Connecting the Public Transport Dots

A Qualitative and Comparative Study about Stakeholder Involvement in the Organization and Development of Public Bus Transport.

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ABSTRACT

INTRODUCTION: Globally, cities are coping with the challenge to improve the interconnectivity, accessibility and sustainability within the city. For effective regulation by the grantor of bus transport it is of critical importance to communicate and coordinate between stakeholders. Regarding the integration of sustainable bus transport into business development, the road infrastructure development and local community development, Curitiba (BR) is considered to provide as a model.

OBJECTIVES: This study aims to examine how stakeholders are involved in the organization and development of the bus transportation system in Enschede (NL). The stakeholders, their role and their perceptions of different elements of bus transport regarding organization and development are analyzed. This results in the possibility to compare the situation to a similarly conducted case-study in Curitiba. Subsequently, the grantor of Enschede's bus transport, the Provincie Overijssel, could gain insight in the stakeholder involvement of the bus transport system. Additionally, the grantor could possibly learn from the way this stakeholder involvement is conducted in Curitiba.

METHODS: Theories of stakeholder involvement are discussed, to be able to analyze the approach in which bus transport is organized. Based on elements of stakeholder involvement and bus transport, a conceptual model is developed for the analyzation of the organization and development of bus transport. Three methods are applied to the research: 1) interviews, 2) a comparison between Curitiba and Enschede, and 3) an expert panel.

RESULTS & CONCLUSIONS: The results have shown that in Enschede, stakeholder involvement is considered of importance and stakeholders were often consulted. The governmental institutions (i.e. Provincie Overijssel & the municipality) and the bus operator were considered the primary stakeholders in the organization of bus transport. Secondary stakeholders were involved and partially consulted, for which their roles and stakes were clearly defined. It was found that the clearance of power-structure and role division, financial incentives, and the market model of bus transport are factors of influence to the existence and development of a bus transport system. It can be concluded that the stakeholder involvement in organization of bus transport in Enschede is well-organized. However, Curitiba could learn from the comparison, as stakeholder involvement has not been applied to a great extent and a complex power-structure exists. It is expected by experts that such a concession-built market model can be conceived to be a successful system globally.

RECOMMENDATIONS: The grantors of bus transport in Enschede are advised to maintain the stakeholder involvement system as currently executed for the organization of bus transport. For the further development of bus transport in Enschede, marketing organizations and retailers associations could be involved more to better target and promote bus use among potential users. Also, initiative of bus operators for innovation could be probed more by governmental institutions, and risks due to little insight in the medium long-term should be reduced through proper research in innovative possibilities.

TABLE OF CONTENTS

1. INTRODUCTION

The way a city is constructed has a major impact on the lifestyles of residents, in which transportation planning is an important strategic consideration for growing urban centers, to ensure the quality of life is not affected by this growth (Murray, Davis, Stimson, & Ferreira, 1998). A common set of ideas for a sustainable city life exists, including better public transport in a greener environment and the opportunities for a non-motorized mode of transport (Carlsson-Kanyama, Dreborg, Moll, & Padovan, 2008). This illustrates the importance of development and innovation in public transport, which is a discussed topic all over the world. All over the world cities are coping with the challenge to improve the interconnectivity, accessibility and sustainability within the city. Within this, the mobility of public transport is considered an important factor, which is defined as the performance and potential for movement in transport research (Spinney, Scott, & Newbold, 2009).

The discussion regarding the sustainability of public transportation has been around for a long time, especially since the car has dominated urban forms (Murray et al., 1998). For instance, the European Commission expresses its focus on bus transport innovation for several years and has funded research projects in 2016 to develop a new generation of buses, focused on innovative solutions to make the transport mode more sustainable and attractive (Corazza, Guida, Musso, & Tozzi, 2016). For example, for the densely populated Netherlands, public transportation is widely available (Steg, 2003), where many railway and bus lines have been developed. The aim was to improve public transport and emphasize a sustainable use of transportation, in order to change the car dependent urban form of infrastructure.

Then, to obtain an effective regulation and to pursue the aim of sustainability for public transport, it is of critical importance to communicate and coordinate between stakeholders (Sohail, Maunder, & Cavill, 2006). It is emphasized that it is important to understand each role of the stakeholders during the decision-making process, which will assist implementation of adaption policies (Conde & Lonsdale, 2004). Therefore, in case a new development or adaption would be made in the current transport system, it is considered to be important to get an apparent impression and overview of who the relevant stakeholders are and what their roles are. Additionally, it is important to incorporate the perspectives of the different groups during decision-making by means of stakeholder involvement or engagement in the organization. Each of such stakeholders dominate in a different scope and, therefore, must be analyzed to identify the most important ones to engage with (Cundy et al., 2013). Overall, the stakeholder groups in public transportation can be considered similar in each city, whilst the power and interests of the stakeholders can differ per city. For instance, in some countries the city council might decide upon the development of the bus transport systems, whilst in other countries it is the responsibility of the bus operators themselves.

Thus, a complex array of stakeholders exists in the organization of bus transport, even though stakeholder involvement is considered to be a key tool for innovation (Napper, 2007). For instance, for the implementation or further development of, in this matter, a bus system, an appropriate strategy towards stakeholders is necessary to support beneficial development of the system (Satiennam, Fukuda, & Oshima, 2006). This could involve, for instance, a strategy focused on good organization of the buses, influencing the transport environment, the use of technological facilities regarding the operation of the system or the development of a marketing plan. For instance, an organization can be involved with the bus systems to provide a marketing perspective for tourists, whilst the city council has the responsibility to explore new transport modes by which the urban environment can be

influenced. Hence, for a grantor for bus transport, it is important to know what role each stakeholder has, and why, to be able to take interests of different stakeholder groups into consideration. For instance, through correct evaluation, the balance of interests of stakeholders can be used "to achieve more robust project assessment and a prioritization of value for money" (Delmon, 2017, p. 3).

The importance of stakeholder involvement for the development of a bus transportation system has been examined in a case-study conducted in Curitiba, Brazil, by van Uum (2019). Curitiba is a metropolis that has been recognized for long to be successful in sustainable urban transportation planning and its pioneering deployment of the Bus Rapid Transit (BRT), operating along high-density areas of the city (Duarte, Firmino, & Prestes, 2011; Mercier, Duarte, Domingue, & Carrier, 2014). In the case-study, the organization regarding stakeholders of the bus transport has been analyzed, the different involved stakeholders and their role within the BRT-system were mapped, and the possible influence the stakeholders entail in the development of the system was discussed. The study has proved the importance of and the opportunities within stakeholder engagement for further development of the bus system. For Curitiba, it was found that stakeholder involvement was not a main focus in the organization of the BRT-system, because of which, in the opinion of the stakeholders, many missed opportunities existed in the development of the system. Nevertheless, Curitiba is globally acknowledged to provide a high-quality BRT-system, delivering fast, comfortable, and cost-effective services at a metropolitan-level (Institute for Transportation & Development Policy (ITDP), n.d.). Therefore, Curitiba is considered to provide as a model on the integration of sustainable transport into business development, the road infrastructure development and local community development (Burgess & Ordiz, 2010)

In the Netherlands, Enschede is a city that actively pursues the aforementioned vision of the Netherlands, at which a variety of measures have been implemented specifically focused on the reduction of car use (Louw & Maat, 1999), and contains a BRT-system as well. Therefore, a comparison between Curitiba and Enschede can be made of the organization regarding bus transport and the approach of stakeholder engagement, its value and its opportunities. As stated before, each city overall has similar stakeholder groups for public transport, whilst the groups could have a different level of power and interest. An example of such a stakeholder group is the municipal guard. When considering Curitiba, the municipal guard is considered to be relatively important, as they are ought to warrant the safety on the buses (Van Uum, 2019), whilst in Enschede the municipal guard is considerably less important as safety on buses is not considered a substantial issue. This example illustrates how different the focus of elements within organization of bus transport can be. Through a comparison of the cities, Curitiba could serve as the aforementioned model for Enschede. Subsequently, the grantor of Enschede's bus transport could gain insight in and learn from the way stakeholder involvement is organized in the bus transport system in Curitiba.

All in all, in this thesis, the influence of stakeholder involvement on the organization and the development of a bus transport system will be examined. This will be realized through examination of how the organization of bus transport systems is executed in Enschede, and how the stakeholder involvement within this is grounded. Therefore, an approach is incorporated considering the different roles of stakeholders who are in cooperation or linked to the public bus transportation system in Enschede, the Netherlands. Thus, the following research question will be analyzed:

1. "*How are stakeholders involved in the organization and development of the bus transportation system in Enschede, The Netherlands*?"

For this research, data will be collected in Enschede, for which the following sub questions have been formulated:

1a. "Who are the stakeholders in the decision-making process of Enschede's bus transport system?"

1b. "What role does each stakeholder play in Enschede's bus transport system?"

1c. "What are the stakeholder's perceptions regarding several elements of organization and development of bus transport?"

In the end, it will be investigated how the development and organization of bus transport can differ between two distinct cities. The data collected will be compared with data previously collected by Van Uum (2019) in Curitiba. This results in the final research question, conveying that it will be analyzed what differences and similarities exist between the two cities.

1d. "In organization and development of bus transport, how do the stakeholder's roles and perceptions in Enschede compare to those in Curitiba?"

As a goal, insights are provided for the grantor regarding the structure and stakeholder's involvement in the organization of bus transport in Enschede. It is considered valuable to obtain an overview of the stakeholder system and structure of Enschede and its reasoning. Subsequently, it can help to take interest of all stakeholders into account. Additionally, lessons and points of improvement may be provided for the organization of bus transport of Enschede through the comparison with Curitiba.

To provide an answer to the research questions, a theoretical framework will be developed first to investigate important theories and models in terms of stakeholder involvement and to examine the most important elements for bus transport to discuss. Based on the theory and elements, a model will be developed which will serve as the framework for data collection and data analysis. Secondly, the case-study, as conducted in Curitiba, will be discussed more elaborately, and a comparison of the cities will be made based urban planning and development, to provide the scope of comparison of the cities. The elements as promoted within the bus system in Enschede will be examined as well. Thirdly, the methodology of the research will be constructed, in which the design of the data collection instruments of the research will be discussed. As research methods, interviews will be held with relevant stakeholders, a comparison of the cities will be made, and an expert panel will be organized with specialists in the field. Fifthly, the results will be analyzed upon the perceptions of the stakeholders regarding organization and development of bus transport, compared to the results of the case-study, and discussed in the expert panel. Furthermore, a discussion of the results regarding theory and the conclusions of the research will be deliberated. As a goal, an overview and suggestions for the grantor of bus transport in Enschede will be provided regarding stakeholder involvement in the organization and development of bus transport. At last, additional possible recommendations based on the comparison to the bus system in Curitiba will be given.

2. THEORETICAL FRAMEWORK

In this section, different theoretical approaches and models will be discussed of prior studies, relevant to the research. This firstly entails stakeholder involvement and its application, the role of stakeholders and the differences in approach. Secondly, stakeholder involvement will serve as an overall umbrella topic, in which four elements of importance to bus transport are covered. Based on theory and these elements, a conceptual model will be developed, which will be used as a framework for data collection and analysis in this research.

2.1 Stakeholder involvement in organizations

The concept of stakeholders has gained a notable place in management practice and theory (Bryson, 2004). The approach of stakeholders to fully understand a firm in its environment has been frequently applied as a device, with the aim to broaden the vision and roles of management, going beyond the maximization of profit of an organization (Mitchell, Agle, & Wood, 1997). However, many researchers believe stakeholders obtain a more prominent place in organizational value. According to Mitchell et al. (1997), it should be further analyzed which exact stakeholders acquire attention, and to what extent stakeholders are involved. Therefore, stakeholders are ought to be analyzed upon salience, the degree to which organizations should prioritize to stakeholder's claims. The authors state that an approach is to identify the stakeholder groups in primary and secondary stakeholders. In that case, as stated by Clarkson (1995), primary stakeholders are defined as necessary for an organization to survive, whereas secondary stakeholder groups can influence or affect, or are influenced and affected by an organization. These secondary stakeholders have normative or moral interest in the organization, and have, for instance, the opportunity to mobilize the public discourse regarding a corporation's performance. Therefore, the inclusiveness of stakes range from economic to moral interest, involving binding as well as informal relationships (Cornelissen, 2014). Stakeholder engagement is then considered "a broad inclusive and continuous process between a project and those potentially affected by it" (Cundy et al., 2013, p. 285).

Another perspective at stakeholder involvement, according to Mathur, Price, & Austin (2008), is one aimed at capturing knowledge. Then, meaningful stakeholder involvement can be considered "to enhance inclusive decision making, promote equity, enhance local decision making and build social capita" (p. 601). In that case, the benefits are considered vital for sustainability. For instance, such effective stakeholder involvement has been classified as one of the main requirements for the optimal execution of sustainable remediation strategies (Bardos et al., 2011). In the conduction of a strategy it is important to consider and involve all affected stakeholders. This could ensure the acceptance from stakeholder groups, because of the establishment of a good reputation (Cornelissen, 2014) whilst it also increases the confidence of the public in the product or service of an organization (Feldman, Bahamonde, & Velasquez Bellido, 2014).

Figure 1. *Spectrum of involvement measures*

An approach aimed at capturing knowledge is one of Conde and Lonsdale (2004), who state that stakeholders are central in an organization's process of adaption to new development. In their paper, it is described how important it is to bring relevant stakeholders together to identify the most fitting forms of adaption for, for instance, the organization of a transport system. A fitting theory to this approach is the spectrum of involvement measures, visualized in figure 1, as designed by the REVIT Project (as cited in Cundy et al., 2013). This model is focused on the increase of stakeholder interaction and engagement for innovation, which entails five phases. The spectrum operates to provide objective and balanced information, in order for stakeholders to fully understand the discussed topic and the possible opportunities or alternatives. This is considered the first phase, to *inform*. The second phase, to *consult*, is focused on obtaining feedback of the informed stakeholders, which can be analyzed and incorporated into the decision-making process. Subsequently, the third phase is to *involve* and work directly through the process with the stakeholders, to take their thoughts and concerns into account. These are ought to be fully understood before being considered in the process in the most appropriate way. The fourth phase, to *collaborate*, partners the stakeholders with each relevant aspect for the formulation of the ideal outcome. This leads to the final phase, in which the stakeholders are *empowered* and have obtained control over the final decision-making. This model is of relevance as it illustrates the approach of interaction and engagement in a clear and generally applicable manner. Stakeholders are consulted, and the possibility exists to capture knowledge. Regarding the organization of public bus transportation, questions could arise considering how these stakeholders are informed, or to what degree they are collaborated with.

2.2 Stakeholder involvement: Elements of bus transport

In the broad inclusive and continuous process of stakeholder involvement, Cundy et al. (2013) point out that the process is more complex and wider ranging when remediating land in (sub-)urban settings than in other fields. This is, for example, because the number of interested parties will likely be wider because these projects are more visible and, therefore, obtain more public attention, and the range of issues might be relatively more complex in which sustainability is considered an important aspect. To facilitate a project's management of the operations, including environmental and social effects, the aim is to establish and maintain a constructive and transparent relationship with the concerning stakeholders (World Bank, as cited in Cundy et al., 2013).

A model that identifies stakeholder groups and their relationships within the bus industry is portrayed in figure 2 (Millar & Moynihan, as cited in Moynihan & Pandey, 2007). Beginning with the passenger, the connection with the operator is shown, as the product that is purchased by the passenger is dominated by the service of transport, which is offered by the operator. Some might see the service of transport as the end product, whilst this undermines the notion of the mobility being experienced by the passenger, instead of just provided and endured (Bunting, 2004). Therefore, the bus could be considered a tool for the service that is manufactured by the collaboration of many stakeholders. The stakeholder group 'the Federal Government' generally sets out the requirements for

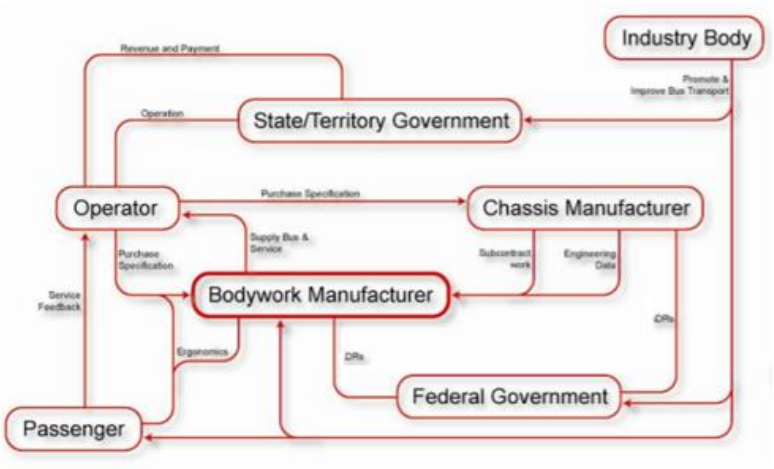

Figure 2. *The stakeholders and relationships to the bus industry.*

the buses, also known as Design Rules (DRs), for instance regarding safety, emissions and accessibility. The State/Territory Government have a more direct operational relationship with the bus operator. For the vehicles, the chassis manufactures represents the industry that provides the base frame of the bus and the bodywork manufacturer represents the industry that provides the metal outer shell of the bus. The industry body is the overall branch in which the organization operates, which is public transport. It represents the other companies operating in the same field. In 2005, the public-private partnerships in this transport infrastructure in the Netherlands was stagnating (Koppenjan, 2005). Koppenjan (2005) analyzed that an explanation for the stagnation was the lack of interaction, which caused the failure to reach common understanding, the contribution to a project, and the development of mutual trust. Accordingly, the importance of interaction and communication with the partnerships involved is emphasized.

Thus, stakeholders may acquire more thorough knowledge about certain aspects than others as these might see it from a different perspective (Helm, 2007) or hold expertise and, therefore, supplementary knowledge. Therefore, the topics *partnerships*, *cooperation* and *use of expertise* are important points of discussion for stakeholder involvement for organizations in general. However, stakeholder involvement considers the expression of thoughts in certain subjects. When referring to a public bus transport system specifically, this regards many elements. In this research, there will be restricted to four overall elements, each including its subtopics. These four elements consider bus transport in terms of its urban integration, the public discourse, the financial incentives, and the environmental sustainability. Stakeholder involvement is the dependent variable in this research, and, as stated before, will be the overall umbrella topic to which will be referred to as a common thread throughout the discussion of the elements. Subsequently, the main principles of the system can be analyzed and emphasized, whilst taking stakeholders into account for each principle.

