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The role of stakeholder participation processes in the Bus Rapid Transit systems in Noord-Brabant, Utrecht and Gelderland

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Colophon

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Abstract

This research explores the role of stakeholder participation in the planning and implementation of the Bus Rapid Transit (BRT) system in Noord-Brabant, Utrecht and Gelderland. BRT is a high-quality and high-frequency bus system that combines reliable travel times, high corridor capacity, and passenger comfort. The system is flexible to implement, and stakeholders should be involved during the development of BRT. The thesis aims to provide an overview of the stakeholders involved in the implementation process of BRT. This study employs a qualitative case study approach using desk research and semi-structured interviews. The power-interest matrix and Institutional Analysis and Development (IAD) framework are used to assess stakeholder participation processes. Findings reveal how different type of rules-in-use, boundary, position, choice, information, and aggregation rules, shape the action arena which is defined as the BRT implementation process. This thesis contributes academically by demonstrating how the frameworks can be used to explain the complex BRT implementation process. Practically, it provides insights for policymakers by comparing the three cases, showing similarities and differences in the stakeholder involvement.

Keywords: Bus Rapid Transit, case study, participation process, stakeholder involvement, Netherlands

Table of contents

1. Introduction to the research

1.1. Research problem statement

Transportation plays a big role in the life of the inhabitants of a city. It impacts the quality of people's lives and influences access to education, employment, and other services (C40 Cities Climate Leadership Group, 2016). The population in the Netherlands is growing fast. Public transportation can help manage this population growth by connecting new residential and work locations. The main focus of public transportation in the Netherlands is on improving the connections (Ministerie van Infrastructuur en Waterstaat, 2021). This focus leads to accessibility being a high priority to improve for local and regional governments. Also creating a sustainable environment is an issue important to the government. Public transport is used to increase the quality of sustainability and accessibility (Borsje et al., 2023). Considering sustainable transport, choosing public transport can be a sustainable urban mobility choice. To stimulate the use of public transport a new solution is developed which is called the Bus Rapid Transit (BRT) system, also known in the Netherlands as HOV services. These HOV services are crucial linkages between cities and villages, and revolve around highly frequent bus services, often using separated infrastructure such as bus lanes. The origins of the Bus Rapid Transit can be traced back to Latin America. Because of the rapid growth of the population and the limited financial resources in Brazil, the solution BRT was implemented. The BRT system moves inhabitants efficiently and cost-effectively (*Module 3b: Bus Rapid Transit*, 2004). The system is a high-quality public transport and is necessary to improve the network in a city. This means exclusive traffic lanes and priority at traffic lights to increase the speed of buses in and around the city.

The goal of a BRT system is to create a system that works equally as well as the tram or metro (Ishaq & Cats, 2020). For a city, building a metro or tram system can be very expensive because of the high cost of the equipment and infrastructure needed to realize a new form of public transport. The BRT system is a faster system to install. The system is flexible and can be built up gradually. This can spread the costs of implementing (Kennisinstituut voor Mobiliteitsbeleid, 2020). The system takes up less space and is more cost-effective than a tram or subway. Travelers are looking for a reliable and affordable means of transportation, and BRT may be the solution (*Manifest Bus Rapid Transit,* 2022). In the Netherlands, BRT lines can play an important role in challenges in the area (Goudappel, n.d.). The fast public transportation can lead to an improvement in accessibility. Besides that, the system also creates an increasing development for the economy, recreation, sustainability, and liveability (Provincie Gelderland, 2018). It can help with the mobility transition from the usage of the car towards more usage of walking, cycling, and public transport. BRT can take over the role of the private car as a primary mode of transportation because residents will use more attractive, efficient, and sustainable travel options instead of the car (*High-quality Public Transport,* n.d.). Besides, results from the past show that buses with attractive travel times and enough comfort can change the choice of individuals from car to public transport (Kennisinstituut voor Mobiliteitsbeleid, 2020).

It is important to focus on the BRT system as a part of the broader mobility system. It should connect with the other bus transport in the cities where the system will be implemented. The system is especially promising in areas where there is a 'gap' between the rail-related public transport network. Currently, in these low-density areas the frequency of buses is low. This can lead to a tendency to use the private car as main mode of travel and a negative impact on the use of public transport (Rasca & Saeed, 2022). BRT can be seen as the missing link which makes the public transport network in the Netherlands more complete (Kennisinstituut voor Mobiliteitsbeleid, 2020). BRT is not seen as a replacement for public transport but complements it (Provincie Noord-Brabant & Arriva Nederland, 2023). Regular public transportation can still work alongside the BRT system. The main purpose of the BRT system is to provide an alternative to cars by offering faster travel times, comfortable seating and frequent departures. Therefore, it is sometimes necessary to build extra infrastructure to help increase speed. It is supposed to be an extra option for the inhabitants. Especially when congestion is imminent, the system's buses should still be able to flow properly. In addition, the buses should offer comfortable seating and a high frequency of departures to stimulate the use of the BRT system (Ministerie van Infrastructuur en Waterstaat, 2021).

The BRT system can be seen as a successful system that could work in the Netherlands. Before the system is realized, there is an implementation process that precedes it. To facilitate the implementation process, several guidelines have been established to guide the process (C40 Cities Climate Leadership Group, 2016; ITDP, 2024; Kennisinstituut voor Mobiliteitsbeleid, 2020; Rijksoverheid, 2024a). The BRT system is characterized as a flexible system that constantly changes and faces different challenges. These frameworks are designed to address common challenges such as land use planning, integration of networks of parking and walking facilities and extra bus lanes. These challenges can be caused by both internal and external factors. Another essential for a successful process is stakeholder cooperation. The BRT guide emphasizes the importance of this stakeholder cooperation by taking the time to understand stakeholder relationships, as well as their needs and concerns (ITDP, 2024; Lindau et al., 2014). Currently achieving meaningful and adequate stakeholder participation remains a significant challenge (Finn & Muñoz, 2014). There are many stakeholders with overlapping roles and conflicting interests. It is a complex process to let these stakeholders participate in the implementation process of the BRT system. Especially in the Netherlands, the policy documents currently existing about BRT, provide limited information on the specific roles of each stakeholder and the extent of power they have in the decision-making process (Allansson et al., 2023; Kennisinstituut voor Mobiliteitsbeleid, 2020).

Therefore, it is important to understand and consider among other stakeholders the opinions and values of citizens through public participation. Involving the public can facilitate the exchange of perceptions, values, and attitudes (Al-Sharari, 2022). Participation is of importance and is recognized as an essential component of development. Especially with new developments such as BRT systems, which the public is often not very familiar with. Currently there is a limited understanding of the specific role each stakeholder has in the BRT implementation process. Stakeholder participation is often neglected by developers and planners. Also, different citizen movements are

rejecting the BRT system. This can be explained by the lack of understanding, knowledge, or interest (Sagaris, 2016). Participation can be seen as part of democratization processes that are crucial to building more equitable and peaceful societies. Early involvement of local communities in the formal planning process can speed up the process (Martinez-Avila & Olander, 2024; Pereira et al., 2018). Therefore, stakeholder participation plays a critical role in the implementation process of BRT. The effectiveness and power relationships that influence participation need to be carefully defined to explain the critical role. When there are participatory processes, the design of these processes must consider both the aspirations of citizens as well as the institutional actors. Recognizing the key stakeholders and their relationships can help optimize the process (Pereira et al., 2018). Both parties are involved when BRT systems are developed (Sagaris, 2018). Another argument that can explain why a participation process is important during development is about trust. Many members of the public organizations are sceptical of the government's ability to create solutions that work for them. Therefore, transport agencies are seeking better ways to involve each other and the general public in developing projects (Stewart et al., 2018). Hence, this thesis is focused on analysing the stakeholder participation in the planning and implementation of the BRT system in the Netherlands.

1.2. Research aim and research question

The aim of this thesis is to improve the knowledge on the stakeholder participation of the planning and implementation of Bus Rapid Transit (BRT) systems in the Netherlands. More specifically, it is important to understand the power and interest relationships between stakeholders and the rules-in-use influencing the stakeholder participation. Through expert interviews and desk research, this thesis provides a description of the key stakeholders, their roles within the BRT system and the process of participation in the system, which can be described as a descriptive research aim (van Thiel, 2014). The aim provides an overview of the perceptions, positions and actions of the involved stakeholders.

In the Netherlands, the BRT systems are typically designed to connect different cities (Goudappel, n.d.). Therefore, this thesis focuses on three specific cases in the Netherlands which are focused on connecting two cities: Noord-Brabant, Utrecht and Gelderland. More specifically it examines the BRT corridor between: Eindhoven – Veldhoven - Oss, Utrecht – Amersfoort and Nijmegen – Arnhem – Foodvalley. So, to create an overview of the stakeholders involved, their relations and the degree of power and interest during the implementation of the BRT system in these specific cases the following main research question and sub-questions are developed:

What can be learned from stakeholder participation processes in the planning and implementation of Bus Rapid Transit (BRT) systems in Noord-Brabant, Utrecht and Gelderland?

- What are the stakeholders involved in the implementation of BRT in these cases, and what are the relationships between them?
- What kind of participation processes and rules-in-use are used to involve stakeholders in the implementation process?
- To what extent do stakeholders possess the power and interest to participate in the implementation process?

To research the main research question, it is first necessary to identify the stakeholders involved in the implementation process of the BRT system in the three cases. While defining these stakeholders, their relationships can also be described. This gives an overview of the stakeholders and their relationships and the way they interact with each other. After analysing the stakeholders and creating an overview, the stakeholder participation processes used while implementing the BRT system in these three cases are analysed. The participation processes that are used in the cases can give insight to what extent the participation process of the BRT enables or limits the participation of the stakeholders. The ability to participate can be influenced by rules-in-use, power and interest, which are further explored in this thesis.

1.3. Scientific relevance

The implementation of BRT affects people living in the area surrounded by the transport system. Currently planning processes are seeking to ‘open up’ and be more transparent to the public. Public transport projects aim to serve the needs of society. This leads to the development of transit networks that better meet the lifestyle of inhabitants. Effective participation of stakeholders enhances the effectiveness and accountability of projects (Al-Sharari, 2022). Participation facilitates the decline of the complexity of a problem such as the implementation of a BRT system. It also increases the knowledge of the participant (Theesfeld et al., 2017). However, transport studies indicate that when it comes to implementation, the involvement is challenging (Allansson et al., 2023; Finn & Muñoz, 2014; Sagaris, 2018).

The literature confirms that the approach of involving different stakeholders in the planning process of BRT systems is not necessarily new knowledge (Theesfeld et al., 2017). However, this thesis will add knowledge for the specific BRT cases in the

Netherlands. It is a new concept in the Netherlands and currently there is limited literature about BRT systems in this country. The thesis contributes to the literature by highlighting the role and relationships of key stakeholders. It shows how different type of rules can affect the implementation process.

This thesis will make a valuable contribution to the academic literature by showing how the Institutional Analysis and Development framework (Ostrom, 2011) can be applied to the stakeholder participation processes in the Netherlands and what kind of effect the rules-in-use have on these processes. Additionally, it shows how the power-interest matrix (Mendelow, 1981) can serve as a complementary tool to strengthen the analysis within the IAD framework.

1.4. Societal relevance

To make the new BRT system successful it is important to have broad public support. Try to make sure that from the beginning of the implementation, all stakeholders are involved during the development of the plans. Therefore, keep in mind the state, province, and municipality as well as the users and transporters (Goudappel, n.d.). BRT systems contribute to the improvement of mobility, and participation is an important part of this planning and implementation process.

Currently, it is unclear what roles the different stakeholders have, could have and should have. This can be caused by the lack of literature and the absence of policy for BRT in the Netherlands. The ‘Actieagenda BRT’ consists of a small part where the role of stakeholders is described (Rijksoverheid, 2024a). However this is not clearly bounded. Therefore, the findings of this study may provide greater insight into the roles and responsibilities of each stakeholder involved in the cases of Noord-Brabant, Utrecht and Gelderland. The overview of stakeholder participation processes, can make the application of a complex intervention as BRT, manageable. Additionally, it will provide insights into the role of citizens in the process and raise the question of whether this is the right phase to involve them and whether the citizens have the right role during the development. Answering the research questions of this thesis can provide valuable insight into effective stakeholder involvement for future BRT projects. These findings can be helpful for policymakers, planners, governmental authorities, and transport operators in the Netherlands.

2. Literature review and theoretical framework

In this chapter relevant literature about the Bus Rapid Transit system, the stakeholders, and the participation processes are reviewed to determine how the concepts are characterized and approached. After that, the theoretical frameworks and operationalization of the concepts are discussed.

2.1. Critical review of the academic literature and the policy context

2.1.1. Bus Rapid Transit system

For this research, the Bus Rapid Transit System is an important concept and therefore needs to be clearly defined. When it is clear what is meant by the BRT system, it is more evident which stakeholders can and cannot influence the system. For the definition of the BRT system, the definition of the 'Kennisinstituut voor Mobiliteitsbeleid (KiM)' is used. This institute conducts independent research on mobility policy in the Netherlands and provides this information to the Ministry of Infrastructure and Water Management. KiM also analysed the opportunities for the BRT in the Netherlands and used the following definition for the system: The Bus Rapid Transit system is a bus system involving high frequency and speed travel, that combines reliable travel times with high corridor capacity, that provides comfort, and for passengers easily distinguishable from regular bus transportation (Kennisinstituut voor Mobiliteitsbeleid, 2020). The BRT system is a comprehensive system with a clear identity. It shows clearly which routes and which service vehicles are used for the system. This system requires active organisational and operational management (Finn, 2013).

