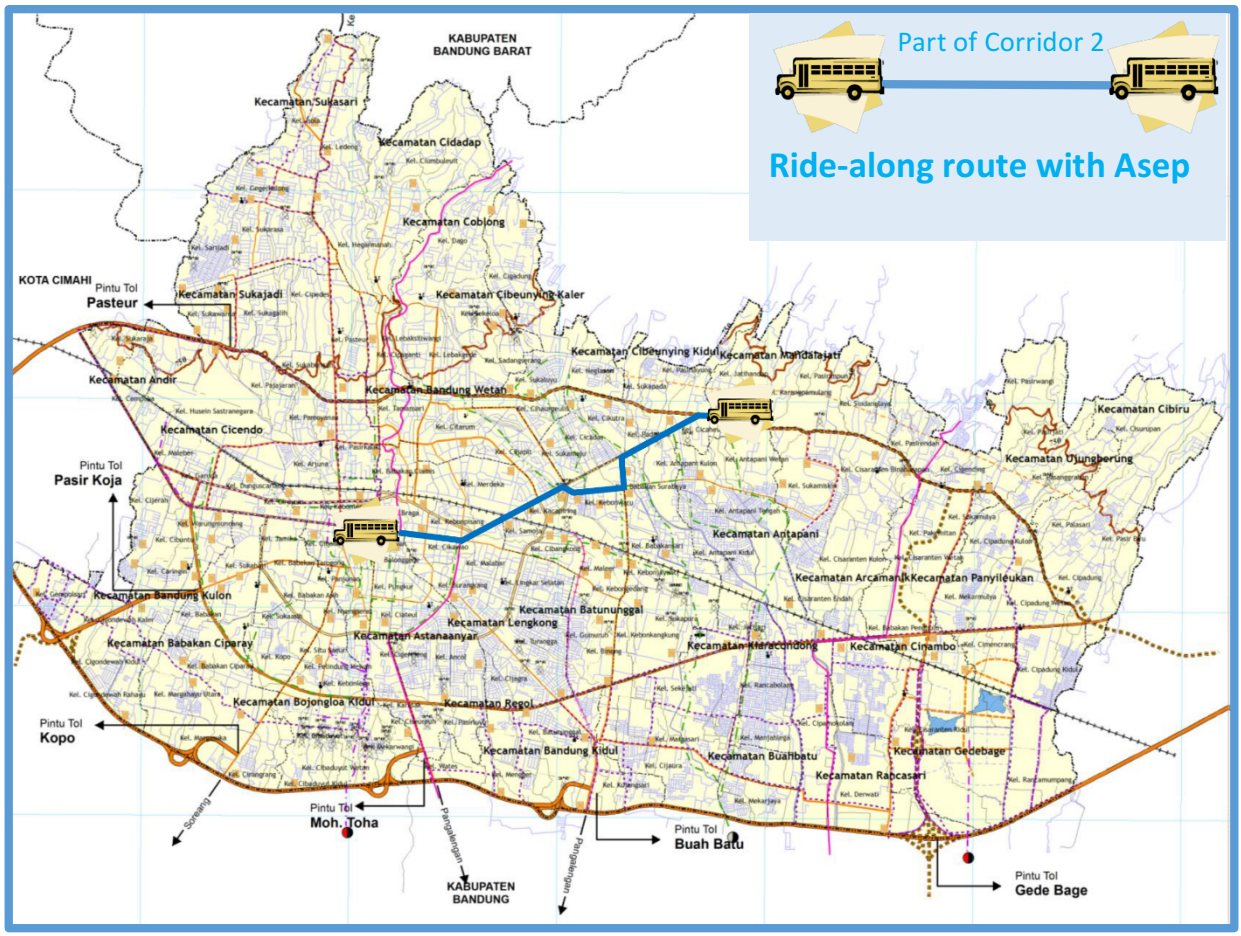

Figure 5. Ride-along route with Asep

The researcher conducted the ride-along with Asep on Friday, February 19, 2016. The schedule of the ride-along was determined by Asep. At that time, he scheduled to travel in order to buy the raw material for his shoe-making business. The researcher followed Asep who travelled on the Cicaheum-Cibeureum corridor. The researcher accompanied Asep from the bus stop in Alun-alun to his destination, a commercial block of Cibadak, and from his destination to the bus stop near to his home.

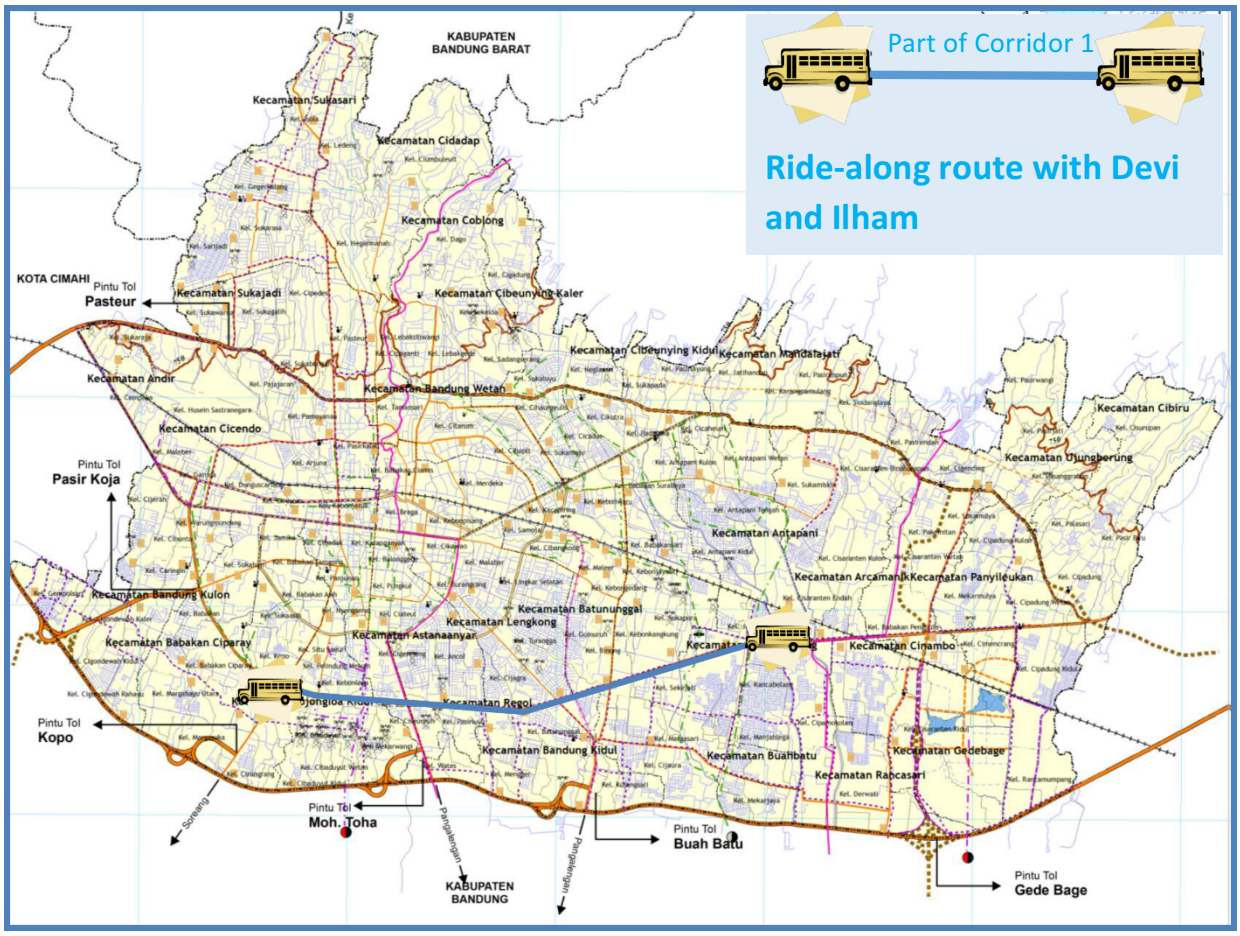

Figure 6. Ride-along route with Devi and Ilham

The second ride-along was conducted with Devi and Ilham on Monday, February 22, 2016. At that time, Devi and Ilham were on their way home. In this ride-along, the researcher followed them from a bus stop near their school to a bus stop in Leuwipanjang. The route chosen was part of the Cibiru-Cibeureum corridor.

