

Capturing local knowledge in public transportation planning: A case study of Bandung's LRT

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Abstract

The Indonesian city of Bandung has been facing worsening traffic conditions for many years and despite continuous attempts by the local government to address the situation, this issue not only remains, but is even increasing. One of several attempts to address the situation has been to focus on the development of new public transportation modes, one of which is the Light Rail Transit (LRT).

This research focuses on how local knowledge is gathered, utilised and valued in the planning process of Bandung's LRT system by the experts whom are planning the project. Local knowledge is knowledge that is held by local citizens about their local urban environment and which they have gained over time through living their daily lives. This makes it complementary to the specialised knowledge of experts, whom have gained their knowledge through formal education and scientific means.

The planning process is assessed, based on the following concepts: (1) representativeness of citizens; (2) methods of gathering local knowledge; (3) regulations about local knowledge; (4) value placed upon local knowledge by the government; (5) value placed upon local knowledge by the planners and (6) timing of gathering local knowledge.

Data has been collected through analysing fourteen documents and conducting ten semi-structured interviews. The conclusions of this research are that the effectiveness of gathering and utilising local knowledge are subpar. This is first of all due to a severe lack in representativeness of the citizens whom are involved in the planning process, leading to the needs of socially weak citizens having been ignored. Second, the methods described in the regulations through which local knowledge can be gathered are too broad ranging and include ineffective measures. Finally, some participants showed that they valued local knowledge to a limited extent, thereby limiting its potential contribution to the planning process.

To improve the planning process, it is first of all suggested to ensure that the interests of the socially weak citizens are included through guaranteeing that regulations are in place which safeguard the involvement of socially weak citizens in the planning process. Second, it is recommended to adjust the laws to mandate methods through which local knowledge can be suitably gathered. The final recommendation is to change the mindset of the planners about the value of local knowledge through a long process of institutional change, wherein the value of local knowledge is gradually reinforced.

The deficiencies described above seem barely attributable to a low valuation of local knowledge as a result of the Indonesian culture. Instead, they seem to be largely the result of the planners' lacking knowledge base on how to fully incorporate local knowledge into the planning process.

Keywords: Bandung, Indonesia, light rail transit system, local knowledge, public participation, transportation planning

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Glossary and abbreviations

Bappeda Kota Bandung is the Regional Development Planning Agency of Bandung City. It is responsible for among others the transportation masterplan and coordinating the fit of the LRT within this plan.

Camat. See kecamatan.

DisHub Bandung is the Department of Transportation for the city of Bandung. It has until now been the owner of the LRT project and has been responsible for the execution of the entire project.

EIA. Environmental Impact Assessment.

Kecamatan is an administrative unit at the neighbourhood level and in the case of Bandung, consists of between three and eight kelurahan. There are thirty kecamatan in Bandung. The head of a kecamatan is a camat, whom is a civil servant. He represents the citizens within his kecamatan.

Kelurahan is an administrative unit at the neighbourhood level, below the kecamatan. There are 151 kelurahan in Bandung. The head of a kelurahan is a lurah, whom is a civil servant. He represents the citizens within his kelurahan.

The **High Speed Rail (HSR)** is a rail-based mass transportation system, which will connect Jakarta to Bandung.

The **Light Rail Transit system (LRT)** is a rail-based mass transportation system, which will be constructed in Bandung to alleviate traffic congestions.

Local knowledge is knowledge that is held by local citizens about their local urban environment. It is developed from stories, events and histories which are rich with local specificities. It is accumulated over time and gained through experience on and in the urban environment in which one lives. Local knowledge is richly diverse knowledge which is practical and sensitive to the needs of the local community.

Lurah. See kelurahan.

Specialised knowledge is knowledge that experts have gained through their formal education and is gathered through scientific means.

1. Introduction

1.1. Indonesia's struggle for integrated transportation systems

Over the last several decades, urban areas in developing countries have grown continuously and rapidly in population size, density and built up area. Many of such urban areas have become increasingly dependent on private motorised vehicles, leading to a number of increasingly worsening problems (Limapornwanitch et al., 2003). One such city is Bandung¹, Indonesia's third largest city. Here many citizens rely on their private motorised vehicle due to the lacking quality of alternative transportation infrastructure. Both the national and local government have acknowledged that Bandung's public transportation system is inadequate (Tamin, 2005; Republika Online, 2015). Due to this inadequacy leading to high private motorised vehicle usage, it is at the heart of multiple problems. It causes daily traffic congestions (Jakarta Post, 2014), in turn generating losses in productivity as citizens sit idly in traffic, thereby negatively affecting the local economy (Weisbrod et al., 2003). The estimated loss due to congestion on a yearly basis is approximately IDR 4.63 billion or € 305.000 (Pemerintah Kota Bandung, n.d.). Furthermore, the high rate of private motorised vehicle usage contributes to environmental and health problems, such as the degradation of the local air quality, which is already considered to be low (Lestari & Agustian, 2014). The transportation sector contributes to over 60% of exhaust gas emissions in the city (Pemerintah Kota Bandung, n.d.). This situation is expected to worsen due to the rapidly expanding urban area and increasing population and private vehicle levels (Tamin, 2005). Improvements in public transportation are exceedingly necessary to combat these issues.

Throughout the years, the local government has made multiple attempts to reduce traffic congestions. It has done so predominantly through providing more road infrastructure. Furthermore, it has focused on the provision of public transportation systems in the form of a Bus Rapid Transit (BRT) system, as well as a Light Rail Transit (LRT) system and a cable car system to be constructed in the near future (Bisnis.com, 2015; Kompas, 2015a; 2015b; Tamin, 2005). It is intriguing that the local government has so far been unable to significantly improve the situation, despite the fact that attempts have been taken. This raises the question why this is the case. Although various reasons may be valid, the hypothesis researched here is that transportation planners do not effectively gather and utilise local knowledge. This hypothesis is based on the apparent antagonistic relationship between the value of local knowledge in transportation planning and the Indonesian societal context. Both aspects will be further elaborated upon in the second chapter.

Currently, several public transportation interventions are being planned by the government of Bandung. These are in the eyes of among others the mayor, important projects which need to reduce the traffic congestions and their negative impacts (Republika Online, 2015). From a societal perspective it is therefore relevant to research the planning process of such a transportation system to

¹ Bandung can refer to Bandung City or to the Bandung Metropolitan Area. In this study the first definition is used.

identify potential weaknesses which may lead to sub-optimal performance and to provide recommendations on how to deal with such weaknesses.

Academically, the relevance is not in a specific project. Rather, it is the context in which the planning process takes place that makes this research of interest. Research has already previously been conducted with as the focal point the *utilisation* of local knowledge in transportation planning processes (see e.g. Tuominen et al., 2007). The research on the process of local knowledge *gathering* by transportation planners is however scarce. Furthermore, such research has focused predominantly on Western countries (Hrelja & Antonson, 2012), whereas the idea of utilising local knowledge for planning interventions is also a Western idea. To the best of my knowledge, such research has not been conducted in Indonesia, which has a distinctly different culture from Western societies. This cultural specificity may lead to different perceptions on the value of local knowledge in transportation planning and therefore also to different patterns in how it is gathered and utilised. This research hopes to contribute to a greater understanding of both the gathering and utilisation in this context.

1.2. Research objectives and questions

This study aims to analyse how transportation planners in Bandung gather and utilise local knowledge in the planning process of the Light Rail Transit system, which is currently being planned. Analysing this case serves two purposes. First, analysing the planning process of Bandung's Light Rail Transit system serves to find whether the Indonesian societal context influences the gathering and utilisation of local knowledge in the planning process. Second, analysing this specific case allows for recommendations to be made to the transportation planners on how to improve the gathering and utilisation of local knowledge in planning processes. While these recommendations are aimed at Bandung in particular, they may be of value in other contexts as well. The main research question is:

How can the gathering and utilisation of local knowledge in the planning process of Bandung's Light Rail Transit system be improved?

In this study, the process is considered to be improved if, more than at present, local knowledge informs the planning process. This would for instance be the case if at present the planners do not take the local knowledge of the citizens into consideration in deciding upon the frequency of the LRT rides, but decide to do so in the further planning process. This can be done through involving the citizens so that they can provide suggestions as to the ideal frequency of rides, allowing for the design of the LRT to maximally align with the needs of the local community. To answer the main research question, it has been broken down into three sub-questions.

- 1. Which process design and societal elements influence the value of local knowledge in transportation planning?*

This theoretical question first of all establishes how local knowledge can be of value in transportation planning. Second, it analyses how local knowledge can be gathered and utilised, thereby providing a

conceptual framework for assessing the planning process of Bandung's Light Rail Transit system. Third, it examines the Indonesian societal context from a cultural and political perspective. These aspects will be discussed in the literature review in chapter two.

2. *How is local knowledge captured by transportation planners in Bandung's LRT and what is their motive?*

Analysed here is how Bandung's LRT planners gather and utilise local knowledge. This process is assessed by using the conceptual framework developed in chapter two. Furthermore analysed are the underlying mechanisms that explain why this particular configuration of local knowledge gathering and utilisation is in place in this case.

3. *Which lessons can Bandung's transportation planners learn about the gathering and utilisation of local knowledge in transportation planning?*

The answers to this final question add to the currently available theory regarding the gathering and utilisation of local knowledge and connects this explicitly to the context of Indonesia. It furthermore answers how the process may be improved, thereby serving as a recommendation to Bandung's transportation planners – as well as planners elsewhere – with regard to gathering and utilising local knowledge.

1.3. A brief introduction to transportation in Bandung

Figure 1 depicts Bandung's location, which is in West-Java. A 2014 census puts Bandung's population at nearly 2.5 million² (BPS Kota Bandung, n.d.), meaning its population density is on average nearly 15,000 inhabitants per km². Considering this population density, public transportation is an ideal method of transportation, whereas private motorised transportation is less desirable due to the potential for traffic congestions (Bertolini & Le Clercq, 2003), which indeed occur regularly. The reality is however different. Out of the approximately 6.7 million trips which occur on a daily basis, an estimated 99% is performed with private vehicles (DisHub Bandung, 2013a). In absolute terms, private vehicle usage is rising rapidly. In 2010 there were 356,000 cars and 844,000 motorcycles registered in Bandung, with a yearly increase of up to 11% (Bisnis.com, 2013).

² The population number is likely to be higher due to the presence of illegal slum housing.



Figure 1. Location of Bandung on Java
Source: Google Maps (2016)

Despite this increase, public transportation is also an important mode of transportation, especially for those who can't afford their own private vehicle. The most important mode of public transportation are *angkot*³ (Joewono & Kubota, 2005; Tarigan et al., 2014), which provide cheap transportation at a rate of IDR 2,000 – 10,000 (€ 0.14 – 0.68) per ride. *Angkot* have fixed routes without fixed stops, meaning that passengers can be picked up and dropped off at every point along the route. While highly flexible, this leads to safety issues as drivers are known to suddenly swerve to the side of the road to stop for a passenger. Furthermore, there are no fixed departure or arrival times, which is a nuisance to many (Tarigan et al., 2014). The drivers have incentive to wait at the side of the road for their *angkot* to fill up with passengers before continuing their journey, as they don't receive a salary but instead keep the fee which their passengers pay. This contributes to congestions, as they routinely wait at places where they hinder other vehicles. In addition to *angkot*, there are several longer routes that are served by city-owned buses that are referred to as *Damri* (Tarigan et al., 2014). Taxis are widely available, as are *ojek*⁴, though these transportation modes are significantly more expensive. While trains are available, they are suited for journeys between cities rather than within Bandung, as there is only one rail route.

The local government department that is responsible for the provision and maintenance of infrastructure is *Dinas Bina Marga dan Pengairan* [Department of Infrastructure and Water], with *Bappeda Kota Bandung* [Regional Development Planning Agency of Bandung City] fulfilling a coordinating function. Furthermore responsible is *Dinas Perhubungan Kota Bandung* [Department of Transportation of Bandung City], commonly referred to as DisHub Bandung.

1.4. An overview of Bandung's LRT

Due to increases in both population and economic growth, it was deemed that Bandung was in need of sustainable infrastructure to combat increasing congestion. A rail based mass transportation system was seen as the most viable solution. Initially, the idea was conceived to build a monorail. However, this idea has been altered to a LRT (DisHub Bandung, 2014a; Studio C9, 2010), as depicted in figure 2.

³ *Angkot* are privately owned and operated mini-buses which serve as paratransit.

⁴ *Ojek* are privately owned and operated motorcycle taxis.



Figure 2. Artist rendition of the LRT
 Source: DisHub Bandung (n.d.)

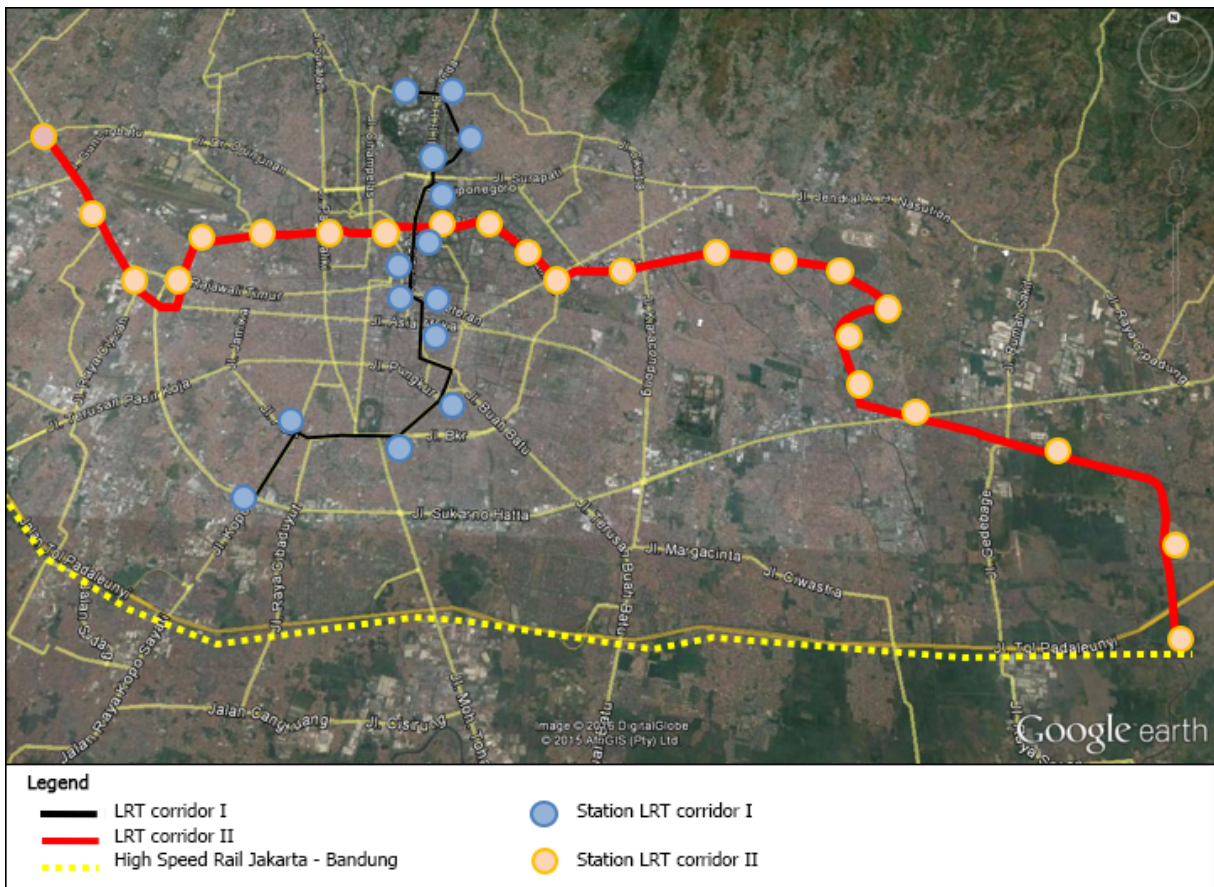


Figure 3. Proposed corridors of Bandung's LRT
 Source: Pemerintah Kota Bandung (2016), edited by author for clarity purposes

The likely corridors⁵ are presented in figure 3. Corridor 1 is to run from the northern part of the city to the southern part and corridor 2 is to run from the west to the east. The LRT is to be the backbone to the city's public transportation system, with both corridors crossing the city centre (DisHub Bandung, 2014a). Of particular importance is corridor 2, as there is the aspiration to connect the LRT to the High Speed Rail (HSR) which will connect Jakarta to Bandung (Dirgahayani, interview).

In its first year of operation, a minimum of 24,000 and a maximum of 83,000 passengers are expected to ride the LRT on a daily basis and this number is projected to grow every year for the next forty years. The large range of the initial projection is due to taking into account different scenarios, which vary in ticket price and whether existing public transportation is rerouted to serve as a feeder to the LRT, or whether it remains in place to compete with the LRT (DisHub Bandung, 2014a). The first option seems to be the most promising one to maximise the impact of the LRT (Sjafruddin, interview; Studio C9, 2010).

The project is currently in the tender phase for the second time. Initially, the tender was put on hold, as the project had been up-scaled from local importance to national importance due to its integration with the HSR. This required a re-configuration of several core aspects, such as ownership and funding. A presidential decree was published earlier this year (Sunar, interview), which allowed the project to continue again (Ressa, interview). The winner of the tender is set to be announced on 26 August 2016 (DisHub Bandung employee, personal communication). According to the original schedule, construction should start in 2017 and both corridors should be operational in 2019 (Legal employee of PT. Len Industri (Persero), interview; Sjafruddin, interview). The estimated construction costs are approximately IDR 8.3 trillion or € 555.6 million (Pemerintah Kota Bandung, 2016).

Due to the up-scaling, the planning process is set to change, with authority going to departments and agencies at the regional or national level (Ressa, interview). Up until this point however, two local government agencies have been involved. The first is Bappeda Kota Bandung. This agency has coordinated the fit of the LRT within the city's masterplan. Second is DisHub Bandung, which has been responsible for the execution of the entire project. On the private side are several investors, as well as companies which have placed a bid to construct the LRT (Armijaya, interview; Nunun, interview).

1.5. Structure

In chapter two the theoretical framework that is relevant for this research is discussed. First, it is explained why local knowledge is currently in the proverbial spotlights and what it exactly is. Then the discussion moves on to its value in transportation planning and how it can be effectively gathered and utilised. As context is an important part of this, the Indonesian context is discussed from a cultural and political perspective. Finally, a conceptual model is presented.

⁵ There are different documents in circulation which contain different routes. So far, it would seem that the government hasn't fully committed to a particular route yet (Dirgahayani, interview; Legal employee of PT. Len Industri (Persero), interview). Figure 3 is from the most recently dated document, dated 31-01-2016 (Pemerintah Kota Bandung, 2016).

In chapter three the methodology that has been applied to conduct this research is presented. The means through which data has been collected are presented, as well as the considerations that have led to these decisions. Ethical issues and positionality are also discussed in this chapter.

In the fourth chapter, the data gathered through the methods as discussed in chapter three is presented and analysed. This data consists of government regulations on utilising local knowledge and of documents and interviews pertaining to the LRT specifically and the role of local knowledge therein. These interviews also exhibit the value that the LRT planners place on utilising local knowledge in planning.

In chapter five a conclusion is reached through assessment of the data by using the theory of chapter two as a frame of reference. Furthermore, the research questions and the hypothesis are answered here. Last, recommendations for further research are suggested.

Finally, in chapter six this research is reflected upon. What went well and what did not go well are discussed here, as well what would have been done differently would the research be conducted again with the current knowledge.

2. Local knowledge and its value for transportation planning

2.1. The contemporary focus on local knowledge in planning

The contemporary emphasis in planning literature and practice on considering citizens to be a source of knowledge is related to a shift in planning paradigms from a technical rationale towards a communicative rationale. The technical rationale is characterised by its belief in objectivity and a certainty of knowledge. Planners, through their studies, have acquired the means to scientifically gather knowledge and it is on the basis of such specialised knowledge that planning interventions are made. Only scientifically gathered knowledge is considered to be legitimate and other sources of knowledge are therefore invalid. However, planning interventions developed purely from specialised knowledge from a technical rationale approach have often led to undesirable outcomes, thus proving the notions of absolute certainty and the planner as the only source of knowledge to be ineffective (De Roo & Porter, 2006). Among others Lyotard and Habermas have made the argument that specialised knowledge isn't the only knowledge that should be valued by planners. This is the basis for the communicative rationale, which dismisses the notions of absolute certainty and science as the only source of knowledge. Instead, the communicative rationale advances an approach based on valuing non-scientifically gathered knowledge alongside scientifically gathered knowledge, most importantly knowledge derived from narratives and stories, thereby making way for other sources of knowledge alongside planners (Allmendinger, 2009). One such source that gathers knowledge through non-scientific means is civil society, which is a source of local knowledge. Before discussing the value of local knowledge for transportation planning, the relationship between the utilisation of local knowledge and public participation will be addressed first. As will become evident in the next section, these two concepts are closely related and it is therefore important to understand the differences between them.

2.2. Defining local knowledge

The relationship between local knowledge and public participation is here understood as the utilisation of local knowledge being a specific form of public participation, wherein local knowledge is extracted from citizens by planners, but without the citizens having the power to enforce changes in the decision making process on the basis of this knowledge.

Several categorisations of public participation have been made, starting with Arnstein's (1969) famed ladder of participation. She distinguishes between the power holders and the powerless, the powerless being the ones who are allowed to participate in the decision making process by the power holders. The categorisations are constructed on the basis of the power relation between these groups. At the lowest rank of the ladder, the powerless are not being involved in the decision making process whatsoever. With each rank up on the ladder, the powerless are allowed to participate more in the decision making process, until they reach the highest rank, where the powerless have full control over the decision making process (Arnstein, 1969).

Common to Arnstein (1969) and multiple authors who have followed in her footsteps, is that they each have constructed a ladder of public participation wherein one rank corresponds to two-way communication between the power holders and the powerless, thereby allowing for the exchange of knowledge between them. However, on this rank the powerless do not gain the power to enforce changes or decisions, as this power remains with the power holders. Arnstein (1969: 219) describes what she terms ‘consultation’ as:

“Inviting citizens’ opinions, like informing them, can be a legitimate step toward their full participation. But if consulting them is not combined with other modes of participation, this rung of the ladder is still a sham since it offers no assurance that citizen concerns and ideas will be taken into account.”

Edelenbos & Klijn (2005: 429) describe the rank they term ‘consulting’ as follows:

“To a large degree, politicians and administration determine the agenda but regard those involved as a useful discussion partner in the development of policy. Politicians do not, however, commit to the results of these discussions”.

Similarly, Thomas (1993: 448) defines what he terms ‘modified autonomous managerial decision’ as:

“The manager seeks information from segments of the public, but decides alone in a manner that may or may not reflect group influence.”

It is at this rank that the utilisation of local knowledge takes place. Knowledge is commonly defined as “justified true personal belief”, i.e. it is something which an individual believes to be true for the right reasons and which genuinely is true (Razmerita et al., 2016: 6). Local knowledge can thus be considered to be justified true personal belief about the local context of the knowledge holder, in this instance the knowledge of a local citizen about their local urban environment. This knowledge is developed from stories, events and histories which are rich with local specificities. It is accumulated over time and gained through experience on and in the urban environment in which one lives (Thomassian, 2005). Brown (2001) relates local knowledge not to the individual, but to the local community, i.e. there is no such thing as ‘individual local knowledge’. She considers local knowledge to be richly diverse knowledge which is practical and sensitive to the needs of the local community. The next section goes in depth on how such knowledge can be of value in transportation planning.

2.3. The value of local knowledge in transportation planning

Local knowledge can be valuable in transportation planning for a multitude of reasons. These reasons are categorised in two groups: outcome objectives and process objectives. The first is concerned with goal maximisation, whereas the latter is concerned with process optimisation (Soneryd, 2004). They are discussed here in this respective order.