The Institute for Transportation & Development Policy (ITDP) has created a BRT Standard for countries to use when implementing a BRT system. Before 2012, BRT was an innovation not well understood, so the first standard was created. This standard provides a scorecard that a BRT system must meet. The design elements offer valuable criteria for analysing stakeholder roles. So, among the numerous design elements identified by the scorecard, several are relevant for this research. The design elements that are important to acknowledge when researching the topic of public participation in the BRT system are the following. The BRT infrastructure must be in the highest-demand parts of a route. This will save users time and improve the quality of the system. The behaviour of bus drivers can be explained in part by the structure of the salary contract and is important to acknowledge. For example, bonuses are issued when drivers have driven a certain amount of kilometers. Customer-friendly stations increase the attractiveness of BRT and create inclusivity for every passenger. Besides that, customer satisfaction improves when customers know when the next bus will arrive. The websites and applications where the BRT information is provided are important to take into account when implementing the system (ITDP, 2024).

A document that tries to spread the idea of BRT is 'Manifest Bus Rapid Transit' (2022). This document is intended to excite and inspire the reader to think about this new system. In this document, it is stated that BRT is only a success when the concept is thought out and presented clearly to stakeholders.

2.1.2. Stakeholder analysis

Every decision made, has impact on the society and its stakeholders. Therefore, it is important to involve stakeholders early in the development process (Martinez-Avila & Olander, 2024). Besides organizations should align their actions with the values and interests of the stakeholders involved (Cameron et al., 2008). Stakeholders of the BRT system are defined as those who will be directly affected by the decisions (Pereira et al., 2018). According to the stakeholder theory, an organization aims to generate benefits from multiple stakeholders involved in the development of a project. An organization needs the help and support of stakeholders to survive as an organization. The stakeholder theory encourages organizations to acknowledge their stakeholders. Also, keep in mind that there are stakeholders inside the organization and outside the organization. The stakeholders need to be understood and managed (Mahajan et al., 2023). Before implementing the BRT system it is important to begin by defining the key groups and organisations affected by this new system (*Module 3b: Bus Rapid Transit*, 2004; *The online BRT Planning Guide,* n.d.).

The BRT system provides increased mobility, by increasing the speed and quality of the buses. This is done by giving the buses priority over car traffic, integrating it with other public transport, and increasing the system capacity. Creating a BRT system and operational planning is critical to ensure, given the high service frequency and passenger demand (Ishaq & Cats, 2020). The passengers are different groups of people. Rasca & Saeed (2022) state that employees are the population group with the highest demand. In terms of mobility use frequency, workers are the most frequent daily users. Workers commute between home and work on a daily basis. According to the BRT Planning Guide (ITDP, 2024) and the Action Agenda (Rijksoverheid, 2024a), the implementation process involves a diverse group of stakeholders besides the users. These include the municipality, the province, state authorities, regional transport agencies and public bus companies. Each of these stakeholders play a role in the planning, funding and implementing of the BRT system in the Netherlands.

2.1.3. Stakeholder participation

To have new systems of public transport adopted by society it is important to couple them with credible participatory processes (Stewart, 2017). Participatory processes to development have been proved to improve the effectiveness of development (Holland et al., 2015). The unique challenge that is faced when implementing a new kind of public transit is its usage. While a lot of individuals currently rely on private cars for travel on highways, the success of the implementation of the BRT system relies on increase of usage of the bus. Public transit can be limited spatially and demographically which influences the involvement of the society in the implementation of a system. So, with any infrastructure project, public participation and acceptance of the project are required and critical to ensure the goals of the project are achieved (Casello et al., 2015).

Public participation is a debated concept that can appear in various forms. The participation can be undertaken as a process to inform and gain support from inhabitants. Another form of participation involves gathering citizens' knowledge and opinions in order to inform the decision-making process. This type acknowledges the

value of local insights and is seen as the deepest type of participation when citizens are also activated towards civic duty (White & Langenheim, 2021). When defining the public participation concept, it is important to look at the extent of involvement. Participation is the involvement of the public in planning to influence decision-making. A method to involve the public into the decision-making process is to couple the benefits of the project, directly with local stakeholders. Make it clear what the benefits of the BRT system are for the users (Stewart, 2017). For example, the long-term benefits such as the improvement of the air quality do not affect the users directly. To involve locals, it can be helpful to make the necessity of the project more logical and easily understood by mentioning direct benefits. In the province of Gelderland, there is a document about the way the province deals with participation and how inhabitants can have an influence on making policy decisions. Since the new Dutch environmental law, the provinces have had a more important role in letting inhabitants participate in new developing projects (Provincie Gelderland, 2021). Stakeholder participation is a crucial component of the process of implementing a BRT system. Stakeholders can be involved by organizing an engagement campaign. This will result in commitment to the project by stakeholders and encourage participation in the system (C40 Cities Climate Leadership Group, 2016). So, public participation is interpreted as the involvement of those that are affected by decisions in decision-making (Al-Sharari, 2022). All the decisions made for implementing the BRT system that affect stakeholders are expected to be included in the participation process. In this thesis stakeholder participation is focused on those who are affected by decisions made during the implementation process of a BRT system.

2.2. Relevant theoretical frameworks

2.2.1. Split ladder of participation

To measure the level of participation, the split ladder of participation framework can be used. The split ladder of participation by Hurlbert & Gupta (2015) is based on the ladder of citizen participation by Arnstein (2019). Arnstein mentions that citizen participation is a categorical term for citizen power. The ladder illustrates different levels of citizen participation and can be seen in Figure 2. In the decision-making process, the level of citizen participation can be measured and placed in one of the places on the ladder. This level represents the amount of power-sharing with citizens that is done within the project. It goes from non-participation to full citizen control.

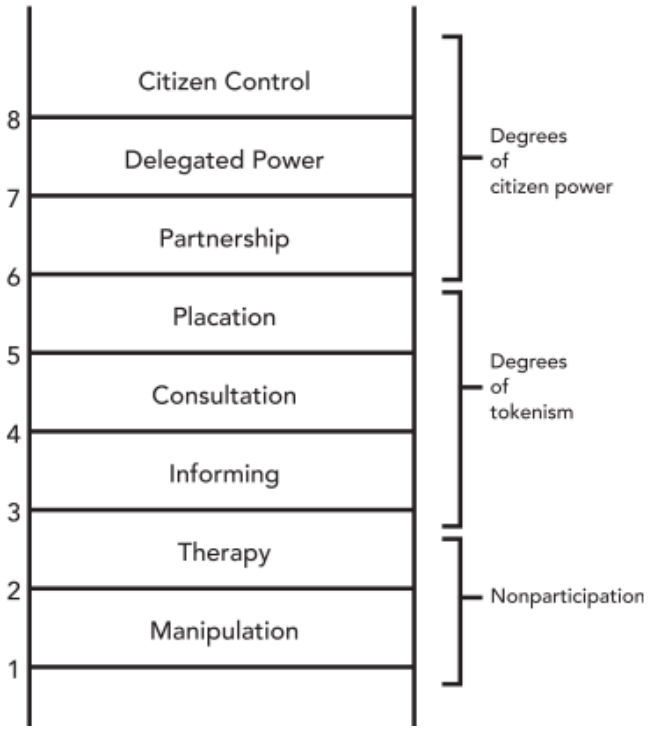

Figure 2: Ladder of citizen participation (Arnstein, 2019)

Hurlbert & Gupta (2015) state that the greater the participation is, the better the chances of improving governance. Hurlbert & Gupta (2015) also define governance as the interaction between norms and rules, which determines the decision-making process of citizens. The writers based their ideas on the concepts of Arnstein and elaborated further on them. The ladder of Hurlbert and Gupta differs from Arnstein in the focus. The ladder focuses more on different contexts of participation rather than on the level of participation. It shows when participation can be effective and efficient. It is also more focused on the practical methods of involving citizens and first assessing which kind of level of participation the citizens desire. This is different from Arnstein's ladder, where stakeholders are categorized by looking at the amount of power. The ladder of participation of Hurlbert & Gupta (2015) can be seen in Figure 3.

The split ladder of participation is an evaluation tool to tackle policy problems. To use the ladder, it requires to have a full understanding of the nature of the policy problem and the dynamics of the potential disagreements this system can lead to. The nature of the problem in implementing the BRT system lies in effectively involving citizens and other stakeholders in the process. The nature of this problem is complex and needs to be qualified as a structured or unstructured problem. Unstructured problems are also defined as wicked problems. These problems have a lot of uncertainty and can be seen as social messes. The BRT system can be considered a structured problem, as it involves a project with clearly defined costs and benefits. The ladder also focuses on the nature of learning. To involve actors in public participation, it is important to let them learn how the problem can be addressed and solved. Another important aspect of participation is trust. Social trust indicates whether people are willing to listen and believe other stakeholders in the process and implementation of a system. To build trust between

citizens and the government, the involvement of iterative processes and increasing information flows are necessary.

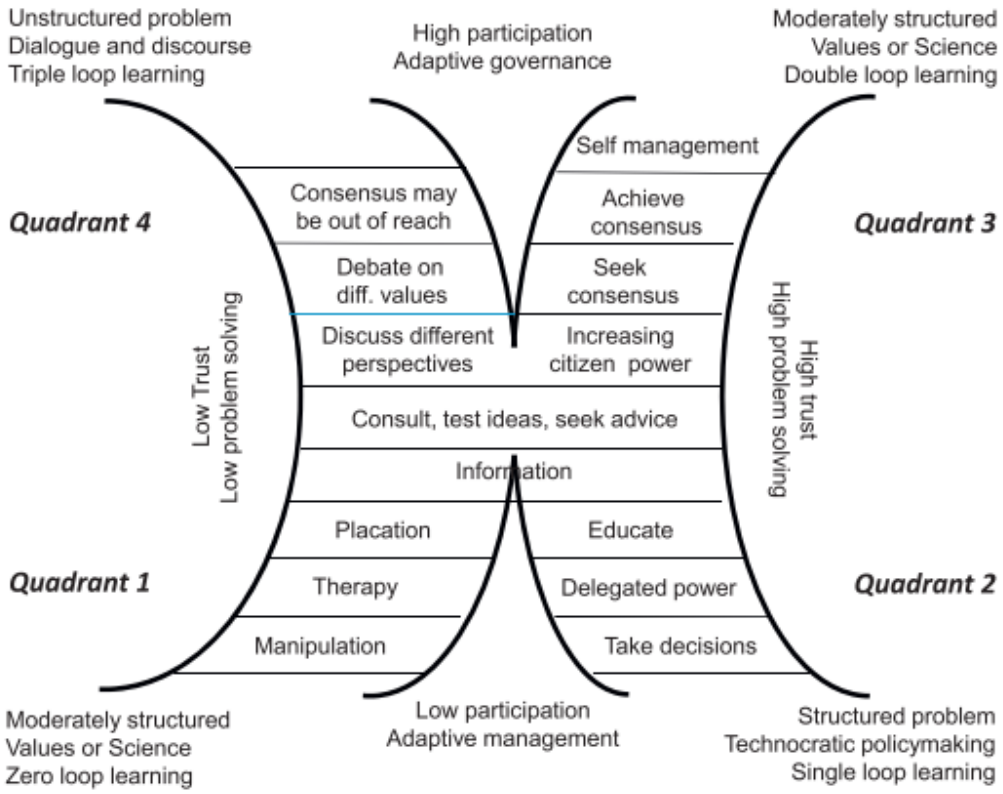

Figure 3: Split ladder of participation (Hurlbert & Gupta, 2015)

The 4 quadrants in the ladder each describe a different problem so first the system of BRT needs to be classified in one of these quadrants. The first quadrant describes a moderately structured problem that leads to zero-loop learning. These problems have disagreements on knowledge, norms and values. There are low levels of trust, and the participation has led to manipulation instead of learning. Problems in the second quadrant can be defined as structured and where there is agreement on values. The third quadrant is populated by moderately structured problems with high levels of trust. However, there is some disagreement on either values or science. The fourth and last quadrant is populated by unstructured problems. As said above the implementation of a BRT system can be identified as a moderately and structured problem so the system is not categorised in quadrant 4. As for the other three quadrants, the implementation of a BRT system largely depends on the context in which it is situated. When the project is seen as a municipal infrastructure project, it can be classified in quadrant 3. However BRT in the Netherlands is more commonly considered a provincial infrastructure project. The appropriate quadrant classification depend on the context of the BRT system, it even could be a combination of multiple quadrants to rightfully define the problem.

The ladder has played a significant role in advancing participation in science. Especially in understanding the nature and frame of policy problems and development planning (Hurlbert & Gupta, 2024). The tool can help to understand the level of participation policymakers desire and to what extent they want to involve stakeholders in the process

of implementation. It gives insight into what kind of level of participation is needed to achieve the goals set by stakeholders.