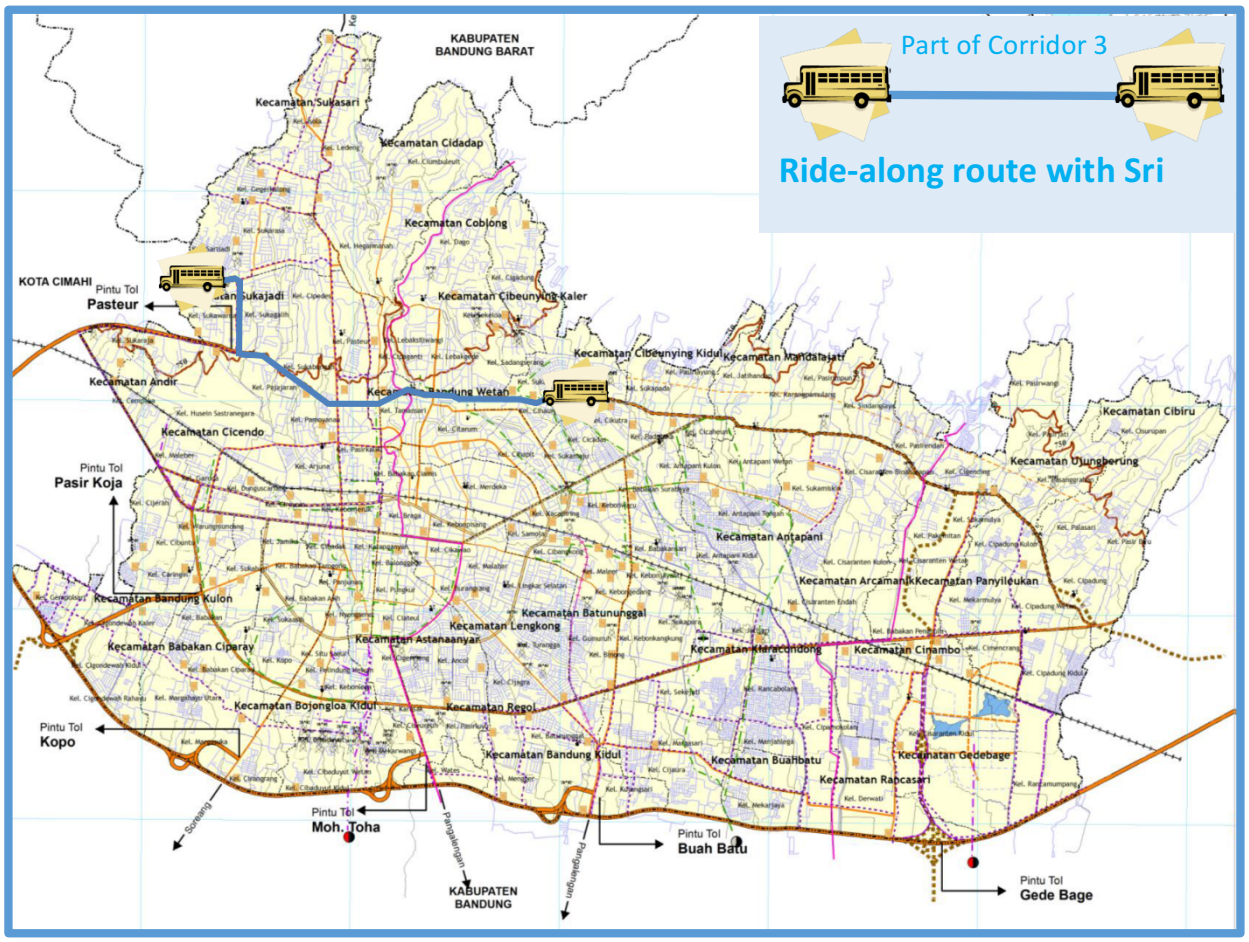

Figure 7. Ride-along route with Sri

The third ride-along was conducted with Sri on Thursday, February 25, 2016. Sri and her friend planned to buy their favourite food in Sarijadi. In this ride-along, the researcher followed Sri and her friend during a travel on the Cicaheum-Sarijadi corridor. The researcher accompanied the informant and her friend from the bus stop near their neighbourhood to the bus stop near the street vendor in which they bought their food.

5.5 FGIs and the ride-alongs: Respective challenges

Before moving towards the analysis, some challenges which potentially affected the result of the empirical investigation must be considered. The first challenge that was faced was *the technical failure while recording*. This failure caused a loss of almost half of the recording for the interview with the main group of the university students. The researcher was aware that the technical failure could happen and that the failure could result in the incomplete recording material which could affect the understanding of an interview, and further affect the analysis. However, this challenge was anticipated by taking written notes during the FGI. Thus, the missing part of the recording was completed by using the note from the researcher.

The second challenge that was faced was finding the informants who used BRT on a daily basis. Finding the informants who use BRT on a daily basis was important, presumably because the daily users would be able to provide a better understanding about the BRT compared to that of the occasional users. However, since it involved the arduous search to find the group of informants who frequently use BRT, the researcher decided to engage with users who use BRT frequently or occasionally. As a result, in this research, most informants travelled the BRT every twice a week or once a week or less than once a week. The decision was taken considering the assumption that these users had the experience riding the BRT, thus they would be able to provide the understanding about the BRT.

Lastly, the third challenge was the external interruptions. Some FGIs were attended by people who were not invited as informants. The presence of these people might have affected the discussion flow and influenced the opinion of the informants. This challenge happened during the interview with the control group of workers in Cicaheum. The challenge was solved during transcribing the recording of the FGIs. Comments from non-informants were clearly marked as the comments from non-informants. Furthermore, these comments were omitted during the analysis.

Ultimately, the FGIs were conducive to identifying a number of functionings *valued* by the informants. In addition to identifying the valued functionings, the FGIs also identified the inhibiting and supporting situations which had a role in realizing these valued functionings. Furthermore, the outcomes of the FGIs and ride-alongs were analysed. The description of methods used for the analysis and the result of the analysis are elaborated in the next chapter.

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CHAPTER 6. ANALYSIS OF FINDINGS

Vice mayor (right) talked to the driver of a BRT during the launching ceremony of the BRT's Corridor 3

Source: http://www.pikiran-rakyat.com/foto/2015/12/04/352410/peluncuran-operasional-tmb-dan-bus-sekolah

In addition to the driver, the co-driver holds a central role on-board. In the left picture, a co-driver did her duty in collecting money for the ticket. Moreover, a co-driver is also responsible in helping passengers during boarding and disembarking the BRT.

6.1 Method of analysis: Theoretical background

FGIs were voice-recorded, and then transcribed into written format before analysed. Prior to analysis, the method of analysis was defined opting for discourse analysis.

In the past decades, discourse analysis has gained prominent reputation among qualitative research approaches. This analysis emerges as a mainstream method in diverse studies (Cheek, 2004). Talja (1999) identified the areas that have employed the method, for example, communication studies, sociology, social psychology, and psychology (Talja, 1999).

The word 'discourse' is defined in various ways. Sharp & Richardson (2001) defines a discourse as the sum of communicative interaction. On the other hand, Gasper & Apthorpe (1996) provides a different meaning to discourse. According to them, a discourse is an ensemble of ideas, concepts, and categories that give meaning to phenomena (Gasper & Apthorpe, 1996), or is simply defined as 'the discussion' (Hajer & Versteeg, 2005; Hewitt, 2009). Here, the research follows Cheek (2004) who stated a discourse as a way of thinking and speaking about the reality which comprises a set of assumptions which are sometimes taken for granted so as to be invisible (Cheek, 2004). Thus, a discourse analysis focuses on different ways of talking to understand the perspectives from which certain knowledge and meanings are produced (Talja, 1999).

In this research, discourse analysis was employed as a method for framing and analysing the information acquired through the eight FGIs. Here, the researcher attempted to understand the inner reality 'emerging' from the interviews, rather than describing the 'outer' reality. The analysis was not meant to capture the intentions, meanings, or experiences of the informants, but rather to concentrate on the shared knowledge and broader views conveyed by the informants (Talja, 1999). In analysing the outcomes of the interviews, the transcripts were interpreted as 'stories' with distinct messages and narratives, however, this work of interpretation was primarily aimed at identifying the underlying meanings which were associated with them by the side of each informant. Therefore, the researcher avoided making assumptions based on a single version of action and belief, and opted to incorporate all accounts provided by the informants, to finally identify the elements of consistency and variations among them which emerged during the interaction (Talja, 1999). Finally, the results of this detailed work of analysis consisted of systematic descriptions of the arguments *through* which- and perspectives *from* which- the experiences and beliefs of informants seemed to have been constructed. The concepts that occurred frequently in the interviews were used to label the different interpretative repertoires offered during the group interviews (Talja, 1999).

Following Talja (1999), the identification of these patterns of repertoires included three phases (Talja, 1999). The *first phase* consisted of examining the inconsistencies and internal contradictions of responses at each group of informants. In this research, the researcher did not constitute inconsistencies as potential sources of error for the analysis. Conversely, such variability or inconsistencies were interpreted as differences that can happen because of resourcefulness and context-dependence of the talks.

The *second phase* consisted of identifying regular patterns among the variability of content presented in the transcripts. In this research, the identification of such regular patterns was conducted by looking at repeatedly occurring descriptions, explanations, and arguments in different interviews. In this phase, the researcher followed an analysis step designed by Burnard (1994). Firstly, the researcher read all the transcripts of the FGIs and decided on the text to be omitted. The texts that were omitted were those which could not help to answer the research questions. Secondly, the researcher identified the valued human 'being' and 'doing' and the situations related to the discourse of mobility provided by the BRT. Thirdly, the researcher categorized themes that emerged from the transcripts into three categories: the functionings, the inhibiting situations, and the supporting situations.