2.2.1 URBAN INTEGRATION OF BUS TRANSPORT

Within this element, topics considering the *physical integration*, the *mobility* and the *communication* of the system are of importance. For physical integration, the integration and, among this, the infrastructure and implementation of the system within the city in terms of organization can be considered main aspects. For instance, how the system is designed according to the environment of the city regarding urban planning. Access to public transport is seen as an opportunity for commuters

to potentially use the transport system (Adjei, 2010). Good implementation of the bus system in the infrastructure is therefore of importance. For example, in the Netherlands, the travel time ratio between private car use and public transport reduced from 1.40 to 1.25 since good access provision to bus stops was provided (Arends & Samhoud 1993 as cited in Adjei, 2010).

The expertise and success of an organization is linked to the stakeholders of the organization and their experiences with that organization. This means that stakeholders could add value with their expertise to the development of the bus system and its success, but this is at the same time based on experiences of the users of the services of the organization. Being known to have beneficial expertise could evolve in a competitive advantage for the organization. If an organization is the best in their field, it will be known for proficiency (Zinko, 2007).

In recent years, *mobility* is suggested to be considered as a function in everyday lives (Moore-Cherry, 2014). Accordingly, in terms of social science in shaping mobility, the movement of people and their ideas reshape places and the extent to which these places and people are connected (Grieco & Urry, 2011). Therefore, behavioral patterns can greatly influence the development of public transport. However, in the organization of bus transport, the stakeholder have to be taken into account to analyze these patterns and to understand how to shape mobility within a city. For these reasons, it can be considered valuable to take the perspectives of stakeholders into account, and explore to what extent certain stakeholder groups are involved in the different aspects of bus transport. For instance, consumer or employee organizations could be taken into account and involved to understand behavioral patterns and whishes in the integration of a bus transport system.

Within *mobility*, the intermobility with different transportation modes and the mobility of a system in comparison to other transportation modes are discussed. Between 1960 and 1990 a global demand in motorized transport existed (Schafer, 1998), and a few decades later it was already believed that the quality of life would reduce when giving up driving as public transport is not considered as mobile (Musselwhite & Haddad, 2010). It is argued that intermodal systems have to be created, necessitating to overcome obstacles regarding sustainability by incorporating intermodal systems for freight and passenger (Szyliowicz, 2004). In this regard, Mobility as a Service (MAAS) is often mentioned in relation to the growing pressure on urban public transport systems. MAAS refers to door-to-door transport by a passenger's purchase in mobility services based on their needs, instead of buying a means of mobility (Kamargianni, Li, Matyas, & Schäfer, 2016). Regular collective transport systems would then be complemented with flexible transport schemes and forms of shared-use transport (Ambrosino, Nelson, Boero, & Pettinelli, 2016), creating a complete intermodal transport system. As a goal, the demand is ought to shift to public transport over private vehicles. In a study conducted by Javid et al. (2016), it was found that in Lahore, Pakistan, the intention of people to use public transport depends on situational constraints and mobility restrictions. For instance, fiscal and car entry restrictions are present which significantly influence the intention to travel with public transport. As a conclusion, it was stated that the improvement in quality of the service needed to be integrated with fiscal mobility restrictions on car use to effectively change travel behavior.

Furthermore, the topic of *communication* of the system towards passengers, but also towards other stakeholders, is of importance regarding integration as well. The most important aspect within this topic regards whether correct and enough information is provided for the (potential) users of the system. For instance, travel information provided through signs in bus stations or online in an application. Some authors believe that the lack of service, and therefore communication, has pushed

local population to switch to private modes of mobility (Attard, 2012). However, the type of communication can influence perceptions of bus transport as well. In Johor Bahru, Malaysia, affective and symbolic motives were found to have significant influence on the choice of transport mode amongst inhabitants (Loo, Corcoran, Mateo-Babiano, & Zahnow, 2015). Thus, communication is of great value for how the system is perceived.

2.2.2 PUBLIC DISCOURSE ABOUT BUS TRANSPORT

Within the element of public discourse, many aspects are involved, for instance the *monitoring and accountability, reputation, customer satisfaction and trust,* and *media visibility* of the bus system. The topic of *monitoring and accountability* covers the aspects for an organization to openly communicate their goals and benefits, and to be accountable for certain situations and able to monitor them well, which is important for an organization to maintain their reputation.

Within the discussion of public acceptance, the *reputation* of the organization and bus system itself is an important topic for the use of a product or service. If an organization has a bad reputation, a possible consequence is that it negatively impacts the competition with organizations and external stakeholders (CR Magazine & Alexander Mann Solutions, n.d.). For instance, in this case, it could lead to substitutional alternatives for transportation. Therefore, reputation of an organization is preferred to be strong and the image to be positive, to prevent this impact on competition. Also, literature states that a bad reputation decreases satisfaction, loyalty and trust of stakeholders, as it could create negative word-of mouth and, therefore, a decrease in use of a company's products or services (Walsh, Dinnie, & Wiedmann, 2006). Within the topic of reputation, the corporate communication and corporate identity are of importance. According to Balmer and Gray (2000), these topics should be part of a three-part system process, in which the external image and reputation of the organization is firstly analyzed, secondly supported and reinforced, and thirdly enforced for a positive outcome. Eventually, the organization could gain a competitive advantage.

Additionally, a need exists to focus on increasing and monitoring *customer satisfaction and trust* (Walsh, Dinnie, & Wiedmann, 2006). This topic can be defined as a response a stakeholder has, based on the services of the organization (Caruana, 2002). It deals with the expectations one has of the organization, and whether the actual service provided meets these expectations in order for the stakeholder to be satisfied (Walsh, Mitchell, Jackson, & Beatty, 2009). Trust is established over time towards an organization, based on past experiences, which can create a sense of loyalty between an organization and its stakeholders (Cornelissen, 2014). It depends on the knowledge of the stakeholder about the organization and on an additional emotional effect (Cornelissen, 2014). Trust could also be referred to as an outcome of the services the organization provides, which is ought to be maintained. Within this topic, the types of stakeholders need to be taken into account. For instance, the bus drivers, competitors, travelers and journalists can act as a threat agent (Veldschoten, 2018). In terms of the public discourse, these stakeholder groups are ought to be kept satisfied to prevent negative outcomes. However, the competitors are not actively present in Enschede, as only one bus operator is dominant in the city. This is done by means of a tendered contract, which assigns one regional authority to take care of the public transport supply in that region (Witbreuk & De Jong, 2001). Therefore, this mostly regards substitutes of travel modes.

This element of public discourse is also related to the topic of *media visibility*, referring to the visibility in the media by which information through editorials and feature articles are shared (Fombrun

& Abrahamson, as cited in Fombrun & Shanley, 1990). This can directly influence the impressions, opinions and perceptions that stakeholders have of an organization (Deephouse, 2000). Mass media play a powerful role as it draws the attention of the public towards an organization or possible issues and has influence in setting the agenda of discussions of the public (McCombs & Shaw, 1972). This topic is closely related to reputation, as the media can strongly influence the judgments about organizations in the public domain (Etter, Ravasi, & Colleoni, 2019).

2.2.3 FINANCIAL INCENTIVES

Public funding is a substantial part to fund public transport, by which public decision-making has had a growing role in the sector globally. Evidently, in many cities in the world, funding is dependent on the revenues made from passengers. In addition, most public transport systems are subsidized, substantially. Governments decide upon whether to spend public money to provide for public transport service in their region or country. (Veeneman et al., 2015)

For instance, in 1997 in Finland, a policy objective was taken as a project to encourage a modal shift from cars to public transport to reduce environmental effects. As a means to achieve this, the regional bus card was subsidized by the state government and local authorities. The introduction of this scheme was based on providing a substantial discount on fares on the regional bus card. As a conclusion, it was found that the public transport use was highly dependent on price height of the fares as well as gasoline, implying intermodal substitutions. However, it was questioned whether it would be worthy to provide governmental subsidy for lowering the price for buses, as it might be more valuable to invest in the development of other public transport projects. (Dargay & Pekkarinen, 1997)

Therefore, within this element, passengers as well as governments have a considerable stake in revenues and are regarded important stakeholder groups in this regard. The *fees* for the users and the types of *financing* of the organization will be discussed, whilst partially considering the costs of the bus system. The groups of measures related to this are the financing via transport fares or value capture measures (Lari et al., 2009). Additionally, the *monetary benefits* for stakeholders can be of influence to be involved with the bus transport system. It can be valuable to examine a stakeholder's motivation to be involved and to understand how to target them. This presumably depends on the type of organization, whether it is, for example, non-profit, municipal, or an NGO. For instance, the municipality might value the connectivity of the city, whilst passengers would prefer low fees, and the bus operator might strive for high revenues.

2.2.4 ENVIRONMENTAL SUSTAINABILITY

In the element of environmental sustainability, the topic of *sustainability* of the organization itself and its materials are considered. In addition, the topic of *certification* of energy and environment is discussed. Public bus transport is considered to be a sustainable way of transport in urban areas with the potential of competing with private automobiles (Tiwari, 2002, as cited in Adjei, 2010). Sustainability development should, as defined by the United Nations (n.d.), be able to meet today's needs, whilst not depriving the ability of future generations to cater own needs. This involves three main perspectives, considering economic, social, and environmental sustainability. Firstly, the sustainability to finance the development and capability of regaining investments, secondly the

sustainability to offer equitable service to the complete community, and thirdly the sustainability to reduce negative environmental side effects (World Bank, as cited in Adjei, 2010).

2.3 Conceptual model

Based on the discussion of stakeholder involvement and the according elements for bus transport, it can be considered valuable to provide a situational comparison between two cities which involve a similar type of bus transport system. To analyze the stakeholder involvement in bus transport for each of the elements, a conceptual model has been developed (figure 3). The model partially corresponds to the model of measures in a BRT policy package (Filipe and Macário, 2013), which can be found in chapter 3, as it regards the analysis of Curitiba. This way, a similar approach as conducted in Curitiba will take place. Some elements and topics have been reformulated to its relevance in the adapted context. Within this framework, different stakeholder groups can be related and recognized. Additionally, the main principles of the system can be analyzed and emphasized for the bus transport's grantor, whilst taking stakeholders into account for each principle. In section 3.3, an online analysis can be found in which the model is applied to the situation of Enschede. Additionally, the model will be applied when collecting data for the study.

Figure 3. *Measures of stakeholder involvement in bus transport organization.*

3. A COMPARISON OF ENSCHEDE (NL) AND CURITIBA (BR)

3.1 The case-study in Curitiba

As stated before, the Brazilian city of Curitiba is a metropolis that has been recognized for long to be successful in sustainable urban transportation planning and its pioneering deployment of BRT (Mercier et al., 2014; Duarte et al., 2011). Therefore, Curitiba is considered to provide as a model on the integration of sustainable transport into business development, the road infrastructure development and local community development (Burgess & Ordiz, 2010). Nowadays, however, Curitiba's BRT is facing a challenge considering the decrease in use of the system. In this particular challenge, stakeholder involvement could provide as a solution. Therefore, Van Uum (2019) aimed to define what the influence and possible influence is that stakeholders of the BRT-system in Curitiba have on the bus system. This could potentially improve the development and innovation of the system. To approach this goal, the stakeholders were mapped, their roles were defined and it was analyzed how involvement of certain stakeholder groups could be promoted.

Accordingly, the model of the BRT Implementation Package (figure 4) by Filipe and Macário (2013) was used in the research of van Uum (2019) to define the most important elements to investigate during the research. Similarities can be found in this model and the conceptual model for this research (figure 3). Even though the model was established for the implementation of a BRT system, it remains important to re-consider these main concepts during the development of the system. In the research of Van Uum (2019), the full element of the 'Service Business Model' and the subtopics 'Congestion charging', 'Value capture', 'Project divulgation' and 'Traffic signaling rules' were eliminated from the research, as these were considered not relevant to analyze for the research. The topic of 'Stakeholder involvement' was taken as a separate element, to which the topics *partnerships, involvement,* and *use of expertise* were added. During analysis, stakeholders were continuously taken into account for each of the elements.

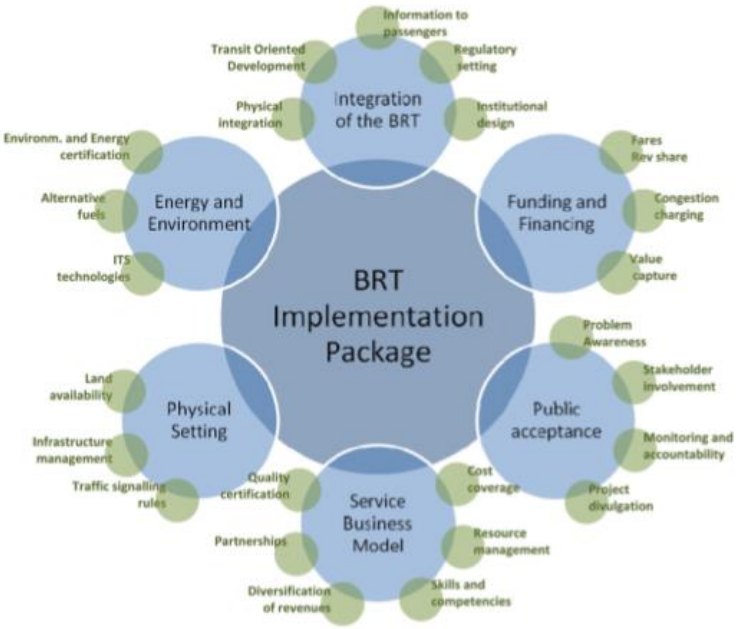

Figure 4. *Measures in a BRT policy package.*

Table 1

Overview of interviewees, Curitiba

Number	Gender	Organization	Profession
1	F	URBS (Bus operator)	Employee
2	M	IPPUC (Institute of Planning and Urban Research)	Ex-president, architect
3	M	IPPUC (Institute of Planning and Urban Research)	Economist
4	M	Gazeta do Povo (Media)	Journalist
5	M	PUCPR (University)	Professor Urban Management & researcher
6	M	PUCPR (University)	Professor Urban Management, architect & researcher
7	M	City Council	Officer

Based on the Management Plan of URBS (2017), the bus operator responsible in the city, all stakeholders and their roles were mapped. Based on this, the most important and relevant stakeholders were chosen to conduct a semi-structured interview with. In table 1, the organizations involved and the profession of the interviewees can be found.

The most important conclusion from the research conducted by Van Uum (2019) is the difference that has been found between the organizations responsible for the bus transport and urban planning and the other stakeholder groups. The stakeholder groups of the City Council, Academic Community and the Media have been involved in the system to a certain extent, such as their involvement in projects. However, it was evident that the stakeholders believed they could contribute more to the future development and existence of the bus system, than how their role currently is used. Often it was emphasized that their expertise could be used more to improve the current situation and possibly solve the current challenge of the system. Clear and open communication has been mentioned as the desires and points of improvement, through which distribution of tasks is transparent, and from which information can be used for writing articles (i.e. Gazeta do Povo) or conducting research (i.e. Academic Environment).

From the perspective of URBS and IPPUC, van Uum (2019) observed that for many situations another party was held responsible. For instance, the critique on the current manner of communication was explained by the fact that other companies are responsible for the communication, instead of the organizations themselves. Additionally, regarding the prices and involvement of the stakeholder group, it was emphasized that the mayor of the city is responsible for these aspects. However, URBS did state to intent to promote innovation by developing a relationship with companies and individuals to deal with innovative proposals.

For now, an insight is provided in the way the stakeholder groups of the bus organization in Curitiba are connected, what their current role is and what stakeholders think they could contribute more to the development and innovation of the bus system. It is important to consider to apply the expertise and to involve the stakeholders, as it might determine the future path the BRT-system in Curitiba will have to follow (van Uum, 2019). All stakeholders stated to be concerned and are willing to make a difference. Therefore, this business opportunity should not be passed upon. In the results section, the specific results and certain statements of the interviews will be given and compared to the results in Enschede.

Moreover, evidently, many situational factors contribute to the way the bus system is used and seen in Curitiba. For instance, the use of buses is considered for people who are underprivileged, which can be regarded a social influence on its use. Also, buses are more dangerous to take, especially in the evening, which affects the use and reputation of bus transport as well. Therefore, the municipal guard is a relatively more important stakeholder than, for instance, in Enschede. Additionally, the mayor is seen as responsible and a solid factor when it comes to the development and the pricing of the bus system. Politics was of importance, whereas URBS itself had limited power, or did not consider themselves responsible for certain developments in the bus system.

3.2 Urban planning and public transport development: Comparing Curitiba and Enschede

To provide background information regarding urban planning and a perspective of the scope of the cities, a description of Curitiba and Enschede is given and comparison between the cities is made.

3.2.1 CURITIBA

When considering Curitiba's history, it is apparent that the transport success was achieved through institutional, demographic and even constitutional changes (Mercier et al., 2014). In short, the urban planning of the city started in 1943 with one of Brazil's first urban plans of bus transport, i.e. the Agache Plan, which designed radial and perimetral growth of the city (Menna & Chiesa, 2011). However, the city population grew from 140.000 people to a 500.000 in 1965. Eventually, this led to the Master Plan of 1966, which designed a linear model for urban expansion, existing out of five primary corridors that form axes surrounding the downtown area, to ensure development is not concentrated in the city's core (Gustafsson & Kelly, 2012). However, it can be seen in the city today that this was not ensured. Both plans are visualized in appendix A.1. Then, the BRT-system was developed and began to operate along the structural axes of the city in 1974 (Burgess & Ordiz, 2010). Each axis is segmented as a "trinary system" of three roads, along which the BRT system centrally acts in an exclusive bus lane operating in each direction (appendix A.2) (Gustafsson & Kelly, 2012).