Tuominen et al. (2007: 59) argue that “the ultimate purpose of the transport system is to serve the needs and expectations of the end users,” the end users often being local citizens. This view on the purpose of a transportation system necessitates relying in part on local knowledge as it is considered unlikely that its purpose will be achieved if the design process is not informed by the needs and expectations of local citizens (Kapp & Baltazar, 2012). Transport planners then are required to inform themselves of the needs and expectations of the local citizens through gathering local knowledge. However, merely being aware of this input is not sufficient; the input needs to have an impact on the design of the system, i.e. the local knowledge must not only be gathered, but also be utilised (Hrelja & Antonson, 2012). The conceptual model in figure 4 presents this clearly. Planners and other professional actors are the producers of a transportation system and ideally the knowledge they use to design a system is based on multiple sources of information, one of them being the users whom hold local knowledge (Tuominen et al., 2007). This can lead to higher satisfaction rates among the citizens with the final design of the transportation system, meaning that the outcome of the decision making process can be greatly improved by utilising local knowledge (Michels & De Graaf, 2012; Nared et al., 2015). It is thus imperative to acknowledge that local citizens are an important source of knowledge and that they need to be involved in the decision making process (Bickerstaff et al., 2002).

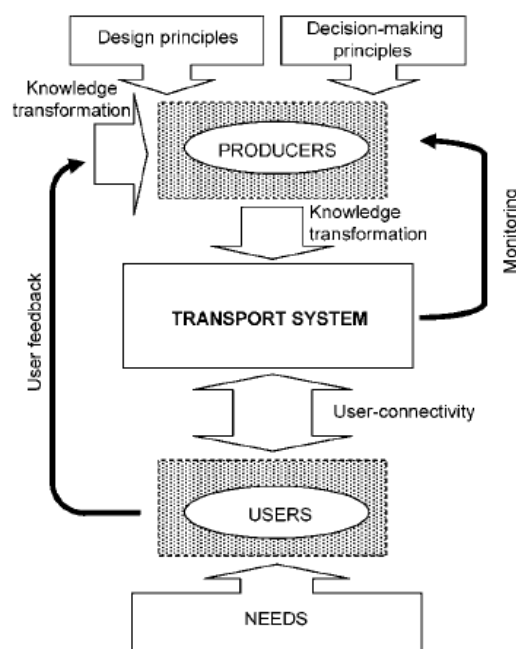


Figure 4. Producers, users and interactions in the transport system
Source: Tuominen et al. (2007)

Local citizens should however not be the only source of knowledge. It is recognised that while certain information can be gained from local knowledge that cannot be gained through the specialised knowledge that planners have, local knowledge is not superior to specialised knowledge. Vice versa the same is true: certain information can be gained from specialised knowledge that cannot be gained from local knowledge. Rather, local knowledge and specialised knowledge are complementary to one another. Relying on local knowledge alongside the specialised knowledge of planners is deemed to be beneficial as it increases the number of perspectives from which the problem is viewed (Brown, 2001;

Maclean, 2015; Thomassian, 2005). Local citizens have a different perspective on and knowledge of the situation at hand than planners do, due to the non-scientific nature of their knowledge, which they gather through living their daily lives. While planners are responsible for interventions in an area, they often lack the local knowledge that local citizens have. As local citizens are able to view problems and solutions in a way which planners are unlikely to (Thomassian, 2005; Wong, 2008), they may even introduce new problem definitions which have not been considered by planners, as well as innovations to solve these and other problems (Ward, 2001). Whereas both sources of knowledge independently of each other present a limited understanding of reality, when combined, this understanding is much greater. Some therefore even consider local knowledge to be essential to fully understanding problems and to finding solutions to deal with them (Pahl-Wostl, 2009; Restemeyer et al., forthcoming).

This has been demonstrated by among others a French agglomeration district in the early 2000s. In this district, a strong demand for public transport was present. A working group was created which included both experts and local citizens to determine the most desirable characteristics for a tram network. Experts made the initial design for a tram network, which they presented to the local citizens to gain suggestions for improvement. Over the course of several meetings, the citizens provided commentary which was based on their local knowledge and the experts redesigned the tram network several times on the basis of the input of the citizens. In the end, an alternative was proposed by the experts that was considered to be superior to the original design. It was the commentary provided by the local citizens that pushed the experts to improve on their original designs (Thomassian, 2005). These and other cases show that local knowledge is a vital component when designing a transportation system and one should not only rely upon specialised knowledge. Wong (2008) therefore argues that transportation should be seen as a service provided to a client, the clients being the citizens who use the transportation system. Already there is an ongoing international reform wherein government authorities apply this market thinking to increase the influence of the users of transportation systems on the systems (Hrelja & Antonson, 2012).

However, relying too much on local knowledge may also result in negative outcomes. Lizarralde & Massyn (2006) for instance recount the case of a housing project in South-Africa where an NGO repeatedly built housing for communities based on the local knowledge they had acquired. This type of housing however contributed to fragmented suburban landscapes. The planners responsible for the project stated that they nevertheless continued their current building approach because it was informed by the local communities. Thus rather than producing negative outcomes due to relying on local knowledge too little, this project produced negative outcomes because it relied on it too much. Though this case does not directly relate to transportation planning, it should nevertheless serve as a warning for the potential negative consequences of utilising local knowledge.

With regard to process objectives, the value of local knowledge is highly subjective. Arguments in favour are normative arguments which are grounded in democratic values. From this perspective, utilising local knowledge is considered valuable because it allows the citizens who will be subjected to an intervention to influence it to some extent, which is considered to be the very essence of democratic

legitimacy (Brown & Chin, 2013; Michels & De Graaf, 2012; Stolp et al., 2002). It allows the citizens in question to express their interests and through having their voices heard, they become more included in the process. This inclusion may lead to citizens feeling more responsible for public decisions as they themselves have had a hand in the decision making process. Furthermore, it may narrow the gap between citizens and government through increased communication. Depending on the outcome of the process and the role that local knowledge has had herein, i.e. whether its contribution was positive, planners may gain further trust in the value of local knowledge, making them more likely to gather and utilise it in the future (Michels & De Graaf, 2012; Yang & Pandey, 2011).

However, here too several disadvantages are a possibility. First of all, the planning process may fail to live up to the expectations of the local community. They may for example believe that the knowledge they contribute will be taken seriously and will have real influence on the decision making process, whereas this may not be the case. Such practices may even lower the trust citizens have in their government (Yang & Pandey, 2011). Arnstein (1969: 219) provides a telling example:

“Residents are increasingly unhappy about the number of times per week they are surveyed about their problems and hopes. As one woman put it: ‘Nothing ever happens with those damned questions, except the surveyer [sic] gets \$3 an hour, and my washing doesn't get done that day.’ In some communities, residents are so annoyed that they are demanding a fee for research interviews.”

Rather than local knowledge being gathered to genuinely influence the decision making process, the process may be used merely to allow for the empty claim to be made that the process was informed by local knowledge and to legitimate decisions (Arnstein, 1969). Furthermore, there is the matter of representativeness. The citizens whom contribute their knowledge may not be representative of the general population and their needs, thus skewing the process towards the wishes of a sub-group of the population and ignoring or at worst even going against the wishes of other groups who remain unheard (Stolp et al., 2002). Concerns have been raised especially regarding the inclusion of the socially vulnerable, such as the poor and minority groups, whom are often excluded (Elvy, 2014). Finally, gathering local knowledge can be a costly endeavour, first because it slows down the decision making process and second because money has to be invested in gathering local knowledge (Chen et al., 2003). This point is however debated, as it is also argued that these costs should be considered an investment as the process may result in better outcomes (Brody et al., 2003), though even when taking this into account it is still possible for the costs to exceed the benefits (Yang & Pandey, 2011).

The abovementioned advantages and disadvantages will evidently not occur in every case. Rather, they are potential consequences of utilising local knowledge and may occur in varying gradations. Furthermore, it is clear that utilising local knowledge is not a panacea for success. Instead, well thought out decisions need to be made on a case by case basis regarding the extent to which local knowledge can be a meaningful contribution to the planning process in question. Generally speaking however, it is considered desirable to utilise local knowledge if it is mandated or if it is the only or most

effective method to gain information, political support, citizenship development or legitimacy for policy decisions (Bryson et al., 2012).

2.4. Enabling the effective gathering and utilisation of local knowledge

An important problem that arises in gathering and utilising local knowledge is that the process through which planners attempt to gather and utilise local knowledge may be flawed due to a lack of understanding of how to effectively design such a process (Bickerstaff et al., 2002; Bryson, 2012). Several considerations are discussed in the following sections which are mentioned in the literature as being important in gathering and utilising local knowledge.

2.4.1. When to gather and utilise local knowledge

A first consideration pertains to the purpose of local knowledge in the planning process. An important pitfall that needs to be avoided is to consider the policy making process as a singular process instead of acknowledging that it consists of several phases. Every phase has its unique characteristics and therefore a different approach may be required in different phases (Bos et al., 2013). This also means that local knowledge may not be of the same value throughout the entire planning process. For instance, local knowledge can likely contribute little to solving problems which are of a highly technical nature, whereas it may be valuable in solving problems which are more politically charged (Bryson et al., 2012). It is therefore important to consider first of all why and how local knowledge will be utilised; what will its contribution be?

Second is to consider when local knowledge can be of most value. Whereas the answer to the first question is highly dependent upon the context, the argument is frequently made that gathering local knowledge is most valuable if it is done so early on in the decision making process. This is due to the fact that at an early phase, many options are still open for consideration, whereas in later phases a lock in may already have been created and local knowledge may contribute insights which can no longer be applied (Michels & De Graaf, 2010). The different phases in a process are visualised in figure 5. This figure makes clear that in each consecutive phase there is less room for innovation and alternative options, as with each consecutive phase the orange lines draw closer together and the blue line becomes shorter due to decisions being taken (Bos et al., 2013). Therefore, it would be most logical to gather and utilise local knowledge in the early stages and to do so for a broad range of issues. Nevertheless, local knowledge may also be valuable in later phases in the planning process. It is therefore also argued that it can be of value at every phase in the planning process (Wong, 2008).

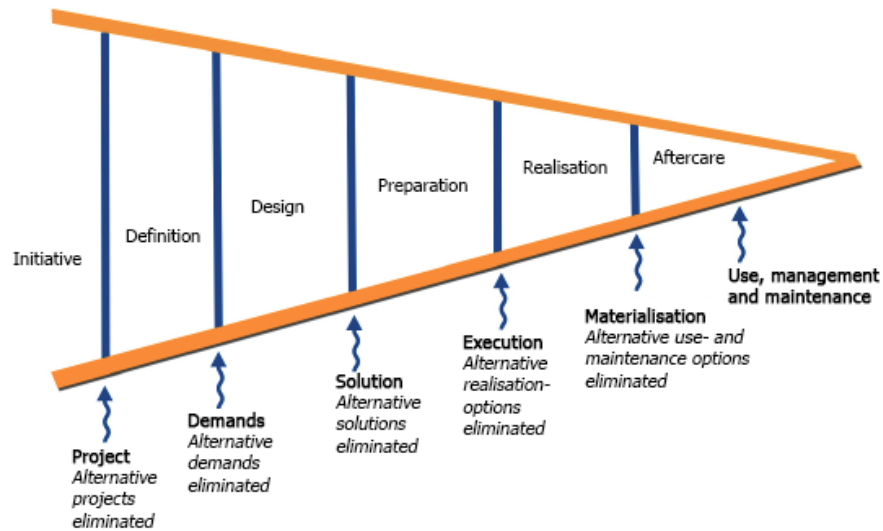


Figure 5. Phases in a project
Source: Adapted from Van Vliet (2015)

2.4.2. Whose knowledge to gather

Second, thought needs to be put into who is to be included in the knowledge gathering process. It is recommended to include those who will potentially be affected by the planning process or outcome, be it either positively or negatively. This inclusion should not be limited to those who will be directly affected; those who will face indirect consequences should also be involved (The World Bank, 1996). In the case of a public transportation project for instance, the potential users are among those who will be directly affected, whereas taxi drivers are among those who will be indirectly affected as they may face a loss in income due to competition from the new public transportation system.

What is most important is not the number of citizens whose knowledge influences the planning process, but the diversity of these citizens (Ward, 2011). Similar to how local knowledge is complementary to specialised knowledge, local knowledge from diverse citizens can be complementary. This is due to the fact that the local community is not a single entity, but consists out of individuals and groups. Elderly retired men gain local knowledge through a different perspective than middle-aged working women, who again have a different perspective than children, and so on. Sandercock (1998) provides a telling example of how she together with other women advocated for transportation systems which would serve the needs of women, as it was based on the knowledge that she and other women had. While presenting their needs of a transportation system as that of American women, their campaign was met by resistance from underprivileged women who felt that they were not represented by Sandercock and her group as they did not share the same needs. It is important therefore to be aware of this, to prevent a bias in gathered local knowledge. While local knowledge may be gathered, this knowledge may be limited in usability due to it being gathered from a homogenous group which doesn't represent the diversity within the local community.

Attention should especially be paid to the inclusion of the socially weak, whom are often excluded either intentionally or by oversight. Members of these groups often do not possess the capacities

necessary to make themselves be heard by the planners; not being accustomed to expressing their views nor to being heard and not knowing when in the development process they should voice their concerns. Socially weak groups are often most dependent on public transportation services, yet are involved the least. This is particularly true for developing countries (Sagaris, 2010; The World Bank, 1996; 2006). While there is no clear-cut definition of who constitutes the socially weak, they are taken to be among others the elderly, the poor, children, the disabled and minority groups (Dibben, 2006).

2.4.3. How to gather local knowledge

Furthermore of importance when gathering local knowledge is which method(s) to apply to do so. The available methods are too numerous to list; examples include among others surveys and discussions with communities. Chua & Polytechnic (2001) propose that the method which is used to gather knowledge should be contingent upon the type of knowledge that one wants to gather. To do so, they make use of the explicit - tacit dimension of knowledge. Explicit knowledge is considered to be objective and easily shared or communicated in different forms. Tacit knowledge on the other hand is subjective, situational and intimately tied to the experiences of the knowledge holder and is much harder to communicate to others (Razmerita, 2016). Knowledge is not binary in that it can only be explicit or tacit. Rather, this dimension is a continuum along which knowledge can be placed (Chua & Polytechnic, 2001).

Chua & Polytechnic (2001) have placed the methods which can be applied to gather knowledge along a continuum according to their 'media richness'. They operationalise media richness through four concepts. First is the method's capacity for immediate feedback, which is measured by the amount of feedback which can be communicated and the speed with which it can be done. Second is the method's ability to support natural language, measured by how intuitively knowledge can be transferred. The third concept is the number of cues which can be communicated through the method. These cues can be both verbal (e.g. tone of voice) and non-verbal (e.g. body language). A high score on these three concepts allows for more effective knowledge transfer as more information can be transferred. The fourth concept is the degree to which the method creates social presence, measured by whether it is experienced that the sender is the one sharing the message, or the medium. A higher social presence motivates one more to engage in communication. A method such as a face to face discussion scores high on all four concepts of media richness, as: (1) feedback can be provided instantaneously; (2) it allows for natural (non-)verbal language to be used; (3) a high number of cues can be communicated (non-)verbally; and (4) it creates social presence, as the person communicated with is present in the room. On the other hand, an online survey which consists solely of multiple choice questions scores low on all four concepts of media richness, as: (1) feedback can not be given immediately; (2) it doesn't allow for the use of (non-)verbal natural language; (3) no (non-)verbal cues can be communicated; and (4) it doesn't create social presence, as no other person is present. Methods which are low in media richness are most suitable to gather explicit knowledge, as this knowledge is easily shared. Tacit

knowledge on the other hand is best gathered through media rich methods⁶, as demonstrated by the French working group discussed in section 2.3, where experts and citizens had multiple face-to-face discussions which caused the citizens to be motivated enough to share their knowledge and allowed them to convey enough information to the experts for them to improve upon their initial designs.

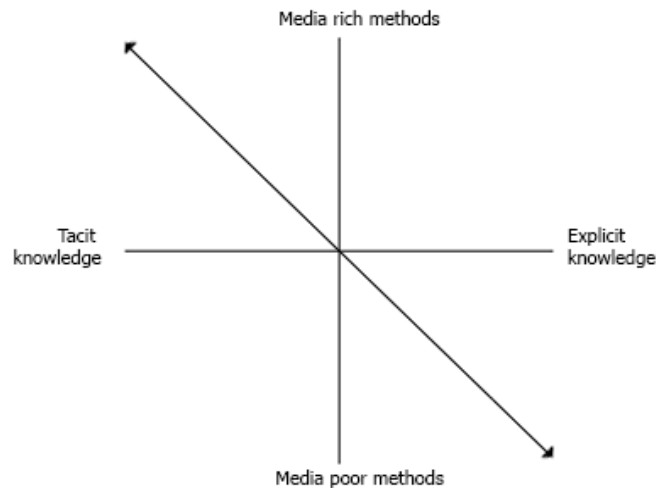


Figure 6. Contingency between type of knowledge and media richness of methods
Source: Created by author, based on Chua & Polytechnic (2001)

The definition of local knowledge as presented in section 2.2 corresponds markedly more to tacit knowledge than it does to explicit knowledge. Accordingly, media rich knowledge gathering methods are the best fit (Chua & Polytechnic, 2001). It is however also possible to rely on more than one method, in which case a combination of media rich and media poor methods can also be effective and potentially even more effective than a single method. Furthermore, while more knowledge can be obtained through media rich methods, they are also more demanding. Consider for instance the time and effort it would take to gather knowledge from two hundred citizens through an online survey, versus doing so through face to face discussions.

A method which falls outside of the spectrum of Chua & Polytechnic but is nevertheless worth discussing is the “I method”, as it is frequently used. Whereas the methods which fall within the spectrum of Chua & Polytechnic (2001) gather local knowledge by using the local community as a source, the I method entails that the planner attempts to place themselves into the shoes of the community and use their own personal opinions and experiences as the basis for the planning process, instead of actually involving the local citizens. This method thus merely tries to copy the local knowledge that citizens might have, without really accessing it. The problem with this method is that it can be highly inaccurate, as it relies on the personal values of the planners in question and is thus biased (Hrelja & Antonson, 2012). Important once more is to recognise that citizens are not a

⁶ Argued here is that the methods used to gather local knowledge must also be contingent upon whose knowledge is being collected. Consider for example if planners wanted to gather local knowledge from the elderly to design age friendly cities and the chosen method would be an online questionnaire. This is likely to elicit little response. Developing a framework to systematically assess this is however beyond the scope of this research.

homogenous group, but rather consist of many different and diverse sub-groups with diverse perspectives and knowledge. The ability of planners to gain sufficient knowledge is limited by this fact. Utilising local knowledge is likely to lead to transportation systems which are better adapted to the needs of its users, but only if the design of transportation systems is influenced by the true needs of citizens and not by what planners merely believe to be their needs, as these two may greatly differ from one another (Hrelja & Antonson, 2012).

2.4.4. Potential barriers to gathering and utilising local knowledge

The abovementioned considerations are important if planners are willing to effectively gather and utilise local knowledge. The matter becomes more problematic when this is not the case.

A first barrier comes from institutions theory. Institutions are “the humanly devised constraints that structure political, economic and social interaction”, which can either be formal (e.g. laws) or informal (e.g. social conventions) (North, 1991: 97). While multiple perspectives upon institutions exist, most relevant here is the cultural approach found within the historical perspective. This approach explains the continuing existence of institutions by stating that many conventions associated with institutions are taken for granted and are therefore not critically assessed and thus resist change. Critically, the longer institutions exist without changing, the more they become resistant to change, as they shape the actions of the actors who can change them towards further preservation (Hall & Taylor, 1996). Given that planning paradigms are upheld for years if not decades before a new paradigm is presented, it is possible that in some contexts a communicative rationale hasn't been institutionalised yet and an older paradigm remains dominant. As it is the communicative rationale that argues for the value of local knowledge, its absence can be a barrier to the utilisation of local knowledge. Furthermore, planners may keep this configuration in place through a sustained belief that local knowledge is not worth utilising. An interrelated barrier is the impact of power relations which are present in planning. As planners in the technical rationale derive their power from their knowledge, the communicative rationale presents a challenge to their power. It is thus also possible that planners keep the technical rationale in place not due to its perceived superiority, but due to self interest (Arnstein, 1969).

On a more concrete level, another barrier resides in the fact that the process of gathering and utilising local knowledge is time consuming and requires effort. So far, no case has been presented in which this is reflected in the reward structure for the planners involved. They are in essence required to do more, but they do not earn more, nor do they earn less, if they fail to take into account local knowledge (Kapp & Baltazar, 2012). In England among others, this issue has been addressed by mandating public consultation before the national government provides funding. However, this regulation hasn't been able to solve the issue, as the case of Guildford shows. Here, the regulation led to non-genuine consultation to demonstrate to the national government that there had been public consultation. This process was not taken seriously by the planners involved and whereas local knowledge may have been gathered, it was not utilised (Ward, 2001). This example also displays the importance of trust. Planners first of all need to trust that citizens hold knowledge which is worthwhile gathering. Second, they need to gain the trust of citizens that they will utilise this knowledge. Without this trust, citizens

are less likely to contribute their knowledge (Thomassian, 2005). Think for instance once more of Arnstein's survey example in section 2.3. Planners should therefore be transparent towards the citizens about the planning process in question and provide them with relevant information (Wong, 2008).

While it is important to consider the elements discussed above in the planning process, the degree to which this is done may be context dependent. In some contexts, it may be common to gather and utilise local knowledge in planning related matters and therefore the planners in question may even have a well developed approach to doing so. In another context, it may be less common or it may be on the rise, with the planners still looking for an effective approach. It is therefore important to also consider the context in which a planning process is taking place. It is the context of this research that is discussed in the next section.

2.5. The value of local knowledge in transportation planning in Indonesia

As the contextual societal structures are key elements in the gathering and utilisation of local knowledge in transportation planning, it is beneficial if a society is supportive of the process and values which accompany it (Ward, 2011). As has been discussed in the previous sections, democratic values and the equality of various citizens and various types of knowledge are inherent to the utilisation of local knowledge. This context is related to Western societies, which also becomes apparent when examining the origin of the majority of the literature referenced to in this chapter up until this point. The Indonesian social culture is however distinctly different from that of Western societies.

Indonesian culture is strongly hierarchical and as a consequence, so are social, political and bureaucratic institutions. Power and authority on the one hand and status on the other are interrelated principles. With power and authority comes status and vice versa. Status is therefore an important organising principle and is based on among others age, level of education and profession. Power, authority and status in institutions take the form of an inverse pyramid, meaning that they are concentrated at the higher levels and gradually decrease as one moves down the ranks. People are well aware of their position within this hierarchy and are expected to respect those who are above them. The leaders whom are at the top are expected to make decisions on behalf of those below them and due to the strong value that is placed on the hierarchical relations, they expect to do so without being questioned by those below them (Boyle, 1998). These cultural factors run counter to the democratic values and process which are inherent to utilising local knowledge and rather than providing an enabling context, it impedes upon it. These cultural characteristics place planners at a higher level than many local citizens in planning related matters on the grounds of their high education level and their professional career. Planners are therefore not incentivised to seek help from those below them.

Furthermore, Indonesia has high levels of inequality within civil society. This inequality is evident from multiple indicators, such as level of education and access to economic resources, giving the different society members different levels of power to influence public participation processes (Dasgupta & Beard, 2007). For instance, those who are illiterate are less likely to be aware of their

rights to participate and the poorest are unlikely to be able to take time off from work to participate in a planning process. Dasgupta & Beard (2007) have examined four cases in Indonesia in separate cities and note the potential for 'elite capture' of participation processes, i.e. despite there being public participation processes in place in which even the non-elites are allowed to take part, it is the group of elites who ultimately influence the decision making process. Thus in cases where there is public participation, the non-elites may have little to no influence on the planning process in comparison to the elites.

Contradictory to these cultural specificities is the fact that Indonesia has been following the path of a decentralised democracy since the fall of authoritarian ruler Suharto in 1998. Several reasons have been given for choosing to follow a decentralised path, which fall under the overarching idea of subsidiarity. First of all, decentralisation serves to bring the government and the citizens closer to one another, as the relevant level of government for the citizen is often the local government. This allows for increased sensitivity from the government towards local issues and the preferences of local citizens, as well as flexibility in dealing with them. Furthermore, through decentralisation the potential for public participation and utilising local knowledge is increased (Bunnell et al., 2013; Fitriani et al., 2005; Holzhacker et al., 2016). However, the decentralisation process was hastily introduced after Suharto's fall as a way of levelling the inequalities that existed between state and society. This process has not significantly benefitted those at the bottom of society, as the process ignored the existing heterogeneity within it (Ito, 2011). Furthermore, as a former minister of Home Affairs concedes, other political considerations have played a dominant role in the decentralisation process. Powers have been decentralised to the local level instead of to the provincial level because it is at the provincial level that secessionist movements are found. Decentralisation to the local level therefore served as a 'divide and conquer' strategy and arguments such as the stimulation of public participation are considered secondary to this political motive⁷ (Fitriani et al., 2005; Holzhacker et al., 2016). Indonesia is currently still considered to be a 'flawed democracy' (Economist Intelligence Unit, 2015).