The *third phase* consisted of identifying basic assumptions and starting points which underlie a particular way of talking about a particular phenomenon. In this research, terms that emerged from the interviews were linked together on the basis of the concept of the capability approach, particularly Nussbaum's ten central human capabilities.

However, there were issues that need to be tackled regarding the utilization of this analysis method. The first issue is related to rigorousness of the analysis which means that readers will be exposed by not only one possible reading (Cheek, 2004). The second issue is about representativeness which means that the result cannot be generalized to wider contexts. In addition, other potential issues when using discourse analysis are its limitation in selecting elements to be analysed and its weakness in generating policy recommendation. Another issue is that discourse analysis often involves analysing complex circumstances, thus requiring considerable time-scales (Sharp & Richardson, 2001).

Responding to the first issue, Cheek (2004) states that the aim of the discourse analysis is not seeking for the closure with regard to producing the only possible reading or providing 'the one and only' answer. Here, in this research, the researcher opened to the feedback and critiques addressed toward the result of the analysis. Furthermore, Talja (1999) addresses the second issue by mentioning that the result from a research is not intended to generalize how things are, but rather in how a phenomenon could be interpreted. In this research, interpretation of the transcript emphasizes on what and how the provision of BRT means to people in realizing their valued functionings.

Regarding the issue of selecting elements in the analysis, Sharp & Richardson (2001) suggest to make an early choice on the discourse that is going to be analysed. This step helps the researcher to focus their research and not spend considerable time. Lastly, the response to the weakness in generating policy recommendation is that discourse analysis is not aimed as a tool to develop policy recommendations, but rather as an instrument to describe the struggle of discourses which often stay out of sight of the institutional analysis, or the analysis of interests (Brink & Metze, 2006; Sharp & Richardson, 2001). This research made an early choice through identifying a preliminary list of functionings stated on the long-term development plan of Bandung. This choice helped the researcher set a path for the next steps of research. Finally, this research was not aimed to generate policy recommendation, but rather giving a complementary insight in understanding the role of BRT. By understanding the different capabilities and functionings that people achieve through different modes and means of transport, the adopted 'capability approach' shows the potential of supporting the identification also of the factors encouraging or hampering the use of transport resources that, seen through economic or accessibility lenses only, could lead to sharply different planning decisions.

6.2 Translation of the transcripts

The valued functionings were captured through analysing the FGI transcripts. To explain the analysis, the transcription process was described in the following paragraphs.

FGIs were conducted in Bahasa Indonesia and recorded FGIs were transcribed in Bahasa Indonesia before translated into English. All of the translation process was conducted by the researcher. The researcher was fully aware that the translation could not completely capture the meaning of the utterances in the interviews. The researcher produced the translation based on her understanding about the original meaning of the expression and the context in which a particular expression was referred or mentioned[12].

Furthermore, each FGI will be described in the next subsections followed by identified valued functionings. Moreover, the list of valued functionings from the empirical investigation is compared with the expected functionings taken from the long-term development plan of Bandung. Finally, the comparison is conducted within the frame of the Nussbaum's list of ten central human capabilities.

[12] One example of the expression that could not be easily translated was the expression of *"adem"* which means a comfortable feeling caused by any experiences that produced a good feeling. This meaning would not make any sense as there were so many experiences that produced a good feeling. In this example, the researcher decided to put this expression into the context of travelling using BRT. Consequently, the meaning of the expression of *"adem"* became a comfortable feeling caused by the cool weather from the bus' air conditioner. Here, the researcher put the original meaning of the expression of *"adem"* into the context of travelling by BRT.

6.3 The general descriptions of focus group interviews

Prior to identifying valued functionings, the FGIs processes are presented. The descriptions include the summaries of the findings on valued functionings and the role of BRT in achieving those functionings. Further descriptions of the FGIs are presented in the following subsections.

FGI 1: the main group of the university students

The first FGI involved the main group of university students. The informants shared that they valued going to lecture, taking a rest after studying, enjoying recreation with friends and family, participating in social activities, going to various destinations, and doing religious activities. They emphasized that the three most valued activities were going to lecture, enjoying recreation, and participating in social activities. In addition, the informants mentioned that they used BRT only for special occasions, for example, going to the city centre, hanging out with friends, and shopping. From the description of the valued activities and how the informants used BRT, it could be concluded that the BRT did not have a specific role in facilitating the most valued activities.

FGI 1: the main group of the university students

These students shared that they mostly valued attending lectures, enjoying recreation, and participating in social activities. As one of them said,

"I value attending lecture but I also like to participate in social activities with other students"

FGI 2: the control group of the university students

The second FGI was conducted for the control group consisting of university students. In this interview, the informants shared activities they valued. Those included attending lectures, studying, doing assignments and other school related activities, enjoying recreation and eating out with family and friends. The students in this group did not use the BRT service and their valued activities were accomplished without using the BRT.

FGI 3: the main group of workers (Cicaheum neighborhood)

The third FGI included the main group consisting of workers of the Cicaheum neighbourhood. During the interaction, the informants identified some activities as valuable doings, including, working, doing religious activities, taking care of family members, and participating in social events. The informants emphasized that working and taking care of family members were the most valued activities. Additionally, the informants in the group discussed their motivation and actual reasons to travel with the BRT. They used the BRT to shop, for recreation, to visit family, and to work. From the description of the valued activities and how the informants used the BRT, it could be concluded that the BRT had a specific role in helping the informants going to work.

FGI 2: the control group of the university students

Attending lectures, studying, doing assignments, and other related school activities, enjoying recreation and eating out with family and friends were activities they valued.

Thus…

Let us 'listen' to one comment made by the interviewee, "Our daily activities make us tired, thus, in the end of the day, we prefer to hang out and eat out"

FGI 3: the main group of workers (Cicaheum neighborhood)

BRT had a role in helping them going to work. Later, the researcher followed one informant to buy raw material for his shoe-making business.

FGI 4: the control group of workers (Cicaheum neighbourhood)

The fourth FGI involved the control group of workers of the Cicaheaum neighbourhood. The informants shared opinions about activities that were valuable to them. Working, taking care of family members, traveling with family emerged as the valued activities. The informants highlighted that working and shopping for leisure as the two most valuable activities. However, the informants admitted that they never use the BRT, even though they were knowledgeable with it. Hence, all valued activities which were previously mentioned were done without using the BRT.

FGI 4: the control group of workers (Cicaheum neighborhood)

They highlighted that working and shopping for leisure as the two most valuable activities. However, those activities were done without using the BRT.

FGI 5: the control group of workers (Muararajeun neighbourhood)

The fifth FGI included the control group of workers of the Muararajeun neighbourhood. In the group interview, the informants shared various activities that they valued. Going to various destinations, travelling and enjoying the recreation with family members, working, visiting family, and being healthy were mentioned as valued activities. Here, the most valuable activities were shopping and participating in social activities in addition to travelling with family members, visiting family, and being healthy. As all the workers in the control group never rode the BRT, thus all those valued activities were done without the role of the BRT.

FGI 5: the control group of workers (Muararajeun neighborhood)

For them, the most valuable activities were shopping and participating in social activities, travelling with family members, visiting family, and being healthy. However, same as the previous group, those activities were done without using the BRT.

FGI 6: the main group of workers (Muararajeun neighbourhood)

The sixth FGI was an interview involving the main group of workers of the Muararajeun neighbourhood. The informants shared about activities that they valued, including eating out, visiting family, going to various destinations, working, taking care of family members. According to them, the most valued activities were working and taking care of family members. Here, the informants admitted that they were not frequent BRT users, and they only use it occasionally, for example when they have to visit their family in another part of the city or to eat out with friends or family. Hence, the role of the BRT could be seen in facilitating the informants to visit their family and to eat out with friends or family.

FGI 7: the main group of high school students

The seventh FGI included the main group of high school students. During the FGI, the informants pointed out the activities that they found valuable. Studying, doing assignments, school activities, taking a rest, and being healthy were identified as valuable functionings. In this FGI, the role of the BRT could be seen in facilitating the informants for school related activities.

FGI 6: the main group of workers (Muararajeun neighborhood)

For them, eating out with family, visiting family, going to various destinations, working, taking care of family members were valuable.

However, the BRT only facilitates them to visit their family and to eat out with friends and family. Later, the researcher followed one informant to eat out.

FGI 7: the main group of high school students

Studying, doing assignments, school activities, taking a rest, and being healthy were identified as valuable.

According to them, the BRT plays a great role in facilitating those valued activities. Later, the researcher followed two informants in their way home.

FGI 8: the control group of high school students

The eighth FGI was the interview involving the control group of high school students. In the FGI, they shared the activities that they valued. Going to school, studying, doing assignments, and school activities with friends, taking a rest, doing religious activities, participating in social activities, eating out with family and friends, and having a good health emerged as valuable activities. They noted that going to school, enjoying recreation with family and friends, and having a good health through sports activities as the most valuable activities. Here, they admitted that they know about the BRT, but were not users. Hence, all valued activities which were previously mentioned were done without the role of the BRT.

FGI 8: the control group of high school students

They noted that going to school, enjoying recreation with family and friends, and having a good health through sports activities as the most valuable activities. However, those activities were done without the role of the BRT.