3.2.2 ENSCHEDE

In the 19th century the textile industry in Enschede matured and played a big role in the architectural development of the city. Twente became the textile center of the Netherlands after the first steam engine was developed in 1850, which has led to the city developing from small business activities to a modern industry. Because the number of factories increased, a three railways connected to Enschede were developed in 1866, 1885, and 1903. Even though Enschede has coped with many city fires, the old street pattern was always taken as the basis for the design. Because of this, the circular enclosure of the city is still recognizable. In 1901, the national housing law forced the city council to develop an expansion plan for Enschede. In half a century, the number of inhabitants was increased tenfold, but at the time the growth was not guided regarding urban development. The new urban expansion plan was executed in 1907, of which the most important part was the construction of a 'road canal' around

Table 2

Urban comparison of Curitiba and Enschede

	Curitiba	Enschede
Surface in km2	432	142.7
Population	1.880.000 inhabitants	160.000 inhabitants
Daily demand	566.500 passengers	2.586 passengers (in 2011)
Annual demand	169.950.000 passengers	770.400 passengers (in 2011)
Modal split % public transport	46	4
Year of commence bus transport	1974	2000
Standard boarding tariff	$1,11	$1,11
Fare type	A single fare	Time-based transfer ($0.19 p/km)
Integration terminals	15	1
System length	74,10 km	23 km
Bus stations	106	40 (in 2011)
Station spacing	699,10 m	600 m (in 2011)
Station boarding level	High level platform & On-street, no level boarding	On-street, no level boarding
Average frequency of buses per hour during rush hour	67	6-8
Typical fuel type	Diesel	Diesel

the city. When the textile industry in Enschede ended in 1967, a bankruptcy of the city took place. Only in the 90s, the city was able to get restructured and redesigned. (Gemeente Enschede, n.d.)

Currently, Enschede houses 160.000 inhabitants, and is seen as the 'urban heart' of the Eastern part of the Netherlands. Despite the four train stations and the many buses that Enschede houses, Enschede is best known for the bike-use in the city. Since the 70s, Enschede already uses the car structures as point of engagement for their bicycle policy (Hartog, 2005). By this, the city was made more attractive for so-called slow traffic. At present, the mobility agenda of Enschede is still mostly focused on cycling and to experiment with travel situations. The mobility management plan of Enschede focuses on creating a modal shift from private cars to sustainable modes of transport. The aforementioned "trinary system" of three roads, as situated in Curitiba, can also be recognized in the street patterns of Enschede. Thus, a similar design is applied in both cities. In Enschede, a similar type of bus transport is offered, called the BRT. Such a BRT-system is developed, with the focus to provide transport at the pace and capacity of a metro, whilst offering the low costs, flexibility, and system of a bus. Regarding this system, Curitiba acts as a model city, although on a bigger scale. Therefore, the comparison between the cities can be considered relevant. To provide perspective regarding this scale, table 2 has been developed.

An online analysis: the conceptual model for Enschede

To provide an overview of how the discussed elements in section 2.2 are currently organized in and what practically can be found regarding Enschede, a short online analysis has been conducted. In the organization of bus transport in the Netherlands, concessions are applied for public transport. A concession "covers situations where the government retains ultimate ownership of either the physical assets or the right to supply, but grants exploitation rights to a concessionaire" (Shaw, Gwilliam, & Thompson, 1996, p. 4). Therefore, the Provincie Overijssel is the grantor, the client, of the concession in Twente, whilst the municipality of Enschede is involved in the physical assets. As the central

government, they provide functional and political beneficiary. For instance, the fares are set and the means for the public transport are disposed by them (Witbreuk & De Jong, 2001). The mobility service provider Keolis is currently the concessionaire in the region of Twente, in which Enschede is located. Twents is their brand of service operating in this region. In addition, Arriva is another involved mobility service provider, responsible for bus connections from the province Gelderland to the city of Enschede.

To maintain and improve the wishes, expectations and demands of the stakeholders, Keolis designed a quality policy statement, signed by the director of public transport in February 2018 (Appendix B.1). As stakeholders, Keolis considers the travelers, clients, employees, and shareholder Keolis. This vision is strived to deliver quality, by offering a safe trip, up-to-date travel information and a bus driver who acts as a 'perfect host'. Among the rules, it is stated that all employees of Keolis are ought to promote a customer-oriented attitude. Also, the importance of employee-involvement in the conduction and optimization of the quality management system is emphasized.

Urban Integration (of the system)	• The integral vision on mobility networks operating in the province is considered important by the central government, in order to consciously opt for investments in one or more systems in certain transport relationships. • Provincie Overijssel states that, with partners, it is strived to create course documents of transport modes for logistics and policy incentives that affect various transport modes, such as road safety, smart mobility and/or sustainability.
Public discourse	• The OV-Klantenbarometer, a questionnaire passengers can fill in to state their opinion about several topics of public transport, is held each year. For the bus transport of Twents specifically, an overall grade of 7.9 was given, with an 8.2 for customer service ("Reiziger Overijssel bekroont Keolis", 2019). The highest grade in the Netherlands. • Keolis posts new articles once every one or two weeks to update stakeholders about their services on their general website. Arriva posts news articles several times per week. • Several journalist magazines focused on public transport and newspapers exist in the Netherlands, who write independently from public transport organizations, retaining the power to influence perceptions of stakeholders.
Financial Incentives	• The costs of public transport exceed the revenues. The central government subsidizes approximately half of the costs. • The central government sets the bus fares and the regional government can diverge with 10 per cent below this standard.
Environmental sustainability	• The municipality of Enschede does have the possibility to stimulate alternative use of fuels and aims to reduce the percentage of emission. In 2009, the transport sector in Enschede was responsible for approximately 36% of the total CO2 emission of the municipality. In that same year, the goal was set to reduce the CO2 emission with at least 30 percent, compared to the year of 1990, as from the year 1990 to 2010 the emission has consistently increased. • The central government of the Netherlands is responsible in terms of regulations to limit emissions, as such regulations are applied nationally. • In 2007, the municipality purchased two buses running on natural gas. In 2015, a sustainability plan for 2015-2018 was developed, in which was stated to stimulate the population to use public transport. • Keolis designed an environmental policy statement in February 2018 (Appendix B.2). From this vision, it is strived to minimalize the environmental impact when carrying out business operations. It is emphasized that collaboration with diverse partners prominently exists, both financially and technologically. • For Arriva, no clear policy regarding sustainability could be found. Arriva does have a collaboration with 'Trees for All' called 'Samen voor Groen' (n.d.), in which it is strived to donate trees and promote the use of buses. In this campaign, Arriva states to consider sustainability every day and to offer a 'green' service.

4. METHOD

In this section, the types of method, selection of participants of the research, the data collection instrument, and the procedure for the methodology of the research will be described and discussed.

4.1 General design

In this research, a mixed-method of interviews, a study-comparison, and expert panel is used to answer the research questions. Profound information is necessary to examine the exact roles and perceptions, and how this affects the way the bus transport is organized. Therefore, a qualitative research method is applied. The combination of the three methods served to an answer to the main research question of the research.

INTERVIEWS

An interview was used as a research method, which applied to obtain, analyze and interpret the data to understand "what and how people perceive and interpret the world around them" (Zohrabi, 2013, p. 255). In this case, the 'people' represented an organization. All interviews were held in a face to face setting, which brought many advantages. For instance, attitudes could be measured, in-depth information could be provided, it allowed probing of the interview and provided interpretative validity (Johnson & Turner, 2003). The goal of the interviews was to understand the role and relation of the stakeholder in the organization and development of bus transport, and their perceptions regarding the elements of bus transport. Through interviews, this in-depth information and better understanding of the perceptions of stakeholder involvement could be provided. Subsequently, this method had the role to answer sub research question 1b and 1c.

COMPARISON WITH CASE-STUDY CURITIBA

Using the collected data in the research of Van Uum (2019), a comparison was made of Curitiba and Enschede. This way, the differences in organization of the bus transport system could be analyzed. For the comparison, it was taken into account that the scope of Curitiba is considerably different from Enschede. However, as the comparison only regarded the organization of bus transport and both cities use the system type of BRT, the comparison is considered executable. Through comparison, the different types of stakeholders and the approach for stakeholder involvement were considered. Subsequently, through the comparison, lessons could be learned for the grantor of Enschede in the way their bus transport system is organized at metropolitan-level in Curitiba. Through this method, sub research question 1d could be answered.

EXPERT PANEL

Additionally to the interviews and comparison, an expert panel with specialists was organized as a last method. The goal of the panel was to discuss the insights gained from the perceptions of the stakeholders in the interviews and the conclusions from the comparison between Enschede and Curitiba. This way, the knowledge of both cities could be thoroughly discussed and more meaning could be given to the differences. Additionally, it served to comprehend and validate interpretation of the results. This way, biased conclusions from the researcher were prevented. The description of participants, instrument and procedure will be explained in section 4.6 of this chapter. Through this method, the answers to all sub research questions could be discussed and strengthened.

4.2 Interview participants

Within the research, it is important to engage the key stakeholders as participants in the design and conduct of the research (Flick, 2006). Therefore, when selecting the participants for the interviews, their added value was analyzed and discussed with the participants beforehand. Additionally, extra attention was paid to the selection of participants as, at times, only one person represented the whole organization, and, therefore, it had to be considered that this person had the profession to provide valid, reliable and representative information (Zohrabi, 2013). If possible, the stakeholders involved had to be comparable to interviewed stakeholder groups in Curitiba. Based on these factors and an analysis on relevance to the research, an appointment was made or not made. In the end, eight interviews were held, which are outlined in table 3. Table 4 provides an overview of the interviewees, contrasted with the interviewees in Brazil.

Table 3

Overview of interviewees, Enschede

Number	Gender	Organization	Profession
1	M	Keolis	Business Analyst & Revenue Manager
2	M	Arriva	Transport developer
3	M	Provincie Overijssel	Policy developer smart mobility
4	M	Provincie Overijssel	Policy developer, specialized in public transport.
5	F	Promedia: OVpro	Journalist
6	M	Enschede Promotie	Senior Marketeer
7	M	Keypoint	Teamleader Sustainable Mobility
8	M	Gemeente Enschede	Senior Consultant in Smart Mobility and Cities
9	M	Winkelhart	Board member

Table 4

Overview and comparison of interviewees, Curitiba and Enschede

Stakeholder group	*	Curitiba	**	Enschede
Bus operators	1	Employee	1	Business Analyst & Revenue Manager
			2	Transport Developer
(Governmental) Organization in urban planning	2	Architect	3	Policy developer smart mobility
	3	Economist	4	Policy developer public transport
Media	4	Journalist	5	Journalist
			6	Senior marketeer
Experts	5, 6	Professors/researchers Urban Management	7	Teamleader Sustainable Mobility
Municipality	7	City council Officer	8	Senior Consultant Smart Mobility and Cities
Retailers Association			9	Board member

*Numbers refer to table 1.

** Numbers refer to table 3.

SELECTION OF PARTICIPANTS

The stakeholders of importance to the organization of bus transport were taken into account. In this study, the organizations involved in the system are considered only. So, for instance, the employees and users of bus transport are not taken into account as a stakeholder group. If possible, the selection of participants had to be in alignment with the participants of the research conducted by Van Uum (2019) in Curitiba, to be able to conduct a comparison of stakeholder groups. The Project Manager of Smart Cities of the University of Twente assisted in the selection, providing some contacts. Additionally, online research was conducted to examine the involved organizations and to collect information about the stakeholders. Through researchers and alumni of the University of Twente, a part of the connections with mobility experts was made. Firstly, a list with the stakeholders relevant to involve in the research was created, involving different names that could represent a stakeholder group. Secondly, the chosen stakeholders were informed about the research and its goal. This was firstly done via e-mail, and occasionally done through a phone call. Only a limited number of organizations were aimed to involve in the research to gain focused and the most important data. Therefore, a short discussion may have taken place regarding the relevance of the stakeholder to be interviewed for the research. At times, these discussions lead to new insights of organizations or contacts. Secondly, if agreed upon the beneficiary of the information the stakeholder could provide, an appointment was made.

Keolis is the mobility company that holds concession for the public transport in Enschede. Therefore, the stakeholder group is of great importance for the bus organization in Enschede. Two people were involved representing the Provincie Overijssel, as this is the client of the organization for public transport. As the concession is designed and provided by the province, it is an important stakeholder group to involve. The municipality is responsible for road infrastructure and setting up the concession with the province. These three parties form the so-called triangle for mobility in Enschede. Arriva holds a partial concession in Twente. Therefore, the transport developer of Arriva was interviewed, responsible for the development of transport in the concession region in which Arriva operates, as well as the bus connection between the region of the Achterhoek and Twente in the Netherlands. These organizations are altogether responsible for the public transport and the urban planning of the region. Interesting to analyze was where all organizations are positioned, and where the responsibility lies for all organizations.

Another organization involved in the mobility of the city is Keypoint, a consultancy agency in transport and mobility in the Netherlands. This organization could provide insights on the way things are organized in terms of transport and mobility, and how the situation ideally would be seen. The value of the organization and the extent to which such advice agencies are involved in the organization of public transport was considered relevant for the research, as it involves the aspect of development and innovation of the bus system. Other stakeholder groups involved were Enschede Promotie, who responsible for providing tourist information for the visitor of the city. Therefore, this organization is involved in the external communication of the city, in which communication about bus transport is involved as well. Promedia is a media company with three magazines regarding public transport in the Netherlands, and obtains power as a stakeholder group to influence the reputation and public

Table 5

Characteristics of the involved stakeholders and their relation to the organization and development of bus transport in Enschede

	Stakeholder	Description relation
1	Provincie Overijssel	Grantor of the concession in which the bus transport system operates. Makes the final decision upon developments of the bus system.
2	Municipality of Enschede	Road manager and responsible for the infrastructure in the city. Helps setting up the requirements for the concession, and develops the mobility vision of Enschede.
3	Keolis	Public transport operator in Enschede. Concessionaire in the region.
4	Arriva	Public transport operator, providing external connectivity of Enschede to Gelderland.
5	Keypoint	Consultancy agency for traffic and mobility, involved in the mobility of Enschede. Writes advices or conducts research for mobility insights, but the client decides whether it will be implemented or used.
6	Promedia	Media. Writes independently about mobility in the Netherlands, and, therefore, also about the bus transport system in Enschede.
7	Winkelhart	Retailers organization in Enschede. Slightly involved in terms of connectivity of the city. Not focused on bus connectivity.
8	Enschede Promotie	City marketing organization of Enschede. Has interest in the attractiveness and connectivity of the city for visitors, to which the bus transport system contributes.

discourse of bus transport in the Netherlands. The company writes about public transport in general for the Netherlands, as well as specifically of certain regions or cities. Interesting was to involve this stakeholder group to gain insight in their perceptions of the bus transport, the value of media visibility and the cooperation with bus operators about topics for media articles. Furthermore, Winkelhart, the retailers association of Enschede, was interviewed to investigate the involvement of commerce with bus mobility and the physical integration of the bus system.

An overview of the stakeholder characteristics and their relation to the organization and development of bus transport in Enschede can be found in table 5. The table is conducted based on the aforementioned online research and the discussion with the stakeholders. This table relates to sub research questions 1a, referring to who the stakeholders in the organization of bus transport in Enschede exactly are, and 1b, referring to their role in relation to the bus transport system.

4.3 Research instrument/protocol

A semi-structured interview protocol was designed, based on the conceptual model (figure 3). As the model illustrates, stakeholder involvement acted as the umbrella topic in the interviews. For each of the elements (i.e. “Urban Integration”, “Public Discourse”, “Financial Incentives”, and “Environmental Sustainability”), and organization of bus transport in general, the perceptions of stakeholders regarding stakeholder involvement was discussed. Additionally, the perspective of each of the stakeholders regarding development of the bus transport system was considered. Therefore, the current state and points of improvement for the system were discussed during the interview as well.

In that case, if possible, an approach for improvement was discussed or the stakeholder group responsible to take action was mentioned. The topics involved 23 predetermined main questions to guide the interviewee in the provision of information. In each of the questions, subquestions and subtopics were included which had to be addressed through discussion or further questioning during the interview. Therefore, questions might have altered depending on the answers given, which provided a flexible type of interview and allowed the interviewee to provide more information (Zohrabi, 2013). Generally, if necessary, the questions of the interviews were adapted to the stakeholders. For instance, Arriva does not have a sustainability policy online, but does have sustainability campaigns, to which some questions were specified. This refers to how sustainability can be organized differently for bus operators. However, all topics were discussed to be able to compare the answers of different stakeholder groups in the end. Furthermore, during the design of the questions, extra attention was paid to the prevention of the combination of two questions, leading questions and yes-or-no questions, as these are ought to be avoided (Merriam, 1998). The pre-determined topics and questions can be found in appendix C.

4.4 Procedure

The interviewees were offered to choose the location for the interview, to make it as convenient and comfortable for the participant as possible. The option of a Skype call was offered in case the interviewee would not be flexible regarding time or if the proposed location to conduct the interview was not feasible. Thirdly, the appointment for the interview took place, approximately two or three weeks since the first contact moment with the interviewee. The interviews were held between the 29th of April and 28th of May. Before the interview started, a short briefing took place to further inform the participant about the purpose of the research. In addition, the participants had to read and sign an informed consent, to ensure the full understanding of the goal of the research, provide the opportunity to ask questions for clearance, and to explain how and what the data exactly would be used for. It was stressed that the interviews could be anonymized by name, but that the company and function of the participant had to be stated because of the purpose of the study. The informed consent can be found in appendix D. Following, the interview took place, of which the time varied among the interviews from approximately 40 minutes to 80 minutes. The interviews could be considered more of an open discussion and further questioning regarding the five overall topics. All interviews were recorded, after confirmation of approval of the participant, to be able to make a transcript to best analyze the interview for results. The transcripts of the interviews can be found in appendix E. Fourthly, if requested, the stakeholders were send the transcript or updated regarding what has been used from their interviews. This prevents misinterpretation of the data and improves the reliability and validity of the data.