When taking both the societal values and institutions and the democratisation trend into account, a puzzling context for the utilisation of local knowledge emerges. Whereas the former implicitly discourages it, the latter goes as far as to explicitly encourage it, though the decentralisation process is somewhat ambiguous. The extent to which the Indonesian context is conducive or detrimental to the utilisation of local knowledge is unclear. However, clear is that there is potential, as political participation in Indonesia has slowly been increasing over the course of the last decade (Economist Intelligence Unit, 2007; 2008; 2010; 2012; 2014; 2015) and examples are available of other Asian countries which share a similar hierarchical societal structure and which to varying degrees utilise local knowledge (see e.g. Chen et al., 2003; Wong, 2008).

⁷ Discussing Indonesia's democratisation process in more detail is beyond the scope of this research. For a detailed account of the political developments in Indonesia, see Ito (2011) and/or Holzhacker et al. (2016).

2.6. Conceptual model

The previous sections have been brought together into one conceptual model depicted in figure 7. Six factors influence how effective local knowledge is gathered by transportation planners. The first is *representativeness*, referring to the diversity of the citizens from whom local knowledge is gathered. A diverse group of citizens from whom local knowledge is gathered is considered to be more effective than a non-diverse group. Second are the *methods of gathering* which are applied to gather local knowledge. Considering the earlier assertion that local knowledge is tacit knowledge, media rich methods are considered most effective. Third are *regulations about local knowledge*. If regulations encourage or even mandate the use of local knowledge, it is considered more conducive to gathering local knowledge. This concept influences the gathering of local knowledge and not the utilisation, as regulations may lead to local knowledge gathering, but are unable to enforce the actual utilisation. This is exemplified by the Guildford case described in section 2.4.4. The *value placed upon local knowledge by planners* is relevant, because if they value it more, they are more likely to gather it in an effective manner. The fifth concept of influence is the *value placed upon local knowledge by the government*. While there may or may not be regulations in place to support the utilisation of local knowledge, the government may in actuality not necessarily be supportive, for example through pushing the planners to deliver as quickly as possible, thereby forcing them to skip the gathering of local knowledge, as this leads to a longer planning process. Finally, the *timing of gathering* local knowledge matters, as the local knowledge needs to be gathered at a moment in time when it is still able to influence the planning process.

Furthermore, three factors influence the *effectiveness of the utilisation of local knowledge*. The first is the *effectiveness of local knowledge gathering*. If local knowledge is gathered more effectively, it can more effectively inform the planning process, as the knowledge that has been gathered can be considered to be more complete. Second, the *value placed upon local knowledge by planners* also influences the utilisation, as it is more likely that planners will utilise the knowledge they have gathered if they value it more. Think once more of the Guildford case. Finally, the *value placed upon local knowledge by the government* is important once more, as it is the government which ultimately decides on the implementation of interventions and measures and may disagree with the knowledge that local citizens have contributed to the planning process.

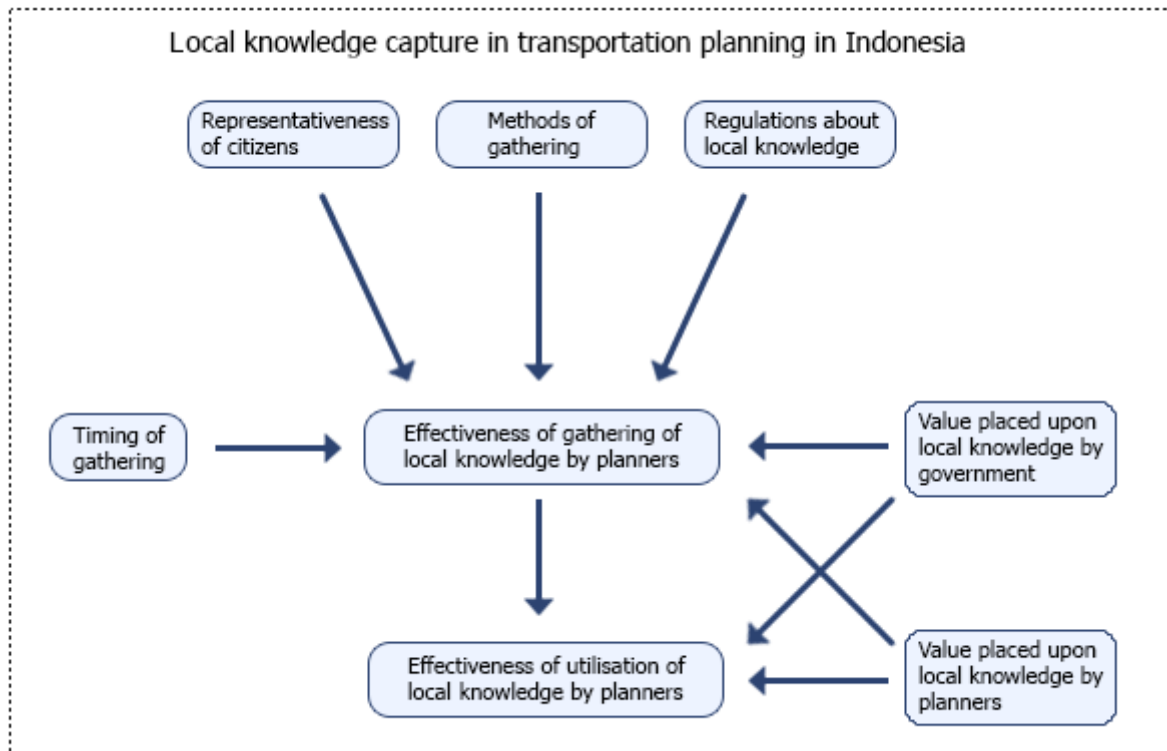


Figure 7. Local knowledge capture in transportation planning in Indonesia

3. Methodology

Having established research questions and a theoretical framework to guide the research, the next step was to determine an approach to gathering the data that was required to answer the research questions. In this chapter, the decisions that have been made with regard to the research methodology are presented, as well as the considerations that have led to these particular decisions.

3.1. Research strategy

A significant choice to be made was whether to study the process of Bandung's transportation policy making in general or to examine a specific case within this context. Whereas studying the transportation policy making process in general would present a more overall image of the phenomenon, it would also be reduced to generalisations and lack depth. It opened up the possibility of answers such as "what normally happens is...", whereas examining a single case was likely to produce more specific answers in the form of "what has happened in this particular instance is..." Having access to such specific answers allowed for researching the underlying motives to these particular choices. The decision was therefore made to examine a specific case, which is the LRT. This case was chosen because the LRT is currently still being planned. The assumption was that due to the planning process still being ongoing, the individuals whom have worked on or were still working on the LRT would be more easily identifiable and accessible when compared to a project that was already finished. Equally important was that due to the process still being ongoing, it was assumed that the knowledge of these individuals regarding the course of events and the justification for decisions would still be present, as opposed to an older project where such knowledge might have been forgotten already. Finally, it was assumed that documentation would be more readily accessible for the LRT than for older projects.

To examine the LRT, both the value of a qualitative and a quantitative research strategy were assessed, based on their presumed ability to aid in answering the research questions. To do so, it was not only important to know whether the LRT project team gathered and utilised local knowledge or not, but also *how* it did this and *why* it did so in a particular manner. In other words, the underlying mechanisms were of importance as well. An in-depth understanding of the matter was thus required to answer the research questions. The decision was therefore made to utilise a qualitative research strategy.

3.2. Data collection

Four research methods have been applied to collect data, which have been summarised in table 1. The first method is a document analysis of the policy documents that contain regulations regarding the utilisation of local knowledge in planning related matters in general. These were collected from multiple sources. First of all, Ito (2011) referred to several relevant laws, which were looked up. In some instances these laws referenced other laws as well. Furthermore, searches were performed with different variations of the keywords "peraturan" [regulation] and "peran serta masyarakat"

[community participation]. Not all results were valuable, as some laws had been overturned by newer laws and several laws showed a considerable degree of overlap. Finally, laws which were referenced in Bandung's transportation masterplan or the LRT documents were also retrieved. The documents that were considered relevant were analysed to determine what the regulations are with regard to local knowledge gathering and utilisation. This analysis occurred through extracting all articles that made mention of public participation, local knowledge or similar terms and subsequently determining what responsibilities and rights they guarantee the government and the citizens with. This was done as it was helpful to know whether the utilisation of local knowledge is being encouraged or is even mandated and how specific such regulations are.

The second method is a document analysis of Bandung's transportation masterplan and specifically the LRT project documents. A number of these documents were publicly available on lrt.bandung.go.id. Additionally, all participants were asked if they were in the possession of, or were aware of, any potentially relevant documents. Doing so produced the majority of the relevant documents. Documents were considered relevant if they provided insight into the planning process or its results. The documents which fit this criterion were analysed to determine whether utilising local knowledge played a role specifically in the LRT planning process, how and where possible, why in this particular manner. This analysis occurred through applying the same coding scheme that has been applied to the interviews in appendix 3 and subsequently interpreting the results.

The third method is interviews with the LRT planners. These interviews were in-depth and semi-structured with an interview guide. The choice for this particular type of interviews was made as it was considered beforehand that it would be a possibility that respondents would provide answers which were not anticipated and which might require further clarification or could present useful information if pressed on further through follow up questions. Performing a semi-structured interview allowed for a base of questions to be asked, while still allowing for flexibility to adjust to new information that came to light during the interviews. The transcripts and notes of the interviews have been attached in appendix 3. It was expected beforehand that the project documents would only display the results of any local knowledge utilisation and not the process. Therefore, the interviews were considered to be necessary to research the process in depth and to allow for an analysis of the how and why underlying the gathering and utilisation of local knowledge. Where possible, the findings from the document analyses served as input for the questions which were asked. Preceding interviews with other project members also served as input. The option was kept open to pose follow up questions to participants at a later moment if necessary, by seeking their consent to be re-contacted should such a need occur. An interview guide was created to structure the interviews and can be found in appendix 2.

Finally, a survey was constructed consisting out of ten open questions and four closed questions. The survey focused solely on the value that the planners assign to local knowledge in the LRT planning process in particular and in transportation planning in general. This served to establish a more complete image of the perception of the value of local knowledge in transportation planning, as it allowed for a greater number of response. The survey was constructed in both English and Bahasa

Indonesia. The English version can be found in appendix 4. Unfortunately, no results were obtained from this method⁸.

3.3. Sampling

To answer the research questions, it was necessary to find participants with a certain level of knowledge about the topic for the interviews and survey. It was thought beforehand that these participants should be the transportation planners who have worked on or are currently working on the LRT project. It however quickly became clear that the scope needed to be broadened to other participants who had been involved in the planning process, such as civil engineers. After a small initial sample, snowballing became the most important method to secure more interviews. Figure 8 shows the snowballing process, exhibiting how one person led to another. The interviews continued until time limitations forced an end to the data collection phase. Sampling for the survey occurred by setting the criteria of its participants to all planners who are currently working on, or have worked on the LRT and asking a contact at DisHub Bandung to spread the survey among the relevant persons.

⁸ The contactperson at DisHub who would distribute the survey among the team seized to respond to communication.

Table 1. Methods of data collection

Question	Which information	Moment of retrieval	Source	Method of retrieval	Documentation method	Method of analysis
Which regulations are there with regard to utilising local knowledge in planning processes?	Regulations regarding the utilisation of local knowledge.	Before starting interviews.	Planning policy documents.	Several relevant laws are mentioned in Ito (2011) and in the LRT documentation. Further searches were performed using key phrases.	Sections which mentioned public participation, local knowledge or similar terms were highlighted.	Observed what rights and obligations the laws provide the government and citizens with.
How has local knowledge been gathered and utilised in the LRT project? Why in this particular manner?	For which purposes local knowledge has been gathered and utilised in the LRT and the reasons behind it.	After analysing general policy documents. Simultaneously with conducting interviews.	LRT project documents.	Some documents were publicly available. LRT project members provided additional documents.	Sections which mentioned utilising local knowledge were highlighted according to a coding scheme.	Observed per code encountered in the documents what was stated about having utilised local knowledge and how.
		After analysing general policy documents. Simultaneously with collecting and analysing LRT documents.	LRT project members.	Semi-structured interviews with LRT project planners.	Interviews were transcribed or alternatively notes were taken. The transcripts/notes were then coded.	Per code, it was interpreted what the project members stated about having utilised local knowledge, how and why.
How is local knowledge valued in transportation planning by the government and LRT planners?	The value that the government and LRT planners attribute to local knowledge.	After analysing general policy documents. Simultaneously with conducting interviews.	Transportation masterplan and LRT documents.	LRT project members provided documents.	Sections which mentioned public participation, local knowledge or similar terms were highlighted.	Interpreted what the documents stated about how local knowledge is valued.
			LRT project members.	Asked for during interviews.	Interviews were transcribed or alternatively notes were taken. The transcripts/notes were then coded.	Interpreted what the project members stated about how they value local knowledge.
				Survey among LRT planners who were not interviewed.	Self completion survey with open and closed questions.	Results were not obtained.

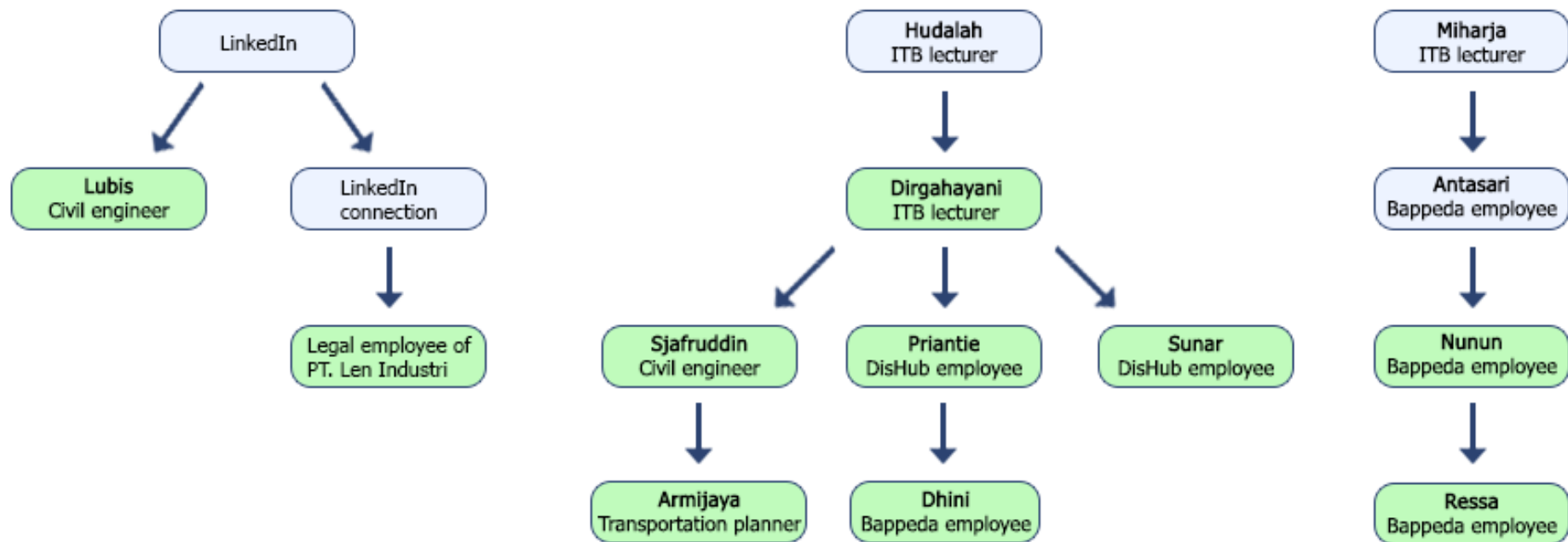


Figure 8. Snowballing process

In the blue boxes are those who have pointed towards a person of interest for an interview, without having been interviewed themselves. In the green boxes are those who have pointed towards a person of interest for an interview after they had been interviewed themselves.

3.4. Ethical issues

As data was partially collected through interacting with participants, relevant ethical issues to this research related to the interaction with the participants. Bryman (2012) mentions several important guidelines. First of all, no harm should come to participants in any way and their participation should remain confidential if so desired. The survey was anonymous by default. Participants to interviews were asked if they consented to being mentioned by name and function in the study. In one instance where it was neglected to ask consent, such identifying information was omitted. The participants' consent was also asked for recording interviews. In some instances, notes were made instead, for example due to excessive background noise. While it would have been ideal to send the transcript/notes in their entirety to the participants for them to verify, this was not done due to a generally low response rate through email. Instead, when necessary the participants were contacted again to seek clarification on statements which were unclear. Bryman (2012) furthermore mentions that deception of participants should be avoided and that they need to be fully briefed on the purposes of the research before they consent to participating. Participants were therefore informed upon first contact that this research was being conducted in the framework of a thesis and that its focus was on the LRT planning process and the role of the citizens therein.

3.5. Positionality

The context in which this research has been conducted has influenced the research process in two major ways. First is the matter of culture. Operating in a different culture made it at times unclear what the proper way of conduct was. It seemed for instance inappropriate to establish contact with participants through WhatsApp. This proved however to not only be acceptable, it also proved to be the only viable method as the response rate through other digital means was exceptionally low. The influence of culture was also felt during interviews, where the need to remain polite towards older individuals resulted in allowing participants to finish their stories, even when they had strayed off topic. This proved to be helpful in some cases, as participants unexpectedly provided useful information.

Second is the position of being an outside researcher assessing and potentially criticising the planning process of the LRT. Care had to be taken to phrase questions in such a manner that they could not be interpreted as accusing the project team of any shortcomings. This led to a less than ideal position in terms of being able to ask critical questions during the interviews. Furthermore, being an outsider also meant that at times it was difficult to acquire data, as this had to be acquired through an insider. Insiders were at times slack with providing requested information, which resulted in not having been able to acquire all desired data.

4. The value of local knowledge in practice

With a research strategy in place, it was possible to perform the field research and collect the necessary data to be able to answer the research questions. The data that has been collected through the methods described in the previous chapter is presented and discussed below, following the same order as that chapter. This means that first the government regulations with regard to utilising local knowledge are discussed. This is followed by the role of local knowledge in the case of the LRT specifically. This chapter concludes with the way that local knowledge is valued in transportation planning by the LRT planners.

4.1. Government regulations on utilising local knowledge

A plurality of regulations has been referenced in the transportation masterplan and the LRT documents, of which two relate to local knowledge. The first of these is Law No. 27/2012 about the Environmental Impact Assessment (EIA). This law states that in preparation of an EIA, the community whom will be affected by a development should be engaged in the EIA process. This engagement needs to occur through the announcement of intended development activities and through at least one public consultation meeting. After the initial announcement, community members can provide suggestions, opinions and responses in writing or through a representative. This law also states that the committee which will perform the assessment should also include members of the affected community (Presiden Republik Indonesia, 2012). The second is Law No. 23/2007, which is specific to railways and includes a short section on citizen involvement. This law states that the public should be informed in the case of the development of a railway. Furthermore, the public is entitled to obtain information about the main points of the masterplan of railways and railway services, as well as to provide feedback to the government, railway infrastructure operator, and the railway organiser in the context of development, implementation, and oversight of the railways. The law states that further regulations on public participation are in accordance with other government regulations (Presiden Republik Indonesia, 2007). Other government regulations with regard to public participation and which therefore apply to the LRT, are plentiful. Two laws are discussed here which contain national regulations and one which contains regulations for Bandung.

The two laws on the national level which have been collected are Law No. 68/2010 about forms and procedures for the role of civil society in the arrangement of space and Law No. 56/2014 on procedures for the role of civil society in spatial planning. The involvement of citizens in the governing process is secured in the regulations contained within these laws. These laws state that the government at all levels should actively involve the community in spatial planning⁹. The government is represented by a relevant to the task government institution or agency (Presiden Republik Indonesia, 2014). The community is defined as those who are directly affected by spatial planning activities, who have expertise in the field of spatial planning, and/or whose main activity is in the spatial field (Presiden

⁹ There is a slight discrepancy between the two laws, as Law No. 68/2010 states that the community *can* be involved in spatial planning, whereas Law No. 56/2014 states that the community *has* to be involved.

Republik Indonesia, 2010). Multiple goals, both goal oriented and process oriented objectives, are mentioned which should be achieved through community participation. Community participation is to: “(1) guarantee the implementation of the rights and obligations of the communities in the field of spatial planning; (2) encourage the community's role in spatial planning; (3) create communities that share responsibility in spatial planning; (4) pursue the application of transparent, effective, accountable, and high quality spatial planning; and (5) improve the quality of spatial planning policy making” (Presiden Republik Indonesia, 2014: 4, translation by author).

According to regulation, community participation in spatial planning can take two forms. The first is as “feedback from citizens: (1) on the preparation of spatial plans; (2) on the determination of the direction of developments or areas; (3) to identify the potential and problems of developments or areas; (4) to formulate conceptions of spatial planning; and/or (5) on the determination of spatial planning” (Presiden Republik Indonesia, 2010: 2, translation by author). The second is the cooperation with the national government, local government and/or other communities in spatial planning matters. Cooperation includes among others research and development, consultation forums and the dissemination of information. Through collaborating, the community can among others provide technical assistance and/or expertise. By taking into account local knowledge, increases in efficiency, effectiveness and the harmonious utilisation of space can be gained. Local knowledge is in this regulation defined as the values which prevail in the governance of public life (Presiden Republik Indonesia, 2010).

The methods through which communication can take place to involve the community are varied. Mentioned are print media (e.g. newspapers and leaflets), electronic media (e.g. television and internet) and other communication media through which the public can easily provide feedback. Also mentioned are face to face communication methods, such as public consultations, seminars and focus group discussions. The government is responsible for organising such activities so as to receive input from the public on spatial matters. The government furthermore needs to notify citizens of the results of such activities through communication media, to which the community can again respond, which may lead to developing an alternative to the original plan if deemed necessary. Forum meetings are required to agree on the best alternative (Presiden Republik Indonesia, 2010; 2014).

The regulation specific to Bandung is Law No. 6/2004 about transparency and participation in the management of Bandung Regency. This law deals with the rights of citizens to participate in a number of policy areas, including spatial planning. It states that the mandate to govern is based on several principles, one of them being community participation. The public policy decisions are concerned with the interests and needs of the community and therefore the community must be involved whenever possible. This participation needs to be proportional, finding a balance between the rights and obligations of the government. The goals of participation are multiple: “(a) improve the perception of government agencies of the importance of community involvement in the decision making process/public policy for democratic and participatory governance; (b) increase public awareness of the importance of the role of the public in the governance process; (c) determine the future direction of

policy in accordance with religious and cultural values by referring to the good and preventing misguidance; and (d) encourage the implementation of the government agency's role as a facilitator, catalyst and mediator" (BPIDKB, 2004: 10, translation by author).

Participation can take the form of the community being a partner to public bodies in the public policy process. Citizens can seek and obtain information related to the governing process, as well as provide information and contribute thoughts, opinions, advice and judgements on every public decision-making process, making it more aspirational, open and accountable. This can either be done directly or indirectly and individually, collectively or through representatives (BPIDKB, 2004).

Among several other tasks, the government is responsible for making the results of participation activities, as well as any other information related to spatial planning, publicly available through communication channels which are easily accessible by the public. A separate article furthermore mentions that the government has to announce any information which has the potential to influence the lives of many through multimedia. In regards to spatial planning, this provision involves the whole chain from the conception of an idea for a particular intervention until the final decision for the intervention to be executed. If a citizen wishes to gain access to information which has not been made publicly available, (s)he may request this information in formal writing (BPIDKB, 2004).