2.2.2. Institutional Analysis and Development framework

The Institutional Analysis and Development framework, better known as the IAD framework is designed by Elinor Ostrom (Ostrom, 2005). It can be applied to various important policy questions. The framework provides a set of variables that can help explain human interactions (Ostrom, 2010; Theesfeld et al., 2017). Speer (2012) even stresses its potential to study participatory processes. Therefore, the IAD framework is used to systematically examine the influence of external factors on the participation process. The framework has been adapted to fit in this research.

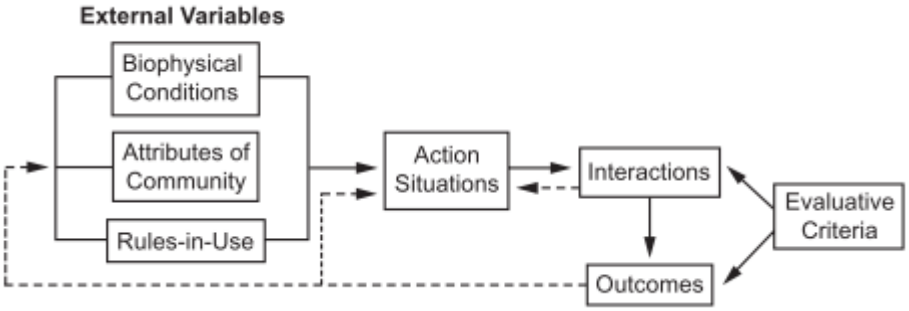

Figure 4: Institutional Analysis and Development framework (Ostrom, 2011)

As can be seen in Figure 4, the variables are divided in three building blocks. The left part are the exogenous factors influencing the action arena. In this research the action arena, the second block, can be seen as the participatory process of the implementation of the BRT system in the Netherlands and as the dependent variable. It is divided in three parts, the stakeholders, positions and actions. The stakeholders are those involved in the participatory process of the implementation. Stakeholders are assigned to positions, which influences their level of involvement in the process. The position of the stakeholder determines which decision the stakeholder in question can make and which action they can undertake (Ostrom, 2005).

The exogenous factors are biophysical conditions, attributes of the community and rules-in-use. Rules is defined as one of the core concepts of the framework and is used to describe the structure of interactions. Because rules-in-use are a core concept, the other two exogenous factors are left out of this research. The rules-in-use are the shared understandings among those involved. These understandings refer to enforced regulations about what actions are required, prohibited or permitted. Besides, the rules can have potential to steer a community towards more socially desirable outcomes and can help structure the action situation (Montes et al., 2022; Ostrom, 2011). In this thesis the rules are responsible for the achieved level of participation, so the interest of these rules is about their existence and impact on the action arena (Theesfeld et al., 2017). The rules-in-use can be divided into seven different types as can be seen in Figure 5.

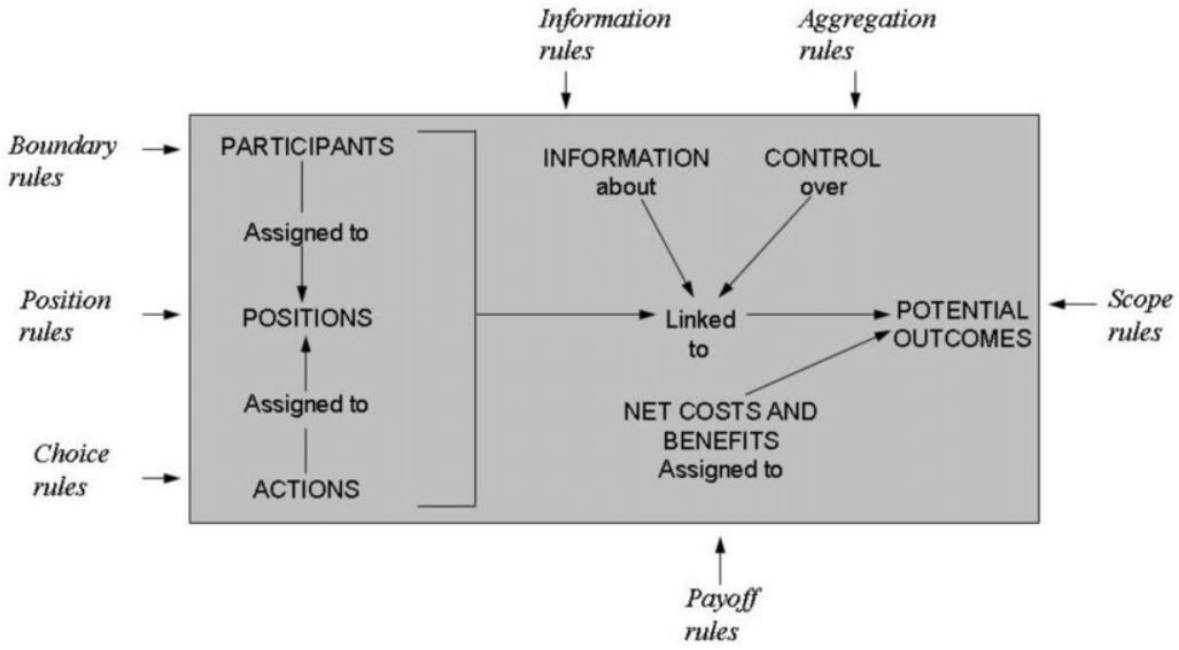

Figure 5: The internal structure of an action arena (Ostrom, 2011)

As BRT systems in the Netherlands are still in the development phase, there is limited information available regarding their outcomes, costs, and benefits. Therefore, scope and payoff rules have not been included in this study and there is only focused on the action situation and the interactions. The other 5 type of rules are used and defined. The research of Ostrom (2011) and Theesfeld et al. (2017) are used to help define the rules and apply the terms to this research. *Boundary* rules affect the number of participants and assess whether they can enter freely. It decides which stakeholders can join the participation process and have a right to have an opinion. The *position* rules impact the positions of the stakeholders and what kind of role they have within the implementation process of a BRT system. The *choice* rules, sometimes defined as authority rules influence the actions of the stakeholders. These rules give boundaries to what a participant is allowed and not allowed to do in the position they are in. So based on the knowledge about the rules, what kind of actions are done by the stakeholders. The *information* rules are about what information is allowed to be shared with every stakeholder. In some cases, information held by certain stakeholders is not shared with other involved stakeholders. This can be due to the fact that the information is not publicly known or is considered sensitive. These rules are also about the way how information is distributed among the stakeholders. *Aggregation* rules are measured by looking at the final contribution of stakeholders to the decision made. It also has to do with the power each stakeholder has or was given during the process.

2.2.3. Power-interest matrix

To thoroughly identify the stakeholders and their positions in the implementation process of the BRT system in the Netherlands, this thesis uses the power-interest matrix developed Mendelow (1981). This matrix helps to determine the level of involvement of the stakeholders in the system. It is a process to generate knowledge about the actors involved. This type of stakeholder analysis consist of three steps: identify the key stakeholders, categorize them and analyse their relationships (Guise et al., 2024). The power-interest matrix is widely used for this purpose, as it categorizes stakeholders according to their level of power and interest in the implementation process (Mendelow, 1981; Guðlaugsson et al., 2020).

In the matrix, power is identified as the ability to restructure situations in a project which can arise from several sources. The sources Mendelow (1981) mentions in the paper, are resources which organisation may require, lack of alternative resources, authority and influence. The variable indicates the stakeholders relative power over the project and over decisions to be made. The relative power can be assessed from the set of roles associated with the stakeholder in the project and the influence of those roles. Besides, the amount of power also depends on the origin power of the stakeholder (Ballejos & Montagna, 2011). In this thesis, power refers to the role of the stakeholder and the amount of influence it has on decisions being made during the implementation. It is important to note that some stakeholders may exhibit low interest in the project but still possess considerable power, which makes them key stakeholders in the implementation. The term interest can be measured looking at the relation between stakeholders interests and the goals of the project (Ballejos & Montagna, 2011). In this study interest is defined as the potential and direct impact of the implementation of the BRT system on the according stakeholder (Guðlaugsson et al., 2020).

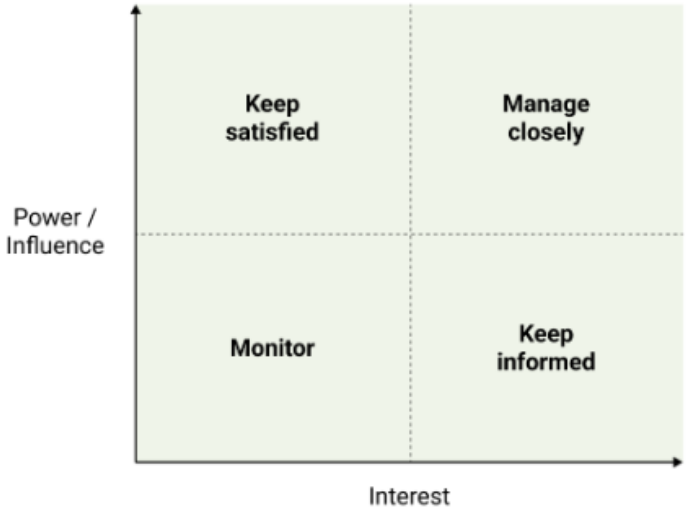

Figure 6: Power-interest matrix (Mendelow, 1981)

The power-interest matrix can help analyse the level of power and level of interest the stakeholders have in the project. This can help to understand to what extent the government should manage and involve different stakeholders. The matrix consists of four quadrants: Manage closely, keep satisfied, keep informed, and monitor and can be

seen in Figure 6. Stakeholders will be sorted according to their impact on the BRT system and the impact the BRT system has on the stakeholders. Stakeholders will be plotted in this matrix and from this matrix can be concluded what the position of these stakeholders is during the stakeholder participation process of the implementation of the BRT system.

2.3. Operationalization of theoretical concepts: The conceptual framework

Looking at the theory paragraphs above, it becomes clear that the role of stakeholders within the implementation of BRT systems is important and complex. To find out how a participation process works and how it facilitates the collaboration of various stakeholders to develop a concrete and executable implementation plan for a BRT system. Besides, the level of power and interest that the stakeholders possess during the implementation is also measured, using the conceptual model of the research that was conducted and is illustrated in Figure 7. For creating this model the IAD framework (Ostrom, 2011) and the power-interest matrix (Mendelow, 1981) is used. The purpose of the split ladder of participation (Hurlbert & Gupta, 2015) does not match the purpose of this study. Namely, the purpose of the ladder is about the structure of the problem, nature of learning and complexity while the goal of this research is more focused on the stakeholder participation processes. Therefore, the power-interest matrix and the IAD framework are more relevant. In addition, the power-interest matrix is fitted for this study because there are many stakeholders involved in the implementation of the BRT system.

The conceptual model is based on the IAD framework. The primary aim of this research is to describe the stakeholders and their relations with each other, which is done by the action arena of the conceptual model. The action arena can be seen as a social space where stakeholders interact, exchange goods and services, solve problems or dominate one another (Ostrom, 2011). In this thesis the action arena is defined as the implementation process of the BRT system in the Netherlands. The action arena is used to give an overview of the stakeholder participation process of each case. This means that Noord-Brabant, Utrecht and Gelderland each have a separate action arena. For each case the process takes place in another part of the country. The implementation process in this thesis is defined as the beginning of development of plans for BRT until the actual implementation of the BRT corridors. The process begins with a research and exploration of the area which involves stakeholders in the state and the region. Until the so called implementation plan is drawn up and the BRT corridor will be developed. During this process, all key stakeholders are covered, from the Ministry of Infrastructure and Water Management to local parties representing the society.

In this stakeholder participation process, different stakeholders, their positions in this process, their actions, information, control and interactions are defined. Ostrom (2011) explains that a stakeholder within the action arena needs to be analysed by looking at the resources an actor brings to a situation, the valuation the stakeholders assigns to actions, the way actors require and process information and the processes actors use for their courses of action. To define and analyse the stakeholders and their positions in the action arena the power-interest matrix of Mendelow (1981) is used. The stakeholders of the BRT system will be identified and categorized by looking at the level of power and

interest. The exogenous factor is also used to measure the variables within the action arena. Exogenous factors play a significant role in determining the stakeholder participation process of these cases. Rules-in-use is one of the core concepts of the IAD framework and therefore the only exogenous factor used in the conceptual framework. There are five type of rules affecting the conceptual framework. The rules all influence the level of participation in the implementation and planning process of BRT systems. The rules affect how the action arena is designed and each rule has influence on a different component of the arena. Boundary rules determine which stakeholders are included in the process. Position rules define the positions stakeholders have during the implementation of a BRT system. Choice rules can influence the actions stakeholders are allowed to take by defining rules and norms than can also serve as constraints. Information rules affect how much information each stakeholder has access to during implementation and how information is distributed among the stakeholders involved. Finally, aggregation rules shape the level of control each stakeholders has which can also be defined as the level of power within the process. The level of power is also measured with the power-interest matrix which is helpful for the variable control. The interactions in the participation process can be measured by looking at the positions and the level of information and control. For each case, the five type of rules are defined and analysed to determine how the rules were applied to the specific case.