4.5 Data analysis

For data analysis, edited transcripts of the interviews were made. This was done manually, using the tool oTranscribe. Transcribing is considered representation of audible data, regarded a first step in analyzing data as an interpretive process (Bailey, 2008). In the transcripts, parts of the audio files could be omitted, whilst ensuring that the meaning of the recording did not change. So, utterances that could influence the line of the account are removed. For instance, in case an interviewee had conversational hesitations, for instance when reformulating a sentence, or mentioned an individual by name. As an

overview for the researcher, during transcribing, the topics of discussion were added as headings to text segments.

Then, a codebook was designed, based on the model and discussed topics. The codebook can be found in appendix F. Firstly, the interviews were coded via open coding, applying general codes to text segments of the interviews. This way, data is identified as components of a general category. Some codes were developed through deductive or a combination of inductive and deductive coding, as some codes have been discussed regarding theory in section 2. Secondly, axial coding was used to specify the coded segments and gain a profound impression of the remarks made in the interviews. A inter-rater test has been conducted to ensure the interpretation of text segments and codes. The Krippendorff's-c-Alpha-binary was used to assess reliability by distinguishing between relevant and irrelevant textual matter. The overall Krippendorff's Alpha was 0.8111. The Krippendorff's Alpha for the specific code groups were the following.

Code groups (and n.o. codes)	**Krippendorff's-c-Alpha-binary**
• Communication (5)	0.89
• Environmental sustainability (3)	0.87
• Financing (7)	0.75
• Infrastructure (4)	0.65
• Mobility (6)	0.84
• Organization (17)	0.76
• Public discourse (9)	0.69
• Types of stakeholders (8)	0.98

As can be seen, code group 'Infrastructure' scored below the minimum measure of 0.667. However, not all data in this code group was discarded, but for analyzation this was kept in mind by carefully considering the correct interpretation of the text segments. Additionally, for respondent 2, the transcript has been shared and checked upon interpretation. In the end, the codes could be compared, analyzed and reviewed on co-occurrence. It is considered valuable to see how different codes and categories are distributed across the transcripts, by which frequency of topics discussed by respondents can be demonstrated (May, 1998). Therefore, a grid will be made providing an insight in the assigned codes.

4.6 Expert panel

The expert panel involved three specialists, from the University of Twente, of which the details can be found in table 6. All specialists are involved in the Sustainable Urban Mobility Lab, which is an initiative by three local universities in Curitiba and the University of Twente, in which smart and sustainable mobility in Curitiba is investigated. Therefore, these experts are familiar with the bus transport situation in Curitiba as well as in Enschede. The three specialists were involved in the aforementioned research from Van Uum (2019) as well, and, therefore, familiar with the research and the researcher. The members of the expert panel were the following.

The panel was held on the 29th of May at the University of Twente, at which all specialists were employed. The panel was chaired by the researcher, and took approximately 80 minutes. During the

discussion, each member received a print with 13 statements, derived from the results, to be discussed.

PROCEDURE AND INSTRUMENT OF THE EXPERT PANEL

Firstly, all participants were informed about the research, its process up until that moment, and about the goal of the expert panel. The participants had to sign an informed consent. Secondly, all members received some time to read the hand-outs. Thirdly, the panel started, and it was discussed to what extent the experts recognized and could agree upon certain statements. These statements were based on quotes or conclusions made from the interviews. Five statements reflected situational factors of urban planning, and nine statements reflected organizational factors of bus transport and stakeholder involvement. For instance, "*If the Master Plan in 65 wasn't developed, Curitiba would be able to innovate better regarding mobility than currently possible.*" was one of the statements regarding situational factors. The statement tested for the influence of urban planning on the development of the bus transport system. An example of an organization-related statement, based on a quote of an interviewee, was "*Enschede focuses on many different mobility services. This proves the municipality of Enschede does not have a clear vision for their mobility on the long-term.*" Subsequently, the thoughts, perception and vision of the experts regarding this statement would be discussed. It was communicated before the start of the panel that not all statements were necessarily conclusions, as some were to be tested or purposely contradictory to conclusions made, to ensure the members of the expert panel to be critical towards each statement. All statements can be found in appendix G.

Table 6

Overview of expert panel members

	Gender	Organization	Profession
1	F	University of Twente – Designlab	Project Manager Smart Cities
2	F	University of Twente – ITC	Assistant Professor in Land Use and Transport Interaction
3	M	University of Twente – Centre for Transport Studies	Professor of Transport Studies
4	M	PUCPR – School of Architecture and Design	Professor of Strategic Cities

5. RESULTS

In this section, the results from the interviews will be discussed. The subheadings refer to certain discussed topics based on the model, and most used and outstanding codes during data analysis. In appendix H the occurrence of all codes during the interviews can be found. For each discussed topic, the three approaches, as discussed for the method in chapter 4, will be considered. Subsequently, an answer will be provided to sub research questions 1c, referring to the stakeholder's perceptions regarding the organization and development of certain elements in bus transport, and 1d, referring to how these perceptions and the stakeholder's roles are compared to those in Curitiba's organization of bus transport.

5.1 Stakeholder involvement

5.1.1 STAKEHOLDER COOPERATION (HIERARCHY, SHARED RESPONSIBILITY, TRUST OF STAKEHOLDER)

Interviews

Regarding stakeholder cooperation, Keolis stated that much is possible in a discussion with different stakeholders. When providing good arguments, the possibility to append change is prominent. In the interviews, it was emphasized that some extend of hierarchy exists between the stakeholders Province Overijssel, Municipality of Enschede and the bus operators, but much consultation takes place as well. According to the municipality, such cooperation is present because of how the relationship of these stakeholders currently is organized. The province exemplifies this, by explaining when one organization proposes something, the other two stakeholders analyze and discuss the proposal. For instance, as shown in table 6, the municipality is responsible in terms of infrastructure, the bus operator in terms of the bus transport system, and the province in terms of investments and demands. For that reason, multiple aspects were stated to have a shared responsibility, instead of being dependent on one party. Within this, the initiative of proposals is divided among all parties. At the beginning of a concession, the municipality and province carry main responsibility when formulating the requirements for the area that the bus operator has to meet. At that moment, "*some requirements can be extremely fixed*" (Province), which exemplifies the hierarchy. However, during the concession period, the bus operator can also address points of improvement and discuss this with the other parties for realization.

"*This way, development can be initiated from all sides, and ultimately our board is responsible for what we do with it*." (Provincie Overijssel).

For the future development of the system, Keypoint emphasized that, for instance in smart mobility, cooperation of stakeholders is important.

"*If you also collaborate much more there, and eliminate all those different subsidy flows that take place, you can create one whole system*" (Keypoint).

Additionally, all stakeholders mentioned the trust between the stakeholders to be high. Keolis specifically mentioned that "*the cooperation with the province is very good and based on trust, which makes it a nice concession to work in as an organization*". Arriva also mentions that the cooperation to strengthen each other is probed, obtaining the joint interest of increasing the number of passengers in their product. Furthermore, Arriva names that the municipality can be seen as responsible to involve

and assemble the stakeholders, but in case something occurs that needs to be solved, the bus operator takes responsibility to initiate it.

Most stakeholders made no remarks on how to improve the current way of organization. One remark was made by Arriva, that "*for a city like Enschede, it is more beneficial to have one public transport partner, in which you can jointly work together on one vision*". Only for the 'bottom of the market', the smaller flows, it could be more attractive to have another public transport organization responsible (Arriva). The retailers organization mentioned that more focus could be on bus transport connectivity from their side, as this currently does not exist (Winkelhart).

Comparison with Curitiba

For Enschede, it can be found that a limited number of organizations is involved compared to Curitiba. For instance, only two governmental organizations are involved, which are Provincie Overijssel and the municipality. For Curitiba, however, a higher number of organizations is involved. Regarding governmental organizations, the City council, City Hall of Curitiba, Municipal Government Secretariat, the Government of the State of Paraná, and more smaller municipal organizations are involved. For that reason, responsibilities are spread among many different organizations, whereas in Enschede many responsibilities lie at one party. For instance, in Curitiba, communication and urban planning is done by other organizations than the bus operator, whereas in Enschede the bus operator has responsibility over or is involved in these tasks.

In the case-study of Van Uum (2019), stakeholders did have remarks regarding how to improve the current situation in organization. For instance, stakeholders thought they could mean more in their expertise for the development of the bus transport service. The stakeholders mentioned no clear role division and contact person for certain involved organizations exists. These contacts would often change, which was considered to be inhibitory to good communication among stakeholders. Therefore, it was often emphasized that communication could be improved. In Enschede, however, it was validated through the interviews through the alignment of answers given, that a clear division of responsibilities and tasks exists.

Expert panel

A main difference that was much-discussed in the expert panel regarding the organization of bus transport between Enschede and Curitiba, is the market-model in which the system operates. In Enschede, a system exists through concessions, in which there exists a moment of competition between the different public transport providers (Keolis; Arriva; Provincie Overijssel). As stated in the interviews, through such a model, a focus on policies and contracts with requirements and demands exist which is valid through a fixed period of time (All stakeholders; EP, member 3). Member 3 stated it can be considered effective, as public transport organizations have to compete and prove themselves to win a concession. However, in Curitiba, only one organization is responsible for bus transport, not restricted to a contract or a timespan (EP, member 3).

"*The market-model in public transport is something which is lacking in Brazil. Having a clear business organization is really important for innovation. In Enschede, bus operators are stimulated and certified to do a good job."* (EP, member 3).

It was stated responsibility lies in both cases at the public transport organization, but the bus transport in Enschede is also considered highly dependent on the province. For Curitiba, the members

stated it would be valuable to implement such a concession-structure as well. However, it would then have more to do with the aforementioned clear structure of organization, and not necessarily that the involvement of different organizations would be an important aspect for innovation. Member 2 stated that it is ought important for the federal governments, states and municipalities to comply. Member 3 stated that "*if there's one party responsible, that means there's a lack of innovation*", as no competition and collaboration is present.

The members agreed upon that the development and organization of bus transport contains a general approach. In this regard, member 2 mentioned that it can be considered a political difference, as in Curitiba things would not happen because of political reasons. Also, regarding organization for bus transport development in Brazil, it was emphasized that a clear role division would be a more important as a first step. Without a clear role division, hierarchy cannot be prominently present. In Brazil, "the complex power structure is an issue" (EP, member 3). For statement referring to the organization and development of bus transport in Curitiba, the following statements were made.

"*The decision making in Curitiba's public transportation is a black-box. There is a combination of planning authority – IPPUC, management authority – URBS, city administration – City Hall and companies' owners – Families*." (EP, member 4).

"*It's not that lack of hierarchy or power-structure is an explanation. It's like a key ingredient to innovation. At the moment, something is unclear*." (EP, member 1).

"*Brazil centralizes the infrastructure investment in the public sphere, it is an immature country regarding public private partnerships a heritage of bureaucracy and state authoritarianism that indicates a lack of democracy.*" (EP, member 4).

"*I do think, splitting the responsibility, has proven to be very effective."* (EP, member 3)

"Curitiba needs a new public transportation governance design, towards participation, transparency and socioenvironmental based decision making." (EP, member 4).

Member 1 mentioned to think that it not only relates to power, but to knowledge as well. It was questioned to be present in the power structure of Curtiba, whereas in Enschede it is known that much knowledge is available. This exemplifies the transparency of the bus operator as well, which is lacking in the organization's monopoly (EP, member 4).

5.1.2 STAKEHOLDER COMMUNICATION (CONSULTATION)

Interviews

As stated before, much consultation between the stakeholders exists. For discussion about the development of the bus system, the province and bus operator meet at fixed moments in the year. Other than that, intensive contact exists via other ways. The province stated that each year, the transport company designs a transport plan by collecting and sharing ideas in the first quartile of the year. In the second quartile these ideas are bundled and discussed among municipalities, as the ideas could have some influence on the city. The advices from the municipalities and from consumer organizations are taken into consideration. This, subsequently, provides one transport plan. Once this has been formulated, the transport company takes care of the planning and organization in the third quartile to realize the plan. This involves the preparation of communication as well, which then is

executed in the fourth quartile. After the second Saturday of December, the new transport plan starts. (Provincie Overijssel)

The fact that there exists much consultation is a quite recent development. Promedia metions the following about the relation between the province and bus operator.

"*A few years ago there was hardly any consultation between the two parties. You now notice more and more often that the grantor, the province, says 'what do you think?', so you get that freedom more, and the traveler ultimately comes out better*" (Promedia).

Comparison with Curitiba

Regarding communication, the main difference could be found in the extent to which topics are discussed and stakeholder are consulted. In Enschede, it was found that much consultation and discussion exists among different stakeholder groups in terms of organization and development. However, for Curitiba, little consultation and discussion among the different stakeholder exist. In terms of urban planning and bus transport, two organizations carry responsibility. Within the organization system, no other stakeholders were likely to be consulted. If there is stakeholder cooperation, it is often done at individual level, whilst in Enschede this is mostly done at organizational level.

Expert panel

For the statements whether consultation would influence the pace at which bus transport develops or innovates, the members agreed. Regarding innovation in the market-models in the cities, the following remarks were made.

"*If it's not agreed upon in the concession requirements, then it will be very difficult to integrate [innovation] because it's not agreed upon at the start" (EP, member 3).*

"*The ten year period is good because of clarity, but in terms of stimulating innovation this is difficult. It allows the operator to improve, but it's a barrier to bring new types of services that are not in there*." (EP, member 1).

"*The company's monopoly and the lack of transparency in public transportation decision making in Curitiba harms the development of new solutions*." (EP, member 4)

5.2 Urban integration of the system

5.2.1 INFRASTRUCTURE: PHYSICAL INTEGRATION

Interviews

In terms of responsibility, the municipality was, by all stakeholders, stated to be accountable for most aspects regarding physical integration, as they take care of the infrastructure within the city. All stakeholders mentioned that the urban network in Enschede is well known for its bus lanes. For instance, Arriva emphasized that "*it is noticeable that there is invested in a good network*", and the municipality stated that "*with the bus lanes as an important carrier for our public transport system, spatial planning is a good fit*." The municipality and province both mentioned that for the good functioning and reliability of the bus system, separate infrastructure for buses is necessary. The province additionally emphasized that it brings the benefit of the bus system being visible. Generally, such infrastructure is considered to be effective and successful (Promedia). Keolis seems to focus on

the provision of these bus lanes in all of their concessions, thereby distinguishing themselves from other bus operators by focusing on BRT-lines (Promedia).

The main bus station was frequently referred to positively. Keypoint stated to appreciate about Enschede "*that all buses arrive and pulsate at the bus station in relation to the train. You always know what your transfer is. I think that is a clear system.*" Another important bus station is located at the boulevard, which is considered beneficial for connectivity to the shopping area of Enschede (Winkelhart).

Comparison with Curitiba

Regarding infrastructure, the urban planning of Enschede is distributed in a circle, whereas the urban planning of Curitiba has the infrastructure in axes. Therefore, even though both cities obtain a BRT-system and have fixed corridors for buses, the physical integration between both of the cities is different. In Enschede, more bus lines exist in between of the corridors as well, which is less the case in Curitiba. In terms of organization, IPPUC is responsible for the urban planning of the city, whereas URBS is responsible for the bus system on the streets.

Expert panel

For physical integration, the bus transport system in Curitiba was considered to have contributed to the city a lot. For that reason, the members disagreed to the statement of 'if the Master Plan in 66 wasn't developed, Curitiba would be able to innovate better regarding mobility than currently possible'.

"*I would not blame the 1966 Masterplan, but the incapacity of develop integrated solutions in the last fifty years."* (EP, member 4).

It was concluded that the mobility of bus transport is generally dependent on a combination of urban planning and organization of bus transport, and not relied on either one. Therefore, the bus transport system as integrated in Curitiba is considered very valuable for the city, however, organized differently than done in Enschede.

A point made was that the urban structure in Curitiba should be analyzed and used differently. In terms of innovating, member 2 noted that in Curitiba, implementation of new visions can almost be considered trial and error, which is a big difference compared to Enschede.

"*In Curitiba, there is a view on the urban planning and city structure, but using this structure is completely lacking."* (member 1).

"*Curitiba's urban planning made variations on the theme, always fixed in axes and radial complementary solutions without analyzing new demands, or trying to solve old problems from old solutions.*" (EP, member 4).

5.2.2 INFRASTRUCTURE: CONNECTIVITY OF THE CITY

Interviews

For connectivity of the city internally, some bottlenecks exist. Currently, according to Arriva, "*the time you win on the separate bus lanes, you lose in the suburb*", because of the infrastructure in the suburbs. For this issue, the awareness of the municipality mentioned to be important, to find a way to maintain

safety in the suburbs and decrease velocity, but to keep the residential area accessible (Arriva). The province agrees.

"*Everything is focused from the neighborhoods at the station. There is actually no connection between the neighborhoods. You should always go via the station to get to the neighborhood next door*". (Provincie Overijssel).

However, Keypoint mentioned bus lanes running out into the neighborhoods, involving smaller connective lines, are considered tight and well arranged.

Another point of critique was that not all highlights are connected by public transport. Therefore, visitors are forced to choose for substitutional transport modes to reach their destination. Discussions have been held with these businesses to improve this connectivity, but the conclusion was often that diverting a bus route is complex, for which the costs are too high. (Enschede Promotie)

Regarding substitutional transport modes, Arriva mentioned that in regional transport the bus always loses from the car, because the passenger usually can get closer to the destination by car. However, the Province stated that the bus system is dominantly integrated in Enschede and, therefore, most of the times faster than traveling by car. Within the retailers association, only car connectivity of Enschede is discussed. Bus connectivity had never been discussed to a big extent, but it was stated it could be a valuable approach to take into consideration (Winkelhart). The electrical bike is considered competitive to the bus as well, due to the physical integration of the different transport modes in the city. Currently, the focus exists "*on fast connections between the center of the city and the station, to be competitive to the electrical, or normal, bike*" (Arriva).

Comparison with Curitiba

In the Netherlands, through concessions, bus operators cooperate for connectivity of an area, in which the benefits for both parties are thrived. In Enschede, the bus line between Enschede and the Achterhoek is an example of such a cooperation. In Curitiba, however, the bus lines for external routes out of the city and the bus lines internally of the city are organized with different organizations. Subsequently, different bus passes have to be used, for example.

Expert panel

Member 1 in the expert panel mentioned that in Curitiba the difference in organization could be seen between the external connectivity of the metropolitan long-distance type of bus transport, and the internal connectivity of bus lines within the city.