Summarising, there are relevant regulations on the inclusion of local knowledge. While only two such regulations – which are very limited in the obligations and rights they discuss – are referenced in the LRT related documentation, the gathering and utilisation of local knowledge is safeguarded in other regulations. The national laws go into depth regarding the obligations of the government and the rights of the citizens, as well as for which purposes citizens can be involved and through which methods. However, participation doesn't seem to be clearly defined, causing the methods through which citizens can be involved to be wide-ranging, from focus group discussions to one-way communication methods. The law specific to Bandung is open to interpretation. It is for instance debatable how much participation can be considered proportional. Furthermore, the responsibility for public participation in some cases rests with the citizens, for instance in replying to information which has been published in a newspaper, which allows the government to take a passive stance. It is questionable whether citizens are aware of their rights to take part in the planning process.

Overall, the importance of utilising local knowledge is clearly stated and the obligation of the government to utilise local knowledge is clearly anchored in the regulations. The primary deficiency is in the unclear definition of participation, leading to a broad range of potential methods to involve citizens. The amount of local knowledge which is gathered through for instance publishing information in the newspaper and awaiting responses from citizens is likely low. The influence of the regulations on the LRT planning process seems to nevertheless be positive, as it provides a legal basis for the involvement of citizens. Several participants too have mentioned that they believed it would be impossible not to involve citizens in the planning process precisely due to the regulations which are in place (Armijaya, interview; Sjafruddin, interview; Sunar, interview).

4.2. Local knowledge in the LRT planning process

In this section, the LRT planning process is presented in chronological order of events, after which it is dissected in the next section in terms of the conceptual model. The timeline of the planning process has been reconstructed in figure 9, based on the interviews and analysed documents.

4.2.1. Original transportation masterplan

The LRT was first presented in Bandung's first ever transportation masterplan, which was published in 2009 (Bappeda Kota Bandung, 2009). In this plan, an initial route for the LRT was proposed (Sunar, interview). This proposal was the result of combining a top-down and a bottom-up approach. In preparation of this transportation masterplan, the input of citizens was sought through conducting two surveys and an unspecified number of focus group discussions. The first survey was a road side interview with 4,137 respondents, conducted on a Tuesday and a Saturday so as to include both working and non-working citizens in the sample. Respondents were categorised according to their vehicle type and were asked about their personal characteristics (e.g. age, gender, profession) and their trip characteristics (e.g. origin, destination, trip purpose). In addition, public transportation users were asked how they rated public transportation services for a number of criteria, such as safety, waiting times and ticket price. The second survey was a home survey, which was conducted by taking a sample of one hundred households in every *kelurahan*¹⁰, amounting to 15,500 respondents. This survey consisted of questions that mapped the characteristics of the households and their movements in more detail than the road side interview as answers were sought to the trip characteristics of every household member. In both surveys, questions were either multiple choice or prompted a limited answer (e.g. the origin of the trip). Neither survey mentioned the LRT. However, the road side interview survey did inquire into the desired characteristics of a future Bus Rapid Transit system. These questions could be translated to another public transportation system, such as the LRT, as the questions asked were among others the maximum acceptable distance to a bus stop and the maximum acceptable ticket price. These questions prompted limited answers as well, by asking for a number only. One question was fully open, which was what the respondent felt would make the trip more comfortable (Bappeda Kota Bandung, 2009). The adjacent box in which the answer was to be provided was however too small to allow for more than a few words to be written. The desired characteristics of a public transportation system that have been abstracted from these surveys are presented in table 2.

¹⁰ The *kelurahan* is an administrative unit at the neighbourhood level, of which Bandung has 151. The discrepancy of 400 respondents is unaccounted for.

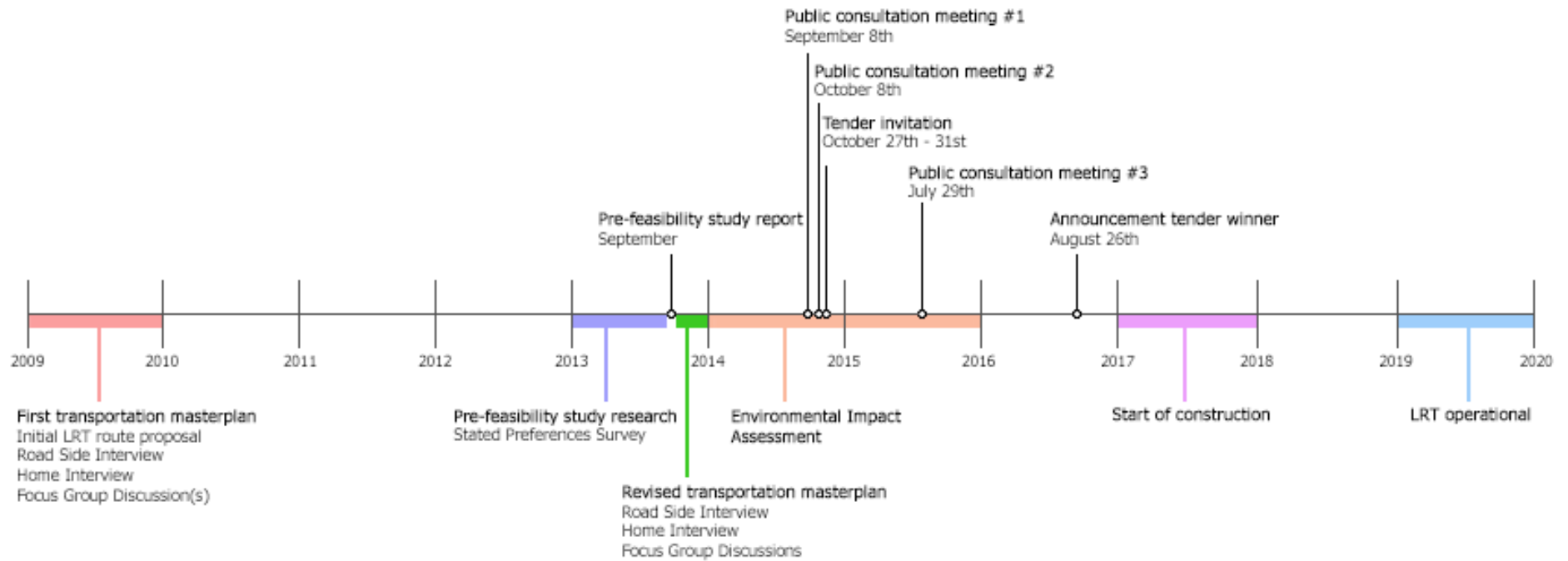


Figure 9. Timeline of the LRT planning process

Where possible, exact dates for events have been provided. Where this was not possible, a time period has been provided instead. Note therefore that the time period does not visualise the length of time that was taken for a particular event, but rather the possible moments in time during which the event may have occurred or will occur.

Table 2. Desired characteristics of a public transportation system
Source: Bappeda Kota Bandung (2009)

Characteristic	Value
Average maximum desired distance to bus stop	663.6 metres
Average maximum desired cost per trip	IDR 2,205
Average minimum desired travel speed	17.73 km / h
Average maximum desired waiting time	5.55 minutes
Additional desired characteristics	Secure and safe Air conditioned Smoking not allowed Sufficient space (not cramped) No street performers Convenient, clean and tidy Fast and punctual transportation

The results of the focus group discussions¹¹ hint that the respondents were free to discuss a wide variety of transport related issues, as respondents made a wide range of suggestions relating to both public transportation and private transportation. One particularly relevant remark is that it was felt that the ticket price for public transportation is currently too high, leading to a low ridership as most citizens are unable to afford it (Bappeda Kota Bandung, 2009).

4.2.2. Pre-feasibility study

Following up the first transportation masterplan was a pre-feasibility study, which focused specifically on the LRT. The goal of this study was to determine the feasibility of the LRT, based on a broad range of factors, such as potential usage, costs and technical aspects. The report of the pre-feasibility study was published in September 2013 (DisHub Bandung, 2013a; 2013b) and the study itself was carried out earlier in the same year. In this study, a stated preferences survey was utilised to predict the behaviour of travellers in terms of vehicle mode choice if the LRT would be introduced, as the already available data was considered unsuitable to make such predictions. The focus of this survey was on determining the amount of potential users, their origins and destinations, their frequency of use and on determining a viable ticket price. Citizens were split into three groups: (1) those who were at the time using public transportation; (2) those who were at the time using their personal car and; (3) those who were at the time using their personal motorcycle. Respectively 206, 170 and 201 citizens participated in this survey and were randomly selected in public spaces along the two corridors, as all citizens were considered equally important. Citizens were asked about the likelihood of them riding the LRT in different scenarios, which differed from each other in ticket price, waiting time, travel time and potential delays. The citizens were also asked at which stations they would enter and exit the LRT, thus providing an average trip length and a loading profile per section. Furthermore, the respondents were asked to provide their ability to pay and additionally, the public transportation users were asked to provide their willingness to pay, as noted in table 3 (Armijaya, interview; DisHub Bandung, 2013a;

¹¹ Only the results have been documented. There is no data on who was included in these discussions or how many discussions were held.

Sjafruddin, interview). It is not clear why the willingness to pay was only asked of public transportation users.

Table 3. Ability and willingness to pay
Source: DisHub Bandung (2013a)

Transportation mode	Ability to pay (IDR / trip)	Willingness to pay (IDR / trip)
Public transportation	5,255	2,430
Motorcycle	5,505	n.a.
Car	12,642	n.a.

Though the survey was constructed with Likert scales, the surveyors were instructed to conduct the survey in the form of a semi-structured interview, which allowed citizens to provide additional comments and suggestions in open format (Armijaya, interview). There was no direct feedback to the citizens on what had happened to their input. The report was published online at lrt.bandung.go.id, though this does not mention which results were accomplished due to the involvement of the citizens. This especially concerns the open comments that citizens gave, as this data has not been documented as such. Furthermore, presentations were held for government institutions to which representatives of the public were invited. Despite the lack of direct feedback, the majority of citizens were willing to cooperate in the study. Beyond answering the Likert scale questions, some citizens provided information on why they thought the choice for a certain corridor could lead to problems later on in the process. This was not asked of them, yet they provided such information nevertheless (Armijaya, interview; DisHub Bandung, 2014a; Sjafruddin, interview).

4.2.3. Revised transportation masterplan

As a result of among others the pre-feasibility study and changed traffic conditions, a revised transportation masterplan was published in 2013 (Bappeda Kota Bandung, 2013; Sunar, interview). Sought after in terms of local knowledge was the perception of stakeholders, i.e. regulators, public transportation operators, transportation users and the public, on a range of matters. The matters listed throughout the revised transportation masterplan are: (1) the direction of policies; (2) the plans for the transportation network; (3) the weight the stakeholders attributed to different planning criteria; and (4) transportation problems that required attention. The methods applied were for the majority similar to the original transportation masterplan. The road side interview was applied to map the characteristics of travellers and their trips, as well as their criteria for trips, e.g. maximum trip time and level of comfort. Second, the home survey was utilised again to obtain characteristics of the households and their travels. Furthermore, at least one focus group discussion was held. However, neither the methodology nor the results of the surveys and focus group discussion(s) were documented this time (Bappeda Kota Bandung, 2013).

4.2.4. Public consultation meetings

Following the revised transportation masterplan, there have been three public consultation meetings for the LRT specifically. The first was on the 8th of September 2014. Invitation letters had been sent out in advance to 147 persons and only persons carrying an invitation letter were permitted entry to the

meeting¹². The majority of the invited were the heads of various government institutes, such as DisHub Bandung and Bappeda Kota Bandung, as well as other representatives of other government institutes, including those which tasks were not related to planning but which would be influenced by the LRT, such as the Department of Youth and Sports. In addition, representatives of non-governmental actors which would be affected were also invited. These included among others various universities, hospitals, schools and the transportation related Damri, PT. KAI and Organda¹³ (DisHub Bandung, 2014c). With the exception of the transport related interest groups, the non-governmental actors who were invited were those who were located in the direct vicinity of the corridors (Priantie, interview). The citizens themselves were not invited to the public consultation meeting. Instead, their representatives were invited (Nunun, interview; Sjafruddin, interview; Sunar, interview). These representatives were the *lurah*¹⁴ of 26 of Bandung's kelurahan. Here too, the invitations were sent only to kelurahan which are located in the direct vicinity of the LRT corridors. Out of the 147 persons invited, 79 attended the meeting. With regard to citizen representatives, two lurah were present, alongside eight *camat*¹⁵. The meeting was open in the sense that anyone present was allowed to ask questions, provide information, express their concerns and so forth (DisHub Bandung, 2014c). While there are no records available of the contents of the meeting, one participant mentioned that the LRT plans were changed 'many times' as a result of the public consultation meetings, though the participant could not provide any further details (Nunun, interview). It is clear that the corridors changed several times throughout the years to align them with the existing traffic demand (DisHub Bandung, 2013a; 2014a; Pemerintah Kota Bandung, 2016).

The second public consultation meeting was held on the 8th of October 2014. Again, only those carrying invitation letters were permitted entry¹⁶. This time, the number of invitees was limited to 38 and only included the heads of various businesses along the corridors, predominantly hotels. For this meeting, 62 persons were present, as multiple government departments and agencies were also represented. Included in this number are one camat and one lurah, whom represented all other camat and lurah. The minutiae regarding the content were predominantly of a technical nature, such as the necessary elevation levels of the corridors so that they would not collide with one another. However, several comments were made with regard to citizens. The camat insisted that it should be made sure that the routes of the two corridors would be communicated to the citizens, so that when the time comes, the citizens will be aware of their transportation options. Furthermore, he insisted that the LRT should be 'socialised' among the citizens, as well as among the current providers of public transportation services, i.e. the government should take away any resistance to the LRT and create acceptance instead. No mention is made of how exactly this needed to be done (DisHub Bandung, 2014).

¹² It would seem that journalists were exempted from this requirement, as they were not invited, but some were present as evidenced by the attendance list.

¹³ PT. KAI is the Indonesian equivalent of the Dutch NS. Organda is the association for Bandung's angkot drivers.

¹⁴ A lurah is in charge of a kelurahan. He is appointed to this function by the local government and is a civil servant.

¹⁵ A camat is to a kecamatan what a lurah is to a kelurahan. A kecamatan is a higher neighbourhood level than a kelurahan and consists of between three and eight kelurahan.

¹⁶ As stated on the invitation letter itself. However, the minutiae show that a comment was made by a housewife who was not on the list of invitees. Clarification has been sought from a DisHub employee, but could not be provided.

The final public consultation meeting was held as part of the EIA, on the 29th of July 2015. This meeting was open to citizens living in kelurahan in the direct vicinity of the LRT corridors, as well as businesses in the same areas. The attendees were allowed to make diverse comments regarding the LRT¹⁷ (Dhini, interview).

4.2.5. Utilisation

While data has been obtained that shows whether local knowledge has been utilised, this data is limited. Due to the planning process having been put on hold and responsibilities having been shifted, many final decisions (e.g. ticket price, maximum waiting time) have not been definitively made yet. Some interim decisions have been made however. First of all is the location of the stations. While citizens presumably contributed to the locations through their reported origins and destinations in the surveys, other factors have been the availability of space and land ownership rights (Armijaya, interview; Sjafruddin, interview). The locations are ultimately the result of a recommendation from the Director General of Railways from the Ministry of Transportation, though it is not clear how the Director General came to this recommendation (DisHub Bandung, 2014a). Second, the distances between the stations have been the result of a consultant study. While it is possible that this refers to the result of the survey which asked citizens for the desired distance to a LRT station, this is not explicitly stated, as no further explanation is given in the documentation (DisHub Bandung, 2014b). Third, from the stated preferences survey, it can be deduced that the ticket prices per trip which were being considered were IDR 6,000 for corridor 1 and IDR 7,500 and IDR 12,500 for corridor 2 (DisHub Bandung, 2014a). While this is higher than the respondents stated to be willing to pay for transportation, the demands of the citizens were considered but could not be met as there was a gap between the willingness to pay and what was considered financially feasible (Armijaya, interview).

Furthermore, several participants have mentioned that local knowledge has been utilised in the LRT planning process. One participant stated that the LRT plans were changed ‘many’ times as a result of the input of the lurah and camat, whom represented the citizens during the public consultation meetings, but could not go into specifics (Nunun, interview). Similarly, another participant stated that the plans were adjusted if they evoked ‘a lot’ of resistance from the citizens, but also could not provide an example (Dhini, interview). It was furthermore mentioned that the comments made by citizens, as well as the results from the surveys, were taken into consideration when deciding on the corridors. Here too, no further detail was provided (Armijaya, interview; Sjafruddin, interview).

4.3. Effectiveness of local knowledge in the LRT planning process

4.3.1. Timing

Argued for in the theoretical framework is to consider first of all how local knowledge will be utilised. Furthermore argued for is to start gathering local knowledge early on in the decision making process, when the available options haven’t been limited yet as a consequence of path dependency, and to do so for a broad range of issues. Finally, it is valuable to not limit local knowledge to the early stages of the planning process, but to have it influence the process throughout different phases.

¹⁷ Further information was not obtained, as at the time of writing the final report of the EIA was not published yet.

From the data that has been collected, it is clear that local knowledge was gathered early on in the planning process of the LRT. The first discernible moment in time when the LRT was considered as a possibility was in the process of developing the first transportation masterplan of 2009. It was also during this process that local knowledge was gathered from the citizens and with a clear goal in mind. Local knowledge was subsequently gathered at every significant stage throughout the planning process.

When comparing theory to practice, it is clear that the LRT planning process has been conducted in a way that is similar to how theory states that it should have been done to reach maximum benefit, i.e. starting early in the process and continuing throughout. Furthermore, local knowledge was gathered regarding a broad range of issues early on in the planning process through the focus group discussion(s) for the original transportation masterplan, as the participants seem to have been allowed to cover a wide range of topics.

4.3.2. Representativeness

The theoretical framework argues for the inclusion in the planning process of the persons who will be affected by a certain measure. This inclusion should not be limited to those who will be directly affected, but be extended to those who will be indirectly affected. While it is logical to include as many citizens as possible, what is of greater importance is making sure that the group of citizens whom are included is as diverse as possible. It is especially important to include the socially weak, as they are most dependent on public transportation, yet are most often excluded from the planning process.

It is clear that throughout most of the planning process, attempts were made to approach a great number of citizens and to make sure that the respondents were diverse through applying random sampling. This is true from the very beginning, up until the public consultation meetings, which are markedly less representative. While organisations which represented various transportation interests were invited to the first meeting, the other invitees to this meeting were limited to the representatives of actors whom would be directly affected by the LRT. For the second public consultation meeting, this group was reduced further to major businesses which would be directly affected. The final public consultation meeting was more representative as citizens were allowed to join. However, this was limited to the citizens living in the direct vicinity of the proposed corridors. The representativeness of the public consultation meetings is therefore limited and is even further compromised by the fact that not all of the representatives of the citizens – the *camat* and the *lurah* - were present when citizens were not allowed to join.

Another shortcoming is that through attempting to treat all citizens equally, no extra effort seems to have been made to make sure socially weak groups were given proper attention in the process. Given the large sample size of especially the home survey, it seems unlikely that socially weak citizens were not included at all. There is no evidence however that any effort has been made to properly include their interests. The most telling example of this lack in representativeness is in the design of the stations, one of which is depicted in figure 2 in chapter 1. As entry and exit points, the station has two

sets of stairs. These are the only entry and exit points, effectively rendering the LRT inaccessible to the disabled, as well as difficult to access for the less mobile elderly. It is unclear from the data whether this knowledge was not gathered or gathered but not utilised. Whichever is the case, it is likely to be a recurring problem, considering that similar shortcomings can be found throughout Bandung’s transportation systems.

4.3.3. Methods

Given that local knowledge is knowledge that is tacit, the best approach according to theory is to make use of media rich communication methods, which allow for the highest amount of knowledge to be transferred, while simultaneously motivating the participants most to engage in communication. It can however also be effective to use both media rich and media poor methods in the same research, allowing for more data to be gathered.

Several different methods have been used throughout the LRT planning process to gather local knowledge. Presented in table 4 is how these methods score on the four concepts of media richness. This shows that the methods are diverse in their media richness, with the focus group discussions and the public consultation meetings scoring high, the home surveys and the road side interviews scoring low and the stated preferences surveys scoring average.

Table 4. Scoring of methods on media richness

	Amount and speed of feedback	Support of natural language	Number of cues	Social presence
Focus group discussions	+	+	+	+
Home surveys	-	-	-	-
Road side interviews	-	-	-	+
Stated preferences surveys	0	+	0	+
Public consultation meetings	+	+	+	+

Considering the theoretical framework, what is most important is that methods have been used which score high on media richness, which is indeed the case. In addition, other methods have been used as well to complement the media rich methods.

4.3.4. Utilisation

Due to the circumstances described in section 4.2.5, it is not possible to fully assess the utilisation of local knowledge. An added difficulty is that if a decision is made which runs counter to the gathered local knowledge, it does not necessarily mean that the local knowledge was not properly considered. This is apparent for instance in the matter of the ticket price. There is a definitive lack of transparency and documentation regarding how local knowledge is utilised. The focus seems to be on the gathering process and the utilisation aspect seems to be relatively insignificant, which may be detrimental to the planning process. In the long run, it may prove to be harmful for the relationship with the citizens. If they are repeatedly asked to participate in a planning process but in the end do not see their needs fulfilled – or no explanation is given as to why their needs are not fulfilled – they may lose trust and cease to be willing to be involved in the planning process. Second, data about the processes, results and especially the utilisation regarding local knowledge was in many cases incomplete or even unavailable, despite it having been retrieved with the help of the project planners. This difficulty in retrieving the data severely impedes on it finding its way into the design of the LRT. What's more, the lack of documentation impedes on the organisation's ability to critically assess itself and its method of conduct.

4.4. Perceptions on the value of local knowledge in transportation planning

Dispersed throughout the original transportation masterplan are sections which either imply that local knowledge is valuable or which state so explicitly. It is first of all stated as a general principle several times that it needs to be made sure that public transportation services fit the needs of the users. This is also iterated in the section dedicated to the LRT. It is additionally stated that “to create a vision of a good transportation system, public agreement needs to be reached by several relevant stakeholders, such as relevant government institutions, academics, the private sector, communities and other stakeholders” (Bappeda Kota Bandung, 2009: 6-2, translation by author) and that alongside the government of Bandung should be citizens whom are actively participating and whom are supported politically by legislature. Furthermore, as part of the research phase for the original transportation masterplan, Bappeda Kota Bandung sent out surveys to several government institutions. These surveys list questions which concern themselves with the best way forward in the transportation planning process in general. In a survey sent out internally, two questions relate to how public participation can support the planning process of Bandung's transportation network. Similarly, in a survey sent to DisHub Bandung it was asked whether there should be socialisation to the local stakeholders about the city's transportation system (Bappeda Kota Bandung, 2013). Finally, DisHub Bandung specified terms of reference for the LRT pre-feasibility study which was performed by consultants, which stated that citizens needed to be involved in the planning process (Armijaya, interview). The surveys and the terms of reference are all indicative of these departments valuing local knowledge, though in the case of Bappeda Kota Bandung it is clear that the right method to incorporate this knowledge into the planning process is still being looked for.

From the participants that were asked about how they value local knowledge¹⁸, all but one agreed on the value of local knowledge in transportation planning in general and the LRT specifically. Aside from this outlier, it was perceived that involving citizens in the planning process of the LRT had allowed for them to contribute positively to it and that there were no negative effects related to their involvement. One participant stated as a reason that the experts had estimated the demand for the LRT in a theoretical way, but the citizens had practical knowledge and were therefore able to for example state which angkot were generally overcrowded. Another participant mentioned that the citizens held knowledge that the government did not and provided as an example that in some cases citizens knew who owned a particular plot of land, while the government did not. These examples exhibit the complementarity of the knowledge of citizens and experts. One participant in particular was adamant that citizens, both users and non-users, should be maximally involved in the assessment of a project and should be communicated with. Yet another participant believed that in some cases the local knowledge that citizens were willing to contribute trumped technical expertise. This same participant however was sceptical of the usefulness of the ability to pay that citizens had provided, as he believed that they were underreporting their incomes in the hopes of this resulting in a lower ticket price. The participants were furthermore supportive of involving citizens in future transportation projects. One participant elaborated on this by stating that he believes that citizens should only be involved in projects, such as the LRT. He was afraid that no consensus would be reached if citizens would be consulted for policy on a strategic level. Another saw creating legitimacy for interventions through public consultations as the main reason for involving the citizens, despite her admitting that the citizens provided valuable knowledge in the LRT planning process. It was furthermore mentioned by some of the participants that it would be impossible not to involve citizens in a project, due to existing regulations which mandate public participation. One participant therefore stated that he felt that there were no barriers to involving citizens in planning processes. The only participant that claimed not to value local knowledge, claimed not to value the pre-feasibility study and similar checks in the particular case of Bandung. The reasoning behind this statement was that Bandung has several severe issues, such as air pollution and traffic congestions, which the LRT will be able to reduce regardless of whether a pre-feasibility study is carried out¹⁹.