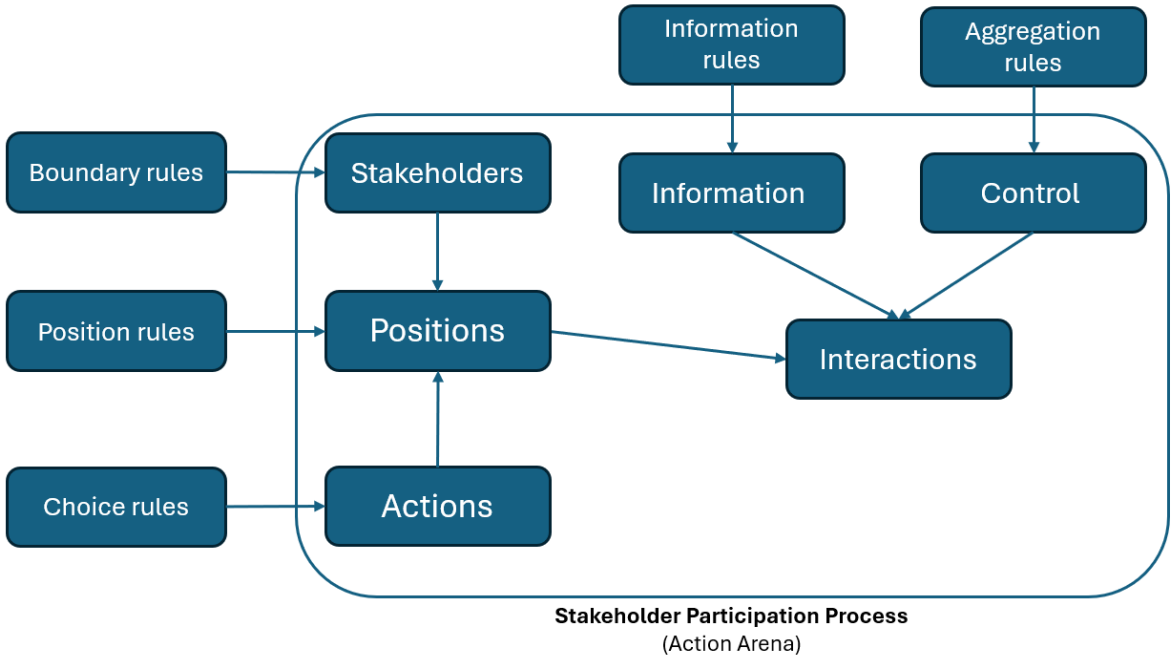

Figure 7: Conceptual model (own image)

3. Methodology

3.1. Research strategy

For this research, a qualitative approach is used. Qualitative research is seeking to deeply understand the research subject. It helps answer important questions about people and their lives (Tomaszewski et al., 2020). This method gives a comprehensive understanding of the stakeholder participation processes in the BRT system. In this research there is chosen for a holistic multiple-case design study. There will be three case studies carried out which are explained in the chapter 5. A case study is the examination of a case and a process of understanding the activities and particular circumstances (Tomaszewski et al., 2020). Whereby case refers to a situation under consideration (Burnard, 2024). The essence of a case study is to explain a set of decisions. Examining the reason behind the decision, the process of their implementation and the outcomes that followed (Yin & Campbell, 2018). In this research the focus shifts from a set of decisions towards a set of stakeholders. The study explores why these organizations were involved, the way in which their collaboration was structured and the results of their collaboration within the implementation of the BRT system in the three different locations. Besides the understanding of the extent of involvement of the actors during the planning and implementation of the BRT systems, the cases were chosen based on their different stages of development, this gives a better understanding of the whole process of implementing a BRT system in the Netherlands.

3.2. Research methods and data collection

Data will be collected through desk research and interviews. Desk research is done to collect data about the current developments of BRT systems in Noord-Brabant, Utrecht and Gelderland and what kind of stakeholders are involved in this process. The documents used were policy documents from BRT in the Netherlands and documents received from respondents about the process of the specific cases. The list of documents used can be found in the appendix. Due to limited access to data and documents on BRT in the Netherlands, documents served as a complementary source of information to the data collected through interviews. As a result, a coding scheme was not applied during the desk research. Using a qualitative approach, semi-structured interviews with experts will be conducted. These kinds of interviews are a common data collection method and are essential sources for case study information (Yin & Campbell, 2018). Semi-structured interviews allow the interviewer to improvise follow-up questions which can lead to the participants' verbal expressions (Kallio et al., 2016). To conduct these interviews, first there will be an interview guide created that can be found in the appendix. The interview guide covers the main topics of the research, offers a focused structure and includes questions based on previous knowledge (Holloway, 2005). The quality of an interview guide fundamentally influences the results of the study and helps to guide the interviews in a certain direction (Kallio et al., 2016). Experts can give advice on the selection of the cases (van Thiel, 2014). In this research, the experts that will be interviewed have more knowledge about which stakeholders are involved in the process of implementing a BRT system in the researched provinces. The experts will also have more information on the use of public participation in the process. These interviews will give more insights into the

stakeholders, their relationships and what kind of participation strategies are used and why. The list names, functions and organizations of the interviewees can be found in the appendix. To reach these experts, besides using the network of the researcher, purposive and snowball sampling are used. Purposive sampling can be defined as a sampling method, where the researcher seeks for respondents who are most likely to provide appropriate and useful information. Given the aims and objectives of each case, several experts are relevant and will provide valuable insights and knowledge through interviews (Campbell et al., 2020). Snowball sampling is defined as a form in which the first interviewee is asked to provide names of more potential respondents (van Thiel, 2014). The limitation of this sampling method is the risk of sampling bias. Respondents are likely to recommend additional respondents from within their own social and professional network. This increases the likelihood that new respondents share the same perspectives and experiences. This can result in a homogenous sample and thereby reducing the diversity of viewpoints in this thesis (Atkinson & Flint, 2001). Also purposive sampling can lead to a homogenous sample. Therefore, when analysing the results the selection bias and limited generalization have to be taken into account. Despite this limitation, purposive and snowball sampling remains valuable methods for collecting respondents for data.

3.3. Data analysis

To analyse the data from the interviews, the program ATLAS.ti will be used. This is a software that helps to organize and code the data from the interview. Coding can be defined as the assignment of labels to segments of data to describe the data collected. Analysing this data involves comparing data segments by seeking for relationships and differences between the segments (Fife & Gossner, 2024). When starting the coding process it is important the process is defined and consistently applied conform the standards of the validity and reliability in the research. Often, a coding process is an inductive approach. Knowledge is generated and data is analysed to determine a theory (Williams & Moser, 2019). However, a coding process can also be deductive. This method begins with predetermined codes based on the conceptual model. The researcher tries to find data segments that complement or question the theory where the conceptual model is based on. In this thesis, the deductive approach is combined with the inductive approach which is called abductive coding. With this approach there is a possibility to move back and forth between data and theory (Vila-Henninger et al., 2024).

Fife & Gossner (2024) state that a researcher seeks to find four types of evidence when coding and analysing data: supporting, contradicting, refining and expanding evidence. Supporting, contradicting and refining evidence is all reached using the deductive approach. Expanding evidence is reached using the inductive approach. Supporting evidence confirms the ideas of the conceptual model. These are key concepts and data segments that support the theories, the researcher started with. When there are clear examples in data that support for example the position of a stakeholder, it can be seen as supporting evidence. Contradicting evidence shows opposite evidence than the theories of the conceptual model state. It challenges the model and is important to use to show the potential wrongness of the conceptual model. Refining evidence presents that the conceptual model is mostly correct, but needs some small adjustments. For

example the role or interest of the municipality is slightly different than expected. Expanding evidence can unveil new information not included in the conceptual model. This information can add value to the research by giving new insights of factors beside the conceptual model that are also important within the process.

The data that is used to code and analyse are the transcripts of the interviews conducted. The coding process is divided into three steps: open, axial and selective coding. Before the start of open coding, the variables of the conceptual model are used as initial codes. These initial codes will correspond with the operationalizations. This helps to find supporting, contradicting and refining evidence. During the open coding process extra codes where added when expanding evidence was found. Open coding is the first level of the process. The researcher collects similar phrases and words that match the initial code. The software ATLAS.ti makes it easier to code and find patterns, however the researcher still needs to go through each phase of the coding process. The second level of coding is called axial coding. This level is focused on further refining and aligning the themes created in the open coding. In the thesis there is looked at relationships within the initial codes and within each case. The third level of coding is called selective coding. This is the final step of the coding process, and it tries to find the core meaning (van Thiel, 2014). In terms of the theory and conceptual model, what can be derived from the evidence found by the researcher. The coding scheme that is derived in this research can be found in the appendix.

After the coding process, the data will be analysed and mapped using the theoretical frameworks of Mendelow (1981) and Ostrom (2011). The matrix of Mendelow (1981) is used to create an overview of all stakeholders and their relationships, involved in the implementation process of BRT. The IAD framework from Ostrom (2011) will be used to give an overview of all the results and together these frameworks will answer the research question and sub questions.

3.4. Validity and reliability of the research

In case studies four tests have been commonly used to test the quality of the research: reliability, construct validity, internal validity and external validity (Yin & Campbell, 2018). Reliability is about the accuracy and consistency of how the variables are measured. The variables that are measured with the semi-structured interviews should be as correctly and precisely as possible (van Thiel, 2014). Reliability is mostly associated with replicability and can be measured by checking transcripts to make sure the results are consistent with each other (Burnard, 2024). Besides reliability, construct, internal and external validity are also important in research. Validity is measured to show to what extent the results of this research represent the measured situation (Winter, 2000). Construct validity establishes the correct operational measures for the concept being studied. This can be achieved by using multiple sources of evidence and ensuring that the selected measures clearly represent the specific type of process being evaluated (Yin & Campbell, 2018). Internal validity refers to the extent to which research can show the causal relationship between two variables without other factors influencing this relationship. This is measured by cross-case comparison. External validity on the other hand refers to the generalizability of the research. To what extent can the results be

generalized to the real-world population (van Thiel, 2014). The simplest example to measure external validity is to see if the results of one BRT system case can be applied to another case, which is also called cross-case comparison. The results of this research can be used to improve the specific cases that are used in this thesis.

4. BRT in the Netherlands

In the Netherlands, Bus Rapid Transit systems can be identified as large-scale processes involving multiple municipalities and sometimes even multiple provinces that must reach a shared agreement about the implementation of BRT. This can be a complex process especially when no specific policy in the Netherlands has yet been developed to guide this process. In all three cases selected, the BRT lines pass through various cities and villages, indicating the involvement of multiple municipalities and local stakeholders. This highlights the complexity of such processes and the need for overview to manage the collaboration.

4.1. Policy documents

The Bus Rapid Transit system is still in its early stages in the Netherlands and therefore defined as a new concept in the country. This is reflected by the amount of policy written on the subject. There are only two policy documents specifically written for the implementation of BRT in the Netherlands. These are called the Manifest Bus Rapid Transit (2022) and the Action Agenda BRT (Rijksoverheid, 2024a). The manifest document was written to introduce to stakeholders, the idea of BRT and to get them to adopt these ideas. The Action Agenda states that to realise BRT a lot of stakeholders are necessary, besides it is important to create important collaborations. Decentralized governments, such as the provinces, municipalities and transport regions, are tasked with exploring the area for BRT. In addition, they are tasked to explore if measures can be taken within cities and provincial roads to speed up the BRT system and increase its reliability. The Action Agenda also defines the role each stakeholder should have in the process of implementation.

There is a standard developed for BRT systems in the world, which is called ITDP. However, this standard does not meet the requirements for Europe, a new standard is needed for that. The Ministry is in the middle of the development of new BRT standard for the Netherlands (Senior policy coordinator, interview 2, personal communication, 2025).

4.2. General process of BRT implementation

In the Netherlands the Bus Rapid Transit system can be seen as part of the process of developing the public transport in a region. Currently there is no specific policy for the process of implementing a BRT system. However, there is policy called MIRT which stands for ‘Meerjarenprogramma Infrastructuur, Ruimte en Transport’ (Ministerie van Infrastructuur en Milieu, 2016). This document includes programmes and projects where the state and region collaborate in order to develop the spatial planning of the Netherlands. MIRT assumes for each project a cooperation between the national government, decentralized authorities (province, municipality, transport regions), civil society organizations and private companies. The MIRT bring different stakeholders together to organize and finance projects such as BRT. The procedure that is described in the policy document MIRT includes five steps. The first step is to clarify the goals of the region and the state and identify the possible projects. This is done using the Area Agenda (Gebiedsagenda). Decisions to update processes and project in the agenda are made

administratively. These administrative consultations are called BO MIRT and are held twice a year. In these consultations there is decided which projects will be funded. This decision is made by the director of the division of the financial resources of the public transport, so this could be the minister, deputy or state secretary. When the decision is made to fund a project, the next phase starts which is also decided by the BO MIRT. The next phase is called the MIRT study. The MIRT study looks at the area in a certain region and examines what tasks lie ahead in the short and long term. It examines whether the challenges are interrelated and whether follow-up steps should be taken to find possible solutions. If follow-up steps should be taken, the MIRT start decision is made and, if approved in the BO MIRT, the next phase begins. The MIRT exploration phase aims to develop solutions to the challenges identified in the study phase. During the exploration, possible actions to realize certain tasks are sought. The implementation of a BRT system can be seen as a small part of a MIRT exploration. The parties involved in the MIRT exploration are both parties active in policy and in implementation. These include ministries, decentralized authorities and relevant environmental parties. Ultimately, the exploration should lead to a clearly justified preferred solution, with the aim of completing the MIRT exploration in a maximum duration of two years. When the preference decision is made, the next phase will start. This under the condition that involved stakeholders make agreements about the next phase: MIRT plan development. The purpose of this phase is to clarify the scope of the project(s), the financial resources and the division between key stakeholders. Part of the plan development phase is the decision who, when and how different stakeholders are involved in the process. Which information is derived, and which legal procedures will be used. Decentralized governments together with the authorized representatives decide if the plan is successful enough to go towards the realization phase. The project decision is ideally made within two years after the preference decision is made. The last phase is called the MIRT realization phase. A positive project decision leads to the start of the realization phase. In this phase the plan is directly developed in line with the plan development documents (Ministerie van Infrastructuur en Milieu, 2016).