"*It's a completely different world. The government is not involved in one, heavily involved in the other."* (EP, member 1)

5.2.3 MOBILITY: INTERMOBILITY AND MULTI-MOBILITY

Interviews

Promedia thinks intermobility is an important focus, as "*the better you connect bus transport to other modalities, the better it will be used. Preferably modalities that are not connected to a fixed timetable*". According to the municipality, sharing-systems of different transport modes as supplementary systems to public transport is a development for the future. In that case, different mobility transfers would be provided, and different systems would be integrated in the mobility market as a whole. The example

was stated that these sharing-systems could especially be provided in the suburbs, to provide the possibility to get to a bus station nearby by bike. Enschede Promotie also stated to miss the intermobility with bikes, as no systems exist for bike-sharing or temporary bike-rental. However, bike-sharing was not considered to be favorable, because of the waste it might create if not managed responsible (Enschede Promotie). The aspect of intermobility and sharing-systems as a whole is discussed in the new mobility vision, but bus transport itself is barely mentioned (Municipality).

Arriva believes a complete vision of urban planning is necessary for livability of the city, decrease of emission and the increase in use of public transport, which is currently not done enough in Enschede. This was an interesting point of discussion, referring to the multi-mobility that Enschede provides. On the one hand, stakeholders believed such multi-mobility is not beneficial for the city. The representative of Keolis stated, as a personal opinion, that Enschede should make a decision for the main transport mode in the city. In the past, the mobility policy regarding this topic has been analyzed by Keypoint. It was found that good public transport is offered, in which was invested in the past, after which a big parking garage in the center was built. For that reason, Keypoint stated that the municipality is not clear in the policy they want to realize, as all transport modes are communicated to be welcome.

"*Choices are not always made clear, because the interests of entrepreneurs are involved as well*" (Keypoint).

"*Ultimately, as a retailers' association, we want to do everything we can to keep the city accessible*" (Winkelhart).

On the other hand, Keypoint considered the focus on many mobility types to be beneficial, but that a complete mobility system combining these types should be developed. The province, Promedia and municipality stated that multi mobility is highly valued. Because it is not possible to get each motorist in a bus or on a bicycle, "*you have to look at what socially is the most desired transportation*" (Provincie Overijssel). Promedia stated to think that Keolis is aware of that, and therefore are concerned with developing themselves into mobility providers, instead of investing in 'as many passengers as possible'. Arriva thinks that could be realized in a cooperation of travel planners providing an overview of combination possibilities and the corresponding prices.

The discussion of multi-mobility was closely related to smart mobility and the term 'Mobility as a Service' (MAAS). Several stakeholders mentioned that all mobility services will be organized on one platform. Through smart mobility, according to the province, people who are currently served less well can be provided creative solutions.

"*Currently, a MAAS-pilot takes place in Twente, providing the possibility to test new technologies for better and easier service, accessible for everyone*" (Provincie Overijssel).

Promedia stated the province can be considered responsible for mobility innovation considering MAAS, whilst the municipality can influence by providing priority to certain mobility types. Keypoint emphasized that stakeholder cooperation will be of importance within this, by discussing and considering how to organize it altogether and what steps are ought to be made to reach the goal.

"*We really have to think about what future developments mean for the city and how we want that to be part of the entire transport system. I think we are an important partner in that.*" (Municipality Enschede).

Comparison with Curitiba

For bus mobility in Curitiba, the buses were considered far from being as mobile as cars. No intermobility between different modes of transport really existed. The use of Uber has increased over time, which could be potential for providing intermobility between the transport modes. However, as stated by the stakeholders, it would be more beneficial to then travel with Uber only. Cars are considered to portray wealth and are increasingly popular in use. In Enschede, the bus is considered competitive with the car and (electrical) bike, as the buses are often faster than other transport modes because of their own bus lanes.

Expert panel

In the expert panel, members mentioned the multi-mobility focus in Enschede could be a long-term oriented aspect. It was considered a positive vision of Enschede to focus on multi-mobility (member 2). However, the prioritization of sustainable transport modes over cars could be missing (member 1). A remark made by member 3 was that clear visions can be made, but the implementation of these visions can be poor as the formulation and executing of the vision is done by different parties. For Curitiba, for a long-term vision it was stated important to have a view on mobility and how to improve it. Currently, all members agreed this view and structure seemed to be lacking.

5.2.4 COMMUNICATION

Interviews

In terms of communication, Arriva mentioned that often old-fashioned ways of providing travel information is contemplated.

"*We can still grow in providing correct information online, about diversions and delays, everything a traveler needs at that moment*" (Arriva).

Other than that, stakeholders generally considered the provision of information to passengers as good. It was stated that an often returning comment from the passengers regarded the communication about service outage. Arriva stated that it is a factor that is always under average, but can be considered an opportunity to establish trust through the manner of communication. In communication about public transport to tourists, however, none of the stakeholders believed clear information about public transport was accessible. Enschede Promotie believes this could be optimized in the future, this could make the city more attractive to visit, and enhance the leisure economy for which it was stated to be important that public transport is well-organized.

Furthermore, the municipality and province mentioned the importance of communication to non-users. The communication can be considered good, but not fit or adjusted to potential customers (Provincie Overijssel). The municipality mentioned that the physical part is fairly integrated, but that the integration into people's minds could be improved. A type of ignorance was mentioned to exist among mobile people who choose to not use public transport (Arriva, Provincie Overijssel). The municipality believes research needs to be done to examine why these people do not use public transport, to be able to target them correctly.

Comparison with Curitiba

In Curitiba, GPS on buses is present, however not communicated correctly externally. Additionally, an application with relatively correct travel information exists, however not well-known or frequently

used among passengers. The application is not developed by the bus organization itself, but by a media company. Furthermore, the city administration is responsible to provide information about buses, and the CHSCD is in charge of the website, bus monitors, and bus terminal signs. In Enschede, communication about the buses and travel information is generally considered clear, online and through applications. However, communication about service outage could be improved. Additionally, the bus operator itself is held responsible for the provision of information and the communication about bus transport.

Expert panel

No comments regarding communication were made in the expert panel.

5.3 Public discourse

5.3.1 REPUTATION, CUSTOMER SATISFACTION AND TRUST, & ACCOUNTABILITY

Interviews

Communication, however, is not considered decisive (Keypoint).

"*Decisive is trustworthiness, travel velocity, comfort, transfer.*" (Keypoint).

The experience of the traveler was an often-mentioned theme, which contributes to the image of the bus system.

"*The safety and travel route is well-organized, but the experience-aspect determines the image for a huge part*" (Keypoint).

The retailers association stated the experience needs to be adjusted to the different expectations of passengers. An increasingly more personalized product is delivered, by close analysis of and listening to the customer (Keolis). Promedia stated that a director of a public transport organization once said that "*we used to say, the traveler is number one, but we didn't really know what that meant. Now we know, and now we can act upon it"* The province believes the differences in customer treatment, communication and friendliness of the bus drivers make the difference in reputation of the bus transport in the region Twente.

Therefore, the reputation of the bus can be considered broader than the reputation of other transport modes, as many more aspects need to be considered (Arriva). The 'OV-klantenbarometer' was often referred to, as a means to measure the reputation or image of the public transport, and analyzing the aspects for innovation. As the measure of last year was high for this concession, all stakeholders stated the customer satisfaction and trustworthiness of the system was high. The municipality sees opportunity in new systems of public transport by which the image can be improved, considering self-driving cars and smaller vehicles.

"*I think with new innovative systems, or the focus of sustainable transport, electric buses, that these are quite some starting points to contribute to the overall image of bus transport*" (Municipality).

The reputation was considered to be a shared responsibility. If the conditions of the province are tight, the outcome of the product can be different than initially aimed for (Arriva). Therefore, the province can be considered partly responsible for the quality of the product.

"*The road authority has a facilitating task to create a good image for public transport, as a kind of basic condition*" (Keypoint).

The municipality, therefore, can be considered partly responsible as well. So, it is a responsibility of the organization of bus transport as a whole, as the bus operator is considered responsible for the reliability and performance of the buses, whilst the municipality contributes by creating a focus of what the aim is of the city in general (Municipality).

Comparison with Curitiba

Mayor of Curitiba has influence on the reputation, the price, and the number of users. Therefore, reputation is considered unimportant by the bus operator., and stated to be not of concern regarding the population. In Enschede, reputation is considered a shared responsibility among governmental organizations and the bus operator. Reputation is of importance, and even taken as a measure for innovation. Through questionnaires, the reputation among passengers is measured, and checked upon points of improvement.

Expert panel

In the expert panel, it was mentioned that the bus transport system in Enschede was considered an extra mobility service, whilst in Curitiba many captives are present. Therefore, the reputation and type of passengers of bus transport differ greatly between the cities.

5.3.2 MEDIA

Interviews

Generally, media visibility was considered valuable, even though the bus transport of Enschede was not considered visible in the media. The cooperation with the media is one in which the media writes independently, but public transport organizations can provide information. Promedia stated slightly more initiative of contact comes from the bus operator. For instance, the public transport organization sends press releases to all media relations, by which these relations can decide for themselves whether to write an article about it. Additionally, at times, personal contact exists as well, for example in terms of interviews.

Overall, the discourse of media visibility was seen as negative, as it was expected publicity would occur in case something goes wrong. Keolis, however, mentioned the sentiment was more positive than expected. They stated to conduct sentiment analyses, to gain a clear overview of the discourse regarding their system.

Comparison with Curitiba

In Enschede media visibility was considered valuable in which analysis upon sentiment are conducted, and close relations exist with media stakeholders. In Curitiba no marketing strategy exists for the bus system. This last aspect as well is considered an attribution of the CHSCD. The media stakeholder stated to believe to be able to contribute more, and close relations exist, but no striking subjects or developments are provided to write about.

Expert panel

No comments regarding media were made in the expert panel.

5.4 Financial incentives

5.4.1 PRICE HEIGHT OF THE TICKETS

Interviews

When discussing the fees, two sides were emphasized in the discussion. On the one hand, all stakeholders stated the image of the bus operator is that the price is considered expensive. Additionally, Arriva mentioned the example of tickets to be purchased in the buses, which are more expensive than travelling by card, which acts as a "*vicious circle by which you do not get people into public transport*". However, on the other hand, the fees are considered reasonable, and in some cases even stated to be "*too cheap*" (Keypoint). It needs to be taken into consideration that half the funding of public transport comes from subsidies provided by the province, and half by revenues of the bus operators itself (Keypoint, Promedia, Provincie Overijssel). But when comparing to surrounding cities, at which the provided subsidy is even higher, the fees in the Netherlands are considered expensive (Promedia). However, passengers pay according to use, which can be considered a fair system (Promedia). Promedia also mentioned that, even though the system is considered expensive by users, lowering the price would not make the difference in use. However, the idea of a city pass was mentioned, which is a common type of ticket in many big cities, to promote bus transport within the city among visitors (Enschede Promotie).

Comparison with Curitiba

In Enschede, time-based transfer is applied, meaning the user pays for the travelled distance. The standard fee is 98 euro cents, which increases by 16.6 cents each kilometer. For Curitiba, one fare is applied per bus, regardless of the time or distance one travels. Only few bus lines apply a transfer in which the passenger does not have to pay the fare again. Therefore, the fee often has to be paid again in case of transferring to another bus. For that reason, people who come from the outer area of the city and travel a longer distance have to pay more. The bus operator stated it is a social fare. However, other stakeholders noted that the people living in the outer area are the inhabitants with lower-income. Because of that, the market-model is not beneficial for lower-income inhabitants.

In both cities, the price is considered too high among the population. For Curitiba, however, the price is considered too high relative to the population's income. In Enschede, this is not considered an aspect for the price (Keolis), but the price of other transport modes is taken into account. The price height in Curitiba is influenced by the mayor of the city. Therefore, the technical fare is lower than the current applied fare, as stated by a journalist. In Enschede, this price is determined by the grantor of the concession, from which the bus operator may only diverge 10% below the price (Keolis; Provincie Overijssel).

Expert panel

No comments regarding pricing were made in the expert panel.

5.4.2 FINANCING OF THE SYSTEM

Interviews

The costs were often mentioned to be a burden for innovation, in which subsidy height is considered of influence. The margin to innovate can be considered very low (Keolis). Additionally, as developments and innovation within the bus system rely on contracts, shareholders and revenues, these changes occur less agile than desired (Keolis). In other words, because of the involvement of many parties, the process to develop takes long. On the other side, the municipality emphasizes the challenge to stimulate a public transport organization to implement changes during the concession period and to be pro-active regarding innovation. Keolis mentions monetary benefits, to gain revenue, as the main motivation for innovation, whilst maintaining and striving for customer satisfaction. If this is not ensured, no investments are made. The retailers organization referred to monetary benefits for them as a stakeholder group as well, as a reason for city connectivity, however regardless of the transport mode.

Because of the upcoming developments in smart mobility and MAAS, innovation can be retained.

"*Municipalities and provinces are reluctant to make major investments in infrastructure*" (Promedia).

A reason is the little insight that exists in the medium-long term. This might influence the current development of the bus system. However, the representative of Keypoint stated to think that the systems should be able to provide for themselves, and "*look at what systems market initiatives are coming, that may be more affordable*".

Comparison with Curitiba

In Curitiba, no subsidies exist to provide for the bus transport system, whereas in Enschede, fifty per cent of the costs are covered through subsidy. This subsidy is raised through taxes, by which the population as a whole contributes to public transport. In Curitiba, however, only passengers pay for the bus transport. The journalist of Promedia mentioned that the governmental institutions in Enschede are reluctant to make major investments because of the little insight that exists in the medium-long term. A journalist in Curitiba made a similar note, considering the absence in long-term planning.

Expert panel

In terms of the development of the bus transport systems in Enschede as well as Curitiba, costs and politics were considered important factors. In Curitiba, for example, an interviewee in the research of Van Uum (2019) stated that the system had not quite developed along with the time. The members of the expert panel agreed, but emphasized this was more an issue of costs than of organizational issues and the willingness to develop. For instance, it was stated that in the Netherlands, money was available to provide for the bus transport system and its development. The fact that Curitiba does not receive any compensation through subsidy for bus transport, the possibilities for development and innovation are limited. Therefore, financial incentives influence the situation as well, as subsidies may determine the extent to which the bus system can develop and innovate.

5.5 Environmental sustainability

5.5.1 IMPORTANCE OF SUSTAINABILITY AND SUSTAINABILITY OF THE BUSES

Interviews

For sustainability, the general requirements for all bus operators in the Netherlands was mainly used as a criterion to innovate. However, sustainability should be a stronger main focus within public transport organizations, instead of being obliged to meet terms formulated at the top (Municipality). Regarding the current environmental sustainability of the buses in Enschede, it was stated to be noticeable that the concession is coming to an end. In 2025, all new-purchased buses are ought to be zero-emission, and all public transport material in the Netherlands to be zero-emission by 2030 (Keypoint, Provincie Overijssel, Arriva).

"*The buses have been on the road for a number of years, after which a great change will be made to make the fleet more sustainable*" (Arriva).

In terms of responsibility, the province has the authority to determine the requirements of the concession and at what pace it essentially should be executed (Keypoint), for which the requirements regarding emission are extremely fixed (Provincie Overijssel). Regarding the charging infrastructure for electrical buses, the province invests and organizes the infrastructure with the municipality. However, the municipality does not have a lot of influence, but only provides and ensures it to happen (Keypoint). The province considers themselves as responsible for the sustainability of the buses, because of the requirements the bus operators have to meet. However, if developments regarding sustainability occur during the concession period instead of at the beginning of a new concession, it can be considered the responsibility of the bus operators as well (Promedia).

Comparison with Curitiba

In Curitiba, it is considered an automatic responsibility and moral obligation for bus operators to focus on sustainability. However, no clear agreement, policy or requirements for sustainability exist, but the bus operator does focus on pilot projects involving, for example, hybrid buses. The Provincie Overijssel mentioned the moral obligation as well, but in relation to signing the agreement of sustainability requirements. Additionally, investments can be made because of subsidies in Enschede, whereas in Curitiba no investments can be made because the fees cannot be overpriced. Therefore, in Curitiba, the stakeholders mentioned that environmental sustainability is not seen as a main aspect of focus, as passengers would not care for more sustainable buses. No revenue would be made from the investments. In Enschede, most stakeholders believe that environmental sustainability also does not influence the number of passengers, but it is considered an important focus, for which money is available. If federal subsidies would be received in Curitiba, it was believed a more sustainable transport system could be realized.

Expert panel

No comments regarding environmental sustainability were made in the expert panel.

6. DISCUSSION

6.1 Discussion of findings

To analyze the sub research questions 1a) referring to who the stakeholders are, 1b) referring to the role of the stakeholders in the system, and 1c) referring to the perceptions of the stakeholders regarding elements of bus transport, an online analysis and interviews were conducted. In table 5, the stakeholders, their role division and relation to the organization and development of bus transport in Enschede can be found, based on the online analysis. In the situation of Enschede, the importance of involvement and cooperation of different stakeholder groups was mentioned frequently in the interviews. For the roles, especially the cooperation between the so-called 'triangle' of the three stakeholder groups, the Provincie Overijssel, municipality and bus operator, was considered important. Within this triangle, much consultation and discussion takes place, by which overlap in responsibilities can be found. However, the Provincie Overijssel is considered the determining party in final decision-making. Overall, similar perceptions regarding the organization of different aspects of bus transport could be found. Throughout the discussion of the different aspects, the role division can be considered to be clear.

Regarding the development of bus transport, some points of improvement could be found. As stated by an expert, the concession-period brings a barrier to bring new types of services that are not in the contract. The municipality as well emphasized it is a challenge to stimulate a public transport organization to implement changes during the concession period and to be pro-active regarding innovation. It was seen as a shared responsibility, but also as a prominent task of the governmental institutions to think about what future developments mean for the city and how we want that to be part of the entire transport system. However, it was considered a challenge referring to costs as well, in which municipalities and provinces are reluctant to make major investments in infrastructure, as little insight in the medium long-term exists.

Following, an overview of all perceptions of the organization and elements of bus transport, based on the interviews, is given.