Overall, local knowledge seems to be very much valued, both by the relevant government departments – Bappeda Kota Bandung and DisHub Bandung – and by the planners who have worked on the LRT. The relevant government departments have both taken steps which show that they value local knowledge and wish to incorporate it into the planning process, the former through the surveys sent to government institutions, the latter through the terms of reference set for the pre-feasibility study. Furthermore, all but one of the participants expressed their appreciation for local knowledge in the planning process, though they did so to varying degrees. Whereas one participant was in favour of maximum involvement, another saw the involvement of citizens in the planning process as a means to

¹⁸ Not every participant that has been interviewed has been asked about the way that they value local knowledge in the LRT and in transportation planning in general. This is because some participants were able to provide valuable information, but were themselves not directly involved in the planning process of the LRT.

¹⁹ It was unclear whether this was a serious comment or a joke. Attempts have been made to contact the participant again, but without any success.

create legitimacy for decisions which have already been made, which can hardly be considered a legitimate contribution of local knowledge to the planning process. This divergence in the extent to which local knowledge is valued by professionals may lead to differences in how effectively it is gathered and utilised in the planning process, depending on who is in charge of a particular (aspect of a) project and how much this person or group of people values it. Finally, when asked about the way that they value different groups within society, all participants stated that they felt that all citizens were equally important to include in the planning process. While this stems largely positive, as has been discussed in the section on representativeness, this poses an issue as it has led to the socially weak not receiving special attention.

It would seem that the expectations which were generated in the theoretical framework appear to be largely false. There are no signs that the Indonesian cultural context negatively affects the perception of the value of local knowledge. It cannot be claimed however that the cultural context positively contributes to the positive attitude towards local knowledge, as it remains undetermined whether this positive attitude is due to the culture or due to another factor, such as having an academic background. Neither is it fully clear to which extent the positive attitude towards local knowledge has impacted the planning process, as the inclusion of local knowledge is also attributable to other factors, such as the earlier discussed regulations. However, given the varying degrees to which the participants value local knowledge, it is reasonable to state that it is not optimally valued and may therefore not be optimally included in the planning process, as shown by one participant's belief that including citizens is primarily important to create legitimacy.

Taking all aspects into consideration – i.e. regulations, the planning process and the planners' perceptions – it is apparent that local knowledge is considered an important aspect of the LRT planning process. Multiple regulations are present to guarantee that local knowledge has a role in the planning process and the majority of the LRT planners agree on it having value and on the necessity of including it in the planning process. Indeed, local knowledge has been gathered extensively and also been utilised. Nevertheless, as the preceding sections have shown, there is room for improvement on several fronts.

5. Discussion

5.1. Conclusion

This research started from the hypothesis that the transportation planners in Bandung do not effectively gather and utilise local knowledge. Having assessed the planning process of the LRT, this hypothesis appears to be valid. Figure 10 displays the same conceptual model as presented in figure 7 in section 2.6, except the concepts have now been assessed on how well they support the effective gathering and utilisation of local knowledge. This figure shows that the different concepts are to various extents favourable to the inclusion of local knowledge in the planning process of the LRT.

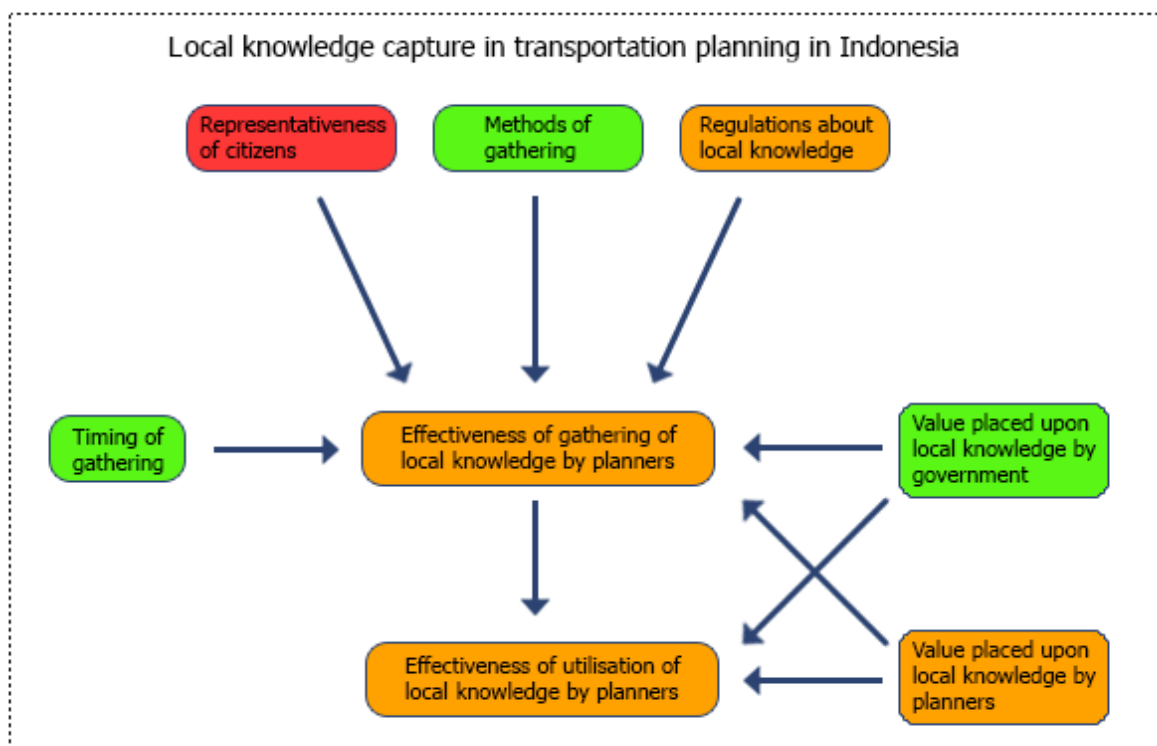


Figure 10. Effectiveness of the LRT planning process

The least favourable is the representativeness of the citizens involved in the planning process. As discussed earlier, it is severely lacking. This is caused by the lack of citizens involved in the public consultation meetings, as well as the lack in their diversity throughout the planning process. As a result of this, the needs of the socially weak citizens, such as the disabled, have not found their way into the design of the LRT. Furthermore lacking in some regards are the regulations about local knowledge and the value placed upon local knowledge by planners. While the regulations about local knowledge have left the planners no choice but to gather it, thereby being a positive influence, they are also unspecific in key areas. The methods described in the regulations through which planners can gather local knowledge are broad ranging. Theoretically, planners could for the majority of the planning process rely solely on one-way communication methods and still act in accordance with the

laws. Additionally, by presenting such methods as being sufficient to gather local knowledge, these laws shape the mindset of the planners. The value placed upon local knowledge by planners is predominantly positive due to the majority of the planners valuing it. However, as was shown, some participants valued it to a very limited extent, restricting its potential contribution to the planning process. As a result of these flaws, the effectiveness of the gathering process is subpar. This trickles down into the utilisation, as an effective gathering process is fundamental to an effective utilisation process. Effective utilisation after all relies on effectively gathered local knowledge as input.

In addition, four other factors were encountered during the research which have not been included in the conceptual model but which may influence the effectiveness of local knowledge in the planning process. First is the need for proper *documentation of input* that is received from citizens. The extent to which their input can be utilised is limited by how well it is documented in the gathering process. After all, untraceable input cannot inform the planning process. Furthermore, the model currently does not take into account the *depth* and *breadth* of topics for which citizens are consulted. If all other aspects were to be outstanding, the effectiveness of local knowledge could still be severely limited if citizens are not allowed to cover topics in depth or if they are not allowed to cover a wide range of topics. For citizens to be able to do so, they need to be well informed of the contents of the project, so that they are able to contribute meaningfully. These three concepts influence the effectiveness of gathering local knowledge. Finally, a *reflection* of the entire planning process is necessary. This allows government departments and the planners to learn from their past mistakes and to improve their approach in future planning processes.

These factors are included in the adapted conceptual model in figure 11. The assessment of how they have influenced the LRT planning process is tentative, as these factors have not specifically been researched. The documentation of input is considered to be severely lacking. While the input to surveys and similar closed questions is clearly documented, the input to the public consultation meetings is only available in one out of three cases. Due to this lack of documentation, the breadth and depth cannot be assessed with much certainty. From the data that is available, it would seem that the breadth is in good order, as the citizens have been allowed to cover a wide range of topics. The depth seems likely to be mediocre. The citizens were able to discuss matters in depth through the focus group discussion and a single public consultation meeting, which are only two moments in time throughout a planning process that has already been ongoing for several years. It is furthermore questionable how well informed the citizens were about the LRT and its latest developments, as one participant alleged that the citizens had little knowledge of the LRT. Finally, the reflection is likely to be severely lacking as well, considering that a large portion of the material to reflect upon is absent.

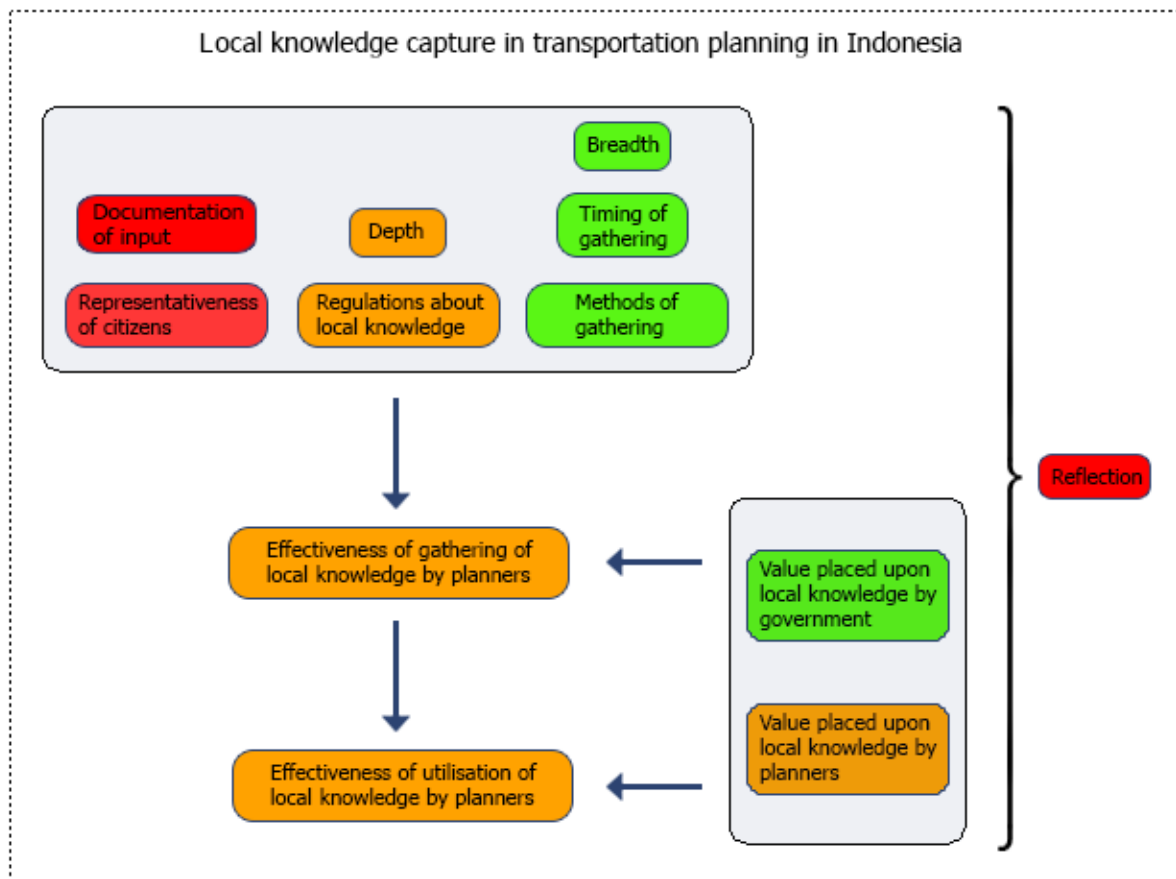


Figure 11. Adjusted conceptual model with tentative assessment

In continuing the line of inquiry of the hypothesis, this research set out to answer the question how the gathering and utilisation of local knowledge in the planning process of Bandung’s LRT can be improved. It should be clear that this can be done through improving the representativeness of the citizens involved in the planning process, altering the regulations and realising a change in the mindset of the planners with regard to the value of local knowledge. First, though the planners have already taken steps to ensure the diversity of the citizens involved in the planning process, an additional step needs to be taken to guarantee that socially weak groups – such as the disabled and the less mobile elderly – are given extra attention and that their needs of a public transportation system are included in the final design. This serves to ensure that future public transportation systems will be accessible to all citizens, thereby contributing to the success of the system. A potential measure that could be taken is to specifically target special interest groups, such as the Indonesian Association of People with Disabilities, which has chapters in Bandung. Another option is to establish a panel comprised of diverse citizens – including the socially weak – for the duration of the project and which can inform the planners. An added advantage of this latter option is that it would be relatively easy to keep such a relatively small panel well informed on the progress of the project, allowing them to contribute meaningfully. However, such measures will likely not be taken in every planning process on the planners’ own volition. The laws seem to have influenced the LRT planning process and multiple respondents have pointed towards the importance of the laws in the execution of the planning process. It is therefore recommended to include measures which ensure the strengthened position of the

socially weak in the planning process in relevant laws. This may be the most certain way to safeguard the position of the socially weak in future planning processes. Second, the laws already state multiple methods through which citizens can participate in the planning process. It is recommended to adjust the laws to distinguish between methods to involve citizens and to prioritise the media rich methods. In a similar fashion to how currently a public consultation meeting is required for the EIA, the same could be done for other aspects of the planning process. Doing so ensures that local knowledge is gathered to the fullest possible extent. It may especially be beneficial to mandate design sessions involving citizens. This will allow them to more easily visualise the design and to articulate their desires. For the socially weak in particular, this approach may be fruitful, e.g. to guarantee that the system is handicap friendly. Finally, the most difficult deficiency to address is the value that the planners place on local knowledge. This requires more than a regulatory change; it requires a change in mindset. This can be affected through a long process of institutional change, wherein the value of local knowledge is gradually reinforced within the relevant government departments. Addressing the previous two deficiencies already goes some way in accomplishing this, as it signals that the role of local knowledge in the planning process is taken seriously.

While the hypothesis is considered valid, the reasoning behind the hypothesis appears to be largely invalid. The ineffectiveness of gathering and utilising local knowledge can at best partially be attributed to local knowledge not being valued due to the specific Indonesian culture. Local knowledge appears to be very much valued by the relevant government departments and the majority of the planners. It would seem that the ineffectiveness is largely caused by a lacking knowledge base on how to properly design local knowledge gathering and utilisation processes, rather than unwillingness to do so. The fact that public participation and the utilisation of local knowledge are originally Western principles and that the Indonesian culture is distinctly different from the Western societies in which these principles were developed, seems not to negatively affect how local knowledge is valued in the Indonesian context, nor to significantly impede its inclusion in the planning process.

For planning theory, the contribution of this research has been to shed some light onto the process of local knowledge gathering and utilisation in planning processes and specifically in a non-Western context. Hopefully, through this research, more is clear now than before about the influence that a non-Western context may have on how local knowledge is valued, gathered and ultimately utilised. For planning practice, the contribution of this research has been to develop a better understanding of how to properly design and execute local knowledge processes within a planning process. Hopefully, through this model, local knowledge can be better integrated into planning processes. While the model that has been developed in this research has been applied to a transportation case in the context of Indonesia, it may perhaps also be relevant in other contexts which relate to local knowledge gathering. First of all, the model might be helpful in a case not related to transportation, such as the planning process of new apartment complexes. Second, the model could potentially also be useful in evaluating planning processes in other countries, both non-Western and Western. Though the model has been applied to an Indonesian case, the concepts have been developed in a way that is general and thus

allows for application in other contexts. Of course, further research will have to point out whether this model will indeed hold up in other contexts.

5.2. Suggestions for further research

Given the results of this research, one research opportunity is to examine the position of the socially weak in Indonesian society in more depth. From which aspects of society are they excluded? Is this done on purpose due to some deemed inferiority or is this merely oversight? What are the effects of this exclusion? How can this be overcome?

A second research opportunity is to assess the LRT planning process once more, after the LRT has gone operational. As all the choices, such as ticket price, waiting time, etc. will be final, it is possible to more accurately assess the utilisation of local knowledge – though the researcher will likely face similar difficulties in acquiring data. Furthermore, this would make it possible to assess whether the LRT can be considered a success or not and to what extent this may be attributed to the gathering and utilisation of local knowledge.

Third, given the gaps in data that hampered the research process, it is worth researching the extent to which different government departments reflect upon their own conduct and why. Included in such a research could be how such a reflection, if any, affects the future conduct of the department.

Fourth, the transportation masterplan mentions a LRT system for the entire Bandung Metropolitan Area through additional corridors. Should these corridors indeed be planned in detail, it will likely prove to be interesting to assess their planning processes to see if they differ and if so, how the results differ due to differences in the planning process.

Fifth, this project lacked a consistent panel of citizens whom could be consulted throughout the planning process. Interesting would be to compare a project without such a permanent representation with a project that does have a permanent representation to determine the influence of this panel on both the planning process and outcome. While potentially beneficial, such a panel might also have drawbacks.

Finally, the human factor has the potential to significantly influence the planning process. An individual planner's value of local knowledge may significantly affect how it is included in the planning process. This research did not dive into this aspect and has thereby left a gap for future research.

6. Reflection

If this research was to be conducted again from the start, several matters would have been handled differently. A first point of improvement is in the timing of deploying the survey, as the necessity of using a survey was deliberated on for too long. It would have been better to deploy the survey earlier in the process. If this would not have provided any useful data, it would have always been possible to discard the results. As the saying goes: better to have it and not need it, than to need it and not have it.

Second, the initial focus on the transportation planners proved to be too narrow, considering the fact that other professionals also had an impact on the decision making process, for example civil engineers. This has been corrected by also including these professionals in the sample.

Third, it proved to be difficult to adequately assess the effectiveness of the utilisation of local knowledge, on the one hand due to the lack of transparency, on the other due to the lack of definitive decisions so far. The first point is outside of my control. Regarding the second point however, it would have been more logical to assess the utilisation of local knowledge in a project where a large number or even all of the decisions were finalised. This however would likely lead to more problems in assessing the effectiveness of gathering local knowledge, as it would have occurred further in the past and relevant documentation and participants may no longer be available. The most viable solution therefore seems to be to focus on just one of two aspects or to perform research over a longer time period.

The expected language barrier proved to be significantly less of a problem than was expected beforehand. The majority of the documents were digital and therefore the analysing became a three step process: (1) translate the entire document using Google Translate, (2) read through the entire document for potentially relevant sections, (3) carefully translate the potentially relevant sections through my own knowledge of the language in combination with Google Translate to gather a more accurate translation of the text. Two thick documents were only available in hardcopy, which required a slightly different approach as well as more time to analyse, though not to the point of being problematic. On some rare occasions, a native speaker was asked to aid in translating. Furthermore, the majority of the participants spoke sufficient English, though there were times when it was clear that language was an issue.

With regard to the interviews, it was chosen to allow the participants to continue talking. This proved to be a good decision, as it occurred several times that useful information was given because the participants were allowed to talk as they pleased. This did prove to be rather time consuming for the transcription process, as participants just as often elaborated on irrelevant points.

Finally, the data collection process proved to be a rabbit hole. Every answer that was obtained raised another question and there was always more information to be collected, for example on the details of

certain events, especially because the documentation often proved to be incomplete. While collecting more data would have added strength to the conclusion of this research, some data proved to be inaccessible, as participants did not know the answer to a question or the relevant documentation was unavailable.

Overall, I am content with having taken the opportunity to perform this research, as it has proven to be challenging and affirmed that there is always more to learn on how to properly conduct research. I am always critical of my own work and therefore aware of the shortcomings of this research. Nevertheless, I believe it safe to say that I have delivered a decent end product.

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Appendix 1: Research log

Date	Event	Observations
03-05-16	Contacted DisHub Bandung through email.	No response. Sent a reminder email on 10-05-16, to which there was also no response.
06-05-16	Contacted several persons through LinkedIn	I performed searches on LinkedIn for staff members who may have worked or are currently working on the LRT or for DisHub Bandung. I asked them if they could bring me into contact with the right persons. I received several leads from this action.
25-05-16	Interview with a legal employee of PT. Len Industri (Persero), a state-owned company which is investing in the LRT.	The participant was able to provide general information about the LRT project and has offered to share potentially valuable contacts.
01-06-16	Interview with Puspita Dirgahayani, transportation planner at ITB, who is currently performing research on the LRT.	The participant was able to provide some general information, as well as the likely role of local knowledge within the LRT project. She furthermore provided contact information for important participants and several documents.
02-06-16	Interview with Ade Sjafruddin, dean of the Faculty of Civil & Environmental Engineering at ITB.	The participant performed the pre-feasibility study for the LRT and was able to provide information on the involvement of citizens during this phase. He furthermore provided documents and further contact suggestions.
08-06-16	Short interview with Harun Al-Rasyid, civil engineer at ITB.	The participant performed the pre-feasibility study for the LRT. He only had several minutes and could provide limited information in this time. He asked for the questions to be send to him via email, to which there was no response.
08-06-16	Interview with Henry Armijaya, transportation planner.	The participant performed the pre-feasibility study for the LRT and provided detailed answers to the questions asked.
10-06-16	Interview with Yanuati Nunun, head of infrastructure planning at Bappeda Kota Bandung.	The participant provided new information, some of which was incredibly useful.
14-06-16	Interview with Anton Sunar and Santie Priantie of DisHub Bandung.	Participants provided some useful information and offered two documents which sounded very promising. Unfortunately, the interview abruptly came to an end as there was a sudden meeting. The participants offered to reschedule.
20-06-16	Second interview with Anton Sunar and Santie Priantie of DisHub Bandung.	It turned out that the participants had only little time available. Content wise not much was discussed, but they offered support, as well as a

		document outlining the public consultation meetings (DisHub Bandung, 2014c).
28-06-16	Interview with Galuh Ressa from Bappeda Kota Bandung.	The majority of the interview was conducted with the help of an intern at the office, who translated.
19-07-16	Interview with Dhini from Bappeda Kota Bandung.	Participant was able to provide some new information.

Appendix 2: Semi-structured interview guide

General information

Date: Name: Consents to interview being recorded: Y / N
 Wishes to remain anonymous: Y / N Function:
 Working on LRT since – until: Academic background²⁰:

Introduction

1. Explanation of who I am: RUG/ITB master student working on my thesis.
2. Explanation of research: how local knowledge is used in the planning process of the LRT by transportation planners.
3. Explanation of local knowledge: the knowledge that local citizens have of their own local urban environment based on their own experience. For example, the knowledge of which links are missing in the public transportation system.
4. Ask if it clear what is meant by local knowledge.
5. Mention that if anything is not understood, please don't hesitate to ask.
6. Available time:

Theme	Questions	Potential follow up questions
Timing	In which phase was/will local knowledge (be) used?	How? What have been the results? Why in this/these phase(s)?
	What is the purpose of using local knowledge in this project?	
Representativeness	From which groups of citizens has the team gathered local knowledge?	How did the team select who to include? How does the team decide which knowledge to use once it has been gathered?
	Were there beforehand groups of citizens who were considered especially (un)important to gather local knowledge from?	For what reason(s)?
	Is there knowledge that the team has gained from groups of citizens that was considered especially (un)useful afterwards?	For what reason(s)?
Methods	Which method(s) has the team used to gather local knowledge? e.g. discussions with citizens, surveys, social media.	For what reason(s)? Does the team use the same method(s) for every group of citizens?

²⁰ A high percentage of planners in Indonesia don't have an academic background in planning.