4.3. Stakeholders

Ministry of Infrastructure and Water Management

The national government, through the Ministry of Infrastructure and Water Management, facilitates the discussion between parties by sharing knowledge, inspiration and good examples. The government shares responsibility for the public transport and mobility system. The Ministry determines how much money can be spent on public transportation in a province. The national government is co-financing through the province. This implies that the province, in cooperation with other stakeholders, determines the exact allocation of financial resources (Rijksoverheid, 2024b).

The role of the Ministry of Infrastructure and Water Management is based on the roads where the BRT system is supposed to go over. If it touches the main road system, the Ministry will have a bigger role. The role of the Ministry can be divided in two parts. The first part is about the writing of policy. In the Ministry there are many different workflows, and one workflow is focused on Bus Rapid Transit. This workflow is focused on the development of overarching national policy for BRT. The Ministry aims to continue this as

part of its general approach. Currently there is no guideline in the Netherlands that helps guide the process of implementation, so the Ministry is working on developing one and formulating policy. The other part is the responsibility within specific projects. There is no specific boundary rule when the Ministry is involved in the project and their involvement cannot be assumed. "*There is also no blueprint of well, a BRT study really needs to have this stakeholder on board. No, they really looked separately in the plan of action, which stakeholders do we now need in this process.*" (Policy officer, interview 1, personal communication, 2025). An indication of involvement of the Ministry can be about the financial resources. When a project is included in the MIRT agenda, the Ministry gets involved, in connection with financing. The Ministry does not have more influence over the project than the other key stakeholders.

Rijkswaterstaat

Rijkswaterstaat is responsible for managing and maintenance of the main road network, which primarily consists of highways in the Netherlands. In collaboration with the Ministry, Rijkswaterstaat is working to determine the most effective way to use the highway network for the BRT system. In order to use the highway network, the most effective way there are guidelines which influence the process. The bus line that will be developed can only be classified as BRT if the bus is allowed to pass traffic jams on the highway during rush hour. Rijkswaterstaat established a guideline for the Bus on the emergency lane in 2015, and this guideline should be met (Rijkswaterstaat, 2015).

Rijkswaterstaat assumes the role of road manager. They are responsible for the highways in the Netherlands. So, if a project involves a road in the main road system, Rijkswaterstaat gets involved. This is because the BRT has to go over emergency lanes. There are frameworks and guidelines attached to this that the bus and the road in question must meet. The focus is on applying the policies prescribed by the Ministry of Infrastructure and Water Management. For BRT processes, it is often the case that: "*There is a national interest, so that is why there is money, but it is up to the region to make it happen*" (Traffic and transportation consultant, interview 3, personal communication, 2025). Within a BRT project, Rijkswaterstaat is often only responsible for the 'Bus op vluchtstrook' (Rijkswaterstaat, 2015). These main road guidelines and roads often have not yet reached the point where a bus can fully operate on the emergency lane. The roads are not yet designed to allow buses to easily access and cross the highway. Therefore, the first step of the development of a BRT project is to determine how the bus can be effectively integrated onto the highway network. On this part of the project, Rijkswaterstaat has the most influence. For safety reasons, the guideline Bus on emergency lane has to be adhered to. If the road network does not yet meet the requirements, there will have to be an adjustment in the road network.

Officially and administratively, all decentralized governments are equal and therefore, Rijkswaterstaat must also be transparent when it comes to sharing and receiving information regarding a BRT project (Interview 3, 2025).

Province

Provinces are responsible for the regional public transport in their region. They hand out the public transport concessions to bus carrier companies. To achieve effective implementation of the BRT system in the Netherlands, the province is expected to actively promote and demand innovative solutions from transport operators. In addition, the province is responsible for provincial roads and co-finances regional infrastructure projects. This includes BRT projects that make use of the regional roads (Rijksoverheid, 2024a).

Municipality

Municipalities are responsible for the management and maintenance of municipal roads. In addition to this role, the municipality also influences the public transport demand through the use of flanking policies. Examples of these policies can be parking regulations and shared mobility policy (Rijksoverheid, 2024a).

Bus carrier companies

Carrier companies are employable for their knowledge and experience around BRT systems. The FMN (regional transport operators) support the BRT project in full. The transporters want to work in cooperation with the concession provider, which in the cases of the Netherlands is the province, to get a BRT network established. The province comes up with the plan and imposes requirements on bus carrier companies using this public transport concession. For the development of this plan, they often go to bus companies for their expertise on transportation data and passenger numbers (Traffic and transport expert, Interview 7, personal communication, 2025). Transportation companies are more likely to follow the plan because government stakeholders have already developed a well-defined plan (Interview 2, 2025).

DOVA

This stakeholder is not involved in a specific project but tries to distribute information throughout the country. DOVA seeks to advance BRT as a concept in the Netherlands. This is done through lobbying and organizing network gatherings for key stakeholders, such as provinces, municipalities and bus carrier companies. So, DOVA is trying to contribute in small steps towards moving the concept Bus Rapid Transit forward.

Citizens

Currently in the national policy documents, there is no clear description of the role of citizens during the implementation process of BRT (Rijksoverheid, 2024a). The Ministry of Infrastructure and Water Management is responsible for the development of the national policy of the BRT systems. Citizen participation is not properly included in the plan of action for these policy documents. In the plan of action for these policy documents the citizen participation is not really included. This can be seen as a point of improvement. On the other side, Bus Rapid Transit is often seen as a light intervention, and especially at the early stages of the process it is not always seen as efficient to include the citizen at that time by using participation strategies (Interview 1, 2025). When the municipalities have more concrete information on the design of a BRT, citizens are included in the

decision-making process. Before that, residents are more likely to be indirectly involved through representatives such as the City Council or traveller's representative companies.

The senior policy coordinator who is employed by DOVA stated that the process of implementing a BRT system involves many steps. This is partly due to Dutch culture which focuses on considering all available options during the implementation process. Every time an administrative decision is made, residents have the opportunity to provide input. There is a possibility to voice your opinion when the province issues a new concession, during the development of the program requirements, and when the annual public transportation plan is developed. It is also possible to provide input through organizations. These organizations represent travellers' interests and include groups such as ROCOV Gelderland and Rover (Interview 2, 2025).

4.4. Rules-in-use

As shown in the conceptual framework, five type of rules-in-use can influence the stakeholder participation process. Certain national laws and regulations impact specific types of these rules.

Boundary and position rules

Boundary rules for which decentralized government will be involved in the system is defined by the 'Wet personenvervoer 2000' (Rijksoverheid, 2024c). In this law there is described that the state is responsible for the state roads, the province for the regional roads and the municipality for the municipal roads. When a BRT project used the roads where the stakeholder is responsible for, they will be involved. When for example the main road system is not used, the state doesn't have a significant role in the project (Interview 1, 2025; Interview 2, 2025). The description of these responsibilities is also seen as a position rule, because the description indicates the role of the stakeholder in the process.

Information rules

Another rule that is captured in the 'Wet personenvervoer 2000' is the rule about the 'OV concessie' and can be seen as an information rule. This can be defined as a public transport concession. The law stipulates that public transport authorities are responsible for granting public transport concessions to carriers (Rijksoverheid, 2024c). The public transport authorities in the Netherlands are the provincial and the regional government. The concessions for the bus transport are specifically granted by the deputy states. The deputy states constitute the day-to-day administration of the province. The Provincial States oversee the work of the Deputy States to ensure they are carrying out their tasks appropriately. The deputies are appointed following elections of the Provincial States. Each province has between four and nine deputies. When a concession is granted, the government is allowed to provide subsidy for public transport defined in the concession. The carrier company needs to provide data that is essential for the implementation of the project.

Currently the concessions of Gelderland are with Hermes (Breng), Utrecht is Qbuzz and Syntus and in Noord-Brabant there is Hermes (Bravo) and Arriva. Because of these new concessions, there is sometimes less information shared with these carrier companies. The government must remain transparent, and no carrier company can have an advantage when it comes to a new BRT project. When a new concession is in the process of being issued, the access to the amount of information needs to stay the same between all carrier companies, which sometimes leads to less information in general shared with the carrier companies.

The Woo request is another type of information rule. Every part of the government is mandated to be transparent. This can be defined as all information should be public. Should a resident doubt the transparency of a decentralized government, such as Rijkswaterstaat, the province or the municipality, there is an option to file an Open Government Act request, which is better known as a Woo request (Rijksoverheid, 2025a). With this request from the resident, an employee employed in one of the government organisations must disclose all public information. This public information can be documents but also emails and other correspondence.

Choice rules

Choice rules are rules that affect the actions of the stakeholders, especially focused on the rules that can limit the actions of stakeholders involved. In the Netherlands there is one general restriction that can be identified as a choice rule and is called the regulations for the Bus on Emergency Lane. These are strict measures co-determined by Rijkswaterstaat and the Ministry of Infrastructure and Water Management, which a BRT project must meet.

Aggregation rules

The national aggregation rule that influences the control of the participation process is called a ‘zienswijze’ (Rijksoverheid, 2025b). A ‘zienswijze’ allows a citizen to comment on a particular plan, often a design decision. During a BRT implementation process the ‘zienswijze’ can be submitted in the realization phase. In this phase a lot of specific design choices of the line are made. The ‘zienswijze’ are taken into account when a decision is to be made on a particular draft plan.

5. Cases

The cases used in this thesis were selected based on the Actieagenda Bus Rapid Transit which is drawn up by the central government (Rijksoverheid, 2024a). The cases of Noord-Brabant, Utrecht and Gelderland have the ambition to either make the step towards or are already classified as a BRT line and therefore have a lot of potential. The case Noord-Brabant currently operates three existing BRT lines and is developing two additional lines. In Utrecht, a pilot BRT line is currently being developed and introduced between Utrecht and Amersfoort. In the final case, Gelderland, a BRT line has not yet been developed between Nijmegen, Arnhem, and the Foodvalley region but plans are in progress.

5.1. Case Noord-Brabant

5.1.1. General information

In Noord-Brabant, the province and the city of Eindhoven have experienced significant growth. The strong economic development has highlighted the need to improve public transportation in the region. In Noord-Brabant and surrounding areas, plans for the so-called HOV lines were first established in 2009 (Interview 7, 2025). A unique selling point of the region is the quality of life. To keep the level of quality, the region established a ladder with goals to achieve. The ladder is called the 'Ladder van Verdaas' and established several steps suitable as solutions for mobility problems. These steps include among high-quality transport, also spatial planning, cycle management, intelligent travel services and expanding and creating infrastructure. After analyses conducted, it was found that high-quality public transport, within this ladder, is an important solution for the accessibility and the quality of life in the region (AGV-Movares, 2009). HOV in the region is defined as high-quality transport that meets high quality standards such as faster, trustworthy and more sustainable transport. The ambition is to operate a different type of bus, other than the regular city buses, on these HOV lines. The lines are primarily focused on the major transportation flows that pass through Eindhoven (Gemeente Eindhoven, 2020; Goudappel, n.d.).

The primary stakeholders that are involved in the implementation process are the province of Noord-Brabant, the 21 municipalities that are affected by the HOV-lines which are represented by Metropoolregio Eindhoven, Rijkswaterstaat Zuid-Nederland, bus company that owns the concession and the citizens affected by the implementation of the line. The state and the province provide financial resources, and the province is the commissioner of public transportation, which is the same in the other cases. However, in this case the companies connected with the HOV line also have provided financial resources. This is a unique situation in the Netherlands which is almost unheard of (Program manager, interview 5, personal communication, 2025). The Brainport campus, lying in this area is home to many companies that have decided to invest money in the infrastructure to and from this campus. This ensures more money available for this Bus Rapid Transit system. The responsibility of public transportation lies primarily with the government and most companies agree. Hence, it is a unique situation in Eindhoven (Interview 2, 2025).