Stakeholder involvement	• The 'triangle' (i.e. Provincie Overijssel, municipality and bus operator) is considered very important for the organization of bus transport. • Intensive contact and cooperation exists within the triangle. The bus operator and province meet at fixed moments in the year. • Much consultation and discussion exists between stakeholder groups. • With good arguments, the possibility to append change is prominent. • Some extent of hierarchy exists, as requirements of the concession can be extremely fixed and the board of Provincie Overijssel ultimately decides. • Many aspects involve shared responsibility of the 'triangle'. • Development can be initiated from all sides. • Trust between the stakeholder groups is high.
Urban Integration	• The urban network (BRT-system) in Enschede is considered to be good. Because of separate infrastructure for buses, good functioning and reliability of the bus system exists. • The municipality is taken accountable for most aspects regarding physical integration, as they take care of the infrastructure within the city.

	• The main bus station at which buses arrive and pulsate is considered valuable and clear for passengers to use. The bus station at the boulevard is considered valuable for connectivity to the shopping area by the retailers organization. • Within the city, the connection between the neighborhoods could be improved. • Not all highlights are connected by public transport, which is not beneficial for visitors. • Opinions regarding bus mobility compared to other transport modes differed. • Intermobility between different transport modes should be improved. Most likely will be realized through MAAS. Intermobility is included in the mobility vision of the municipality. • Multi-mobility was considered a valuable vision of the governmental institutions by most stakeholders. Some stakeholders stated one transport mode should be prioritized in the city. • Clear communication about buses, online and through applications, exists. Communication about service outage and communication to tourists and non-users could be improved. Responsibility lies at the bus operator.
Public discourse	• The experience of the passenger determines the image to a considerable extent. An increasingly more personalized product is offered. • Reputation is considered an important factor for innovation. Measured through questionnaires (i.e. the OV-klantenbarometer), and taken as a standard for development. • The municipality thinks the image can be improved through new innovative systems, or the focus of sustainable transport. • Shared responsibility in reputation among the 'triangle'. • Marketing and communication emphasized to be important factors to target (potential) users. • The media writes independently, in order to provide objective information to passengers and employees, and to keep the bus operators focused.
Financial incentives	• Subsidy covers half the price and is of great influence on innovation. • Costs are often considered a burden for innovation. • Changes during the concession-period are less likely and only realized if the increase of revenue for the bus operator is ensured. • According to the media, municipalities and provinces are reluctant to make major investments in infrastructure because little insight exists in the medium-long term. • Time-based transfer exists, which determines the price for the passenger. Therefore, you pay according to use, which is considered a 'fair system' by stakeholders. • The image of the bus system among the population is that it is expensive. However, many stakeholders think the fees are reasonable as half the funding comes from subsidies.
Environmental sustainability	• Clear policies exists for environmental sustainability. In 2025, new-purchased buses should be zero-emission, and in 2030, all public transport in the Netherlands should be zero-emission. • The province has authority to determine sustainability requirements. However, according to the media, sustainability developments during the concession-period can be considered responsibility of the bus operators.

To answer sub research question 1d, referring to the comparison of stakeholder's roles and perceptions in Curitiba and Enschede, a comparison between the two cities was made and an expert

panel was organized to strengthen and validate the conclusions made. Based on this comparison, it seemed that the most significant differences could be found in the role division, the clarity of this division, and responsibility taken by different organizations. In Curitiba, it seemed that tasks and responsibilities were often divided among many different stakeholder groups, and the number of involved stakeholder groups was higher. For Enschede, many responsibilities could often be found at one party, a limited number of stakeholders were involved, and stakeholder groups were often consulted. These differences are expected to emerge from situational factors, in which the main difference seemed to rely on the difference in power-structure. Additionally, if the market-model for public transport of the Netherlands would be applied in Curitiba, the situation would be significantly different, according to experts. In that case, different public transport organizations are challenged to be competitive to each other, striving for the best outcome to meet the standard of the grantor, instead of an ensured market position for one organization. However, financial incentives are of great influence as well, as in the Netherlands money is available to invest in bus transport through subsidy, whereas in Curitiba the bus transport system has to provide for itself.

6.2 Theoretical implications

As mentioned in the theoretical framework, it is considered a valuable approach to identify the stakeholder groups as primary and secondary stakeholders (Mitchell et al., 1997). The primary stakeholders are defined as necessary for an organization to survive, whereas secondary stakeholder groups can influence or affect, or are influenced and affected by, an organization (Clarkson, 1995). This corresponds to statements mentioned in the interviews with the stakeholders. As primary stakeholders, the bus operators and the governmental organizations can be identified. These stakeholders were mentioned to have a considerable stake at the organization and development of the bus transport system. All stakeholders were stated to contribute to the discussion of changes and the existence of the system. As secondary stakeholders, the consultancy agency, media, retailers organization, city marketing organization can be defined. The first two stakeholder groups are involved to such extent that they can influence and affect the organization of bus transport, whereas the last two stakeholder groups are mostly influenced and affected by the organization of bus transport. Not only is the perspective applied to define the salience of stakeholder groups, but the perspective for stakeholder involvement to be aimed at capturing knowledge seems to be present in the case of Enschede as well. Each stakeholder group has a clearly defined role and task in the system, through which inclusive and local decision making is enhanced, equity is promoted, and social capita is built (Mathur et al., 2008). Through consultation and discussion, the knowledge of stakeholder groups can be used for the development of the bus transport system.

Relating to these insights, it can be concluded from the results that the ‘spectrum of involvement measures’ (figure 1) was most of the times well-applied to the involvement of stakeholders in the organization of bus transport and development in Enschede. For instance, Provincie Overijssel, the municipality, Keolis, and Arriva mentioned much consultation takes place between the stakeholders. All stated to be closely collaborating in terms of organization and development of bus transport. From both the bus operators, Keolis would be involved most, whereas Arriva was mostly consulted in bigger developments of the system. However, all four stakeholders can be considered to be empowered. In need of advice, Keypoint was consulted, involved and collaborated with. However, they are not empowered, as no influence could be exerted on whether their advice would be implemented or not.

Therefore, Keypoint had no control over the final decision-making. For Promedia, it was a different kind of collaboration. Promedia would be informed about certain developments and press-releases of the bus transport, however not closely collaborated with as they work independently. At some times, public transport organizations could request articles to be written, which then often would become an advertorial. Enschede Promotie is only slightly informed about aspects of bus transport to be communicated in city marketing, and, therefore, the spectrum is only applied to the stakeholder group of city marketing for the first stage. Furthermore, Winkelhart mentioned to not be involved in the organization of bus transport of Enschede. However, they mentioned to be informed in cases regarding infrastructure and connectivity of the city, and could be consulted to provide the retailers' perspective on the situation. Other than that, no involvement or collaboration would take place.

Considering the stakeholders and their relationships to the bus industry as portrayed in figure 2, some similarities and differences can be concluded. Based on the results, the passenger is evidently connected with the operator, as passengers purchase the service and are able to influence the service of transport through the OV-Klantenbarometer. As in line with the model, 'the Federal Government', the Provincie Overijssel in this case, sets out the requirements for the buses. The municipality of Enschede can be considered the Territory Government, which, according to the model, has a more direct operational relationship with the bus operator. However, in Enschede, the Provincie Overijssel, municipality and bus operator work closely altogether, so the province would then have a more direct operational relationship with the bus operator as well. Additionally, the Provincie Overijssel and municipality are closely connected as well. Therefore, a connective line between these stakeholder groups seems to be missing in the model. The manufacturers of the buses were only generally discussed, but not involved in the interviews of the research. It was mentioned that bus operators in the Netherlands purchase buses at the same industry, which were involved in discussions regarding sustainability. Based on the interviews, the stakeholder group did not seem to obtain a big role in the system. However, no significant conclusions can be drawn for the stakeholder-relationship of the manufacturer as this stakeholder group was not specifically involved.

6.3 Practical implications

Frequently, it was mentioned that potential users should be targeted differently, for which research is necessary. The stakeholder groups representing marketing organizations and the retailer association could perform a bigger role. These stakeholder groups could carry responsibility for targeting and promoting bus use among visitors of and non-using inhabitants in the city. Therefore, the spectrum of involvement measures could be further applied to these stakeholder groups, involving them to a further extent.

Based on the comparison between Curitiba and Enschede, it can be seen that stakeholder involvement in the organization of bus transport in Enschede is currently well-organized, and successfully implemented. In terms of development, the governmental institutions could be the key as a communicating vessel to stimulate innovation among the bus operators. To reduce the risks and fear for investments, insight could be gained through research or close analyzation of infrastructure and possibilities for future mobilities. This way, success of development and innovation can be ensured and investigated to a certain extent.

6.4 Limitations

This study is unable to encompass the entire scope of organization of bus transport in Enschede. Not all stakeholder groups are involved, and, therefore, a complete overview of the organization and development of bus transport might not be provided. For instance, consumer organization Rocov and association of travelers Rover could have been involved as well. Time can be considered a cause for this, as contact existed with the parties, however time would not allow a fit moment for the interview. Additionally, regarding the stakeholder groups, for Keolis, the revenue manager was involved as an interviewee in the research. As Keolis is the main bus operator in Enschede who holds concession in the region, it is considered an important stakeholder in the system. Therefore, an employee of a different profession could have been involved to provide a better view on their vision of stakeholder organization. Now, the vision mostly regarded the generation of revenues, instead of the collaboration with other organizations. At first, it was discussed with the account manager of Keolis, who is involved with the stakeholder relations, that an interview would take place. However, because of time and the discrepancy of agendas, this interview was not conducted in the end.

Another limitation is the scope of comparison between Curitiba and Enschede, as emphasized by several stakeholders and members of the expert panel. Enschede is city located in a rich, developed country, and has 160.000 inhabitants, whereas Curitiba is a metropolis located in an under developed nation, with a population of nearly 2 million. These are factors of influence on organization and development of bus transport as well, which currently has not been taken into account.

6.5 Future research

For future research, it could be considered valuable to involve the population as a stakeholder group. An interesting comparison could be made between what the organizations believe to be true about organization of the bus transport system, and what the population would think. Additionally, manufacturers, employee and consumer associations would be interesting to take into consideration as well.

In this study, the comparison between the organization of bus transport between the two cities has been made based on organizational and situational factors. However, it could be valuable to take culture into account as well for the comparison, as this might influence the way an organization is constituted or tasks are distributed. For example, it could be good to consider the 'geography of thought' of Nisbett (2003), which takes different continents and their cultures into account when arguing that cultural background significantly influences underlying cognitive processes.

Also, the possibilities of the BRT-axes could be investigated for future mobility services, for instance MAAS and smart mobility. Some of the interviewees stated the infrastructure contributes to possible developments and innovations in transport modes. However, the possibilities within these developments and innovations could be investigated further. In addition, the way the public transport is expected to further develop in general could be relevant to examine.

Furthermore, more cities could be involved in the examination of the role of stakeholders in the organization and development of bus transport, in order to gain a broader view of the organization of bus transport. In the end, with the involvement of different parties, cities could be able to learn from the situation in other cities and develop themselves, or even contribute to the development of mobility in other cities by sharing knowledge.

7. CONCLUSION

"How are stakeholders involved in the organization and development of the bus transport system in Enschede, The Netherlands?"

In this study, the stakeholders of the organization of bus transport in Enschede, their roles and perceptions of different elements of bus transport were investigated. It was found that the market-model of public transport as applied in the Netherlands is considered beneficial for the organization and development of the bus transport system in Enschede. The governmental organizations, which are the Provincie Overijssel and the municipality, develop the contract and requirements for a concession, to which bus operators apply with an offer. Subsequently, the chosen bus operator realizes the requirements and the three parties discuss the further execution and development of bus transport. Therefore, these three parties are considered to be highly important for the organization and development of the bus transport system in Enschede. Evidently, more stakeholder groups are involved (i.e. consultancy agencies, media, retailers organizations, city marketing organizations), but obtaining less influence on the actual development of the system. At times, stakeholders would be consulted and engaged with in a discussion, however not empowered in the final-decision making.

To reflect upon the current organization of bus transport in Enschede, a comparison was made with Curitiba, a metropolitan city obtaining a similar bus transport system as executed in Enschede. Curitiba is considered to provide as a model on the integration of sustainable transport into business development, the road infrastructure development and local community development. However, In Curitiba, the structure of organization is not well-defined, which contributes to the non-involvement of stakeholders. It leaves stakeholder groups in confusion and not able to exert their influence as a stakeholder. This can influence the development of the system, as involvement of stakeholders is considered to be a key tool for innovation for an organization. In Enschede, a clear power-structure exists, much consultation and discussion takes place in case of implementing changes for the bus transport system, and the market-model challenges bus operators to perform.

Therefore, the grantors of bus transport in Enschede are advised to maintain the stakeholder involvement system as currently executed for the organization of bus transport. The organization of bus transport in Curitiba, however, may want to learn from the comparison. If the structure becomes well-defined, stakeholders can be targeted and involved better and competent organization and development can occur. Therefore, bus operators and stakeholders in Curitiba may re-consider their market-model and power-structure. The implementation of a market-model based on concession periods may be suggested for rectification and further development of the bus transport system.

For further development of the system in Enschede, certain stakeholder groups should be involved more to be able to better promote bus use among potential passengers. Marketing organizations and retailers associations could be further involved to target the potential users. Also, initiatives should be developed within the organization system in which risks and negative mindsets of stakeholders for innovation are reduced. Within this, the governmental institutions are the communicating vessel, probing bus operators to innovate more and reducing risks due to little insight in the medium long-term. These risks could be reduced by close analyzation of the current infrastructure and conducting proper research in innovative possibilities for future mobilities, providing insight in the possible consequences and outcomes for implementing changes.

All in all, the organization of bus transport in Enschede can be considered well-executed, leaving only a few points of improvements at targeting potential users and the initiative for innovation from stakeholders. The clear power-structure and role division within the organization of bus transport in Enschede is considered successful. Within this, based on the comparison, it is shown that it is valuable to involve a limited number of organizations in the system. Subsequently, stakeholder groups can be involved as fit to their expertise, and responsibilities can be divided among the different organizations. Additionally, the market-model involving concession periods is well-executed, generating competition among public transport organizations. If the recommendations for future development will be adapted into the current organization of stakeholder involvement of the bus transport system, an even more successfully executed bus transport system can be established.

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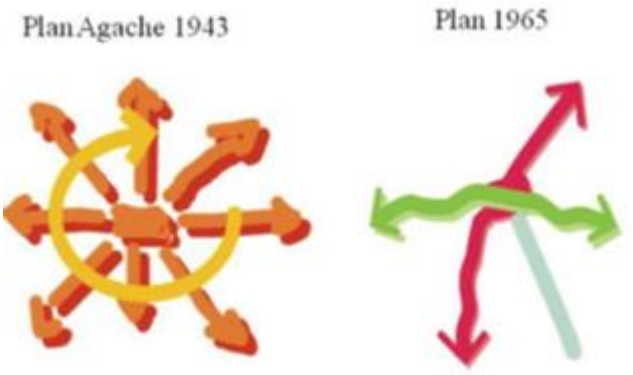
APPENDICES

Appendix A – Urban planning Curitiba

APPENDIX A.1 – AGACHE PLAN AND MASTER PLAN 1966 CURITIBA



APPENDIX A.2 – TRINARY SYSTEM

Appendix B – Policies

APPENDIX B.1 – QUALITY POLICY STATEMENT

connexxion

Beleidsverklaring Kwaliteit, Veiligheid, Gezondheid en Milieu

Missie en Visie

Why; Mobility inspired by you. Wij geloven dat mobiliteit essentieel is in ieders leven. Mobiliteit verbindt je met de wereld om je heen. Geeft je de vrijheid om te gaan en staan waar je wilt. Te komen waar je moet zijn. Onafhankelijk te zijn en te blijven. Mobiliteit is niet altijd en overal vanzelfsprekend meer. Terwijl steeds meer mensen er juist afhankelijk van zijn. Onze snel veranderende maatschappij vraagt om steeds slimmere vormen van mobiliteit en zorg. Toekomstbestendig en duurzaam. Voor mens, maatschappij en milieu. Zo flexibel, efficiënt en persoonlijk mogelijk.

How; Reinventing mobility. Daarom delen wij onze nationale en internationale ervaring, kennis en inzichten continu met onze opdrachtgevers en partners. Om samen nieuwe, verrassende oplossingen te ontwikkelen voor mobiliteit en zorg. Beter afgestemd op specifieke behoeften. Plezierig, dichtbij en veilig.

What; Vervoer en zorg duurzaam, beschikbaar en toegankelijk houden. Dat doen we door met onze mensen, onze merken en diensten middenin de samenleving te staan. Door te meten en weten wat de individuele behoeften van onze reizigers zijn. En gebruik te maken van de innovatiekracht van ons wereldwijde netwerk. Dit vertalen wij naar slimme, multimodale vervoersoplossingen. Gebaseerd op geavanceerde, digitale systemen en processen.

Beleid

Connexxion Openbaar Vervoer (OV) wil op een duurzame manier vervoersdiensten leveren en voldoen aan de essentiële eisen van verwachtingen van onze reizigers en opdrachtgevers. Bij het leveren van onze diensten, staat de veiligheid en gezondheid van medewerkers, reizigers en derden en de bescherming van het milieu centraal. Dit uitgangspunt is essentieel voor de bedrijfsvoering en vormt de onmisbare basis in alles wat we doen. Connexxion OV verwelkomt elk initiatief dat kan bijdragen aan de borging en verbetering van de geleverde kwaliteit en het beleid rondom kwaliteit, veiligheid, gezondheid en milieu.

Doelstelling

Op basis van de genoemde uitgangspunten streeft Connexxion OV naar borging en continue verbetering van de kwaliteit van de dienstverlening en veiligheid, gezondheid en milieu prestaties. Connexxion OV voldoet daarbij aan de naleving van wet- en regelgeving en cao's en beschikt over een ISO 9001 en ISO 14001 gecertificeerd managementsysteem.