		Which information has been gathered, from which groups and through which method(s)?
Barriers	Which factors influence the use of local knowledge in this project? e.g. regulations, amount of effort, orders from a boss, time constraints, financial constraints, political factors, own perception on value of local knowledge, willingness of citizens, etc.	How have these factors influenced the use of local knowledge in this project? Which regulations are there regarding the use of local knowledge? Are there agreements in this project about the use of local knowledge?
	How willing are citizens to cooperate?	Which groups are more/less willing? Why do you think that is? Can you give examples?
	How do you communicate to citizens what the influence of their input has been?	To which citizens do you communicate progress? How often do you communicate progress?
	Do you know of any groups which are in favour of or are against using local knowledge in transportation planning? e.g. political parties	For what reason(s)?
Value	Do you think local knowledge has been a positive contribution to the LRT? e.g. deciding on the route, location of stops, price of tickets.	For what reason(s)?
	Have there been any negative consequences from using local knowledge in this project? e.g. contradicting information, opposition from colleagues/politics/etc.	Which consequences were those? How were these dealt with and why in this particular manner?
	Are there any phases in this project in which you think local knowledge should have been used more or less?	In which phases? How? For what reason(s)?
	What do you think would happen if someone would propose using local knowledge more? e.g. positive & negative consequences, reactions from colleagues/boss/politics, etc.	
	Considering the advantages and disadvantages of local knowledge, do you think it is worth using	For what reason(s)? Have you discussed this issue with

	local knowledge in this project?	your colleagues? If so, what were their opinions?
	Do you think it would be worth using local knowledge in future transportation projects?	What could the contribution of local knowledge be in future projects? Which groups of citizens do you think would be valuable to include? Have you discussed this issue with your colleagues? If so, what were their opinions? Is there anyone against doing so?

Conclusion

1. Topics which have not been covered yet in this interview?
2. Suggestions for documents, people to interview, other sources?
3. Consents to being contacted for follow up questions: Y / N
 If yes → Phone number: Email:
4. Thank for interview.

Appendix 3: Interview notes and transcripts

The notes and transcripts below have been colour coded according to the following scheme:

Timing

Representativeness

Methods

Barriers

Value

(Lack of) involvement

Other

Date: 25-05-16

Legal employee of PT Len Industri (Persero) → state owned company which is investing in the LRT

—— Meeting notes

There are many groups who all have some degree of influence over the location of stations and the routes. It makes it hard to decide who the planner is.

It is likely that Ridwan Kamil made some decisions on his own, as he is known to do. His academic background is architecture, so he often has a vision which needs to be executed.

The stations and the route need to be located on government land, though the routes aren't fixed yet. The government doesn't have the money to buy private land. If stations are located on government land, it also makes it possible to earn money from it. It is not always clear however who the owner of a piece of land is.

The project is currently in the tender phase. The construction is scheduled to start in 2017.

Date: 01-06-16

Puspita Dirgahayani

ITB lecturer and transportation planner (but not on the LRT)

—— Meeting notes

LRT was first supposed to be a monorail. In April 2016 it was changed to a LRT so that it could be connected with the High Speed Rail Jakarta - Bandung.

The process of making decisions is technocratic. She suspects that local knowledge played no role in it.

The priority is in building corridor 2, because it will be connected to the HSR (= operational in 2019).

There are different routes mentioned in different documents. The government is still somewhat unsure of what it is that it wants to do. Ridwan Kamil has made some changes to the route on his own.

Date: 02-06-16

Ade Sjafruddin

Dean of the Faculty of Civil & Environmental Engineering at ITB. Performed the pre-feasibility study for the LRT.

——— Interview notes

The study was performed 3 or 4 years ago, when the plan was still to build a monorail. This study serves as the basis for the LRT. The technical aspects have changed, but the service provision is still the same, as there are not that many differences between the initial monorail and the LRT.

The pre-feasibility study included a demand analysis, an identification of the best routes (corridors), a cost estimation and financial feasibility analysis. The project was not financially feasible if it was fully constructed by the private sector, therefore public-private partnerships are necessary. The national government will provide the funds to build the project, while the operator will be a private party.

The economic feasibility from the government's perspective is not in the ticket price, but in the saved travel time and the increased productivity resulting from this.

The main constraint for the decision of a route is the limited availability of land, as Bandung is a densely populated city. This also forces the LRT to be build elevated.

The potential demand for the routes was determined through a stated preferences survey. Citizens were asked whether they would be willing to use the LRT for different ticket prices and in two different scenarios. In the first scenario, the LRT was added to the current situation. In the second scenario, current public transportation was rerouted to serve as feeder routes to the LRT, instead of competing with it. Citizens were split into three groups: (1) those using public transportation right now; (2) those using their personal car; and (3) those using their personal motorcycle. They were also asked at which proposed stations they would enter and exit the LRT, thereby providing an average trip length. The data has been recorded in PowerPoint file which will be shared.

The next step should be to perform an Environmental Impact Assessment (EIA) and a full feasibility study. On the basis hereof, it should be decided whether the project should be continued or halted. These studies should maximally involve citizens, both potential users and non-users. They should all be part of the assessment and they should be communicated with. It is also important to consider the opinions of the people who live next to the proposed rail locations and of the angkot drivers, who may face a loss in income.

For the survey, citizens were randomly selected in public spaces. It was not felt that certain groups should be included more than others, as the survey has to represent all groups. This is a matter of personal opinion.

The only method of involvement was the stated preference methods, which is common. Preferences were recorded through a survey with limited options to answer. A Likert scale was used to provide answers to a range of questions.

There was no direct feedback to citizens on what happened with their input. Presentations were held for government institutions, for which representatives of the public were also invited.

The majority of the citizens were willing to cooperate in the study.

Involving citizens was a positive contribution. It is really important to consult citizens during the EIA. The majority of the people will benefit from the LRT.

Some professionals perhaps might want to build the LRT without consulting citizens first (DisHub Bandung), but this is impossible due to regulations. If the national government will indeed provide the funds for the LRT, there will have to be a reassessment of the project. Citizens need to be included in this. Angkot drivers may oppose the project and should be involved.

The participant did not feel like there were any barriers to involving citizens.

There was no negative aspect to the citizen involvement.

——— Comments

Some questions were misunderstood. The participant didn't fully understand that it was about his perceptions on the input of citizens and not on the perception of citizens on the project. The same applies to the positive and negative contribution. It needed to be made clear that it was about the input of the citizens.

Date: 08-06-16

Harun Al-Rasyid

——— Meeting notes

The government institutions which are focused on planning are not streamlined. There are old institutions and new institutions with overlapping responsibilities and both exist next to one another. There are also regulations on multiple government levels which are contradictory to one another.

There is no need for pre-feasibility studies and similar checks. Bandung has several severe issues, such as pollution, which the LRT will be able to reduce regardless. It was unclear whether this was a serious comment or a joke.

Date: 08-06-16

Henry Armijaya [H]

Transportation planner

——— Interview transcript

M: What were your tasks in the LRT project?

H: I work for pak Ade by that time to develop some, you know, demand estimation and also, the service route of the LRT.

M: The corridors?

H: Pardon?

M: The corridor.

H: Yes the corridor. Corridor. And also analysis of the feasibility itself. The economic and the financial. We also do some, you know, coordination with the local government. To make sure that the corridor is able to be... what you call that? To be used as... the route of the LRT. Yes that's the whole things that we do that. The pre-feasibility study. If I'm not mistaken, today the pre-feasibility study is carried out with detailed engineering design or basic design, I'm not quite sure.

M: Ok.

H: By the... state owned corporate. [name] if I'm not mistaken. Yeah this is.. so what else? Your focus on for your thesis. What kinda?

M: Well, so.. I also spoke to pak Ade, he told me that you did a stated preference survey...

H: Stated preferences yes.

M: I was wondering, where there also any other methods that you used to involve the citizens?

H: Hmm... basically we... did the analysis for demand estimation using two approaches. First, we.. analysis the behaviour of the.. traffic.. I mean the traveller. They.. they used the public transport, private car and also motorcycle. And the second method we approach.. with the.. network analysis, using four stage modelling. Heard of that before?

M: No.

H: Four stage modelling, you know. We develop the... trip generation, trip distribution.

M: The O-D matrix.

H: O-D matrix. And... trip assignment and finally we use the.. the behaviour approach to find how they... pattern... in term of mode choices for the trip. Daily trip.

M: Ok.

H: Yes.

M: So... I was wondering. Where there also any other decisions where the... where the citizens were involved? Like... where you specifically asked the citizens..

H: Ah I see. We... uh... we, I mean where were the interview carried out, is that the point? Yes. We do the survey... I mean the surveyor is split up in... in some potential corridor in which the... the plan of the LRT is going to be... there, so we be carried out along the corridor. Those two corridors. Those two main corridors. Especially... the public transport user. We do the survey for the user of public transport in which the route is alongside the LRT. Yes.

M: And.. like.. do you know if there.. outside of the pre-feasibility study, if there are also.. other phases in this whole process where they've asked citizens for their opinions? Or surveys or interviews?

H: Basically they've been waiting for this project since.. maybe 2, 4, 5 years... ago. You know, they have a very enthusiasm to [...] the project is implemented.

M: You mean the government or the citizens?

H: The citizens. Also the government. And also the.. the parliament. Yeah. But, actually the problem is not focused on the technical matters. It's focused on the... our... our study come up with the conclusion that.. to provide the LRT service in Bandung, you have amount of.. you know.. huge number of rupiah. That is the main problem. We recommend... we told the local government, that if you want to approve or develop the LRT, so you have to solve... from where or how the manage... how you manage the... the financial resources. In order to make the LRT development happen. That's our main problem. If we use the classical PPP. You know, public-private partnership, so it mean it will be faced with a very serious problem. Because, our study also come up with the result that **the willingness to pay.. of the traveller is quite low**. So if you compare the willingness to pay, which is.. come up with the optimal tariff based on the willingness to pay and compare to the tariff.. in term of.. investment cost recovery. They have very huge... gaps. Yes, that's the problem. So.. government in this case, they have to find out way how to... how to solve this differences between those weak WTP and.. the recovery. That's the main problem. Last time I met pak Ade, we heard that our local government is proposed to our central government, to provide the infrastructure. Yes that's the process is going now.

M: So the central government will pay for it?

H: Pay for the infrastructure investment. That's the.. if I'm not mistaken. The last story we heard. Yeah. Because I don't.. involved in the last study, carried out by [~ Adi Karya].

M: What is your academic background actually?

H: Pardon?

M: What.. your.. are you a civil engineer?

H: My background? Traffic. Traffic. Transport planner. I work for.. this is our study [referring to room we are in]. We.. this is actually.. no we are.. informal.. informal company. We don't have.. we don't have any official name like.. like a company name with a.. with a legal.. legal structure.. name. But we receive the project from the local government from... [mumbles]

M: Like an independent bureau.

H: Yes. That's what I'm trying to say. Yeah yeah.

M: Ok. So with.. so with how many people did you do this project? The pre-feasibility study.

H: We.. we have 2 here.. but probably 6, 8, up to 10 person. Outside the resources for field survey. **We also provide the field survey**, you know. We have to go out something [...] to carry out the field survey. We have probably... probably... 30, 40 person... to do the survey. For the field survey I mean. For the interview itself we.. we involve... probably 40 or 50 member.

M: Interview?

H: Interview. Ah interview survey. For the traveller.

M: But for the plan making it was 6 people? Or.. about 6.

H: Six people after we receive the data. Because we also do the corridor survey. We also do the topography.. brief topography... observation. Land condition. Geotechnical aspect... along the corridor.

And also the possibility of land acquisition. Yeah after we receive the data. We need not quite a lot of people to... to compile the data... to analyse the data.

M: Ok. I was wondering like... what was.. were there certain agreements in the team about, you know, involving the citizens in the project? For example through the stated preferences survey? Like.. what was.. did the government say you have to do this or did you come up with it on your own or..

H: **We have a term of reference**. As our... guidance.. in conduct the study. Yeah, we have a lot of things to do. I mean you can see the.. I mean the term of reference, part of.. what we have to do in study. You can find out in the first chapter. There's an introduction.. study objective.. and also... what do you call it. Scope of study. That's in the first chapter, chapter 1.

M: Could it be this one? [showing DisHub Bandung (2013) on laptop]

H: No this is cover.. soo...

M: But this is the right file? Or..

H: Yeah. This one. This is the... executive summary I think. Not the complete..

M: Yeah. That's what pak Ade gave me.

H: Ah I see. So what is actually your.. your thesis aspect to be.. analysed. Or, you know... the topic aspect.

M: No, it's about the.. it's about the part... the involvement of the citizens in the project. That's what I'm looking at. I'm wondering how exactly are citizens involved in the project...

H: Let me tell you the methodology of the study.

M: Ok.

H: I.. do you want the.. I'll show you in the report how citizens involved in the.. in the planning of this.. first of all I would like to tell you the big.. the big stages of how finally the LRT will be developed in Bandung. So the first things.. this is based on.. we have a kind of.. you know, guidance. Developed by our government. But every single infrastructure, including transport infrastructure.. you have to do the.. first, pre-feasibility study. [Writes on whiteboard] Or, feasibility study. And second things.. in this study, we develop the alternatives.. of.. in this case ya. We develop the alternatives of route.. you know.. corridor. And we choose which one is.. is.. what you call that. The best. You know, for several criterias. And second things. For the chosen corridor, we do the detail.. more detail design. We call this preliminary design. And.. detailed engineering design. Ya. But, when we finish with this step [points to step 1], sometimes.. often.. we face that the project has.. I call that as a difficult.. difficult aspect. In term of financial aspect. How we pay the project.. how we provide the financial aspect to develop the project. That's our biggest problems here in Indonesia. Soo.. we usually put some... this is very very classical: PPP review. Here. In this type.. we.. we... what you call it. We put some alternatives of how the.. the project scheme.. in term of.. cost. How we provide the cost for the project. Is that the central government have to be intervene for the infrastructure probably. Or.. the private.. the private aspect... only involved in the operation of the LRT or.. this is we call this.. So, after we come up with the final, or.. the confirm of the financial scheme, so we usually, in this aspect. Sorry. We do this, in this step [writes down PPP review in between step 2 and 3]. After we confirm with the.. financial scheme. There.. is depend. If the government have to build.. or have to provide the infrastructure cost.. so the detailed engineering design will be carried out by the government. But in... in other hand.. if the.. the private sector have to build the infrastructure, so the detailed engineering design will be carried out by

the private aspect. So this is depend on the aspect. This is the whole.. the whole stages of.. how finally the LRT is developed. Your qu.. back to your question. Back to how citizen involved in the project. In.. in this aspect. We.. let me see.. let me show you the methodology of the study. [goes to page 3 of DisHub Bandung (2013a)]. This one. Ok. We have.. 3.. 3.. analysis flow. Or probably 2. This is the technical aspect [points to the left half of the flowchart]. How the corridor is developed. And this is the.. demand aspect. Social aspect. [points to the right half of the flowchart]. Sorry, my phone is ringing.

....

....

H: This is the government.. counterpart.. development of.. Yeah. This is technical aspect and this is demand aspect or social aspect. **The citizen will be involved in.. analysis of.. this one. Stated preference. How.. I mean.. the stated preference analysis.** I mean the key.. concept of those stated preference analysis is those.. how we find the appropriate... respondent to be interviewed. So.. respondents mean citizen. Citizen are.. citizen is travellers who.. have... daily activity or daily trip in urban area. Specially in the corridor in which the LRT will be developed. Yeah.. that's in the step of pre-feasibility study, how they involve in the development aspect. Yes. That's the.. ok.

M: Ok. So.. just gonna take this back for a moment so I can go back to my questions [takes back laptop]. Because I don't know them by heart. So lets see.. Also, I was wondering, did you find the citizens willing to cooperate? Or was it difficult?

H: **Since they have enthusiasm, waiting for this project to be developed.. they are very cooperate. Even when we do the technical survey, I mean we.. make some observation along the corridor, they are very enthusiasm.** Also they are.. you know sometimes they propose to.. you know.. I mean if you choose this corridor, there will be a.. problems in [...] you know. We.. use this corridor or something. It's like how.. how we found the difficulty of land acquisition in Indonesia. We also have some support from citizen to choose the optimal corridor. In term of land acquisition.. process.

M: So.. like the things they said, so for example "don't do it, do it there", that's something you also took into consideration when making the route?

H: **Yes depending on the situation. I mean.. that's.. their opinion is not the only thing to consider.. we consider the.. because in Indonesia we *have* to.. I mean.. [...] highlight on that. We have to hear what they say. Because they live their. They know exactly every single step of.. land where they live in. So I think this is.. sometimes technical aspect will be... eliminate by their opinion.**

M: Ok. So sometimes their opinion is more important than the technical aspect?

H: **Yeah more.. even stronger. Con.. i.. they have a stronger consideration ya.**

M: Could you give an example? Of a certain location where it happened?

H: Like.. we have the information that the land over there.. is owned by.. you know.. someone who is very special or have a big influence in the.. in the area or something. Or something even the government. We do not know. Or.. sometimes they inform us that the land is very important for the citizen around the area. So.. sometimes they.. they ask.. I mean our surveyor not the use the land for the corridor or something. Like this one [draws two adjacent plots of land on whiteboard]. If they have a... farmland. Like this one. Farmland. They have border for that land, like this. So they prefer, if you want to use this land, so you have to choose this corridor [draws line in between two plots]. Not this

one [draws line through a plot]. Because the owner of this land will have difficulty to.. now if.. the corridor is developed here.. so they have.. they would have 2 lands to be.. to be..

M: To be managed.

H: Yes to be managed. That's the problem. They will recommend us to use the border as a corridor. Like this one. But in Bandung we don't have any kind of this problem. For this.. LRT case.. we try to minimise the need of land acquisition. So we mostly deal with the government. It's depend on the status of the road. I mean the road is the.. land in which.. occupied by government, not by citizen. Excuse me, it's ringing again.

....

....

H: Sorry.

M: I understand.

H: Where were we?

M: Well you were saying.. I think the last thing you said was about the citizens [points at the drawing on the white board].

H: Oh yeah. Yeah. That's also part of how citizen involved in the project.. in the project planning ya.

M: But.. was that really something they were asked or.. were they asked about their stated preferences and said like "ow yeah, hey I have some extra information for you"?

H: We find them out. So.. not every citizen is able to be interviewed. So we have to.. you know.. we have.. certain survey for interview. Interviewer. They have experience in.. which.. which person is able to interviewed. I mean in which condition, where they can be find, et cetera. They have experience in that. Not every citizen actually willing or able to interviewed, that's the problem. So we have to find them in the place.. in which they.. where they have... *santai*.. you know.

M: Relaxed.

H: Yes. Not in a hurry.

M: They have the time to..

H: Yes. And right time, right place, right person. Yes.

M: But, so, what did you ask them in the interviews? That's different from the surveys right, or is it the same?

H: Same.

M: It's the same questions?

H: Same questions. We ask them, you know, in.. we conducting the survey.. we don't actually use a formal interview.. we have list of question. But we ask the interviewer to fold up the questionnaire in their pocket and they ask them like a conversation.. like informal conversation. Chit chat you know. After they're finished with their conversation, they put the answer in the questionnaire. Just like that. So we.. sometimes we also have.. like opinion or recommendation or, you know, how they respond the project, outside the question. So.. so the interviewer have to put the..

[talk at the same time]

H: .. outside the questionnaire. So we collect them and we make some conclusion how citizen have an expectation for the LRT. Something like that.

M: Ok. And so you said that not everyone is able to.. to be interviewed. How do you decide.. like.. who do you include and who..

H: You have to try. You have to try. Sometimes they “ow sorry I don’t have time right now to answer your question.” Or also “I’m in hurry,” or something like that. So we have to find another.. like that.

M: Ok. So the.. like.. there was not beforehand a selection made of..

H: No no. We have to go to the field and find the [mumbles] we try one by one.

M: Ok. And everyone is equally important?

H: Yeah. Yes.

M: Ok. Yeah.. so the citizens give you information about how they would like the system to be.. and how do you.. how do you communicate back to the citizens like “this is what your influence has been in the project”? Like “you give us this information and this is what we have done with this”.

H: In the case of our study, there are.. I mean the citizen.. what we are trying to find from them, from our survey, is focused on.. their willingness to pay. That’s the main.. the main object we try to find out. Level of their input.. yeah, their willingness to pay. And also we tried to find how the characteristic of their daily transport.. requirement. We have.. the things is.. the characteristic of their travel.. their willingness to pay based on perception of.. between tariff and travel time.. and also their.. profile.

M: Sorry, their?

H: Profile. Their income. Their transport.. spend. Yeah transport spend. Monthly. Something like that.

M: Ok. So.. do you think the information that they have given has been useful for this project?

H: Yeah sure. Except for income. Sometimes we have very.. very huge diffusion. Between actually their real.. you know.. they have cellular phone and.. you know.. their bike.. when they.. when they answer their monthly income it seems like, you know, different.

M: They report lower.

H: I guess that’s the normal things. They always answer the lower level of their.. because they have resistance in.. they’re afraid if they.. if we found that their ability to pay is quite high, so we put the tariff very high. So they’re afraid to.. or sometimes if the case is not LRT ya. Like toll road. So you ask me this question. Is there any intention from you to increase the toll tariff? So they’re afraid to.. I mean they have resistancy to answer. Single question related with income, expenses, tariff.. something like that.

M: So aside from that their input.. the rest of their input was good?

H: I think so.

M: It was just the money aspect?

H: Yeah yeah. I think so.

M: Have there also been any negative consequences from involving them?

H: In case of LRT no. But for toll road, sometimes we have to [unclear]. For different cases like toll road in which the project needs.. you know, very wide right of way. Sometimes we have to.. we need land acquisition for up to 70 metres. For this one, we also need, probably 15 metres of land acquisition. Very much different. So, almost.. I mean this project almost.. you know, except for tariff ya. Because.. today, nowadays, the expenses for angkot tariff is very low. They pay Rp. 7.000 for 3 different services. You know, they have.. sometimes they have to change up to 3 services, and they pay lower than Rp. 10.000, lower than Rp. 7.000. So if we compare the monorail, they said the tariff is too

expensive. I tol.. we told them.. you pay more expensive, but you can save your time. If they use.. public transport [referring to angkot], they have to spend probably 1 hour, 1,5 hour, sometimes 2 hours. But if you use monorail, you only need 20 minutes. "I don't need to be hurry. Why do I have to pay more expensive for my travel? For my.. you know, for my informal travel." That's the problem. That's our problem. So if government have.. will develop the LRT, they will have also.. they have to manage also the... the service.. the route service of angkot. Have to put the monorail as the backbone and put the angkot as a feeder. And this is very difficult here in Bandung, because you know the.. the institutional set up of angkot is not based on.. you know.. In the case of angkot in Bandung, in Indonesia generally, government almost have.. our government has very marginal role. The main role of government in the case of transport, public transport services in term of.. permission.

M: Ah yeah, they give permission for others to do it.

H: Only that. If the angkot is... not profit. They don't have enough profit. They lose money. They cannot continue the service. Government do not want to know. It's not their problem. Not the government responsibility. So if government put some.. you know.. new regulation for angkot, they will protest. You know, because "you didn't give me anything, so you want to manage us, how come?" So this is, you know, LRT is very, have a big challenge you know, in term of citizen, they don't care who will provide the services, as long as I.. the price is affordable.. is enough for them. This case they don't have to.. you know, time is not everything. Time is not the main reason why they choose their transport mode.

M: Ok. And do you know of any other phases in the.. in the whole project where the citizens also had some influence? Aside from the pre-feasibility.

H: Yeah. Land acquisition.

M: And how exactly?

H: Our central government now... have... land... land regulation ya. For the needs of land acquisition for public infrastructure project. Yes. I'm not.. I don't understand.. in detail of how the regulation regulate the.. the needs of land acquisition for the infrastructure project. But, if I'm not mistaken, I've heard that the.. now the price of land which is need.. needed to be... to be... *harus dibebaskan*.

M: Free.

H: Yeah to be.. to be used for the infrastructure. The price is decide by... decided... by market price. Back to, you know, several years ago. Individual citizen sometimes decide.. the price of the land itself. So in Indonesia sometimes in toll project.. cost component for land acquisition could reach more than 30 percent of the whole infrastructure investment cost. It's very high. But the problem is not the.. how the proportion.. how big the proportion of the land acquisition cost. But the problem is the certainty. How... the developer has to provide cost for land acquisition. That's the problem. That's the.. I would call as the main role of the citizen in term of land development. Even though, government have to.. to make... I mean, have made the regulation, we still have some problems in term of land acquisition.