The first BRT project in the province is the corridor Oss - Uden – Veghel – Eindhoven, which is also called BRT Meierij (Ministerie van Infrastructuur en Waterstaat, 2021). The cities are partly self-sufficient, however there is no train station available. There is a lot of business activity in the area and the towns have strong relationships with the larger cities in Noord-Brabant. The problem right now is that work and study areas are difficult to reach by public transportation and a BRT network is a good complement to this. Because this line is planned to run alongside the municipal and provincial roads, as well as the main road network, Rijkswaterstaat is a key stakeholder in the process. This region contains around 750.000 inhabitants and 400.000 jobs. From 2023 the province, Arriva, municipalities and Rijkswaterstaat are deriving the contours of the BRT network in the Meierij. This consists of the lines, hubs, frequency, routes, stops, buses, costs and benefits. The aim is to have a frequency of every fifteen minutes during rush hours and outside rush hours every half hour. The plan is to work step by step, line by line. The whole network will be built between 2026 and 2030 (Provincie Noord-Brabant & Arriva Nederland, 2023). In the BO MIRT of November 2024 there has been decided that the state together with the region will start a pilot BRT A50 – Meierij (Rijksoverheid, 2024a). The process of tendering the concession for the bus operator is in progress and started June 2025. This means that the province of Noord-Brabant is figuring out which bus carrier company may facilitate the line (Transport consultant, interview 8, personal communication, 2025). This indicates that the BRT Meierij project is in the MIRT plan development phase.

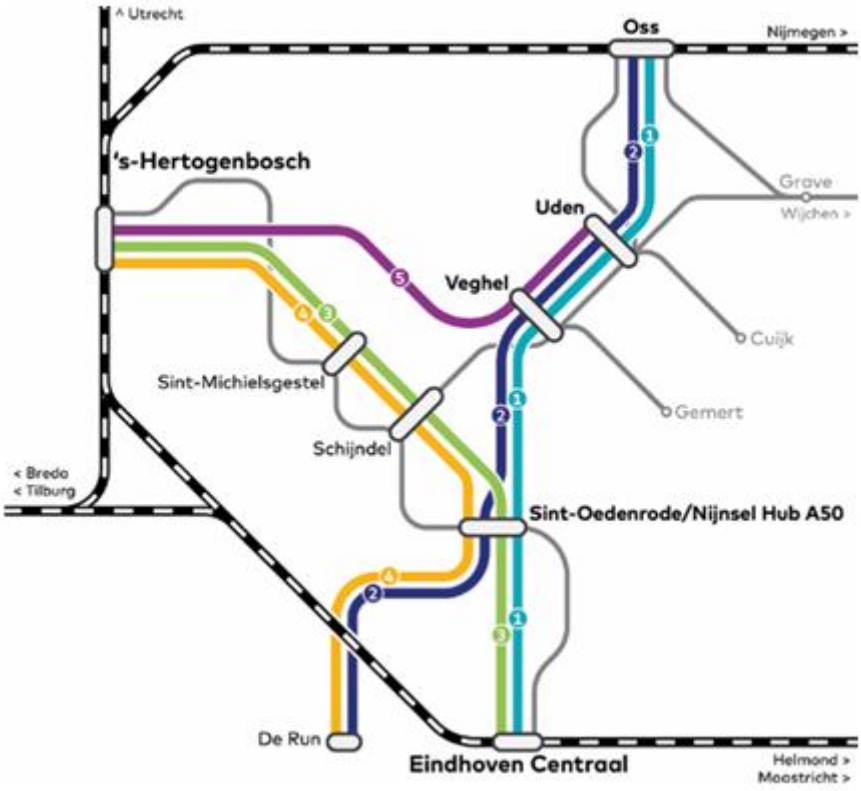

Figure 8: BRT Meierij (Provincie Noord-Brabant & Arriva Nederland, 2023)

Currently in Eindhoven, a city located in Noord-Brabant, there are 3 HOV lines, and a fourth line is in development. These lines create a fast connection between the inner city of Eindhoven and the suburban areas. Most of these suburban areas are areas where a lot of people work such as Eindhoven Airport and the Brainport region, which are also connected with the HOV line. The BRT Meierij can be linked with the HOV4 line in the west side of Eindhoven. This could eliminate the need for employees to go through Eindhoven central. This will provide a faster travel time between work and home (Interview 8, 2025). In the BO MIRT of 2022, there is decided to invest in the HOV4 line with state, province, region and private parties. This is necessary because the growth in this area is expected to be for 11.400 houses before 2040 on the sides of the corridor HOV4 (Gemeente Eindhoven, 2025b).

The municipality of Eindhoven together with inhabitants and other key stakeholders, are working towards a definitive design of the HOV4 line. These participatory processes include participation evenings organized by the municipality that can be joined by inhabitants. Besides, citizens can also fill in online questionnaires to share their opinion. The project is currently waiting on financial decisions of the city council (Gemeente Eindhoven, 2025). In the BO MIRT of 2025 is stated that state and region will start to realise HOV4 by concluding a board agreement. With this agreement the board can take the next step toward the realisation of the line, it is expected to start at the end of 2026. First the board agreement needs to be signed by all involved stakeholders (Rijksoverheid, 2025c). After this board agreement, the line implementation can begin. This will be carried out part by part. This indicates the development of HOV4 line is in the MIRT realization phase.

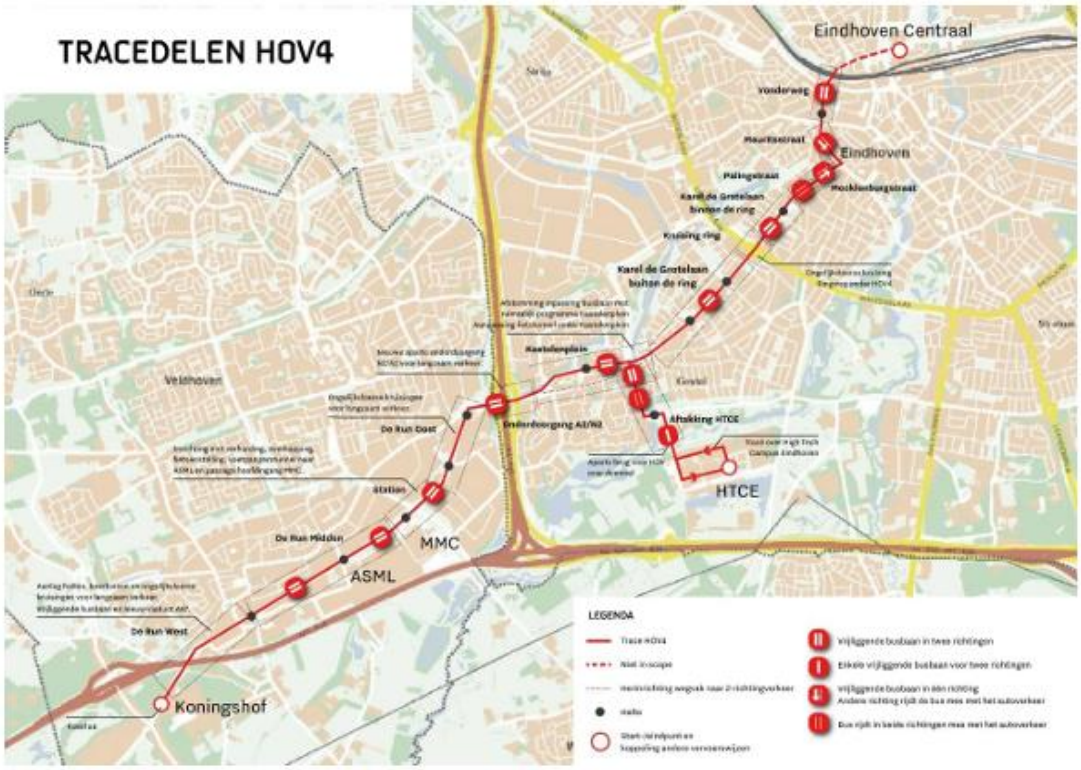

Figure 9: HOV4 line (Gemeente Eindhoven, 2025b)

5.1.2. Stakeholders

Province Noord-Brabant

The province is the commissioner of regional public transport and the grantor of concessions for bus companies. The province is in charge of the bus lines, together with other stakeholders tries to decide exactly how the bus will run and what frequency it will drive. As a province, they try to assume a mediating role, partly because they positioned between all the different actors. However, there are many different meetings where different key stakeholders engage in discussions with one another. Which can sometimes lead to a lack of a director's role in BRT projects in Noord-Brabant (Regional public transportation project manager, interview 4, personal communication, 2025).

The BRT projects in Noord-Brabant can be seen as a long term solution. Currently, solving the traffic jams on highways is done by adding a lane, however this is a short term solution. The traffic jams are solved temporarily and therefore BRT could be seen as a long term solution. To implement this system the province focuses on doing this step by step. Every part of the implementation plan needs to be approved by the Provincial Council. When plans are approved the funding also continues which indicates the potential success of the BRT.

Municipality of Eindhoven

The municipality is responsible for the construction of the bus lane on local roads. Every phase of bus route designs of the Bus Rapid Transit must be approved by the City Council or the Municipal Executive.

The spatial development project manager spoken with is currently coordinating resident participation evenings for the HOV4 line. So, the task of informing residents about the new line at the local level lies more with the municipality. This also aligns with the interests of the municipality. A participation plan has been written for these evenings that includes all stakeholders. It is also stipulated in the environmental law, that there must be participation in this type of project. During the design component of the HOV4 project, several stakeholders are being asked for input. These include residents, business owners, neighbourhood institutions and other organizations. Eventually, not all individual interests will be able to be accommodated and sometimes the common interest will have to be chosen (Gemeente Eindhoven, 2025b; Spatial development project manager, interview 6, personal communication, 2025).

Like other decentralized governments, all information is shared with each other. Residents are also entitled to all information, and should they need it, they can request it using a Woo request. During participation evenings, the municipality will not withhold information, but they will try to convey a clear message. "*It is not that we want to withhold anything, but more to be able to tell it properly and yes, clearly tell the story that you tell it differently than you discuss it here*" (Interview 6, 2025). This can lead as a result that not all information available is shared with residents.

So, during participation evenings, efforts are made to convey the clearest possible message to residents. However, there remains room for improvement, particularly in

clarifying in advance which aspects residents actually have a say in. In some cases, design elements of the HOV4 line may have already been determined by decentralized governments. As a result, residents may attend these evenings under the impression that they have a say in all aspects of the project, while in reality, this is not the case. To manage expectations, it would be beneficial to clearly outline the scope of the resident's participation space prior to the participation evening sessions. This can also increase the information transparency of the municipality.

Metropoolregio Eindhoven (MRE)

The Metropoolregio Eindhoven (MRE) can be seen as the transport region in Noord-Brabant. The ambition of this stakeholder is to create a strong region while maintaining the distinctive innovative Brainport profile. The HOV4 line runs through this Brainport region. The MRE represents 21 municipalities in the surrounding area of Eindhoven. They are tasked with ensuring good cooperation between all key stakeholders involved in the BRT project. This task also includes the overarching interest in keeping the process going (Interview 3, 2025). The MRE is a collaboration of municipalities so that research on possible BRT lines can be conducted jointly. This prevents each municipality from carrying out a separate study. Overall, this stakeholder tries to be the mediator in the BRT implementation. It has limited influence on the decision making but tries their best to get as much out of it as possible.

Within governments, information is not always shared due to different interests, this can be explained by a quote from a program manager employed by the MRE: "*So is everything shared? Not always, it really depends on the situation and circumstances. In general I am in favor of as much openness and transparency as possible. However you should always be conscious and aware about the purpose, timing and impact of sharing certain information to specific groups. Is sharing meant to inform, consult or decision making? And if so for which group? As long as if you are conscious, aware and use your commons sense, you will probably be fine."* (Interview 5, 2025).

Arriva

Arriva is a bus company that owns the public transportation concession in West-Brabant. The company is involved in the development of plans for the BRT Meierij. The BRT Meierij is planned to make use of the A50 highway as can be seen in Figure 8. So, the focus of this project has been on the flow of the route due to the daily congestion on this specific highway. Therefore, the bus company regards Rijkswaterstaat as a key stakeholder with significant influence over the BRT Meierij. This perception differs from the perception of Rijkswaterstaat. Rijkswaterstaat perceives its role as limited comparing it with the whole implementation process, focusing only on the section that runs along the highway.

The relationship between stakeholders during the process has been perceived as well-functioning, but sometimes the collaboration process is progressing slowly. However, the transport consultant stated: "*That you convince people not by overselling, but by facts and data, then you build a more solid collaboration*." (Interview 8, 2025). To build this collaboration and collect all data, takes time.

The process is currently on hold for the company Arriva because a public transport concession for East Brabant is in progress. To ensure that all bus companies have an equal opportunity and access to the same information, there is no communication between these stakeholders during this period of time.

Hermes

Hermes is a company that works under the name of Bravo and is responsible for all bus transport in the South-East of the province of Noord-Brabant. This organization received the public transport concession for buses in December 2016. The concession is recently extended until 2029 (Provincie Noord-Brabant, 2024). When implementing BRT projects, Hermes also focuses on involving citizens in the process. It is important to pay attention to how you are going to sell the system to the possible future users. An example of this resident participation, and can also be seen as an action, Hermes send packets to just moved in residents. "*.. who are more readily willing to accept other modes of transportation as well, and who receive an information packet with an invitation to take some trips for free*" (Interview 7, 2025). In ways like this, Hermes is trying to convince more residents to use the bus.

5.1.3. Rules-in-use

In the case of Noord-Brabant, different rules-in-use affect the stakeholder participation process. The case can be classified in the MIRT development phase, and therefore the aggregation rule that has influence on the project are the administrative consultations (BO MIRT), twice a year. These administrative consultations are done by the Ministry but can also be done by the Provincial Council or City Council. Although citizens are not directly involved in these approvals, they are indirectly represented by the members of the city council. Every four years the political cycle in the Netherlands changes, allowing citizens to vote for the representatives they want to serve on the City Council. The decision made out of these consultations have direct influence on the BRT project.