6.4 The results: Identification of valued functionings

The analysis of the focus group interviews identified 13 valued functionings. The list of all functionings valued by the informants can be examined in Table 4.

Table 4. The list of all valued functionings that emerged from the FGIs

Thirteen valued functionings that emerged from the FGIs
1. Working
2. Visiting family
3. Studying and doing assignments or school activities
4. Participating in social activities
5. Going to various destinations
6. Going to school
7. Traveling with children and other family members
8. Taking a rest
9. Eating out with family and friends
10. Doing religious activities
11. Enjoying recreation with family and friends
12. Taking care of the family
13. Being healthy

Source: Focus group interviews, 2016

The first valued functioning identified is *working*. This functioning emerged from interviews which mostly involved worker groups, both in main and control groups. Asep, a worker living in Cicaheum, admitted that: *"...So do I, I (have to work), I have to do many things because I am the person who is responsible for the family."* However, some informants admitted that the BRT did not facilitate this type of activity. Participants from the main group in Muararajeun, Ifah and Suryana, mentioned that their daily mobility for working was not supported by the BRT.

The second functioning is *visiting family*. An informant from the control group living in Muararajeun, said, *"I usually visit my wife and children on weekend"*, and he added, *"Another activity is communicating with my family, or (if I cannot visit them, I) ask them to visit me here. To keep in touch and to know that they are fine is important"*. Binar, an information in the same group, mentioned his reason for frequently using the BRT was to visit his relatives in another part of the city.

The third functioning is *studying and doing assignments or school activities*. This functioning was derived from FGIs participating students. They emphasized that study was relevant to their obligation. Most students admitted that the BRT assisted them in doing school-related activities by offering lower prices and faster trips compared to other transport services. Akmal, an informant belonging to this group, said most of his school-related activities were located in connection with the BRT.

The fourth functioning was *participating in social activities* which emerged in five interview occasions involving students and workers. These social activities included joining student association activities, teaching junior students, and participating in other organizations for students. On the other hand, the worker group indicated that participating in social activities was related to assisting government programmes, particularly in public health. Most university students admitted that they did not use the BRT when participating in social activities as most of them were located near the university. Comparable to workers' concerns, their activities were mostly organized nearby, so BRT services were not relevant in supporting their activities. Therefore, the BRT has little value to facilitate participation in social activities.

The fifth functioning is *going to various destinations*. This functioning was noted in three FGIs involving students and workers. The workers underlined that they needed to travel to various destinations, and that was one reason of why they used motorcycles and Angkots. Here, the BRT was not able to facilitate them going to various destinations because it still served limited routes. Most of the informants would prefer to ride motorcycles and Angkots if they were going to various destinations.

The sixth functioning is *going to school*, which was identified in four FGIs with participating students. Most students agreed that going to school was a valuable activity as consensually agreed: "*Attending the lecture, of course*". Munadiya and Reisya, two high school students, admitted that the BRT had a significant role in taking them to school. However, most university students mentioned otherwise. For them, the BRT had distinctive values in order to take them to the city centre, hang out with friends, and go shopping.

Going to school

From their uniform, it could be recognized that they were high school students.

During ride-along, the researcher noted that on free-ticket days for students (Mondays and Thursdays), more and more students make use of the BRT.

Going on a trip with children and other family members is the seventh valued functioning. Maman, an informant of a control group involving workers, emphasized, *"...maybe they -the government –can add the Cicaheum-Kebon Kelapa or other (routes) which make mobility much more simple for people and their family."* Therefore, more corridors should be constructed to improve his mobility. Nur and Eka, said the

same regarding the BRT services by mentioning: *"taking care of my house, my husband, and accompanying my children to go to school."* [13] .

The eighth functioning is *taking a rest.* Regarding this functioning, a high school student named Ival, said, *"Sleeping, I am tired of everyday (studying) tasks"*. Akmal, also a student, stated that, *"We spend our weekend at home,"* which was agreed by Widya by saying, *"Taking a rest."* Similar responses were gathered from university students, for example by mentioning, *"Our daily activities are tiring"*[14]. From these comments, it seemed that the BRT did not have a role in facilitating this functioning. However, some informants mentioned that comfortable seats in the bus helped them taking a rest while riding BRT.

Taking a rest

The passengers enjoyed their comfortable seats inside this air conditioned BRT.

And if you were lucky, you could also enjoy music played from the stereo, or even live!

In this picture, a man in a hat was doing a live performance.

Eating out with family and friends is ninth in the list of valued functionings. Dextrin, an informant from university students, admitted that, *"We prefer to hang out while eating out, especially in the restaurants or café."* [15]. Regarding this functioning, the students and the workers agreed that the BRT helped them to eat out with friends and family, if the BRT bus stop was nearby.

Number ten on the list of valued functionings is *participating in religious activities*. Three FGIs involving students and workers indicated this. Doing the religious activities, i.e. praying and religious gatherings, are regarded as an obligation. Umi added in her interview, *"It (doing a pray) is the pillar of our religion."* Mostly, religious activities did not require the use of the BRT since mosques and mushala[16] could be easily found in most neighbourhoods, schools, or universities.

[13] It could be understood that in most big cities in Indonesia, children between the age of 5-12 years old were accompanied to go to school, due to the distance between their home and their school, as well as because of the traffic situations.
[14] The investigator observed that the students had very intense schooling days. They had to start the day as early as 5 o'clock in the morning, mainly to prepare the day and to avoid the congestion. Hereafter, the students had to follow the class until 14-15 o'clock, and that excluded extra hours for extracurricular activities or additional tutoring sessions.
[15] In the context of Indonesia, people like to have a meal with their family and friends, and they eat out on almost every occasion, for example while hanging out with friends, family gatherings, social gatherings in the neighborhood, celebrations, business gatherings, and even for formal meetings. Therefore, most Indonesians preferred to hold their gatherings at restaurants, cafés or at any place in which they could buy food and eat while having a gathering or just having social interaction.
16 Mushala is a place which has a function similar to a mosque. However, in Indonesia, mushala usually built smaller compared to that of mosque.

Enjoying recreation with family and friends is among the valued functionings. This functioning was captured in most FGIs. Nur, stated that, *"It is valuable to me, because if you just stay at home, then you will get bored. (Thus) It is important to go out"*. Eka said that, *"For me, that (the activity she values doing) is going out,"* [17] However, this functioning depends on the existence of the corridors that serve the city areas.

The twelfth functioning is *taking care of the family*. The type of functioning was obtained from three FGIs involving workers. This functioning means that the adult in the household should support family in terms of livelihood support, caring for children whom both parents went work, and providing shelter. Asep, mentioned, "*I have to do many things as the person who is responsible for the family."* From the comments, BRT did not have a direct role in actualizing this functioning.

The last functioning is *being healthy*. This functioning was derived from three FGIs involving workers and students. Being healthy included exercising and having proper health care. Maman underlined, *"For me, after the surgery, I have to maintain my weight. I usually run in Pusdai. I try to do that every day, if not; then I will not feel fine"*. On the other hand, Ival, an informant from the student group mentioned, *"... I am tired of everyday tasks…"*, later he continued with, *"(I am) going home, then doing badminton"*. From the comment of Ival, it could be interpreted that doing badminton (sports) was a way to escape from daily routines which make him tired. However, Maman and Ival admitted that the BRT did not have any relevancy to their activities.

As noted in the above description, only seven of the valued functionings are actualized by the BRT. The list of seven valued functionings enabled by the BRT can be examined in Table 5.

[17] Here, recreation included going to the mall or shopping center, a recreation arena, a park, and traveling outside the city. According to the workers, they would prefer going to the mall or shopping center, or buying their favorite street food. On the other hand, the students preferred going to a recreation arena, park, or traveling outside the city. Moreover, they mentioned that they preferred going with their friends on weekdays, and going with their family on weekends.

Table 5. The list of valued functionings enabled by the BRT

The list of all valued functionings that emerged in the FGIs	The list of valued functionings that emerged in the FGIs and are enabled by the BRT
1. *Working*	1. *Working*
2. *Visiting family*	2. *Visiting family*
3. *Studying and doing assignments or school activities*	3. *Studying and doing assignments or school activities*
4. *Participating in social activities*	4.
5. *Going to various destinations*	5.
6. *Going to school*	6. *Going to school*
7. *Going on a trip with children and other family members*	7.
8. *Taking a rest*	8. *Taking a rest*
9. *Eating out with family and friends*	9. *Eating out with family and friends*
10. *Doing religious activities*	10.
11. *Enjoying recreation with family and friends*	11. *Enjoying recreation with family and friends*
12. *Taking care of the family*	12.
13. *Being healthy*	13.

Source: The result of the analysis, 2016

After examining the description of the valued functionings, six functionings were not enabled by the BRT. As a result, from 13 identified valued functionings, only seven functionings are enabled by the BRT, namely: (1) working, (2) visiting family, (3) studying and doing assignments or school activities, (4) going to school, (5) taking a rest, (6) eating out with family and friends, and (7) recreation with family and friends.