M: Just with the land owners that is?

H: The land owner yeah. But sometimes it's the land.. land owner.. sometimes if the plan of the LRT corridor is leak, you know, the information leak to the.. leak. So.. there is a kind of.. a group of people we call that... what we call that in Indonesia. I forget the name. I mean a group of people who buy the land in which the corridor will.. will go through the area, they bought that first before the government

come to the area and then government come there.. the government will deal with these group of people. That's very difficult. That's [mumbles].

M: So they buy it so that they can raise the price of the land..

H: [interrupts] They can play with the land price. I don't know.. is this group of person.. is similar as you call a citizen. They're very very special.. special.. you know it's different.. they're not citizen actually.

M: They're just in it for the money.

H: *Spekulan*. We call it *spekulan*. They have a speculation.. they bought the.. land in market price now and then government come to the area and want to buy the land. They say "you know, the price is not like that, it's high now." They have speculation to.. if government wil.. willing to price the price.. huge profit from their... land price. And that's also the role of citizen. Probably.

M: Are there any other ways? Like aside from those two?

H: Pardon?

M: So aside from pre-feasibility and land acquisition, are there any other ways that citizens are involved?

H: [takes a long time to think] I'm not sure. Probably not.. I'm not sure ya. Before the process of.. investment tender. In which involve the.. company ya. Not citizen actually, company. Government has to do the.. sounding market. Market sounding. That is not addressed for citizen. But is addressed to potential investor. I don't know, investor is similar with the citizen or not.

M: It's a bit different.

H: Bit different ya. So.. so citizen... that's so far I know. Their involvement in the project.. in the project planning.

M: And.. are there any phases in the project where you think.. they should be more involved? Or maybe less involved? In the.. whole planning process?

H: In my opinion?

M: Yeah.

H: In my private, personal opinion, should be less. Because, if we, you know, if.. matter of culture yeah, here in Indonesia. Every single.. head has different opinion. So it will be hard to accommodate every single opinion, so for me it is much better if government has a kind of... confirmed masterplan, in providing the.. in development the transport system as a whole in the city of Bandung. But, the other hand, we have, I mean, masterplan is our main [laughs]. Because, you know, we have.. now, we develop, we propose the masterplan of.. first year, we develop this one, the second year, the first five years, the second five years, and so on. But, we.. we are very.. I mean.. government. Very weak. In term of how they make.. how they make the planning is confirmed to be implemented in that time. We do not have those masterplan. So I'm sure if we confirm with the masterplan to the citizen.. involvement in the planning could be.. less.. less..

M: Could be lowered.

H: Could be lower. But in the other hand, they will.. because for me. What is expected by the citizen is how they can receive.. feasible services of those transport, public transport services. At least they can choose.. for the same origin destination trip, they can choose.. I can use this mode or that mode or something like that. You know, the government should focus on benefit that will be received by the

citizen, not.. not how citizen can involve into the planning, because the planning is fully.. part of government responsibility. That's what I think. We do not have that masterplan, that's the problem. Probably.. yeah that's the problem I think. That's the main thing. There also.. suggestion from some... professor, doctor [mumbles] that masterplan should be, should have, or should be supported by legal aspect. So if.. chief of.. wali kota [mayor] is changed, so the masterplan is remain the same. That's our.. every wali kota have different project, different planning or something. Even the LRT. The idea is coming up for the last maybe 2 or 3 years. Should be.. I mean the planning should be.. for me yeah, ideally have to be planned for probably 10 or 15 years ago and implemented now. I'm worried that if pak Ridwan Kamil [the mayor] is... changed by another.. other government, other wali kota, then the project of LRT will be..

M: When are the next elections?

H: I'm not sure. It's 2019 or 18.

M: So hopefully it will be finished before he..

H: Hopefully. Hopefully.

M: So, basically you think there should be less involvement from the citizens...

H: In the planning, yes.

M: ... so that.. so that it can be more straightforward.

H: I think so. That's what I'm trying to say. At least.. long word.

M: Do you.. do you know how your colleagues feel about this?

H: Pardon?

M: Do you.. do you know the opinions of your colleagues about this? About the involvement of the citizens?

H: If.. you ask my colleague here in this office, they will have the same opinion. Because we have the same point of view in term of, you know. Sometimes... other instance we don't have any confirmed masterplan, so the involvement of citizen to, I mean replace or substitute the.. the masterplan is not, is not.. fair for me. It's not fair. I mean citizen.. if we involve them in the.. which corridor is should be the best, this one or that one, is ok, is ok. It's fine with that. But in term of strategic policy.. I don't think that.. citizen should be involved.. deep involved. Have a deep involvement in the case of strategic.. I think.

M: Ok. So for example.. in example the LRT itself they can have a lot of influence, but as long as it's not about.. about the whole transportation.

H: The whole transportation. I mean the macro planning of the transportation I don't think.

M: But specifically in the LRT for example..

H: Yes, yes, that's.. you know because in this case we.. are focused on the technical aspect, I mean we don't know.. I mean I have expertise to develop the LRT, but I don't know the location well as the citizen who live there, yearly.. or.. or [mumbles] or more than 15 years in the area. So I have to ask him, what is the probability if I choose this corridor or that corridor or they have any opinion. The technical aspect, it a must a think. But not for the.. macro.. strategic policy.

M: So also in other projects, do you think it would be.. would be valuable to include them? So for example if they.. for example with the SkyBridge. Would it also be valuable to involve the citizens?

H: Yeah I think so. How.. what they need to develop the factor of movement in the area. You have to ask them. We have to involve the citizen, involve.. how to get.. the SkyBridge, in which way, that way, A to B, B to C or C to B.

M: And.. do you.. do you know of any other groups within this planning process of the LRT, for example DisHub or Bappeda or someone.. do you know if they're in favour of involving citizens, or perhaps against?

H: Hm?

M: Do you know of any groups involved in the planning process of the LRT, so for example DisHub or for example Bappeda.. do you know their position on this? Are they in favour, are they against?

H: Actually we are, I mean we work for DisHub. Of.. the project is.. the owner of the project is DisHub Bandung. Bappeda, I think they will.. they support, I mean they have the same point of view for this, because.. the chief of user of this project is pak wali kota. So the regional Dinas [department], we call it SKPB, they have no choice or... this is, wrong answer if they answer no for this project. They have to say yes, even though they're not really for, I think they are not really for.. the implementation of this project. I mean especially for the costs.. consequence. They're at the same side of this project.

M: They're all in favour of the project?

H: Yes.

M: But what I mean is.. if they're in favour of the involvement of the citizens in the project.

H: Oohh. Yeah I think so, as I mean, their position in the government, in the local government. Basically they.. they represent of the citizen the government, so I think they, they, they agree. When we told them about the methodology they.. they're very happy to hear that.. we look at the citizen. Even though they ask us to provi.. to involve the citizen in the project. Specially for the *preferensi*. How finally we deci... we conform with the.. the LRT tariff, they ask us to.. you have to involve the citizen. You have to make an interview. Yes.

M: Ok. Yeah, that was my list of questions. Is there anything...

H: I hope.. I mean I.. our meeting today will help you..

M: Definitely.

H: .. thesis progress.

M: Is there anything you think I might have forgotten which is still... which might still be important for me.

H: No.. I don't think so. This is complete.

M: Ok. Do you have any suggestions for certain documents I should find or certain people I should interview next or other sources?

H: For.. in term of citizen involvement also?

M: Yes.

H: I think this is the.. the only document we have [referring to DisHub Bandung, 2013a] in term of LRT development.. planning. We.. we do not have any other document.. at least. I think.. I don't have any suggestion for other document to be collected.

M: And maybe for other people? Who you think I should interview?

H: Have you made this kind of interview with DisHub or Bappeda?

M: Not yet.

H: You should go to interview with them. Pak Ade?

M: .. was more informal, because..

H: He's a very busy man. I think pak Ade will have same opinion with me, as we were.. in same team in the beginning of the project.

[Evolves into small talk]

Date: 10-06-16

Yanuati Nunun

Head of infrastructure planning at Bappeda Kota Bandung

——— Interview notes

Bappeda is the agency which coordinates plans between government agencies. It arranged the schedule, meetings, etc. Consultants (e.g. Ade Sjafruddin and Henry Armijaya) performed the actual research.

The participant has been working on the LRT for 2 years now.

Corridors 1 and 2 are in the advanced stages right now. Corridor 1 is in the bidding phase and corridor 2 will follow afterwards shortly. After they have been constructed, the government will turn to corridors 3 until 9, which will serve the Bandung Metropolitan Area.

The Bandung masterplan, RTRW, contains the most current map of corridors. The LRT is mentioned in the 2011 masterplan, though with different details (e.g. different corridor routes).

DisHub was responsible for the pre-feasibility study for corridor 1, as well as a detailed engineering design.

There is a public-private-partnership for the LRT. On the government side are DisHub and Bappeda, as well as ULP, which is the bidding unit of Bandung. On the private side are investors.

There were “many” meetings 2 years ago between government agencies which also involved *ketua kelurahan* or *ketua kecamatan* [heads of district units], whom represented the citizens in the planning process of among others the LRT. There were 1 or 2 representatives per district (30 districts) and they were given the opportunity to come up with ideas, criticism, talk about the future and more, as the meetings were open with regard to the topics to be discussed. The LRT plans were changed “many times” as a result of their input. These meetings were held in among others the office of Bappeda, DisHub and the mayor.

“Of course” the involvement of the citizens was a positive influence to the planning process. The experts have estimated the demand for the LRT in a theoretical way, but the citizens have practical knowledge, such as “this angkot is always full at this time”.

In answer to the question if there were any negative impacts of the involvement of citizens, the participant answered that their willingness to pay was low. They want to travel by the cheapest possible means and think that the LRT is too expensive. This question was misunderstood by the participant.

The participant feels that it is worth it to involve citizens in the planning process.

——— Comments

There was a clear language barrier involved. While the participant spoke English, it was necessary to repeat questions to convey their meaning. Some questions were not understood after multiple attempts.

There was too much background noise in the room for a recording.

Date: 14-06-16

Anton Sunar [A]

Employee at DisHub Bandung

Santie Priantie [S]

Employee at DisHub Bandung

——— Interview transcript

M: I had some general questions about you first actually. I was wondering, what is your academic background?

A: My background is civil engineer and I’m graduate.. then I graduate from ITB.

[Santie Priantie enters the room]

A: This is my staff, ibu Santie. Also, I just moved here for one month. My background is civil engineer and also the School for Highway and Traffic. In ITB we have special programme related to the transportation. I also graduate from the programme and third, the master.. ITB is master degree. And then I took the master degree in Los Angeles for urban planning.

[talk at the same time]

A: Right now I still study in doctoral programme in environment.. management. If you have a some question related to the LRT you can ask to me or ibu Santie.

M: So how long have you been working on the LRT?

A: How long?

S: Planning.

A: I've.. I previous work in Bappeda, so I work for the preparation of, develop the planning of the LRT itself. Not specifically, but integrate with all... infrastructure transportation. We call it the masterplan of transportation.

M: The RTRW?

A: Not RTRW. The detailing after I develop the RTRW. Then we also develop the masterplan. Transportation masterplan for Bandung. If you need.. the file, we can give it to you.

M: That would be great.

A: Do you have the RTRW?

M: I've been given a lot of files, but I'm not sure if I also have the RTRW.

A: Yeah. One of them is RTRW [referring to cabinet filled with files]. This is the.. the.. revision. I mean the detailing. RTRW is the umbrella for this [unclear] and this is the sectoral masterplan from the several of transportation. Water supply, solid waste, one of them is transportation. And in this plan it eventually stated the LRT planning for Bandung.

M: Is this the one from 2011?

A: 2011? No. It's around 2014.

M: Then I don't have that file.

S: The pre-feasibility is 2012.

A: 2012? Ow. Why you asking 2011?

M: Well because someone showed me one from 2011. A file from 2011.

S: [unclear]

M: Sorry?

S: [Unclear]

A: Some study or? The pre-feasibility...

M: I thought it was a masterplan.

A: Ow yes masterplan is already [unclear] in 2011. Then we make some revision. The.. it become review 2014. This is the last update.

M: Ok, now I understand.

A: And the detailing... feasibility study for LRT is 2012. But it's completed around 20...13?

S: We start bidding on 2014.

A: 14. Bidding process. You more concerned about the technical or..

M: No actually I'm not. I'm more concerned about.. the involvement of citizens in the process

A: Ow ok, the involvement. Hard question. What the meaning.. the citizen? Is very broad I guess. Because.. sometimes we open the process.. for the... not of the whole. The whole we do that by putting on the website and internet and publication and media.. but the discussion or [unclear] done.. is did by some representative of the citizens. Mostly we.. you know Organda?

M: Sorry?

A: Association of the angkot cooperation.

M: No. Organda?

A: Yes. One of the most important is the.. you know in Bandung the most.. what you call it. One of the.. we have bus system and the angkot system. Angkot system is running by the cooperation, four cooperation. All of them is together... become the member of association, we call it the Organda. Is

common, in Indonesia. The Organda is.. association for the company who running transportation business. Like cooperation, like private company.

M: Ok. And.. so, what exactly are you doing on the LRT? What are your tasks?

A: Previous one, I'm more about the planning. Develop the masterplan. Right now, here, we, not me, but all of the transportation department. Responsible to, you know, to bring the procurement, investment bidding and also construction, monitoring. Hopefully it will be construct by, you know, PPP scheme. That's why it's quite difficult, because it involve a very big investment and also not only us, but it's related to the provincial government, and also the central government. Right now the.. situation is little bit change, because.. our LRT suddenly become very important to the central government. When they.. actually our mayor said to the president. When he have a meeting with Jokowi [Joko Widodo, current president of Indonesia] related to the High Speed Train, you know, as the.. origin from Jakarta and destination in Bandung. But, it's quite.. not in Bandung, I mean, inside the Bandung. But little bit in boundaries of Bandung.

M: Tegalluar?

A: Ya Tegalluar. You already.. Then, it needs some. Another connection with the LRT. They estimated for 50.000 passenger per day. So, how we can't handle it without.. other new development of transportation infrastructure, right. No rail infrasystem. Then the.. central government think to also finance.. the LRT. Of.. we call it LRT Metropolitan of Bandung. And then we.. the govern.. the central government said it will be stated, it will be declared by the presidential law. Decree. We call it presidential decree, same like Jabodetabek [metropolitan region consisting of the cities Jakarta, Bogor, Depok, Tangerang and Bekasi]. But still waiting, it's not issued yet.

M: But.. the first two corridors are only in the city of Bandung, right?

A: I beg your pardon?

M: Corridor 1 and 2 are only in the city of Bandung, right?

A: Yes, [unclear] not like that, it has to be connected to the High Speed Train. Then little bit change. So... [draws on whiteboard]. This is Bandung. You're familiar with... map Bandung city, right?

M: Yeah.

A: So the High Speed Rail will be like this. This is toll road. And it will be start in the Tegalluar. Originally we have the.. original one. This is the one of destination, Leuwipanjang [indicating our current location at the DisHub Bandung office]. And.. original station.. origin station is Babakan Siliwangi near ITB. Have you checked the corridor 1?

M: Yeah I have, but there are different files that show different routes, so that was a bit confusing.

A: Nooo. You can check the final one in the internet. You open the bidding and you check, this is the file.

M: Ok.

A: Then we have corridor like this. We have... that is the original one. But this is you know, like this. Till Gedebage. Then, when we discuss the LRT related to the Tegalluar, it will be extended two station to Tegalluar.

M: Ok.

A: But then.. mister [unclear] Taufiq, the head of transportation department.. provincial... government of province. Want to have not like this, this is [unclear], right. We want to have corridor 2 is not like..

another priority like this. Using the Soekarno-Hatta Street. So the priority number one, this one, corridor Leuwipanjang. Priority number 2 and priority number 3. This is the proposal for the LRT Greater Bandung. So it means we already involved with not only inside the city, but also the provincial government. Related to *all* authorities like Cimahi, Kabupaten Bandung.. Bandung Barat, Kabupaten Bandung Barat. All of them I guess is how many corridors? 8 or 9? I forget.

S: 8.

A: 8. You can check in the draft of the presidential decree for LRT Greater Bandung. We call it Rencanaan Peraturan Presiden.

M: Is that the one from 2007?

S: What?

M: I found some.. draft from 2007.

S: 2007? Noo.

M: That's a different one, ok.

A: It's new one. It's not stated yet. We call it presidential decree draft of.. draft of presidential decree of LRT for Greater Bandung. It's just been.. come out.. in.. early 2016.

M: Ok.

A: It's new one. So instead we discuss inside of Bandung, then it will be broader discussed in the Greater of Bandung, related to four authorities. And become the issue of the central government and the president. So it's quite dynamic situation. First we propose from the.. Bandung City needs, but it become the central.. national.. concern. So you have to go to the central government. Ministry of the Transportation, the Directorate General of Railway. Not Rail Transportation. Railway. Or related to... autho... planning... So it become not only the plan of Bandung. It's good we have a plan in Bandung and some regulation like [unclear] and also the masterplan. But also become the planning of the central government. Together we have the LRT Jabodetabek, LRT Palembang and also LRT Bandung. So if you're asking how we involve the citizen, it become broader. It become the issue of national.. ya. So your study become hard.

M: Yeah I just realised that.

A: For you because situation is changed. This is our.. one of our strategy. Because the LRT is costly so instead we keep this is our project, better if we.. open... other level government to take.. or to participate. Or to doing the project. We will have the result or become the user only. Operator. As soon.. the concern is, we want to have this project as soon as possible. Because High Speed Train has to be running in 2019. In the same time also the LRT.

M: When exactly, because people gave me different answers. When exactly did you start planning for the LRT? In which year?

A: LRT is....

[Participants discuss]

A: The planning is 2011, or maybe previous one we have some idea to develop the LRT. But not yet decided the route. So the route come first in 2011. Then 2012 they doing the feasibility study in Department of Transportation, then we revise again in Bappeda the.. masterplan of transportation, to follow the result of FS [feasibility study]. Two.. yeah two corridor. So perhaps you need to, you know, make some timeline. So I can give you the information.

M: Yeah it's starting to get more and more complicated for me.

A: It's good, you can, you know... identify what the... citizen [unclear] during the process. Maybe in the city only, then probably to the provincial government, then suddenly become the national issue.

M: Because, lets see. Pak Ade, from ITB..

A: Yes professor Sjafruddin. He's the person who doing the FS.

M: Yeah. I talked to him as well and he told me that.. they did a.. what is it... stated preferences survey. It was quite clear how citizens were involved there. But I was wondering if there were also other methods of involving the citizens. Because..

A: Ohh we doing some.. public consultation. During the.. environment assessment, impact assessment.

S: For both for the pre-feasibility study..

[talking at the same time]

S: .. twice. Public consultation and then for the analysis environmental impact also we do that.

M: You have already done that or you will..

S: Yeah already.

M: Ok. When was that?

A: 20... when was it?

S: 2012 and 13.

A: The public consultation during the FS is 2012. With the professor Ade. Then when we contact the.. environment impact analysis. 20..

S: 14.

A: 14, 15?

S: 13

A: 14.

S: 14.

A: She will check.

S: 14

A: 14. Because in some of project is related to doing the environment impact analysis. And in the process will.. [unclear] the public consultation and open the planning to the public. By putting in internet.. receive some comment or some interest, suggestions.. So you have to, you know, learn how the regulation in Indonesia.. follow the.. what you call it. The procedure for development of infrastructure in Indonesia.

M: Yeah I've looked at some... planning laws.

A: Environment. Specially in environment. You have to.. environment regulation in Indonesia. It very important. It mandated every development, including infrastructure, has to be public consultation.

S: For pre FS we involve three times for public consultation.

A: During the pre FS. This is the process, then after the pre FS is complete, we develop another study, we call it the environment impact analysis. It's mandated by regulation. Then in that process we also doing public consultation.

M: So how exactly does this public consultation take place? Is it just putting it on the internet or..

A: No no.

S: We invite..

A: Some stakeholder. They asking maybe information, they complain about the route sometime, they want to change the route, they want to know about the impact with the other transportation mode, like angkot. Maybe you have to, you know, check the.. Maybe we try to find the document. When we conduct the public consultation.

M: Do you know the name of the document?

A: Impact.. so, two document is..

[Participants discuss]

A: So we will try to find the process of public consultation in pre FS. Together with prof Ade. And we also try to find the document of public consultation in environment impact analysis. Maybe two document. If you are lucky we will find.. the who invited, who attend the meeting, what is their comment.. and etc.

M: Could you tell me a bit.. well not in detail, I do not need to know exactly names of course, but in general who was invited.

A: You can check internet.

S: **Citizen along the corridors.**

A: Yeah the route. We call it the.. [participants discuss].

M: Who were impacted by it?

A: Yeah, something like that. **We invite the representative in village something..**

M: The RT's? [neighbourhood units]

A: RW's [district units]

M: Ow RW. I'm always confused between RW and RT.

A: RT is more..

S: smaller.

A: .. community.

M: Ah ok.

A: RW is like.. what you call it. A group of community, 10.. 10 RT become RW. Then we have a village. *Kelurahan.*

S: **So every citizen along the corridor,** we invite them into.. one meeting. And then we expose about our study and they give some comments. Yeah, like that.

A: **Usually we explain the planning first, then they.. they're more concerned about land acquisition. One big issue is, does the project will.. in need some land acquisition? Does my home will.. be demolished.** Something like that. But our route, mainly use the right of way of road, so it minimise the impact of project. Project impact is.. trying to lowest the impact to the people. Then we need to discuss with the angkot, who worry about the competition. Then we doing the.. rerouting.

[Participants talk at the same time]

M: Sorry the what?

A: Some arrangement, new arrangement. We have 39 route of angkot. 39 route. That we think we have to integrate.. rearrange the route.. repooling and rerouting of the angkots. To connect with the LRT route.

M: That's scenario 2, right?

A: Yes. That's another issue again.

M: Quite a complicated project.

A: Yeah why you choose the topic is very difficult.

M: I didn't know it was this difficult when I chose it.

A: Because there [unclear] the highest you know. The highest capacity of transportation mode. In city. So it will be involve.. influence the local capacity. Like bus system, angkot, the ojek, the [unclear]. Everything.

M: I didn't fully realise how difficult it was until I started doing interviews, then it was "ow wait, this is a bit more challenging than I thought it would be."

A: Yes. Because the consequence is.. *putar balik*

M: Turn around?

A: vi.. yeah. It has, in the ideal condition we will develop the big.. the highest capacity LRT system. Then we continue to the bus system, then the angkot. But the condition is vice versa I mean. Not from the highest, but start from the bottom. So it's quite difficult. So is more.. discussion with the citizen. But the citizen already understand about the needs of the mass public transport. They... they don't satisfied with our BRT system. They think LRT is.. become more reliable to them. Like Jakarta also. Jakarta also.. too late I think. They need to start 10 years ago. [unclear] too crowded. Because in our study we identify, we need to develop o.. the LRT, the bus system, angkot, to be able to reduce the utili.. the private. Car. Right now the private car and the motorcycle become the, you know, biggest portion. So.. please choose the simple topic. Not too broad. Because right now it's become the issue of the national.

[small talk]

A: Right now it's become the national issue. Previous.. the previous time we don't say about the.. connection with the High Speed Train. So you can imagine when the.. High Speed Train is operated and connected to our.. it become very huge, the number of passenger. Our estimation in previous.. 20.000. 10.000 passenger per day. The existing is mention that the estimation passenger is around 10.000. But when we connect it to the High Speed Rail, the number will be increased. So it's become not only the original.. design. But we need to some adjustment again. So my first question, **do we need to.. conduct again the public consultation [unclear] the national issue about the High Speed Train? Nobody... think right now, the needs to do that. But I think we.. we need to, after we have the presidential decree, the central government has to be doing again the environment.. public consultation to the LRT Greater Bandung. As a whole. Not only two corridors belong to originally.. originally belong to the city of Bandung.** But right now we.. not mention about the corridor of belong to the corridor belong to the city of Bandung, but is become part of the LRT of Greater Bandung. So I will believe you will get an A grade if you finish soon.