The information is distributed as transparent as possible, however there are some exceptions. For the BRT Meierij, the public transport concession is currently being issued which influences the information rule. The communication between bus companies and the province is temporarily paused, to keep the information shared equal over all bus carrier companies, such as Hermes and Arriva. Another exception is for the information shared during participation evenings. Not all information available is shared with citizen, but this is partly due to the clarity of a message.

The position rules are perceived differently from some stakeholders. While Rijkswaterstaat perceives their position as a small part of the whole project, Arriva perceives their position as crucial for the whole BRT system implementation.

5.1.4. Power-interest matrix

The power-interest matrix made for the case of Noord-Brabant is based on both interviews conducted with experts and documents received from these experts. The matrix is shown in Figure 10. The matrix is made based on the perspective of the province

Noord-Brabant. The bus carrier companies as stated above do not have a lot of power and also their level of interest is lower in comparison to Metropoolregio Eindhoven. Therefore, it is important to monitor them. The Ministry of Infrastructure and Water Management has a high level of power, especially through the administrative consultations. As can be concluded from the interviews, Rijkswaterstaat fulfils the task for managing the main road system and has therefore a higher level of interest than the Ministry.

Case Noord-Brabant

Power	Keep satisfied	Manage closely
High	Ministry I&W	Rijkswaterstaat Province Noord-Brabant Municipality Eindhoven Surrounding Municipalities
Low	**Monitor**	**Keep informed**
	Arriva Hermes	Metropoolregio Eindhoven Potential users
	Low	High
	Interest	

Figure 10: Power-interest matrix Noord-Brabant (own image)

5.2. Case Utrecht

5.2.1. General information

In the area between Utrecht and Amersfoort there is a significant increase in residential development. This has led to a corresponding rise in population and an increase in the number of individuals travelling between home and work (Syntus Utrecht, 2024). The location Utrecht Science Park (USP) functions as a major destination accommodating approximately 27.000 employees and 51.000 students (Provincie Utrecht, 2022). The housing task until 2040 for the government and the region of Utrecht are 165,000 homes and 110,000 jobs. Of which 40,000 homes are expected in the region of Amersfoort. Currently, 15% of travellers travelling to USP are from Amersfoort (Strategic consultant mobility, personal communication, 2025). The busiest bus line between these places has 100.000 passengers a month, and in rush hours there are buses travelling 22 times an hour between the places (Strategic consultant mobility, interview 11, personal communication, 2025). So, there is a need for a multimodal mobility system including high-quality regional public transport. The environment needs a coherent mobility system and BRT is a part of that (Syntus Utrecht, 2024). Initial studies considered both tram and bus options, however the findings ultimately favoured the use of buses (U-liner). This is because using the U-liner instead of the tram leads to a shorter travel time and more reliable departing times. The plan is for the bus to travel over the highway, which will allow for faster travel times. In addition, it is not possible for a tram to use the highway because of the lack of the right infrastructure. The bus will also make use of much of the existing infrastructure making it a more cost-effective option compared to implementing a tram system (Interview 11, 2025). The aim is for the BRT line to operate every five minutes

during rush hours. With this new development of the BRT line between Utrecht and Amersfoort, the province aims to boost the quality of bus services. The primary stakeholders that are involved in the implementation process are the province of Utrecht, municipalities that are affected by the line, bus company in possession of the concession and the citizens affected by the BRT line.

In the administrative consultation (BO MIRT) of November 2024, the state and the region have decided to further develop the plan of the BRT line between USP and Amersfoort. It was decided that these stakeholders will take steps so that the next phase can begin in 2025. In this phase, the intention is to take steps to achieve implementation of the tasks

(Rijksoverheid, 2024b). After this decision, in April 2025, the pre-exploration of the Utrecht Science Park (USP) – Amersfoort BRT route began. This involves investigating the possibilities of the BRT line between these cities. The key stakeholders involved in this study are Province of Utrecht, Ministry of Infrastructure and Water Management, Rijkswaterstaat, municipalities in this area and Utrecht Science Park. This project is part of a bigger picture when it comes to public transportation and housing. Hence, there are also a number of parties whose advice is also being sought such as NS, Prorail, Ministry of Defence and ROVER. At this phase, the routes and corridors are not yet fixed, but are thus broadly defined (Project manager, interview 9, personal communication, 2025). This project is a pre-exploration of a possible BRT, this indicates it is in the MIRT study phase and not yet in the MIRT exploration phase.

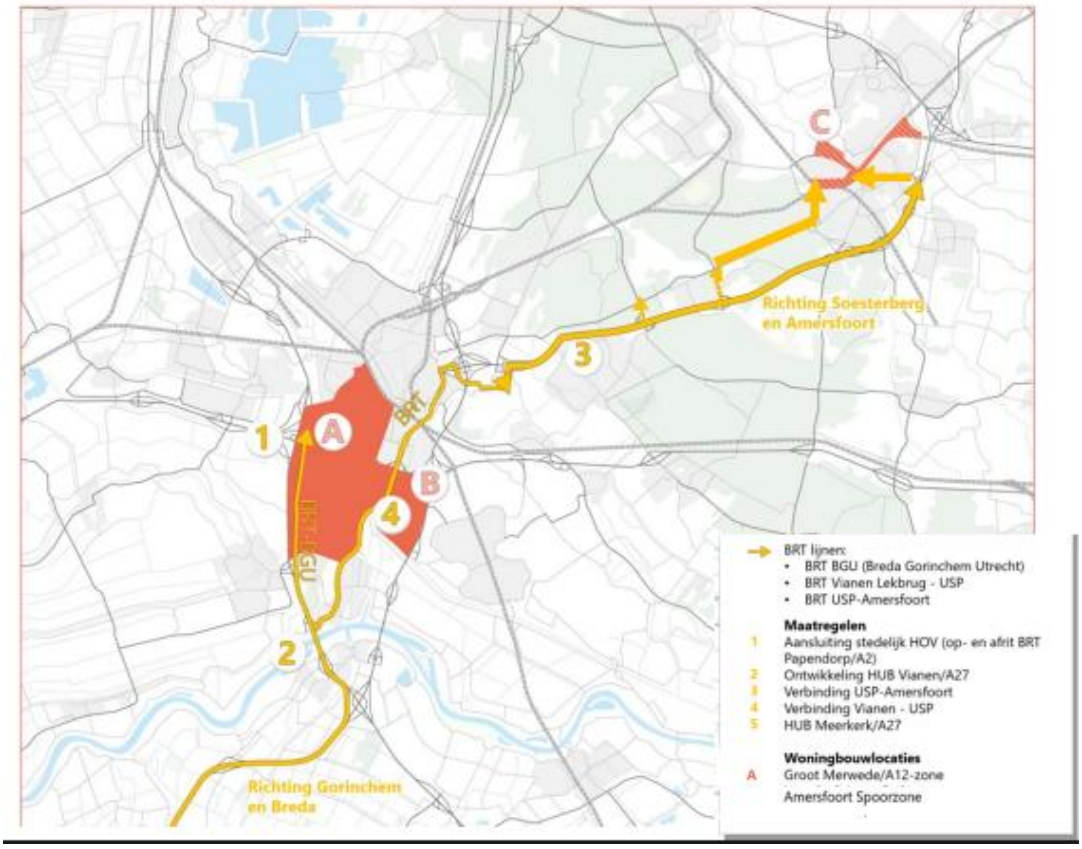

Figure 11: Line 3, BRT USP - Amersfoort (Interview 11, 2025)

5.2.2. Stakeholders

Ministry of Infrastructure and Water Management and Rijkswaterstaat

The BRT line USP – Amersfoort will probably go along the highway A28 and for this reason the Ministry of Infrastructure and Water Management and Rijkswaterstaat are involved in the case of Utrecht. The role of the Ministry within this project is to provide knowledge and review policy. So, to see if the project is occurring within the frameworks and if policies are being properly implemented (Interview 1, 2025).

Province Utrecht

The responsibility of public transportation lies with the province. Hence, as a key stakeholder, they took the lead role in the pre-exploration USP - Amersfoort. The province conducted a stakeholder analysis to determine which other stakeholders should be included during the pre-exploration. The analysis showed that, the municipalities adjacent to the potential BRT line are included in the process. The regions are also involved because this is a municipality-transcending issue (Interview 9, 2025).

Municipality of Utrecht

The municipality of Utrecht is also included in the process of pre-exploration of the BRT line. In such a process, it is important to have good arguments as a stakeholder collaboration as to why the project is needed. This can help with clarification towards residents. The municipality has access to all information needed for a project but does not share all information with residents. *"You really just want to provide outline information, because then it remains clear to them what is going to happen. And if there are detailed questions, you can always engage into conversation and provide more information if necessary. But we do not deliberately withhold information"* (Project manager, interview 10, personal communication, 2025). Substantiated information shared with residents can provide faster understanding. The role of the municipality within the implementation process of a BRT line is to communicate the implementation to the residents in a clear way. Should residents still disagree with the course of action after such moments, there is an opportunity to file a 'zienswijze' against a plan.

Municipality of Amersfoort

The municipality of Amersfoort has been appointed as local road authority and has an important role in the pre-exploration. As a municipality, they are used to working with stakeholders within the region, such as the province of Utrecht and other municipalities, so this is seen as a fine collaboration. As a result, it is often clear in advance what everyone's interests are. There is also an open table where each party can share available information about the project. As a result, the municipality of Amersfoort has access to all information available about the BRT project.

For this particular project they have already organized a number of resident participation evenings. This was done to present potential routes and gather the opinions of residents on them. At the time these evenings were held, this pre-exploration was not yet recognized as a MIRT project. If the routes are definitively determined later in the process, citizen participation will have to be carried out again.

5.2.3. Rules-in-use

Every layer of the government is involved in this project, because it is classified as a MIRT project. Besides main, regional and local roads are involved in this BRT system, which indicates the boundary rule of which stakeholders should be involved. Information is distributed equally to all stakeholders. There is little chance of any information crossing stakeholders, this can also be caused because there is a clear leading position for the province of Utrecht in the pre-exploration phase. In general, the coordination between the national government and the region is very good for projects like BRT (Interview 1, 2025). And the same as in the other cases, eventually many agreements are concluded administratively in the BO MIRT which can be identified as an aggregation rule. Furthermore, the environmental law in the Netherlands states that it is mandatory to organize citizen participation evenings for new developments such as this BRT project. This choice rule influences the stakeholders' actions and encourages them to include the public in the decisions-making process.

5.2.4. Power-interest matrix

The power-interest matrix is made based on both the interviews conducted and the existing stakeholder analysis carried out by the pre-exploration project manager from the province of Utrecht and is shown in Figure 12. The matrix shows the stakeholders involved and their roles in level of power and interest. This matrix helps to clarify the relationships between stakeholders. Most of the stakeholders involved, have a high level of power and a high level of interest which indicates they need to be managed closely. Bus operators have a lot of data available which can help the exploration. In Utrecht Science Park, the presence of many large employers generates major flows of employees and visitors. During the implementation process, it is recommended to include these stakeholders in the process by using communication to involve them or at least inform them about any new developments. In addition, it is advisable to collect data on travel patterns and developments in this area (Interview 2, 2025). Therefore, Utrecht Science Park and potential users need to be monitored.

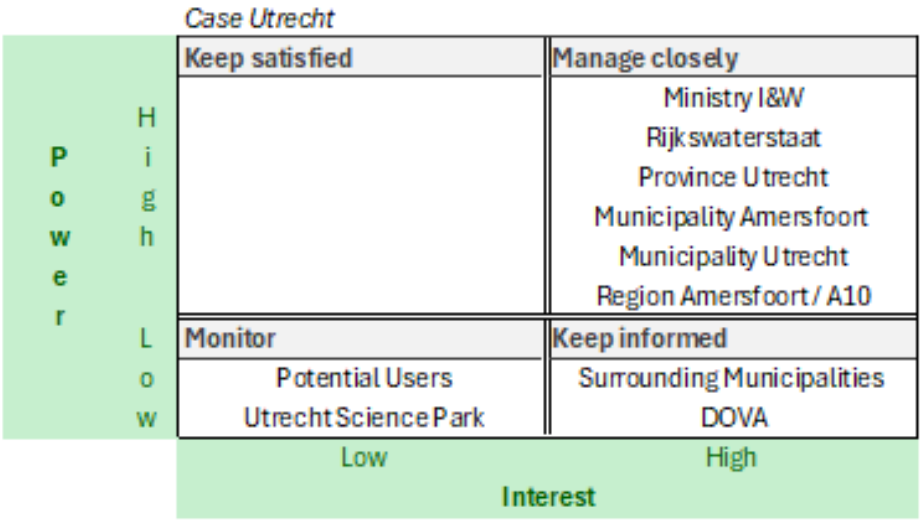

Figure 12: Power-interest matrix Utrecht (own image)

5.3. Case Gelderland

5.3.1. General information

Currently, there are very few plans to create BRT systems in Gelderland. In the province of Gelderland, it is expected that by 2040 the transport streams will increase by 40%. It is also expected that there will be a need for 60.000 houses in the region Arnhem-Nijmegen and a need for 40.000 houses in the region Foodvalley. These homes need to be easily accessible, which is why the province is organizing faster and better public transport, as well as upgrading the infrastructure (Provincie Gelderland, 2024). Inhabitants of Gelderland work in the province itself, but also in other provinces in the Netherlands. Therefore, cities must be well connected in the province. Gelderland is situated between the Randstad and the Ruhr area, which implies that public transport in Gelderland should work well to improve the transit flow. The province tries to improve public transport, especially in the more urban areas (Provincie Gelderland, 2018). In the vision document, it becomes clear that there are commitments for making use of the Bus Rapid Transit as high-quality public transport. Especially for the specific and busy connections (Provincie Gelderland, n.d.-b). This vision document called 'Toekomstbeeld OV 2040' also helps to direct all stakeholders in the same direction when developing BRT systems in the region. It helps to realise projects and to take steps in the same direction as other stakeholders (Ministerie van Infrastructuur en Waterstaat, 2021). In this research the stakeholders of the potential BRT line of Nijmegen – Arnhem – Foodvalley is researched. At this stage, the province of Gelderland, more specifically the deputy council, has launched a tender for the public transport concession of this region. The primary stakeholders involved in the project are the province of Gelderland, the municipalities affected by the line, ROCOV Gelderland, the bus carrier that will receive the concession and the citizens. In the administrative consultation from 2022 there is there is decided to start with a network analysis of Arnhem – Nijmegen – Foodvalley, these studies are completed. State and region have started with the preparations of this research and results are expected mid-2025 (Rijksoverheid, 2024b). The province of Gelderland is currently developing a plan for the public transport in the region, with a focus on HOV/BRT. They are trying to develop a plan and currently waiting on a decision of the deputy states, to get their plan on the Area Agenda of MIRT. When this decision is made, the process of MIRT can start (Regional public transport project manager, interview 12, personal communication, 2025).