6.5 The results: Inhibiting and supporting situations in making use of the BRT

The inhibiting and supporting contexts which play roles in realizing people's capabilities are identified following the identification of functionings enabled by the BRT. In the next subsections, the description of inhibiting and supporting situations are thoroughly explored.

6.5.1 The identification of inhibiting and supporting situations

Fourteen inhibiting situations were obtained from the FGIs. The inhibiting situations that are mostly stated are *longer waiting time, limited routes,* and *less maintained facilities*, while less attention was given to *lack of a specific identity* and *inadequate dedicated lines*. Additionally, seven supporting situations were also identified. *Comfortable buses* and *faster trips* are among the situation that emerged, in contrast, less attention is given to *availability of special discount for students*. The complete list of inhibiting and supporting situations that emerged through the FGIs can be examined in Table 6.

6.5.2 The inhibiting situations

Fourteen inhibiting situations challenge the informants in making use of the BRT. *Undefined ticketing system* is among of them. Binar stated, *"Many things have changed. In the past, we have to buy ticket before we board the bus, but now we pay ticket on the bus"*. Through ride-along activities, the researcher saw that there was a co-driver who sold the ticket after the passengers found their seat. He inconsistently gave receipts of the payment to passengers as they rode the BRT.

The perception of less safety emerged from the absent of guardians at bus stops. This perception also came from the condition of bus stops. Maman stated, *"...there was a (security) guard assigned in the bus stop. But now there is no guard in the bus stop, consequently, this place has become a place for the street children"*. According to him, street children used to hang out in the bus stop and created the sense of less security. The presence of street children whom using earrings and unusual haircuts raised the perception of less safety. In addition, Binar added that bus stops with their graffiti also brought the perception of less safety. During ride-along activities, the researcher noted that there were graffiti in most bus stops. However, based on the observation, the researcher also found poor maintenance of the bus stop, i.e. the absent of lighting and dirty floor, and the existence of the homeless in the bus stop contributed to the emerged of this perception.

Table 6. The list of inhibiting and supporting situations that emerged through the FGIs

The list of inhibiting situations that emerged through the FGIs
1. undefined ticketing system
2. the perception of less safety
3. overcrowded bus
4. the lack of a specific identity
5. inadequate information about the service
6. inadequate dedicated lines
7. longer waiting time
8. improper location for the final station
9. limited seats
10. limited routes
11. limited operational hours
12. limited facilities
13. less maintained facilities
14. difficult to board and disembark through the bus stops
The list of supporting situations that emerged through the FGIs
1. the availability of special discounts for students
2. routes availability
3. faster trip
4. comfortable bus
5. affordable fare
6. flexible to board and disembark the bus

Source: The result of the analysis, 2016

Overcrowded buses were identified as a inhibiting situation by the informants. Suryana mentioned, *"…they have to consider maximum passengers. If the bus is already overcrowded like say 40 people, then please stop boarding any more passengers. No more people board the bus. But, with the fare IDR. 3000 (it is about EUR 20 cents). This certainly will make the bus overcrowded."* Moreover, Devi, a high school student, suggested the need to increase the number of BRTs in order to suffice increasing passengers. When there was a backlog of buses, most drivers would still collect passengers although the bus was full. This situation was confirmed during ride-along activities. The researcher noticed that buses were more crowded on Mondays and Thursdays when the students did not have to pay for tickets, and during the rush hours. In the case of an overcrowded bus, the driver would still collect passengers, even though the bus was full.

Overcrowded buses

The researcher noted that the BRT was overcrowded during:

1. Free-ticket days for students (every Mondays and Thursdays)
2. Rush hours
3. Passing commercial areas

The lack of a specific identity was another identified inhibiting situation. Maman, stated that, *"The BRT has to have an identity. Like when I see it, I will immediately notice the BRT…. Or maybe the bus should have a distinctive design."*. Additionally, he gave an example, *"…if we refer to Jakarta…they use their local word to call the co-driver. Additionally, they also use their traditional costume… (for the BRT in Bandung) they can use traditional costume of Bandung"*. The researcher observed this condition. Some informants could not recognize different types of buses because those buses have a quite similar colour and physical presentation.

Inadequate information about the service was highlighted. The informants underlined that they received less information about the BRT services. They could hardly find the schedule of the bus and this situation was observed by the researcher during the ride-alongs. Consequently, most people do not know about the operational hours of the BRT.

Another inhibiting situation identified was *inadequate dedicated lanes*. As mentioned by Rio, an informant, from main group of workers, the BRT should have dedicated bus lanes, so the bus could avoid city's traffic jam. There were no dedicated lanes available for the buses as observed during the ride alongs.

Longer waiting time gained most attentions of the informants. Suryana noted, *"It takes a lot of time waiting"*. Rio agreed and said, *"Yes, it takes a lot of time to wait for the BRT",* then he added, *"In the past, there are a lot of buses, like every five minutes… but now, the bus will not arrive even on every two and a*

half hours". It took approximately 15 to 30 minutes to start advancing in the corridor of Cibiru-Cibeureum and Cicaheum-Cibeureum. It took more than one and half hours for the corridor of Cicaheum-Sarijadi.

Improper location for the final station was noticed in two FGIs. Suryana, a worker from main group in Muararajeun, commented, *"The most terrible (bus stop) is in the final stop Sarijadi!"* Paraphrasing his other statement, the final station in Sarijadi located near to a dump site –only 10 metres from the station. Consequently, this dump brought an unpleasant smell while waiting. In addition, another informant, Sri, mentioned, *"The final stop is in there. There is nothing in there. No interesting place"*. This comment highlighted the location of Sarijadi final station that was situated in the 'middle of nowhere'.

Final station of Sarijadi

During ride-along, the researcher saw that final station of BRT Corridor 3 was located near a dump site. Consequently, this site brought an unpleasant smell to the passengers waiting for the bus.

Regarding *limited seats* as one of the inhibiting situation, Nur described that, *"... Sometimes I saw a lot of people standing (in the BRT), so I think that it must be because of limited seats..."* Another worker from the control group in Cicaheum, Komala, noted that, *"If you have a trip with your children, this condition will be not so comfortable…"* From this comment, the situation of having limited seats was caused by the seating layout. During the ride-along, the researcher noticed that the seats were placed along the side of the bus and this layout was made to accommodate more passengers who could stand in the middle of the bus. However, this layout had considered the provisioning of special seats for people with disability, pregnant women, elderly, and passengers with children.

Limited routes were identified as an inhibiting situation in six FGIs. A worker from the main group in Muararajeun, Rio, mentioned, *"At first the government wanted to solve the congestion through the provision of BRT, but unfortunately it only has three corridors. I thought that all corridors will be established."* He said that the BRT only served three corridors out of eleven planned corridors including Cibiru-Cibeureum, Cicaheum-Cibeureum, and Cicaheum-Sarijadi.

Limited operational hours was a concern that emerged in two of the FGIs. Nur noted that, *"Nowadays BRT only serves until 6 pm."* Meanwhile, Ifah, said that the corridor only provided its service until 4 pm. However, both previous comments underlined the same situation, BRT served limited operational hours.

During the ride-alongs, the researcher found out that the BRT started around 8-9 a.m. and finished the service at around 5-6 p.m.

Limited facilities got attention in four FGIs. The informants noted that the necessity of providing pedestrian crossing bridges and more bus stops. A worker from the main group in Muararajeun, Suryana, admitted, *"I have talked (to the authorities; the interviewer interpretation) that the distance between bus stops is quite far"*. One informant also mentioned that he did not prefer to use the BRT because there were no pedestrian crossings near the bus stop that facilitated him to go to school.

Less maintained facilities was captured during four FGIs. An informant in Muararajeun, Ari, said that, *"I have seen lack of maintenance for the facilities (the bus stop). That is why I do not have interest to ride BRT, because I have seen the bus stops."* He emphasized less maintained bus stops had prevented him to utilize the BRT. As observed from the survey, floor, chairs and windows were left dirty and decorated with disturbing graffiti.

Difficulty in boarding and disembarking passengers at bus stops was among the situations mentioned. Binar, started the discussion on this situation by mentioning, *"...At that time, there was a woman who fall from the bus"*, later he added that a woman fell when she wanted to board the bus. Sri said, "*It was because there was a significant distance between the bus and the floor of the bus stop"*. Ifah, mentioned, *"...because there is no security guard anymore"*. If the bus did not stop properly at the bus stops, a huge gap between the door at bus stops and the door of the bus would hamper the passengers to embark or disembark. The researcher noticed that women, elderly, children and disabled people faced difficulties and needed assistance while boarding and disembarking the bus.

A gap between bus stop platform and bus deck

During ride-along, the researcher noticed that most passengers, e.g. women and children, had difficulty to board and disembark at bus stops.

6.5.3 The supporting situations

Six situations that encourage the use of the BRT have been identified. These situations are regarded as providing resources to enable people's functionings. Further, the list of all supporting situations can be examined through the next paragraphs.

Three FGIs identified *the availability of a special discount for students* as the supporting situation. This discount helped students to go to school as valuable activities. Yuyun mentioned, *"It helps the school children"*. Devi, a student from main group in high school, also admitted that the special discount made her spend less money.