M: I'm gonna try. Ehm lets see. Yeah I was also wondering, like, were there.. because you already mentioned that you consulted the.. the people who lived along the route of the LRT and the angkot drivers, so.. like.. which groups were there were you thought "ow, these are really important, these are the people we really need to invite?" Any other groups. Like who were especially important to invite? Or perhaps not important at all.

A: **Especially we find the.. RT/RW who you know.. will be crossing by the route. Then.. we asking the *camat*.** You know *camat*?

M: Yeah, from the *kecamatan*?

A: Ya, kecamatan. They will said “ow, we need to invite this RW, we need to invite..,” something like that. So we have.. usually we have some table what.. what kecamatan will be involved, influenced I mean and what RW has to be invited. Not all.

S: Also the offices from of the road. Because.. our LRT is elevated. In front of..

A: Some building.

S: Yeah. In front of building, so every building along that route.. like

[Participants talk simultaneously]

S: Yeah. Shops. Everything along that routes, we invite them. Yeah because I think that will make some impact for them. Like office, they can't see in front of, because...

M: Their view is blocked. Yeah, ok. And so, was there... yeah they all had an input.

S: Ya.

M: Were there.. like were there certain people that you were like “ow this is especially useful, or certain people where you said “well ok, we can't do anything with this?”

[Interview was interrupted at this point, as there was a sudden meeting. Anton Sunar offered to reschedule and Santie Priantie offered to introduce me to Apip Apipi, who has two documents relating to public consultation.]

——— Comments

It is interesting to hear that they publish everywhere (online, media, etc), but literally no one I talk to informally (i.e. non-planning professionals) knows about the existence of the LRT.

Date: 20-06

Galuh Ressa [G]

Employee at Bappeda

——— Interview transcript

M: Basically what I'm doing is, I'm doing research into the LRT, into the planning process and specifically about the involvement of the citizens. Aand.. well ibu Nunun told me “ok, contact pak Galuh, because he can help you further.” And.. I was wondering, are you also working on the LRT?

G: Ya, I'm ehh.. follow.. planning about LRT.

M: So what are you doing in the LRT? What is your task within the LRT?

G: Analysis for LRT in DisHub. Transport department. But in Bappeda only masterplan transportation.

M: And I was also wondering. Right now they're in the tender phase. I was wondering, who decides who wins the tender? For the bidding process.

G: Tender.. from mister mayor. By mister mayor. Mayor.. ehh.. make.. team for tender. Ibu Dhini from... Dinas Informasi, Diskominfo. He's.. head of team for tender.

M: And so the construction process, who will oversee that? Who will manage the construction process?

G: You know LRT? How far? How far you know about LRT?

M: People have told me a lot of things. I have been researching this for about a month already, so I know quite a bit.

G: You didn't know LRT is not this year.

M: Yeah I know, but who will oversee the construction process? So not who will manage it after, but when it is being constructed, who will oversee the construction?

G: In.. Bandung.. we have LRT from city government and LRT from *provinsi* government. So now.. we.. use.. *sekarang LRT itu... [unclear] presiden*.

M: Done by the president?

G: Yeah is the.. need.. [leaves to retrieve a document].

G: This is LRT metropolitan Bandung. In.. from.. before LRT Bandung. This is corridor [searches on the map]. Dago - Leuwipanjang. Corridor 5. And.. corridor.. 6. Yeah. And corri.. Leuwipanjang. *Awalnya.. ehh..*

M: The beginning.

G: The beginning.. LRT... for... build LRT we... we do tender for, from investor. But... my mayor, letter to president. Because in Tegalluar we can build High Speed Rail, so the central government take a part [in] this project, including LRT metropolitan Bandung for... *pembiayaan pusat*.

M: Central funding?

G: Ya central funding. For build.. central.. using the *BPMN*. Not city government but look like.

M: [laughs] That's not very clear. What's the name?

G: *Badan Perusahaan Milik Negara*

M: *Badan Perusahaan...?*

G: *Milik Negara*. You can Google it if you don't understand.

M: State owned company.

G: Maybe. Ya. We call it that. For *operasional* PT. KAI. PT. KAI is.. train.. *Kereta Api Indonesia*.

M: Ok yeah. Lets see. So yeah I was looking specifically at the.. involvement of the citizens in the LRT. So one of the things is the public consultation meetings. Ehm.. I was wondering, could you tell me which meetings there have been? I heard of a few, but there may have been more.

G: *Persepsi masyarakat itu?*

M: No no, involvement. So through public consultations and like.. through asking.. the way they ask the citizens to be involved in the project.

G: Is like forum group discussion?

M: For example.

G: Aaah. We here only... only... only work about this trace, not the socialisation or how about the citizens. So maybe you can ask... after the president policy. Because now this case will make.. president policy. So after the president policy come out.. So this is not.. not the project of this city government in Bandung, but the central government. So maybe the central government will announce to citizens about this..

M: No no no, I'm not talking about the announcements, but the way that they involve, for example, they have a public consultation meeting. I forgot what the exact word is in Bahasa, maybe it will help. Ehm.. Wait no it's in here [takes DisHub Bandung (2014c) out of bag]. Lets see.. *konsultasi publik*.

G: **Oww konsultasi publik. That was already done when LRT corridor 1 and 2 were about to be launched for tender.** By DisHub Bandung.

M: Yeah they told about.. one in September 2014, one in October 2014 and there may have been more, but... even they are not really certain, that's why.

G: They don't know because this project is now for central government. So they don't know when the *konsultasi publik*.

M: But I'm not talking about the future one. I'm talking about the ones that they have.. that they already did. So have there been any more in the past? That's my question.

G: So *konsultasi publik* is for loan, not for announce.. how about reaction the citizens.. how about the citizens think about that. About loan. Only about loan the tender.

M: Is that the market sounding?

G: Yes.

M: Because from what's in this file [DisHub Bandung, 2014c], they have four different ones. Two public consultations and then two times a market sounding.

G: Sorry can you repeat again?

M: So the.. for the.. you said the public consultation was only about the loan, about the tender.

G: Yeah.

M: But from the files it says that they have two market soundings, so that's really for the market, about like "ok how are we gonna do this financially" and things like that. And then there are two more which are really for the public. Like where the *lurah* were and where the *camat* were for example.

G: **It's step. The first is feasibility study and then market and then public consultation. So the step is like that.**

M: But so those were the only ones. There weren't any other.. public consultation meetings.

G: **Yes.**

M: And what about the Environmental Impact Assessment?

G: Environmental Impact?

M: *Amdal* I think.

G: After the consultation public the *Amdal*.. noo.. *Amdal* from *provinsi* government. But first before we perform the *Amdal* to the government, we have to.. *ijin*..

M: Ehm.. I know what you mean, I just can't think of the English word. Permission.

G: Permission yeah. Permission to the ministry. And then after that we go to the province government for *Amdal*.

M: So the city did not do the... the government of Bandung did not do the *Amdal*?

G: **We do the *Amdal***, but we give it to the province.

M: You mean you gave the results to the province?

G: Yeah. Then they will... announce that, the *Amdal*.

M: Is there maybe a file about the *Amdal*? Who was involved, things like that?

G: DisHub has it.

M: Yeah I was there and they gave me this one [DisHub Bandung, 2014c]. It was like "oh yeah the *Amdal* is not in here, we'll look for it, we're not sure where it is."

G: May I?

M: Yeah go ahead.

G: 2015. The Amdal. It's [referring to DisHub Bandung, 2014c] only for consultation public, market soundings and what are you talking us about. So this is not the right file. You have to go back.

M: Back to DisHub you mean?

G: The Amdal is made in 2015, not 2014.

M: Ok. And.. ehm.. for the.. for the transportation masterplan? Was there also some public consultation. Because they also talked about the LRT in the masterplan. Was there also some public consultation in there?

G: No. Just consultants.

M: Ehm.. ok because I did find something about survey.. well ibu Nunun gave me something about surveys that they did. I'll show you, that's easier [looks for survey file on laptop]. She gave me so many files. I think it's this one. One like this. So she had several surveys which were given to the citizens about their travel behaviour, like "where do you usually start your trip?", "where do you go, using what vehicle, what time?". I was wondering, do you maybe know when they were conducted? It doesn't say that.

G: It's for deciding the routes.

M: But do you know when.. when these interviews were conducted?

G: [Pre?]-Feasibility study. The first study was in 2014.

M: And do you also know how many people?

G: DisHub is the one who did it.

M: So do you maybe know what happened with the input, or that's also something I should ask DisHub?

G: I don't know. Do you have.. *feasibilitas* from.. document..

M: Ow I have so many documents, I'm sure I have it. Ehm.. let's see... [searches for file]. This one? [shows DisHub Bandung, 2014a].

G: Yeah.

M: Which page?

G: This is not the full document [leaves to retrieve another document].

G: [returns with document]

M: I think I have this one. Ah but this is the summary and you have the full version.

G: [walks off again for another document].

G: Where did you get this?

M: From ibu [Nunun].

G: We have two book. Corridor 1 and corridor 2.

M: But is this not the same one? Ow wait no, this one has more items.

[We compare several documents to see whether I already have the document. I don't have it yet.]

G: Which LRT will you..

M: Corridor 1 and 2.

G: About construction?

M: About the process.

G: The output is.. your output is what?

M: It's.. a reconstruction of the process of the.. the involvement of the citizens.

G: So your work is about the future? About the construction?

M: No about the process. The public involvement.

G: What is public involvement?

M: Basically anything where the citizens are involved. Group discussions with citizens, surveys with citizens, all that.

G: [starts writing]. Kota Bandung, 2014, feasibility study. 2013, masterplan transportation. Masterplan transportation feasibility study for masterplan transportation.

M: But there is also a masterplan in 2011, right?

G: 2011 is RTRW, not masterplan transportation.

M: What's the difference?

G: This is the masterplan transportation, it's made 2013. In masterplan transportation we have [unclear].

M: What's the difference between RTRW and this one [referring to masterplan transportation]?

G: Ow this is only about transportation.

[Talk at the same time]

M: Ow yeah I've seen these maps, because I think ibu Nunun also gave me these maps.

G: Feasibility study, 2014. This is document from feasibility study, we have two corridor. Ehh.. one corridor Bandung.. ehh Babakan Siliwang - Panjang. Cimindi - Gedebage. 2015, central has HSR project from Jakarta - Bandung. Tegalluar is.. Tegalluar. The mayor, 2015, LRT [unclear]. *Terus*, 2015, because.. HSR project mister mayor sent letter to president for.. to.. *pembiayaan*.

M: The funding.

G: The funding LRT Bandung from central government. President approve this project. So, 2015, we have metropolitan LRT. Now is process about the president policy. So the sale is stop. After the.. president have. So this city is not financing about this project. So this project is financing for the central government. So this project is not from this city. The pre-feasibility is for public-private-partnership. Do you know public-private-partnership?

M: Yes.

G: Because of this.. about the project of the central. So the financing is form APBN. You know APBN. Central government budget.

M: Ok, I get it.

G: HSR [?] is changed the project.

M: Ehhh no.. yeah then I think I've asked all my questions. Thank you. Do you mind if I use your name in my report or should I just leave you blank?

G: *Boleh*.

M: Ok. Then these are all my questions. Thank you very much.

——— Comments

This interview was conducted with the help of a translator. While the participant made some comments on his own in English, the majority of the comments attributed to him were the translations made by the translator.

Date: 19-07

Dhini [D]

Employee at Bappeda Kota Bandung

——— Interview transcript

M: I'm doing my thesis about the LRT. And the involvement of the citizens in the LRT.

D: Once again. About involvement?

M: Involvement of the citizens.

D: Of the citizens.

M: So.. uhm.. actually I was wondering, how long have you been working on the LRT? Or have you worked on it at all?

D: Ehm what do you mean? You mean that.. how long I involved in planning development or..

M: Yeah, of the LRT specifically.

D: For LRT?

M: Yeah.

D: Actually I was assigned.. was in charge for transportation. But my friend.. going to campus. Got his scholarship and then I replace him. To.. in charge.. about environmental [unclear]. So it's about two years ago. So I've been in Bappeda for six years. Aand.. two years ago I replaced a friend who.. assigned in environmental [unclear]. It was two years ago.

M: Ok. Uhm so yeah I made a timeline of the involvement of the citizens in the planning process [showing figure 9, without public consultation meeting #3]. Basically, so if you have 2009, you had the transportation masterplan. And they had the Roadside Interviews, Home Surveys and the Focus Group Discussions.

D: Yes.

M: Aaand.. in 2013, pre-feasibility study for the LRT. With the stated preferences survey.

D: Yes. It held by transportation division [DisHub Bandung].

M: Uhm. And then revised transportation masterplan.

D: Yeah.

M: Environmental Impact Assessment, 200...

D: Yeah, but actually, it is not. I'm not sure. I don't think Environmental Impact Assessment is in this period. Maybe this period [points at 2016]. This [referring to file on the desk] is the SEA from LRT and cable car.

M: That is a very thick document.

D: Yessss. It's because they join the SEA for cable car and LRT together. I don't think so that's a good idea, but yeah. You know. There is two different things. So it would be better if they going to.. they conduct.. two things. LRT. SEA for LRT and SEA for cable car. So that's why.. this thing is actually.. the draft. So.. in the last meeting, I recommended them to separate this SEA. LRT and cable car would be.. it would be better if they separate. Not join it together. Cause the impact is different. So I don't think so this is in this period [pointing at figure 9], but in this period [pointing at the cover of the SEA, which states 2016].

M: Yeah everyone keeps telling me like.. someone tells me it's 2013, someone says 14, someone says.. so I'm confused.

D: This is the proof.

M: Ok. But ehm.. so I was wonde.. any other public consultation meetings. Number 1, number 2, in September and October in 2014. I was wondering, are there any other moments where you know of, where they for example had public consultation meetings, or they had surveys with citizens, or anything else?

D: Hmm. Actually, so do you mean that... you mean that there are another part of public consultation.

M: No I'm asking you if you know if there are any others. Have I missed any, or... is this it?

D: Actually in this document there are.. there are public consultation. You can read it. So, here, I have a [unclear]. This is... this is the attachment for *konsultasi publik*. Held in hotel Hoyman. [unclear]. 29 of July, 2015. Conduct by transportation division.

M: That's funny, I went to DisHub and they didn't know about this. Was this part of the AMDAL?

D: This is part of AMDAL. SEA.

M: Ok. So that's the only one then that is not in this line [referring to the public consultation meeting and figure 9]? Or is there more?

D: I don't think so. But as long as I know, the only one consultation.. public consultation in 2015.

M: Ok.

D: Yeah regarding this.. AMDAL, this is [unclear]. But maybe.. maybe in the first. So you know about this information from something?

M: This one? [referring to figure 9]

D: Uh huh.

M: Uhm. This came from a lot of people. I've read a lot of documents, I've talked to a lot of people and then I made this on my own.

D: I don't think so 2014 [referring to the reach of the Environmental Impact Assessment], but maybe, maybe, they conclude that public consultation was held in 2014, cause I know there is public consultation regarding our project to the PPP project. And one of them.. one of the project is.. actually not LRT, it's.. we call it monorail. Maybe they conclude it, oh it's that public consultation, LRT. But actually monorail. But I believe that 200.. what's going on in 2014 is public consultation for PPP project.

M: Well the consultations for the monorail.. I've also placed them in here. It's pretty much the same. That's why. Let's see. And.. yeah. I'm not sure if you know about this. So the team gathered a lot of information from surveys and public consultations and.. I was wondering if you know maybe how they decided which information to use and which information not to use.

D: Hmm.. what do you mean, information?

M: Oh for example, from the surveys they've got a lot of trip patterns of the citizens. For origin - destinations. For public consultation they have... preferences, from the citizens, for public transportation system.

D: Hmmm. so actually we decided.. what is it. The line. First. And then consultate it to the public, so they know, they have fixed plan. In case that.. they didn't agree our plan [unclear]. You know, maybe based on education, we call it education of our citizen. So there are not a lot of information regarding

the LRT. We have a fixed plan and we consulted with them. In case that they have complaint, so they stand for.. they situation. That's it. [unclear] about the line, or the environment, or the noise. They don't know what kind of technology that can hinder... actually we have a noise barrier. But they don't know about it and they concerned about the noise that can caused by LRT and cable car. There are a lot of suggestions here [referring to file on desk]. This is from.. for example here, we have one from our water supply owned enterprise.

M: PDAM?

D: Yes. And then this one is also PDAM. This one for cable car line. And this is.. this is from our...

M: Airport?

D: Airforce. One from academic.. environmental engineering from ITENAS [university in Bandung]. And this is from *wahli*. Wahli is from an NGO that is concerned about the environment.

M: So these are all suggestions that they gave?

D: Yes. And this are from our planning division. Spatial planning division.

M: And this is all from the 29th of July?

D: Yes.

M: Ok. So who was invited to this meeting?

D: All of them.

M: All these companies and NGO's and departments.

D: Yes.

M: What about citizens?

D: Citizens as well. [Going through file]. I believe there are a lot of citizen here. And we have the one from.. investing.. in national government we have, how do you say it. An institution which in charge to.. investing and they come one of them also.

M: So.. which citizens were invited? Was it.. obviously not the whole city can be there so..

D: No no no. Actually the citizen along of line. That's why. You know the line?

M: Yeah I've seen the map.

D: Yes. But I suggest to the.. the line. Is from..

M: Sorry?

D: The line. The line that you got.

M: I can show you [shows figure 3].

D: Actually the line that is, the line that they cover in this document [SEA] is wrong. This one [shows another file]. This line of LRT, once again..

M: But this is for the whole metropolitan area, right?

D: No. All. This is.. this is for city of Bandung. You know, this is border [points at the file].

M: O yeah.

D: But I think... [unclear]. Ok.

M: Uhm yes, so.. let's see. I was wondering, aside from the decision about the route, is there anything else that... so they have asked the citizens about their opinions. But I was wondering if like in which cases that the opinions of the citizens changed anything for example to the route or the ticket price or something else.

D: So, if the resistancy from them is.. become higher and higher. And we'll.. [unclear] we can survey and.. we find also that.. they.. they consider is right. We change the route. In case that it can be handled, by technology, so.. we recommended them to try our plan with some.. adjustment. With their need and their concern.

M: Ok. Do you have any specific examples maybe or..?

D: Actually the one who got survey is him [points across the office]. So I got to ask him before..

M: Ok. Let's see. I was wondering also, how do you communicate with the citizens about the plans?

D: About the plan. So actually.. I'm assigned for.. to come into meeting. So I come in meeting where they are going into meeting to. Uhm.. I have some friend who in charge to get survey. So, in this division in charge to got survey is Andrian and there is a lot of people also in charge to got a survey is just like, in spatial planning division and from.. one from public works division. So, I just in charge to meet them in the meeting only. But in survey in the field is my field, Andrian. So you can ask him. What kind of resistance that we get from citizens.

M: And ehm.. I was wondering also about your personal opinion about the involvement of the citizens. Do you think it has any positive contributions to the whole planning process?

D: Hmm... Yes clearly. Certainly. They got a lot of.. actually they got a lot of information that we don't know. We have to take care check.. whether the land is still available or not. Actually about the belonging of the land. We got a lot of information about the belonging from them.

M: And.. what about negative influences?

D: Negative information.. maybe... Maybe about they concern about the noise and about the price. So.. they concern about the price of the land that they have.. we use it for public.. project. So, we can pay them just [lower] than the price that they want to. That's a lot of project that they concern about, whether the price is right. Lower than they.. ask.

M: Uhm.. but I actually meant more in the sense of, for example, did the information that they provide for example that maybe the information was wrong or something.. so not that they think of the project negatively but that they had a negative impact on the project itself.

D: What do you mean?

M: So for example, that they provide wrong information or.. very extreme, that they boycott the project for example.

D: So as soon as I know they never got a kind of resistancy like that. Maybe they have resistance to the project, but the extent is never like that, cause actually they don't know, actually what is LRT, what is monorail? Or.. maybe the one who had experience about it, they know about LRT impact. But a lot of people, a lot of citizens here doesn't know what is LRT.

M: Ok. Yeah I've noticed this also when talking to my friends here. "Ow what are you doing here right now?" "I'm working on my thesis" "Ow what about?" "The LRT." "LRT?"

D: "What is it?" "Is it cheaper than the bus? Ok I care about it if it is cheaper."

M: Uhm.. lets see. Ehm so considering if you think about the advantages of involving the citizens and if you take the disadvantages of involving them. Like.. if you consider both of them, would you still consider that it's worth it to involve the citizens or would you say it's ...

D: I consider it is important. You know that the kind of project we have.. we have to get the legitimation from the citizen. And we have the legitimation from consultation and talk to them. So they can support our project and their support forever.. would make the project last forever. That's why.

M: Ok.

D: We got a legitimation from them. That's the important thing.

M: That's the main thing.

D: Hmm hmm.

M: And.. are there any questions that you think maybe I have missed, which are still important? Like things I should still know.

D: Maybe about the actor. I don't know. You divided the actor between the they support the project and those who got resistance to the project?

M: No I'm just looking at the involvement of the citizens. I'm not looking at..

D: Ow just the involvement, not dividing about this..

M: No I'm not looking at the content but at the.. just the way that they are involved.

D: Whether they are involved?

M: Yeah.

D: But actually this is important thing to.. so you know what kind of difficulty that we can face if the project running. I don't know actually. What kind of difficulty we can face with the actor still.. in their opinion. Have you considered that in your thesis?

M: Well no, it's because.. I'm not so much looking about the opinions of the citizens. I'm not looking at the content, just the process.

D: Ow just the process. And then?

M: Well that's.. only the process.

D: I just wondering, so what? Is it bother you, annoying you or what? I just wondering so what.. if you just capture process. So what kind of information that you got. So what?

M: Well it.. so of course I have a theoretical framework and then you compare the process to the framework and then you can say well.. the process, these are the strong points and these are points for improvement.

D: I just wonder. It is up to you. That's all, or..

M: Ehm.. do you maybe, are there certain people or document which you think I should find?

D: I don't think so. One from spatial planning division. Have you interviewed them. Or the one from public works.

M: No I have talked to DisHub and Bappeda.

D: The one from spatial planning division or from public works division?

M: Is that a different office again?

D: Yes.

M: No.

D: Cause they have another project in the same place, Skywalk and flyover. But they get involved in this you know. Can get information from their opinion.

M: Yeah then I think that's all my questions. Do you mind if i mention your name in my report or should I.. do you want me to..

D: Yes it's ok. I don't mind.

M: Great. Thank you.

——— Comments

Not every detail from the recording could be comprehended due to background noise.

Appendix 4: Survey

Dear sir/ma'am,

I am a master student from Rijksuniversiteit Groningen and ITB and this short survey is part of my thesis. This survey is meant for all planners who are currently working on, or have worked on Bandung's LRT. It consists out of 10 open questions and 4 yes/no questions. The results of this survey will remain anonymous.

The topic of this survey is your personal opinion of the value of local knowledge, in the planning process of Bandung's LRT.

Local knowledge is: the knowledge that local citizens have of their own local urban environment, based on their own experiences. Local knowledge can be used by involving citizens in the planning process.

Questions

Q1. What is your academic background?

.....

Q2. What is your function in the LRT planning process?

.....

Q3. Since when - until when have you been working on the LRT?

.....

Q4. In your opinion, has the local knowledge of the citizens of Bandung been a positive contribution to the planning process of the LRT?

.....

Q5. If no: why not? If yes: in which way(s)?

.....

.....

Q6. In your opinion, have there been any negative consequences from using the local knowledge of citizens in this project? If yes:

- 1. Which consequences were those?
- 2. How were they dealt with?
- 3. Why in this way?

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Q7. Are there any phases in this project in which you think local knowledge should have been used more/less?

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Q8. If no: why not? If yes: in which way(s)?

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Q9. Considering the advantages and disadvantages of local knowledge, do you think it is worth using local knowledge in the planning process of Bandung's LRT? Please explain your answer.

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Q10. Do you think it would be worth using local knowledge in future transportation projects?

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Q11. If no: why not?

If yes: (1) for what purpose? (2) which citizens would you include? (3) which methods would you use?

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Q12. How do you think your colleagues would respond if you would propose to use local knowledge more?

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Q13. Was it clear what was meant with local knowledge?

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Q14. If there is anything you would like to add, please do so here.

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If you don't mind me contacting you in case I have follow up questions, please provide your number.

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Thank you for your time!