Realisatie

De realisatie van deze doelstelling is de verantwoordelijkheid van het management en alle medewerkers. Connexxion OV geeft invulling aan deze doelstelling door kwaliteit, veiligheid, gezondheid en milieu te integreren in al haar processen en aansturing, te weten:

- Het toezien op realisatie van het beleid, door het benoemen van doelen en prestatie indicatoren, inrichten van systemen, genereren van managementinformatie en door bijsturing.
- Het vaststellen van de mate van tevredenheid van reizigers en opdrachtgevers en het vertalen van de wensen van reizigers en opdrachtgevers naar effectieve vervoersoplossingen tegen gunstige prijs-kwaliteit verhouding.
- Voortdurend verbeteren van de service aan reizigers in punctualiteit, schone voertuigen, klantcontact en klachtafhandeling. Voor reizigers in het bijzonder ook wat betreft actuele reisinformatie.
- Voortdurend verbeteren van service aan de opdrachtgever, inclusief naleving van contracten.
- Het beheersen van veiligheid-, gezondheid- en milieurisico's.
- Realiseren van optimale veiligheid binnen alle vervoersystemen (weg, rail en water) en activiteiten voor alle medewerkers, reizigers en derden.
- Verminderen van schadelijke emissies, scheiding en hergebruik van afvalstoffen, voorkomen van bodemverontreiniging en geluidoverlast, minimaliseren gebruik natuurlijke bronnen.
- De inzet op het gebied van kwaliteit, veiligheid, gezondheid en milieu op innovatieve, kosteneffectieve wijze in te vullen, van nieuwe inzichten te leren en gebruik te maken van beschikbare best practices.
- Medewerkers te stimuleren en motiveren om persoonlijk verantwoordelijkheid te nemen voor het leveren van kwaliteit en het creëren van een werkomgeving waarin veilig en duurzaam kan worden gewerkt.

Connexxion Openbaar Vervoer | Hilversum, 25-10-2016

Eric van Eijndhoven (Directeur OV)

APPENDIX B.2 – ENVIRONMENTAL POLICY STATEMENT

Milieubeleidsverklaring Keolis Nederland

Kwaliteit
Keolis Nederland is een dienstverlener in mobiliteit. Deze dienstverlening willen wij (on)gewoon goed laten zijn. Met vanzelfsprekend goede service en goede voorzieningen. Onze reizigers vinden dat heel normaal en zo hoort het ook. Om uitstekende kwaliteit te leveren zetten wij ons in om onze service, voorzieningen en openbaar vervoer te blijven verbeteren en zien wij ons als een regisseur in mobiliteit.

Milieubeleid en visie
De directie van Keolis Nederland beschouwt de zorg voor het milieu als een structureel onderdeel binnen haar bedrijfsdoelstellingen en verbindt zich door het opstellen van deze milieubeleidsverklaring haar milieuprestaties continue te verbeteren.

De beheersing van de milieubelasting en het beperken van de milieurisico's is de verantwoordelijkheid van iedere medewerker van Keolis Nederland, ieder binnen zijn of haar vakgebied. Alle medewerkers zijn zich bewust van dit milieubeleid en dienen hun werkzaamheden uit te voeren in overeenstemming met de vastgestelde procedures binnen dit beleid.

Onze visie:
Onze klanten zijn onze gasten, die wij graag op een ontspannen en veilige manier met onze bussen en treinen naar hun bestemming brengen. Dat vinden wij logisch. Het is onze ambitie om dit (on)gewoon goed te doen. Met het bieden van een veilige reis, up-to-date reisinformatie en een chauffeur/machinist die optreedt als perfecte gastheer of gastvrouw. Zodat onze gasten na afloop echt het gevoel hebben 'een goede reis te hebben gehad'.

Onze kernwaarden:
- Duidelijk en Ondernemend.

Voortvloeiend uit onze visie streven wij ernaar om de milieubelasting bij het uitvoeren van onze bedrijfsvoering te minimaliseren en dat de veiligheid, de gezondheid van onze medewerkers, onze gasten, leveranciers en samenleving centraal staan.

Regels
Om dit milieubeleid te realiseren nemen wij de volgende regels in acht:
- Erkennen van het belang van het milieu, indien bedrijfs- en commerciële aangelegenheden aan de orde zijn;
- Voldoen aan de milieuwet- en regelgeving en eventuele andere eisen;
- Informeren van alle betrokken medewerkers, hun verantwoordelijk stellen voor het nakomen van het beleid en deze medewerkers in staat stellen belemmeringen voor continue verbetering van de milieuprestaties uit de weg te ruimen en preventieve maatregelen te nemen;
- Meten van de vooruitgang op het gebied van milieu door middel van het uitvoeren van een monitoringsprogramma;
- Nieuwe en veranderende methoden, middelen en processen vooraf beoordeeld worden op Milieuaspecten;
- Milieu gezien wordt als een primaire verantwoordelijkheid van zowel Directie als alle niveaus van lijnmanagement, waarbij actieve en zichtbare betrokkenheid van het management in uitvoering als belangrijke voorwaarde wordt gezien;
- Voortdurende bewaking van de effectiviteit van het milieumanagementsysteem zal plaats vinden, waarbij tevens een systematische monitoring uitgevoerd wordt van de te nemen maatregelen naar aanleiding van uitgevoerde (risico)analyses, inspecties en audits;
- Jaarlijks een terugblik plaats vindt van de bereikte milieudoelstellingen, inspecties en audits en de effectiviteit van het milieumanagementsysteem.

Om gericht uitvoering te geven aan het milieubeleid beschikt Keolis Nederland over een milieumanagementsysteem conform de NEN-EN-ISO14001.

C. Anker
Algemeen directeur

A. van Toosen
Financieel directeur

R. Bruins
Directeur Operations

DOC26a Milieubeleidsverklaring Keolis Nederland versie 5.0 februari 2018 Directie

Appendix C – Predetermined interview questions (in Dutch)

Algemeen

1. Zou u kunnen beschrijven wat het bedrijf waar je werkt doet? (e.g. hoofdfocus, visie en doelen)
2. Wat is uw beroep binnen dit bedrijf?
3. [Korte toelichting over het standpunt dat de stakeholder groep online neemt als organisatie]. Kunt u de mening van uw bedrijf over het bussysteem in Enschede beschrijven?

Stakeholder betrokkenheid

4. Hoe zou u uw samenwerking met stakeholders van openbaar vervoer beschrijven (bijvoorbeeld Keolis, Twents, NS, Arriva, Connexxion ...)?
    a. Hoe relateert dit met het zijn van een stakeholder van het bussysteem
5. Hoe bent u betrokken als een stakeholder?
    a. bijv. m.b.t. verantwoordelijkheid, waar sta je in het systeem,
    b. Welke expertise wordt vanuit jouw/jullie kant gebruikt voor het bussysteem / wat is de rol van [bedrijf]?
    c. Invloed op de ontwikkeling van het bussysteem
    d. Hoe zou de stakeholder betrokken willen zijn

Nu gaan we dieper in op enkele specifieke kenmerken van het bussysteem. Hierbij gaat het om vier algemene onderwerp. Na elke onderwerp zullen we bespreken wat de huidige (en wellicht vorige) situatie in uw ogen als een stakeholder is, wat de sterke en zwakke punten zijn en wat uw rol binnen dat onderwerp is. Als u niet bekend bent met een van deze onderwerpen of als deze onderwerpen geen verband houden met uw bedrijf als stakeholder, dan kunt u dat aangeven.

Integratie van het systeem

Fysieke integratie

6. Wat vindt u van de manier waarop het bus systeem in de stad in geïmplementeerd?
    a. M.b.t. infrastructuur, organisatie, betrokkenheid van stakeholders, fysieke integratie

Communicatie (Media)

7. Wat is uw visie m.b.t. de informatie die aan passagiers van het bussysteem wordt verstrekt? (duidelijk/onduidelijk, beknopt/uitgebreid, leuk/ongemakkelijk)
    a. Zou er meer informatie verstrekt moeten worden? Hoe?
    b. Toeristen informatie (Enschede promotie)
8. Wat is uw visie m.b.t. de communicatie met u als stakeholder zijnde?
    a. Mogelijk: Vergelijking van de communicatie aan het begin van de integratie en nu.
    b. Type communicatie / gegrondheid van communicatie

Mobiliteit

9. Wat vindt u van de mobiliteit van het bussysteem in vergelijk met andere vervoersmiddelen?
    a. Hoe geïntegreerd in de stad, snel/flexibel
10. Hoe denkt u over de intermodaliteit met andere vervoersmiddelen?
    a. E.g. verbinding tussen fietsen en bussen, carpoolmogelijkheden

Financiering en prijsstelling

Financiering en de prijs

11. Wat vindt u van de prijs met betrekking tot de kwaliteit van de geleverde dienst?
    a. T.o.v. populatie-inkomen, andere transportmiddelen, de kwaliteit
12. Wat zijn de voordelen die u heeft als belanghebbende in het system?
    a. Voordelen op het gebied van expertise/het werkveld/monetaire voordelen
    b. Zijn er bedragen van de kant van de stakeholder: subsidies, investeringen, expertise
13. Wat weet u verder over de financiering van het systeem?

Publieke acceptatie/opinie

Reputatie

14. Wat weet u van de reputatie van het bussysteem? Kunt u dit toelichten?
    a. Visie van de algemene bevolking
    b. Hoe belangrijk is deze reputatie? (e.g. m.b.t. innovatie)
15. Hoe denk je dat de reputatie van busorganisaties [Keolis / Twents en haar busbedrijven (Arriva, Connexxion)] is?
    a. Zit daar nog verschil tussen?
    b. Straalt dit positieve/negatieve imago af op de aanbieder van de dienst?
    c. Hoe belangrijk is deze reputatie? (e.g. m.b.t. innovatie)
    d. Hoe zijn de busbedrijven met elkaar verbonden zijn op het gebied van reputatie en concurrentievermogen?
16. Wie zie u als verantwoordelijk voor situaties die van invloed kunnen zijn op de reputatie van het systeem? Waarom?
    a. (bijvoorbeeld de gemeente / het bussysteem / Keolis / Twents).
    Zijn ze überhaupt verantwoordelijk?

Media zichtbaarheid

17. Heb je veel gelezen over het bussysteem of [Keolis / Twents] in de media?
    a. Hoe zie / denk je dat het bussysteem in de media wordt waargenomen?
    b. E.g. Toeristische informatie (Enschede Promotie, gemeente Enschede), gemeente, busmaatschappij advertenties

Klanttevredenheid en vertrouwen

18. Hoe denkt u over van de klanttevredenheid over de efficiëntie van het systeem? (voor zowel de stakeholder als de klant)
19. Hoe denkt u over het vertrouwen in de organisatie om te bieden wat u is beloofd? (t.o.v. de klant of de stakeholder)

Energie en milieu

Duurzaamheid

20. Hoe denkt u over de duurzaamheid van het bussysteem?
    a. Zou er meer aandacht moeten zijn voor de duurzaamheid van het systeem en hoe (*bijv. Information and Technology Services (ITS)-technologieën of alternatieve brandstoffen*)?

b. Wie wordt in deze kwestie als verantwoordelijk beschouwd (*bijv. busorganisaties zelf, de gemeente, de overheid ...*)

21. Is er een sectie / afdeling of een samenwerkingsverband die zich bezighoudt met innovatieve voorstellen m.b.t. duurzaamheid, ter verbetering van het systeem?
    a. Denkt u dat er een partnerschap zou moeten zijn met een ander bedrijf wat dit betreft?

Overig

22. Alomvattend, hoe denkt u in het algeheel over de betrokkenheid van de stakeholders met betrekking tot het bussysteem? (*hoe het georganiseerd is, hoe de communicatie verloopt*)
23. Op welke aspect(en) van de volgende moet volgens u het bussysteem meer gericht zijn? Wie zou hiervoor verantwoordelijk zijn (Keolis/Twents, overheid, gemeente)?

    Milieu / duurzaamheid
    Kwaliteit van de service
    Prijs van de service
    Reputatie van het bedrijf
    Mobiliteit van het bussysteem ten opzichte van andere vervoerswijzen
    Partnerships
    Communicatie

Appendix D – Informed Consent (in Dutch)

INFORMED CONSENT FORMULIER

Research title: “Stakeholder Involvement in the Development and Innovation of Public Transportation in Smart Mobility.

- A comparative case study between two distinct cities.”

Dit onderzoek wordt geleid door Els van Uum. U bent van harte uitgenodigd om deel te nemen aan dit onderzoek. Het doel van dit onderzoek is om een beeld te krijgen van de rol van stakeholders binnen de organisatie rondom busvervoer in verschillende steden. Hiervoor worden diverse stakeholders geïnterviewd om hun visie op de betrokkenheid van stakeholders bij, en andere aspecten van, het busvervoer in Enschede te achterhalen.

Met dit onderzoek wordt de situatie qua organisatie rondom busvervoer van de stad Curitiba, Brazilië, en Enschede in kaart gebracht, vergeleken en verklaart. Het onderzoek in Brazilië is afgerond. Uiteindelijk zullen de resultaten van beide onderzoeken naast elkaar neergelegd worden om te bekijken hoe de organisatie m.b.t. busvervoer in de steden opgebouwd is, hoe dit verschilt, en of dat te verklaren is door situationele en/of culturele factoren. Uiteindelijk wordt er onderzocht of binnen bus organisaties dit bepalende factoren zijn voor de ontwikkeling en innovatie van bussystemen en slimme mobiliteit in een stad, en wat de rol van stakeholders en hun betrokkenheid daarin is.

U neemt deel aan een interview waarin aan u vragen zullen worden gesteld over de stakeholder betrokkenheid en mobiliteit van het busvervoer in Enschede. Andere onderwerpen die gehanteerd zullen worden zijn de integratie, de financiering, de publieke opinie en reputatie, en de duurzaamheid van het systeem. Het interview zal naar verwachting één uur duren, afhankelijk van de voortgang. Van het interview zal een audio-opname worden gemaakt, zodat het gesprek later kan worden uitgewerkt. Dit transcript wordt vervolgens gebruikt in het verdere onderzoek.

De onderzoeksresultaten zullen alleen worden gebruikt als gegevensverzameling voor de onderzoeksstudie en kan, indien gewenst, anoniem worden gemaakt. Uw beroep en de instelling die u vertegenwoordigt moeten echter wel in de thesis worden vermeld, omdat dit het doel van het onderzoek betreft.

Deelname aan deze studie is vrijwillig. U hebt het recht om niet deel te nemen of het onderzoek ten allen tijde te verlaten. Als u besluit niet deel te nemen of ervoor kiest om het onderzoek te verlaten, dan zal dit op geen enkele wijze gevolgen voor u hebben.

Als u klachten of zorgen heeft over deze onderzoeksstudie, dan kunt u deze doorverwijzen naar de onderzoeker (E. M. van Uum, e.m.vanuum@student.utwente.nl, +31 6 30135721) of contact opnemen met de onderzoeksbegeleider (M. H. Tempelman, m.h.tempelman@utwente.nl).

Met uw ondertekening van dit document geeft u aan dat u goed bent geïnformeerd over het onderzoek, de manier waarop de onderzoeksgegevens worden verzameld, gebruikt en behandeld en welke eventuele risico’s u zou kunnen lopen door te participeren in dit onderzoek.

Indien u vragen had, geeft u bij ondertekening aan dat u deze vragen heeft kunnen stellen en dat deze vragen helder en duidelijk zijn beantwoord. U geeft aan dat u vrijwillig akkoord gaat met uw deelname aan dit onderzoek. Indien u wenst, ontvangt u een kopie van dit ondertekende toestemmingsformulier.

Ik ga akkoord met deelname aan een onderzoeksproject geleid door Els van Uum.

1. Ik kreeg voldoende informatie over dit onderzoeksproject. Het doel van mijn deelname als een geïnterviewde in dit project is voor mij helder uitgelegd en ik weet wat dit voor mij betekent.

2. Mijn deelname als geïnterviewde in dit project is vrijwillig. Er is geen expliciete of impliciete dwang voor mij om aan dit onderzoek deel te nemen.

3. Mijn deelname houdt in dat ik word geïnterviewd door een onderzoeker van de Universiteit Twente. Het interview zal ongeveer één uur duren. Ik geef de onderzoeker toestemming om tijdens het interview opnames te maken en schriftelijke notities te nemen. Het is mij duidelijk dat, als ik toch bezwaar heb met een of meer punten zoals hierboven benoemd, ik op elk moment mijn deelname, zonder opgaaf van reden, kan stoppen.

4. Ik heb het recht om vragen niet te beantwoorden. Als ik me tijdens het interview ongemakkelijk voel, heb ik het recht om mijn deelname aan het interview te stoppen.

5. Ik heb van de onderzoeksleider de uitdrukkelijke garantie gekregen dat de onderzoeksleider er zorg voor draagt dat ik niet ben te identificeren in door het onderzoek naar buiten gebrachte gegevens, rapporten of artikelen. Mijn privacy is gewaarborgd als deelnemer aan dit onderzoek.

6. Ik heb de garantie dat dit onderzoeksproject is beoordeeld en goedgekeurd door de ethische commissie van de BMS Ethics Committee. Voor bezwaren met betrekking tot de opzet en of uitvoering van het onderzoek kan ik me wenden tot de Secretaris van de Ethische Commissie van de faculteit Behavioural, Management and Social Sciences op de Universiteit Twente via ethicscommittee-bms@utwente.nl.

7. Ik heb dit formulier gelezen en begrepen. Al mijn vragen zijn naar mijn tevredenheid beantwoord en ik ben vrijwillig akkoord met deelname aan dit onderzoek.

8. Indien ik het wens, heb ik een kopie ontvangen van dit toestemmingsformulier dat ook ondertekend is door de interviewer.

Ondertekend in tweevoud:

……	……
Naam geïnterviewde	Handtekening
Datum:	
E.M. van Uum	……
Naam onderzoeker	Handtekening
Datum:	

Appendix E – Transcripts.

The transcripts of the interviews can be requested at the secretary of the Department of Communication Science at the University of Twente.

Appendix F – Codebook.

Appendix F. Codebook.