Affordable fare

One only has to pay IDR 3000 to travel with the BRT. To add perspective, for the same price of ten tickets you can buy one McDonald's burger.

Route availability captured many attentions in four FGIs. A worker from the control group in Muararajeun, Maman mentioned, *"Currently, this BRT route (Cicaheum-Sarijadi) is a good route. It serves a long corridor and helps to go to Sarijadi, ... (previously, I should take a) minimum two transfers, say to go to Ciroyom, (one) has to take two transfers (before the existence of the BRT). Currently, it is more practical. My expectation is that the government must expand the routes."* From the ride-along activities, the researcher noted that the BRT served three long corridors which connected city centres, sub-centres and many commercial areas in between.

Five FGIs identified *faster trips* as a supporting situation. Devi and Fina, students from the main group in Muararajeun, mentioned that the BRT was faster compared to that of other mode of transports. Regarding this supporting situation, Rio, a worker from the main group in Muararajeun, emphasized that, *"...it (the BRT) was indeed comfortable and it was also faster (as it) only (takes) about 15 minutes from Cicaheum to Pasteur..."*. Through the ride-alongs, the researcher noted that riding the BRT was much faster compared to *Angkot*, but much slower compared to motorcycle.

Comfortable buses captured much attention and emerged from six FGIs. Rio and Suryana, workers from main group in Muararajeun, said that the BRT was relatively comfortable. Ifah, informant from the same group, added the music as a factor. Moreover, Habib and Reisha, informants from the student groups mentioned that the BRT is 'adem'[18]. The researcher noticed that the buses were indeed comfortable, because most buses were new, clean, equipped with air conditioner and (sometimes) music. The combination of these characteristics generated comfort while riding the BRT.

Four FGIs identified *affordable fare* as a supporting situation. Nur, Munadiya and Widya, explicitly stated that the fare of BRT was much more affordable than other public transports. Munadiya, a student from

[18] Adem is an expression when you want to say that something provides a comforting feeling. In this case, Habib and Reisha used this expression to explain about the comfortable feeling emerged from an air-conditioned bus.

control group in high school, added that BRT fares were cheaper and covered long routes. The researcher also investigated that the BRT was indeed cheaper compared to Angkot. The passengers of the BRT would only spend IDR 3,000[19] while one who rides Angkot should pay more than IDR 8,000 with the same distance.

Flexible boarding was mentioned in regard to this 'supporting' context. Sometimes, passengers may board or disembark at places outside bus stops. Even though, this was considered as *disobeying* traffic regulation, most informants agreed that they appreciated flexible boarding and stated this as a supporting situation. Regarding this flexibility, a worker from main group in Muararajeun, Binar, mentioned that, *"We can make it stop in almost everyplace we wish"*, later he realized, *"... it should be (boarding the passengers) at the bus stop."* Through the ride-along activity, the researcher noticed that sometimes the passengers could ask the driver to stop the bus at any place they wished.

Flexible boarding

During ride-along, the researcher noted that sometimes passengers can ask the driver or the driver offers the passengers to board and get off the bus at any place.

In so doing, passengers can wave to the bus if they wish to board, or knock the bus if they want to disembark.

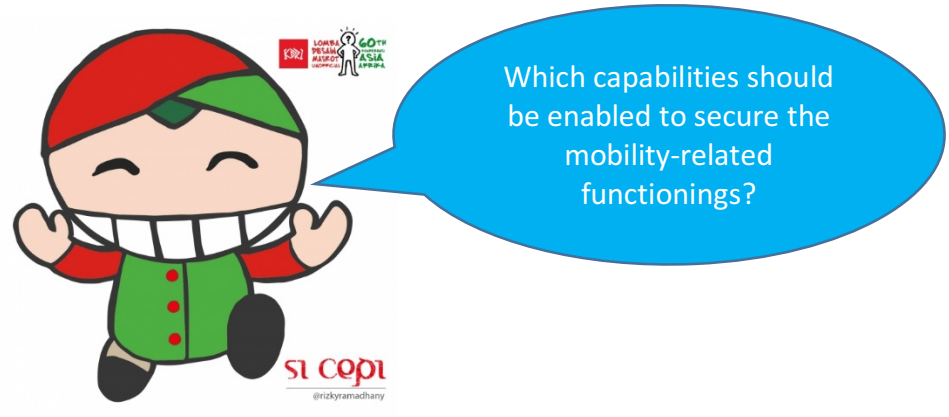
In conclusion, the informants identified situations which play roles in discouraging and encouraging people in using BRT, namely: (1) *undefined ticketing system*, (2) *the perception of less safety*, (3) *overcrowded bus*, (4) *the lack of a specific identity*, (5) *inadequate information about the service*, (6) *inadequate dedicated lines*, (7) *longer waiting time*, (8) *improper location for the final station*, (9) *limited seats*, (10) *limited route*, (11) *limited operational hours*, (12) *limited facilities*, (13) *less maintained facilities*, and (14) *difficult to board or disembark through the bus stops*. The informants identified not only their inhibiting situations, but also recognized six supporting situations, namely: (1) *the availability of special discount for students*, (2) *routes availability*, (3) *faster trip*, (4) *comfortable bus*, (5) *affordable fare*, and (6) *flexible boarding*.

[19] IDR 3000 is equal to EUR 0.20.

CHAPTER 7. CONCLUDING REMARKS

7.1 DISCUSSION

7.2 CONCLUSION AND FUTURE RESEARCH



Bodily Integrity. Being able to move freely from place to place, including *being able to visit family and the ability to go to school.*

Senses, Imagination, and Thought. Being able to use the senses, to imagine, think, and reason -and to do these things in a "truly human" way, a way informed and cultivated by an adequate education, including *the ability to go to school; the ability to study, and do the assignments or school activities with friends*. Being able to have pleasurable experiences, including *being able to take a rest.*

Affiliation. Being able to recognize and show concern for other human beings, to engage in various forms of social interaction, including *eating out with family and friends, and being able to visit family*.

Other Species. Being able to live with concern for and in relation to the world of nature, including *enjoying recreation with family and friends*.

Play. Being able to enjoy recreational activities.

Control Over One's Environment. In work, *being able to work* as a human being.

This master thesis discusses BRT roles from the capabilities perspective. The researcher uses the perspective of capabilities to understand how the BRT enables people in achieving valued functionings. Referring to that point, the aim of this research is investigating whether the BRT system in Bandung constitutes a concrete 'means of enhancement' of people's capabilities.

The CA emerged as a response to the utilitarian or the preference-based approach as well as over Rawlsian primary goods or resource-based approach. In relation to the use of the CA, there are two important notions used in this research, namely: functionings and capabilities. Functionings refers to human functionings or one's 'being' and 'doing'. Regarding this research, the notion of functioning emphasizes on one's *urban* functioning, which are *the functionings whose achievement depend on how cities are designed and governed* (Basta, 2016). In this research, capability is defined as the *concrete ability to do and be what people value* (Robeyns, 2006, 2005a) *in their living environment* (Basta, 2015).

Considering the research objectives and the research questions, the research required to collect and analysing the opinions of users of the BRT system so as to explore what functionings they value, are enabled by the system, and what are both the inhibiting and supporting situations in relation to the use of the BRT. Relevant information was obtained through: 1. the institutions, 2. focus group interviews (FGIs), and 3. ride-along interviews. The information was analysed by employing the method of discourse analysis (DA). The analysis of the collected responses led to the identification of 13 valued functionings, of which 7 are indeed enabled by the use of the BRT system, 14 inhibiting situations, which discourage people in using the BRT, and 6 supporting situations, which encourage them to make use of the BRT.

The core 'lesson learnt' from this research relates to the conceptual perspective designed and adopted for investigating people's mobility-related functionings. This people-based approach to the evaluation of public transport systems – here limited to one element only of the Bandung's transport system – opens up new evaluative perspectives on public transport services in urban planning at large. By understanding the different capabilities and functionings that people achieve through different modes and means of transport, the capability approach shows the potential of supporting the identification also of factors encouraging or hampering the use of transport resources that, seen through economic or accessibility lenses only, could lead to distinctly different planning decisions. In this sense, the results of the research are not meant to replace the results generated through other approaches in the evaluation of transport resources, the BRT system specifically, used by the municipality of Bandung, but are rather intended as insights and 'decisional tools' complementary to other more established ones.

7.1 Discussion: Comparing the lists of *valued* functionings enabled by the BRT and the preliminarily identified list of functionings

The analysis of the FGIs identified 13 valued functionings on which seven of them enabled by the use of the BRT. Table 7 lists those functionings. Furthermore, the results from the identification of valued functionings[20] enabled by the BRT are examined within Nussbaum's ten central human capabilities[21]. The list of capabilities derived from the valued functionings could be examined in Figure 8.