Code	Type	Description	Example
Communication = Communication about or within the bus transport system's organization, internally and externally.			
Communication about service outage	Inductive	Remarks regarding communication about failure and outage of the bus system.	"Informeren bij stremmingen en omleidingen, dat is gewoon onder de maat."
Communication to passengers	Deductive	Remarks regarding provision of information to regular passengers about the bus system.	"Ik denk dat in basis de informatievoorziening vanuit de OV maatschappij echt prima is"
Communication to tourists	Inductive	Remarks regarding provision of information to tourists about the bus system.	"Waar wij wel invloed op hebben is het vertellen aan de potentiele bezoeker dat je prima met het OV kunt komen."
New types of communication	Inductive	Remarks regarding new ideas of communication to bus users.	"… één platform waarop je al je mobiliteit kunt regelen, betalen, reserveren, boeken, dat de reis eigenlijk al voor je gemaakt wordt."
Stakeholder communication	Inductive	Remarks regarding the manner of communication among stakeholder groups.	"… je hebt wel veel contact, een kort lijntje."
Environmental sustainability = regarding the emission and Eco friendliness of the buses			
Electic/hydrogen buses	Inductive	Remarks regarding the development and existence of electric/hydrogen buses.	"Sinds de grootschalige introductie van elektrische bussen is dat echt wel in de versnelling geraakt."
Importance of sustainability	Deductive	Remarks regarding the value and significance of sustainability of the buses.	"Ik denk dat [duurzaamheid] een heel belangrijk thema is in de buswereld."
Sustainability of the buses	Inductive/deductive	Remarks regarding the environmental sustainability (emission) of the buses.	"… met de huidige dieselbussen zijn we actief bezig met het energie zuinig rijden."
Financing = regarding tickets, pricing and funding of the bus system			
Cost issues relative to innovation	Inductive	Remarks regarding innovation that is inhibited because of shortage on money.	"… er moet geïnnoveerd worden, maar dan staat er (…) vaak geld tegenover dat wij die innovatie ook kunnen doen, omdat het OV totaal geen winstgevende branch is."
Existing types of tickets	Inductive	Remarks regarding currently used tickets for bus rides.	"We hebben hele verschillende producten waarbij de OV chipkaart als goedkoopst in de markt wordt gebracht en losse tickets het duurst zijn."
Future ideas for tickets	Inductive	Remarks regarding ideas for currently non-existent tickets for bus rides.	"Wat wel wellicht iets voor de toekomst is, om een soort city pass te hebben, …"
Monetary benefits	Inductive/deductive	Remarks regarding monetary rewards because of the stakeholder's involvement.	"Innovatie vanuit ons is voornamelijk om geld te verdienen."

Price height	Inductive/deductive	Remarks regarding the height in the current pricing of the bus fares.	"Als je aan de ene kant beperkt dat de vervoerder de prijs omhoog zet, en aan de andere kant als je subsidie geeft is dat een evenwicht die wij ook vol kunnen houden
Subsidy influence on innovation	Inductive/deductive	Remarks regarding the influence of the governmental subsidy on the innovation and development of the bus system.	"Die kan daar door haar subsidie best sturend in zijn."
Infrastructure = regarding the integration of the system within the city.			
Connectivity of the city externally	Inductive	Remarks regarding the connectivity of the city with bus lines outside of Enschede, towards other regions.	"Verder zie je eigenlijk overal wel de lijnen goed lopen en met de nieuwe n18 de verbinding, met het achterland aan die kant."
Connectivity of the city internally	Inductive	Remarks regarding the connectivity of the city within the city of Enschede.	"…als wonende of werkende in de stad ook het gevoel hebt van kan ik hier bewegen zoals ik wil bewegen, ook met het openbaar vervoer."
Importance infrastructure for bus organization	Inductive/deductive	Remarks regarding the value and significance of infrastructure for the performance and organization of the bus system.	"niks is zo snel dan een lege asfaltstrook voor je waar je met 50km per uur overheen kunt rijden"
Physical integration	Inductive/deductive	Remarks regarding the integration of the bus system in the city, and how it is implemented, physically.	"In de stad hebben we een heel goed infrastructuur."
Mobility = regarding the flexibility, ability to move and performance of the bus system			
Bus mobility	Deductive	Remarks regarding the flexibility, ability to move and performance of the bus system.	"Wat ik puur uit ervaring van stadsinwoners van Enschede hoor, is dat het stadsnetwerk af en toe te langzaam is."
Importance bus transport	Inductive/deductive	Remarks regarding the value and significance of bus transport for a city (in general or for Enschede specifically).	"… het openbaar vervoer is wel van belang, …"
Intermobility	Deductive	Remarks regarding the capacity of different transport modes to move among each other.	"… mobiliteitspunten en deelfietssystemen als aanvulling op bushaltes en trein …"
Mobility as a Service	Inductive/deductive	Remarks regarding the shift of personally-owned transport modes towards mobility solutions, consumed as a service.	"met MAAS (…) dat er dus wat meer interactie is dus die verschillende vervoersvormen."
Smart mobility	Inductive/deductive	Remarks regarding the use of transport modes alongside or instead of gas-powered vehicles (cars).	"… in aanvullende systemen en deelsystemen."
Substitutional transport modes	Inductive/deductive	Remarks regarding transport modes that (can) act as a substitute for bus transport.	"… de elektrische fiets, en fiets in het algemeen, heel erg concurrerend is aan je product."
Organization = Characteristics and points of discussion regarding the organization of the bus transport system.			
Bus operator responsible	Inductive	Remarks regarding the bus operator to carry responsibility for something.	"marketing voor het OV, is iets wat eigenlijk bij de vervoerder ligt. De vervoerder is opbrengstverantwoordelijke, dat betekent dat zij zelf extra reizigers moeten trekken door de kwaliteit die ze bieden."

Conservative	Inductive	Remarks regarding the averse to innovate or change and to hold traditional values.	"Het stereotype van de bus rijdt hier al 20 jaar en die blijft nog 20 jaar op dezelfde manier doorrijden."
Consultation	Inductive	Remarks regarding the discussion and counsel between stakeholder groups.	"… het product dat je op straat ziet, maar daar gaat een heleboel overleg aan vooraf, ..."
Dependent on one stakeholder	Inductive	Remarks regarding one stakeholder group to carry responsibility for a whole.	"Uiteindelijk is dat een keuze van onze opdrachtgever."
Hierarchical	Inductive	Remarks regarding the presence of ranking of stakeholder groups regarding status, position or authority.	"… de provincie die bepaald in welk tempo dat gaat."
Innovative	Inductive	Remarks regarding the will to develop or innovate, or new ideas and imaginations of the bus service.	"Je moet kijken naar welke slimme systemen er zijn, welke combinaties je kunt maken."
Municipality responsible	Inductive	Remarks regarding the municipality to carry responsibility for something.	"Infrastructuur hebben wij niks over te zeggen, dat is een zaak van de gemeente."
Nonhierarchical	Inductive	Remarks regarding the absence of ranking of stakeholder groups regarding status, position or authority.	"Dan denken we vooraf al mee als de gemeente graag een weg wil reconstrueren."
Open for change	Inductive	Remarks regarding the will to adapt, change or develop aspects of the bus system or organization.	"Ik vind dat systemen zichzelf zouden moeten kunnen betalen."
Possibility to append change	Inductive	Remarks regarding the possibility to adapt, change or develop aspects of the bus system or organization.	"De innovatie ligt hier met name in de visie van de concessieverlener, dus de provincie, of in een aantal gevallen de gemeente."
Province responsible	Inductive	Remarks regarding the province to carry responsibility for something.	"Provincie Overijssel bepaalt hoe het OV wordt ingericht. Dat doen ze door concessieverlening, …"
Shared responsibility	Inductive	Remarks regarding different stakeholder groups to carry responsibility for something.	[Ontwikkeling van het systeem] "Dat is iets wat we gezamenlijk doen."
Stakeholder cooperation	Inductive/deductive	Remarks regarding the process of stakeholder groups to work together.	"We hebben in het verleden, ook samen met Keolis, de samenwerking gezocht voor bijvoorbeeld P&R Zuiderval. Toen hebben we gezamenlijk met de gemeente gekeken hoe we dat het best konden ontsluiten."
Stakeholder involvement	Deductive	Remarks regarding the extent to which a stakeholder is involved.	"… dat soort grotere dingen, zoals meedenken over doorstroming, daar zijn wij ook een partij in."
Stakeholder's limited involvement	Deductive	Remarks regarding the extent to which a stakeholder is involved limitedly.	"Die rol is vrij beperkt."
Stakeholder's non-involvement	Deductive	Remarks regarding the extent to which a stakeholder is not involved.	"…niet betrokken op een manier dat ik er enige zeggenschap op heb wat er gaat gebeuren …"
Public discourse = Regarding reputation and public acceptance of the bus system			
Connectivity reputation bus organization and bus system	Inductive	Remarks regarding the extent to which reputation of the bus system and bus organization is linked to each other.	"Dat hangt samen. Als je hele onvriendelijke chauffeurs hebt, dan kun je nog zo'n goed kwalitatief systeem hebben maar mensen zullen

			dan toch geen goed gevoel hebben bij de vervoerder."
Customer satisfaction	Deductive	Remarks regarding the perspective of passengers of the services of the bus system. Whether services surpass or meet the passenger's expectation.	"De klanttevredenheid van de gebruikers die in de bus zitten is vrij hoog"
Discourse of media visibility	Inductive	Remarks regarding the debate about the bus transport system in Enschede in the media to be positive, neutral or negative.	"Als het iets is (…) dan is het negatief."
Importance of klantenbarometer	Inductive	Remarks regarding the value and significance of the klantenbarometer.	"…dat blijkt ook uit die klanttevredenheidsonderzoeken."
Importance of reputation	Deductive	Remarks regarding the value and significance of the reputation of the bus system.	"Beleving is iets waar nu meer aandacht aan besteed wordt. (…) Ik denk dat dat steeds belangrijker wordt. Dat bepaalt ook het imago."
Influence reputation on innovation	Inductive	Remarks regarding the influence of a good or bad reputation on the will to adapt, change or develop aspects of the bus system.	"Ik denk met nieuwe innovatieve systemen, (…), dat dat aardige aanknopingspunten zijn om ook het imago van het busvervoer als totaal wat mee te doen."
Trust of population	Deductive	Remarks regarding the extent to which the population trusts the bus organization in Enschede to meet their promises and goals.	"De iets frequentere klant die heeft het vertrouwen iets meer."
Trust of stakeholder	Inductive	Remarks regarding the extent to which a stakeholder trusts other stakeholder groups within the organization of bus transport.	"Het vertrouwen tussen Keolis en provincie Overijssel is goed."
Value of media visibility	Deductive	Remarks regarding the value and significance of the bus system to be visible in the media.	"Daar hebben we sentimenten analyses in, …"
Type of stakeholder = A discussed stakeholder group			
Arriva	-	Remarks regarding Arriva as a stakeholder.	"… duurzaamheid binnen Arriva als een vereiste."
Keolis	-	Remarks regarding Keolis as a stakeholder.	"Keolis is gewoon een contractpartner, … "
Municipality	-	Remarks regarding the municipality as a stakeholder.	"De gemeente is met name verantwoordelijk voor hun ideeën en visies op stadsniveau."
Provincie Overijssel	-	Remarks regarding the province as a stakeholder.	"de concessieverlener is de provincie Overijssel."
Enschede Promotie	-	Remarks regarding Enschede Promotie as a stakeholder.	"… om belangen aan te blijven stippen wat openbaar vervoer voor de bezoeker van de stad betekend."
Media	Inductive/deductive	Remarks regarding the media as a stakeholder.	"Wat het meeste invloed heeft is de landelijke media."
Employees	Inductive/deductive	Remarks regarding employees as a stakeholder.	"… de chauffeurs er nog meer in trainen zodat ..."
Population	Inductive/deductive	Remarks regarding population as a stakeholder.	"Je hebt captives, mensen die gebruik moeten maken van het OV, en je hebt keuzereizigers, die ook op een ander manier zouden kunnen gaan."
Sustainability experts	Inductive	Remarks regarding the involvement of experts in the field of sustainability.	"Ik denk dat er projectteams gevormd worden waarbij er een of twee ambtenaren de focus

Appendix G – Statements expert panel.

Statements situational factors (4 statements)

- The mobility of the bus transport in Curitiba is highly dependent on the urban planning, and little dependent on the organization behind bus transport.
- If the Master Plan in 65 wasn't developed, Curitiba would be able to innovate better regarding mobility than currently possible.
    a. *The bus mobility is too dependent on the Master Plan of 65 instead of the technologies and possibilities that are currently there.*
- In Curitiba, when the system was implemented, it was very new and innovative, but the system did not develop along with the time.
- In Enschede, the bus transport is considered more valuable than in Curitiba.

Statements organizational factors (9 statements)

- Often responsibilities lie with only one party in the organization of bus transport.
  → What city fits this statement most?
- In Brazil, hierarchy is necessary for bus transport development.
- In the Netherlands, there is a lot of consultation, which influences the pace at which the bus transport innovates.
- In Enschede, the role of stakeholders is of great importance in the development of bus transport.
- In Curitiba, stakeholders should have a bigger role to contribute to the development and future existence of bus transport.
- In Enschede, the employer/employee relationship is a contract based on mutual advantage (commercial relationship), which benefits innovation, as people are forced to achieve a certain goal.
- In Curitiba, employer/employee relationship is built on trustworthy and long-lasting relationships, by which innovation is not strived for.
- Enschede focuses on many different mobility services. A long time ago, they invested in bus transport. Afterwards, they built a huge parking garage for cars in the center, and now their main focus is bicycles.
  This proves the municipality of Enschede does not have a clear vision for their mobility on the long-term.
- The infrastructure in Enschede is a way that you can also offer good public transport, and that it also has value for the future.

Appendix H - Tables with code (group) occurrence

Table H.1 Overview of code groups

Code group	Number of codes	Number of occurence
Communication	5	115
Environmental sustainability	3	74
Financing	7	107
Infrastructure	4	125
Mobility	6	190
Organization	17	347
Public discourse	9	127
Types of stakeholders	8	161

Table H.2 Overview of code occurrence.

Code group	Codes	Number of occurence
Communication	Communication about service outage	9
	Communication to passengers	48
	Communication to tourists	18
	New types of communication	11
	Stakeholder communication	34
Environmental sustainability	Electic/hydrogen buses	21
	Importance of sustainability	35
	Sustainability of the buses	30
Financing	Costs issues relative to innovation	14
	Existing types of tickets	7
	Future ideas for tickets	4
	Monetary benefits	23
	Price height	43
	Subsidy influence on innovation	22
Infrastructure	Connectivity of the city externally	27
	Connectivity of the city internally	18
	Importance infrastructure for bus organization	15
	Physical integration	93
Mobility	Bus mobility	65
	Importance bus transport	16
	Intermobility	37
	Mobility as a Service	15
	Smart mobility	17
	Substitutional transport modes	71
Organization	Bus operator responsible	24
	Conservative	6
	Consultation	42
	Dependent on one stakeholder	9
	Hierarchical	28

	Innovative	53
	Municipality responsible	45
	Nonhierarchical	2
	Open for change	36
	Possibility to append change	28
	Province responsible	45
	Shared responsibility	25
	Stakeholder cooperation	71
	Stakeholder involvement	72
	Stakeholder's limited involvement	11
	Stakeholder's non-involvement	13
Public discourse	Connectivity reputation bus organization and bus system	10
	Customer satisfaction	49
	Discourse of media visibility	10
	Importance of klantenbarometer	18
	Importance of reputation	26
	Influence reputation on innovation	21
	Trust of population	12
	Trust of stakeholder	6
	Value of media visibility	12
Type of stakeholder	Arriva	11
	Employees	9
	Enschede promotie	14
	Keolis	20
	Media	16
	Population	19
	Province Overijssel	39

Appendix I – Literature study log

Appendix I - Literature study log.				
Research questions*				
1	"How are stakeholders involved in the organization and development of the bus transportation system in Enschede, The Netherlands?"			
1.a	"Who are the stakeholders in the decision-making process of Enschede's bus transport system?"			
1.b	"What role does each stakeholder play in Enschede's ecosystem?"			
1.c	"What are the stakeholder's perceptions regarding several elements of organization of bus transport?"			
1.d	"In organization and development of bus transport, how do the stakeholder's roles and perception in Enschede relate to those in Curitiba?"			
Relevant terms				
	Concepts	**Related terms**	**Broader terms**	**Narrower terms**
	Stakeholder involvement	Stakeholder cooperation, stakeholder communication	Involvement, stakeholders, cooperation	Consultation, hierarchy, trust, stakeholder responsibility
	Urban integration	Bus infrastructure, bus lines, bus mobility	Integration, implementation, infrastructure	Intermobility, MAAS, bus mobility
	Public discourse	Public acceptance, media publicity, image, public opinion	Reputation, acceptance, discourse	Customer satisfaction, trust,
	Financial incentives	Funding, pricing	Financing, financial	Monetary benefits, price height, subsidy
	Environmental sustainability	Environmental friendly,	Sustainability, environment	Emission, electrical buses
Search actions				
	Date	**Database****	**Search action/technique**	**Total hits**
1	16-04	Scopus	"Stakeholder involvement"	2,638
2	16-04	Web of Science	"Stakeholder involvement" AND sustainability	214
3	16-04	Google Scholar	Stakeholder involvement in bus transport	41,200
4	16-04	Google Scholar	"Stakeholder involvement" AND "bus transport"	90
5	29-04	Scopus	"Bus transport" AND sustainability	65
6	29-04	Google Scholar	Importance reputation bus transport	79.800
7	29-04	Scopus	"Bus transport" AND price	94
8	06-05	Google Scholar	Smart mobility in bus transport	89.100
9	06-05	Scopus	Qualitative research, interviews	53,135
10	05-06	Google Scholar	Technique: Re-read articles about used theory in the thesis, and find more articles for more perspectives. For theory substantiation for implications.	10
*Research questions were based on a similar case-study conducted by Van Uum (2019). **When using Google Scholar, most articles used for the thesis were found. However, only the first ten results are analyzed upon relevance before adding another search term. Scopus and Web of Science could be considered more				

appropriate, as it applies a relatively targeted search. A smaller amount of articles is given, which is easier to analyze upon relevance.

Criteria for selecting materials were the reliability of the journal (checked by e.g. the Impact Factor), the relevance and importance of the source (checked by e.g. number of citations and readers), and the diversity between sources (variety of books, scientific articles and media articles in used sources).