Table 7. Seven valued functionings enabled by the BRT

Seven valued functionings enabled by the BRT
1. Working
2. Visiting family
3. Studying and doing assignments, or school activities
4. Going to school
5. Taking a rest
6. Eating out with family and friends
7. Doing a recreation with family and friends

Source: The result of the analysis, 2016

[20] In this research, 'valued functionings' refers to the functionings enabled by the BRT.
[21] Nussbaum's list of ten central human capabilities includes (1) Life; (2) Bodily Health; (3) Bodily Integrity; (4) Senses, Imagination and Thought; (5) Emotions; (6) Practical Reason; (7) Affiliations; (8) Other species; (9) Play; and (10) Control Over One's Environment. The elaboration of Nussbaum's list of ten central human capabilities can be found in Nussbaum (2013).

1. **Bodily Integrity.** Being able to move freely from place to place, including *being able to visit family and the ability to go to school.*
2. **Senses, Imagination, and Thought.** Being able to use the senses, to imagine, think, and reason -and to do these things in a "truly human" way, a way informed and cultivated by an adequate education, including *the ability to go to school; the ability to study, and do the assignments or school activities with friends*. Being able to have pleasurable experiences, including *being able to take a rest.*
3. **Affiliation.**
   A. Being able to recognize and show concern for other human beings, to engage in various forms of social interaction, including *eating out with family and friends, and being able to visit family*.
4. **Other Species.** Being able to live with concern for and in relation to the world of nature, including *enjoying recreation with family and friends*.
5. **Play.** Being able to enjoy recreational activities.
6. **Control Over One's Environment.**
   B. Material. In work, *being able to work* as a human being.

Figure 8. The list of capabilities derived from the valued functionings enabled by the BRT

Source: The result of the analysis, 2016

However, apart from the list of capabilities enabled by the BRT, prior to the field survey, 'the functionings'[22] had been preliminarily identified. The list of capabilities derived from 'the functionings' was presented in the Figure 9.

[22] In this research, 'the functionings' refers to all functionings obtained from the long-term development plan of Bandung municipality

1. **Bodily Health.** Being able to have good health.

2. **Bodily Integrity.** Being able to move freely from place to place.

3. **Senses, Imagination, and Thought.** Being able to have adequate education. Being able to experience and produce works and events of one's own choice, religious, literary, musical, and so forth. Being able to use one's mind in ways protected by the guarantees of freedom of expression, and freedom of religious exercise.

4. **Affiliation.**

   A. Being able to engage in various forms of social interaction. Being able to be treated as a dignified being whose worth is equal to that of others. This entails provisions of nondiscrimination on the basis of religion.

5. **Control Over One's Environment.**

   A. Being able to participate effectively in political choices that govern one's life; having the right of political participation, protections of free speech and association.

   B. Material. Being able to work as a human being.

Figure 9. The list of capabilities derived from the functionings obtained from the long-term development plan of Bandung municipality

Source: Long-term development plan of Bandung municipality

The table showed similarities and differences between those aforementioned lists. Further elaboration will be examined within the frame of Nussbaum's list of ten central human capabilities. The comparisons between these lists can be examined in the Table 8.

Table 8. The comparison between the list of capabilities enabled by the BRT and a list of capabilities derived from the long-term development plan

The list of capabilities enabled by the BRT	The list of capabilities derived from the long-term development plan
	1. **Bodily Health.** Being able to have good health.
1. **Bodily Integrity.** Being able to move freely from place to place, including *being able to visit family and the ability to go to school.*	2. **Bodily Integrity.** Being able to move freely from place to place.
2. **Senses, Imagination, and Thought.** Being able to use the senses, to imagine, think, and reason -and to do these things in a "truly human" way, a way informed and cultivated by an adequate education, including *the ability to go to school; the ability to study, and do the assignments or school activities with friends*. Being able to have pleasurable experiences, including *being able to take a rest.*	3. **Senses, Imagination, and Thought.** Being able to have adequate education. Being able to experience and produce works and events of one's own choice, religious, literary, musical, and so forth. Being able to use one's mind in ways protected by the guarantees of freedom of expression, and freedom of religious exercise.
3. **Affiliation.** **A.** Being able to recognize and show concern for other human beings, to engage in various forms of social interaction, including *eating out with family and friends, and being able to visit family*.	4. **Affiliation.** **A.** Being able to engage in various forms of social interaction. Being able to be treated as a dignified being whose worth is equal to that of others. This entails provisions of nondiscrimination on the basis of religion.
4. **Other Species.** Being able to live with concern for and in relation to the world of nature, including *going on a recreation with family and friends*.	
5. **Play.** Being able to enjoy recreational activities.	
6. **Control Over One's Environment.** B. Material. In work, *being able to work* as a human being.	5. **Control Over One's Environment.** A. Being able to participate effectively in political choices that govern one's life; having the right of political participation, protections of free speech and association. B. Material. Being able to work as a human being.

Source: *) The result of the analysis, 2016; and **) the long-term development plan of Bandung municipality.

Six capabilities should be enabled to secure functionings enabled by the BRT, whereas only five capabilities are supported in the agendas of municipality's development plan. These six capabilities include (1) bodily Integrity, including *being able to visit family and the ability to go to school*; (2) senses, imagination, and thought, including *the ability to go to school, the ability to study, do the assignments or school activities with friends, and being able to take a rest*; (3) affiliation, including *eating out with family and friends, and being able to visit family*; (4) other species, including *recreation with family and friends*, (5) play, *being able to enjoy recreational activities*; and (6) control over one's environment, including *being able to work as a human being*.

From this list of capabilities, there are two capabilities excluded from the list of capabilities derived from the long-term development plan, namely: 4) other species, including *enjoying recreation with family and friends*, (5) play, *being able to enjoy recreational activities*. From the analysis, most informants emphasized the importance of these capabilities. They stated that they needed to have recreation either with their family or friends by visiting places where they could interact with nature or could enjoy the recreational activities.

On the other hand, there is one capability which is not enabled by the BRT but is stated in the development plan, and that is *Bodily Health***.** Although the informants of the FGIs identified *being healthy* as one of valued functionings, the informants chose to maintain their health through the exercise in places located in vicinity to their neighbourhood. Thus, through the lens of the informants, the role of the BRT cannot be seen in realizing the need of being healthy.

In addition to the comparison between the list of capabilities enabled by the BRT and a list of capabilities derived from the long-term development plan, this section discusses the process of analysis. In this research, this master thesis employs the discourse analysis as a tool for analysis and data interpretation. However, it would be helpful if coding were conducted before the interpretation. Coding could help the researcher to organize and to classify data. The result could be cross-checked by others who were not parts of the research in order to formulate a classification which covers all aspects of the interviews. On the other hand, the researcher argues that the coding was not conducted based on an argument that the research itself had only a few number of transcripts. There were only eight FGIs transcribed into 8 transcripts and a note. These transcripts do not require organization of complex information. To validate the transcriptions, the researcher conducted ride-along surveys with informants. Through this technique, the researcher had opportunities to compare and triangulate the analysis results.

The research employed FGIs, ride-alongs, and discourse analysis to determine the mobility-related functionings, a list of capabilities, and identified inhibiting and supporting contexts for using the BRT. It would have been enriching to include interviews with public officials responsible for the BRT system, but

in spite of having done this the researcher opted to use the long-term development plan to capture their views instead. The long-term development plan is a plan which has been produced through public participation. In this research, long-term development plan was chosen based on the fact that it had great roles in providing development guidance. Therefore, by assuming that the plan was indeed represented true aspirations of all stakeholders, the plan was employed.

7.2 Conclusions and future research

With reference to the aim of the research, investigating whether the BRT system in Bandung constitutes a concrete 'means of enhancement' of people's capabilities, the research identifies 13 valued functionings, with 7 out of 13 functionings enabled by the BRT. Such mobility-related functionings include: (1) working, (2) visiting family, (3) studying and doing assignments, or school activities, (4) going to school, (5) taking a rest, (6) eating out with family and friends, and (7) recreation with family and friends.

Accordingly, Nussbaum's Ten Central Human Capabilities is used as a frame in elaborating the identified valued functionings within the perspective of the CA. Here, seven valued functionings enabled by the BRT are associated with six capabilities. The list of capabilities which should be enabled to secure the mobility-related functionings can be examined in Figure 10.

1. **Bodily Integrity.** Being able to move freely from place to place, including *being able to visit family and the ability to go to school.*
2. **Senses, Imagination, and Thought.** Being able to use the senses, to imagine, think, and reason -and to do these things in a "truly human" way, a way informed and cultivated by an adequate education, including *the ability to go to school; the ability to study, and do the assignments or school activities with friends*. Being able to have pleasurable experiences, including *being able to take a rest.*
3. **Affiliation.**

   B. Being able to recognize and show concern for other human beings, to engage in various forms of social interaction, including *eating out with family and friends, and being able to visit family*.
4. **Other Species.** Being able to live with concern for and in relation to the world of nature, including *recreation with family and friends*.
5. **Play.** Being able to enjoy recreational activities.
6. **Control Over One's Environment.**

   B. Material. In work, *being able to work* as a human being.

Figure 10. The list of capabilities which should be enabled to secure the mobility-related functionings

Source: The result of the analysis, 2016

However, there are capabilities which are identified through the FGIs, but are not included in the list of capabilities derived from the long-term development plan. Those capabilities are 4) other Species, including *recreation with family and friends*, and (5) play, *being able to enjoy recreational activities*. On the other hand, there is one capability which is not enabled by the BRT but is stated in the development plan, and that is *Bodily Health*.

Informants identified inhibiting and supporting situations which play a role in discouraging and encouraging people to use the BRT. Through the FGIs, 14 inhibiting situations which discourage people in using the BRT are identified, namely: (1) *undefined ticketing system*, (2) *the perception of less safety*, (3) *overcrowded bus*, (4) *the lack of a specific identity*, (5) *inadequate information about the service*, (6) *inadequate dedicated lines*, (7) *longer waiting time*, (8) *improper location for the final station*, (9) *limited seats*, (10) *limited route*, (11) l*imited operational hours*, (12) *limited facilities*, (13) l*ess maintained facilities*, and (14) *difficulties during boarding from the bus stops*.

The informants not only identified the inhibiting situations, but also recognized that there were six supporting situations which encouraged them to make use of the BRT, and those are: (1) *the availability of special discount for students*, (2) *route availability*, (3) *faster trip*, (4) *comfortable bus*, (5) *affordable fare*, and (6) *flexible boarding*.

Regarding the results, the researcher is aware that this list of mobility-related functionings, the list of capabilities, and the identified situations are applicable for this specific city, Bandung municipality, and these results represent situations and discourses at a certain point in time. This is because the social experiences could change, and the changes potentially make the current discourses less valid and accurate. Finally, the researcher is aware that the list can be different if there are changes in the BRT.

As reflected from the conclusion, the CA offers complementary views to the weaknesses of most utilized approaches in the field of mobility. Therefore, it is noted that there is an opportunity to conduct further research which emphasizes on providing a framework for the evaluation of a broader urban infrastructure development. However, it is important to note that future research should not only attempt to provide the list of general capabilities for the infrastructure evaluation, but it should also designate a practical procedure to help local governments determine the customized list of specific capabilities which suit to local characteristics.

In accordance to the results of the thesis, the government of the municipality of Bandung could acquire further insights on which to ground their decisions regarding the future of the BRT system. Such insights gravitate around people's experienced enhancement of 'doing and being' what they value daily, and are therefore inherently 'people-based' rather than based on the sole evaluation of the economic feasibility and (dis)advantages of the BRT as an urban transport system. The research indicates that the development of new mobility corridors between the various neighbourhoods of Bandung and public facilities or activity centres as well as between public facilities or activity centres – including residences, schools or universities, city parks, business areas, and service points – could constitute a valuable and valued expansion of the BRT system in the city. By suggesting to increase the possibilities for Bandung's public transport users to access facilities and services in the city through the BRT system, the research supports the endorsement of urban transport policies aimed at increasing the diversity of mobility resources, and at enhancing the capability of citizens realizing 'mobility-related' functionings through, but also beyond, the use of the BRT system.

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Appendices

Appendix 1. The data checklist

No		Data	Type	Agency	Availability	
					Available	Not available
1.		Spatial plan and its attachment				
	a.	Land use plan	Document and Map	Development planning agency		
	b.	Transportation plan	Document and Map	Development planning agency		
	c.	Other plans related to BRT	Document and Map	Development planning agency		
2.		BRT plan				
	a.	BRT plan	Document	Transportation agency		
	b.	BRT profile	Document	Transportation agency		
	c.	BRT evaluation report	Document	Transportation agency		
	d.	Other documents related to BRT	Document and Map	Transportation agency		

Appendix 2. Observation checklist for ride-along interviews

No	Data	Location/ Number	Description
1.	Type of destinations of the participants e.g. School, work, leisure, and other destinations.		
2.	The way participants plan their trip e.g. The use of connecting transport		
3.	The distance between terminal/bus stops to their final destination		

Appendix 3. Focus group interviews guide

Date :
Interviewer :

Data of the informants (*filled by the informants*)

No	Name	Age	Gender	Occupation	Phone number	Signature*)

*) *This is signed after the informants agree with the protocol*

INTRODUCTION (*stated by the interviewer before conducting the interview*)

Dear informants,
My name is Ni Made Gilang Wargyawati and I am a master student from Wageningen University, The Netherlands. Currently, I am conducting a research which is intended *to provide alternative insights to what BRT does in relation to the capabilities of people in Bandung municipality.*
Your group has been selected with the assumption that all of you are knowledgeable about the BRT. Hence, my questions will be in the area of BRT known to your life. The result of this interview will be a transcript, which involves all your responses to my questions and it will help me to address the intention of the research.
Consequently, I am going to record all your responses into this voice recorder and I am going to keep all of your personal data anonymous (if you wish). Moreover, you can state your views, whether you agree or disagree with some points from this focus group interview protocol.
We will conduct the focus group interview as soon as you stated that you agree with all points addressed in this protocol.

QUESTION (*asked by the interviewer*)

A. General questions regarding participants identity and the use of BRT

In this first part, I would clarify about your identity and general information about the use of BRT:

1. a. Please identify your name, age, gender and occupation.
   b. What do you usually use when you go to the office/ school/ other destinations?
2. a. Have you use BRT for your everyday trip?
   b. How often do you use BRT in the last one week?

B. Specific questions regarding mobility as an end

In this part, I would ask about your ability to move from places to other places:

1. How would you describe your mobility before BRT?
2. a. What were your expectations when you use BRT with regard to your ability to mobile?
   b. Have BRT meet your expectations? Does BRT make your mobility easier?
   c. Why? *(continued to the next page)*

C. Question regarding mobility as capability as a mean to other capabilities

In third part, I would ask about mobility and your daily activities:

1. a. What kind of activities do you value doing in everyday life?
   b. What kind of activities do you value the most?
   c. Why?
2. a. Do your ability to move with regard to the use of BRT influence activities which you value doing?
   b. What are situations that support or inhibit you on doing activities you value?
   c. Why?

D. Closing questions

1. What do you think of this focus group interview process?
2. Do you want to share any other information?

Closing (*stated by the interviewer after conducting focus group interview*)

All the questions have been answered and I am going to end the recording procedure.
Above all, I would like to say thank you for your consideration to participate in the interview. Moreover, do you want me to send the result of this interview?
(*if yes*) In what form would you like to receive it?
(*if no*) You can contact me if you feel that you want to see the result.

Appendix 4. Ride-along interviews guide for selected sources

Date	:
Interviewer	:
Data of interviewee (*filled by the informant*)	
Name	:
Age	:
Gender	:
Occupation	:
Phone number	:
Signature	:

(signed after the informant agree with the protocol)

INTRODUCTION (*stated by the interviewer before conducting the interview*)

Dear informant,
My name is Ni Made Gilang Wargyawati and I am a master student from Wageningen University, The Netherlands. Currently, I am conducting a research which is intended *to provide alternative insights to what BRT does in relation to the capabilities of people in Bandung municipality.*
You have been selected with the assumption that could provide opinions with regard to the findings whether in the form of supporting or refuting statements, or both of them. Additionally, you will have to provide reasoning or other information for each of your opinion. Hence, my questions will be in the area of research findings *). The result of this interview will be a transcript, which involves all your responses to my questions and it will help me to address the intention of the research.
Consequently, I am going to record all your responses into this voice recorder and I am going to keep all of your personal data anonymous (if you wish). Therefore, you can state your views, whether you agree or disagree with some points from this interview protocol.
We will conduct the interview as soon as you stated that you agree with all points addressed in this protocol.
**) the selected interviewees will receive the result of analysis at least one day before the interview*

QUESTION (*asked by the interviewer*)

A. General questions regarding interviewee background

In this first part, I would ask about your basic identity information:

1. a. Please identify your name, age, gender and occupation.
   b. Please specify your last involvement in the research of BRT, in addition to this research?
2. a. Have you use BRT for your everyday trip?
   b. How often do you use BRT in the last one week?

B. Specific questions regarding validation of findings

In this part, I would ask your opinion about your experience during travelling using BRT:

Tell me your experiences during your traveling using BRT?

D. Closing questions

1. What do you think of this interview process?
2. Do you want to share any other information?

(continued to the next page)

Closing (*stated by the interviewer after conducting the interview*)

All the questions have been answered and I am going to end the recording procedure.
Above all, I would like to say thank you for your consideration to participate in the interview. Moreover, do you want me to send the result of this interview?
(*if yes*) In what form would you like to receive it?
(*if no*) You can contact me if you feel that you want to see the result.

Appendix 4. Research timeline

No		Research phases	Month																							
			Nov				Dec				Jan				Feb				Mar				Apr			
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
1.		**Prior to conducting the study**																								
	a	Designing research proposal																								
	b	Acquiring knowledge about functionings and capabilities																								
	c	Designing methodology																								
2.		**Beginning of the study**																								
	a	Writing the introduction																								
	b	Writing the literature review																								
3.		**Collecting data**																								
	a	Collecting secondary data																								
	b	Conducting FGI																								
4.		**Analyzing data**																								
	a	Analyzing FGI																								
	b	Validating findings																								
5.		**Reporting the research**																								
	a	Writing findings and validation																								
	b	Elaborating reflection and conclusion																								
	c	Refining the report																								