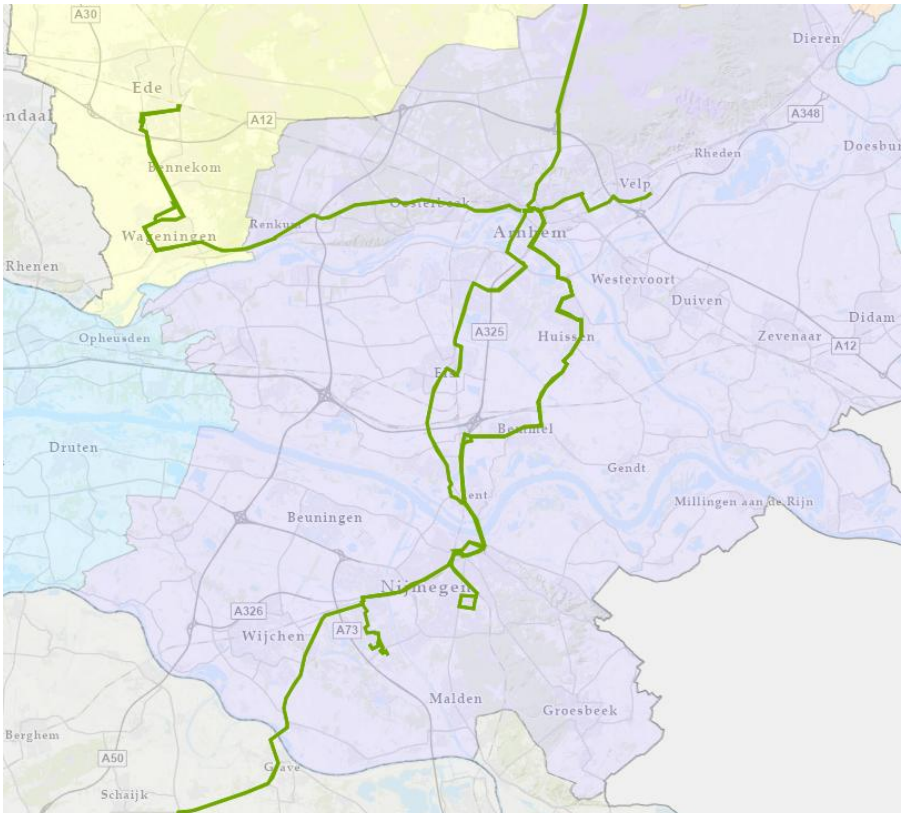

Figure 13: BRT Nijmegen - Arnhem - Foodvalley (Provincie Gelderland, n.d.-a)

5.3.2. Stakeholders

Province of Gelderland

The province of Gelderland has the same responsibilities as the provinces in the cases of Noord-Brabant and Utrecht. Together with 15 other regional transport authorities the province provides the quality of the public transportation in Gelderland (Interview 12, 2025). Vision documents and ambitions ensure that everyone is working and developing towards the same direction. In the province, there is progress in creating a vision document including the potential BRT lines in Gelderland. In order to develop a plan further, it will first have to receive board approval. The deputy states and provincial states make this decision and decide whether the plan will receive financial resources from the state. There is a decision made by the states for the ambition plan for potential HOV lines in Gelderland, however this can take a lot of time and can create uncertainty for the stakeholders.

Municipality of Nijmegen

The municipality does engage in citizen participation using, for example, a participation cargo bike. This cargo bike rides around Nijmegen, to ask what residents really need when there is focused on public transport in the city (Public transportation policy consultant, interview 13, personal communication, 2025). There is currently no concrete plan for a BRT line, so the municipality is not working on that yet.

The vision documents for public transport are perceived by the province as a goal to work towards, however for the municipality this can be received as abstract. The municipality has the task to more locally involve residents in certain plans, this can be difficult with the abstract vision documents. It is therefore challenging for citizens to respond with a concrete opinion about the documents. Only when implementation plans or specific guidelines for BRT are developed that citizens find it easier to form opinions and share their knowledge and experiences. This also gives reason for citizen involvement in a later stage of the process, currently in Gelderland the plans are too abstract to involve residents.

ROCOV Gelderland

The ROCOV Gelderland is a travellers' interest organization representing 15 different interest associations. These associations represent all types of travellers, from people with disabilities to students to the elderly. The province uses this stakeholder for advice. In addition, the province is required to seek the advice of ROCOV. ROCOV therefore has the right to advice which means that the advice given to the province must be listened to (Interview 2, 2025; Interview 12, 2025). Despite the fact that ROCOV may give advice, it is often slightly different at this stage. "*They like to listen in this phase and give ideas and tips, but they also want to have their hands free. Because if the Provincial States later adopt this, then they can officially have their say*" (Interview 12, 2025).

5.3.3. Rules-in-use

The decision to fund the potential BRT lines in Gelderland is fundamental for the development of this project. This can be seen as an aggregation rule and is made by the Deputy states and the Provincial states.

Position and boundary rules are particularly important during the initial stage of the implementation process. For example, ROCOV Gelderland needs to be careful when to provide advice and when it is more appropriate to refrain, especially during administrative consultations. Besides, at this stage the citizens do not have a specific role.

The vision documents used by the province and municipalities can be classified as both information and choice rules. The information can be accessed by all key stakeholders and it influences the actions of different stakeholders. It guides the stakeholders toward a shared future direction for BRT development.

5.3.4. Power-interest matrix

The power-interest matrix is developed using insights gathered from interviews with experts and can be seen in Figure 14. Since the BRT project of Gelderland is still in the early stages of development, the level of interest among potential users is currently lower than in the case of Noord-Brabant, where the project is further developed. As projects progress and become more concrete, the level of interest of potential users most of the time increases. The province and municipalities are in collaboration with each other to develop the ambition plan, so they need to be managed closely. The ROCOV Gelderland has a high interest for the project, however the level of power is rather low in comparison with other stakeholders.

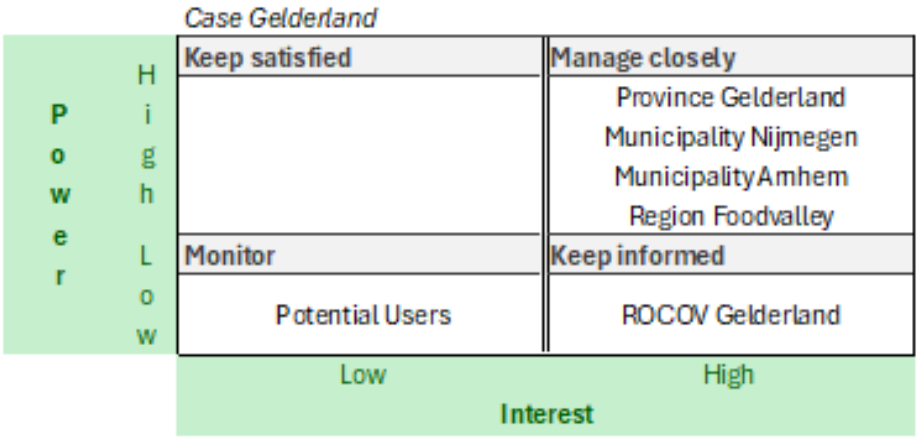

Figure 14: Power-interest matrix Gelderland (own image)

6. Analysis

With the use of the results from this research, the research question and sub questions can be answered. The Institutional Analysis Development framework and the power-interest matrix have supported answering the questions.

6.1. Stakeholders and relationships

What are the stakeholders involved in the implementation of BRT in these cases, and what are the relationships between them?

In all three cases studied (Noord-Brabant, Utrecht and Gelderland), the implementation of Bus Rapid Transit involves a complex network of stakeholders, each with different roles and interests. To identify the stakeholders and their relationships in each case the IAD framework, desk research and interviews were used. Since, there is no specific policy or guideline for implementing a BRT system in the Netherlands most of the stakeholders were found out using the semi-structured interviews with experts.

The action arena in this thesis is defined as the implementation process of the BRT system in the Netherlands. It can be seen as the social space where stakeholders interact (Ostrom, 2011). Therefore, an overview of key stakeholders is given in Table 1. The left part of the action arena is used to describe the stakeholders, their positions and their corresponding actions. In the table the general (left part of the) action arena is described using the Action Agenda (Rijksoverheid, 2024a). The left part of the action arenas of Noord-Brabant, Utrecht and Gelderland are described using the semi-structured interviews and documents received through personal communication which are listed in the appendix. The table includes the main similarities and differences between the roles of the stakeholders.

Stakeholder	General	Noord-Brabant	Utrecht	Gelderland
Ministry of Infrastructure and Water Management	Allocation of financial resources and knowledge sharing	Allocation of financial resources	Allocation of financial resources, provide knowledge and review policy	Potential allocation of financial resources
Rijkswaterstaat	Managing and maintenance of the main road network	Put into practice the guideline of bus on emergency lane	Manage main road network	Not yet involved
Province	Responsible for regional public transport and public transport concessions	Mediator role together with MRE and responsible for regional public transport and concessions	Leading role in project and responsible for regional public transport and concessions	Responsible for regional public transport and development of ambition documents for BRT
Municipality	Management and maintenance of municipal roads and provide citizen participation sessions	Provide citizen participation sessions about design elements of BRT line	Municipal road authority	Make vision documents more concrete to provide citizen participation
Bus carrier companies	Expertise on transportation data and providers of buses	Expertise and potential concession holder	Consultant	Consultant
Citizens	Can participate and share opinion on concrete BRT plans	Attend participation sessions and share opinion through online surveys	May submit ‘zienswijze’	Indirectly included through city council and traveller’s representatives

Table 1: Overview of stakeholders, positions and actions (own work)

In general, the province is responsible for the regional public transport, so takes the leading role in BRT projects. In Noord-Brabant, an additional stakeholder helping the coordination of the project is Metropoolregio Eindhoven (MRE). The relationship between different government bodies is fine and everyone acts in their own interests. Bus carrier companies, the Ministry of Infrastructure and Water Management and travellers interest organizations are often used for data, knowledge and expertise. Rijkswaterstaat plays a crucial role in the cases of Noord-Brabant and Utrecht, however this perception is not always shared with each stakeholder. BRT is a rather new concept, which for some organizations such as Rijkswaterstaat requires a different focus and structure than what is currently established in the organization. This can also be indicated by the limited amount of policy on this specific subject. However, restructuring and reorganizing takes time, and Rijkswaterstaat still needs to obey their laws of bus on emergency lane.

Early involvement of local communities can speed up the process (Martinez-Avila & Olander, 2024), yet in the beginning stages of the implementation, citizens are often indirectly involved in the process through City Council or traveller's representatives. However, when concrete plans are developed such as in the case of Noord-Brabant, there is more direct discussion with the residents. This aligns with the paper of Stewart (2017). There is stated that the best method to involve residents is when the direct benefits can be showed, this is easier for locals to understand. It makes the project more logical, and therefore in practice this is mostly done in the last phases of the implementation. In these phases, there are concrete plans and design elements where municipalities can show the direct benefits to citizens and ask for their opinion.

Stakeholders in this thesis are described as those who will directly be affected the decision (Pereira et al., 2018). Hence, each case has different key stakeholders. The key stakeholders involved in the process of Noord-Brabant are Ministry of Infrastructure and Water Management, Rijkswaterstaat, Province of Noord-Brabant, Metropoolregio Eindhoven, Municipality Eindhoven and surrounding municipalities, Arriva, Hermes, Brainport Campus and citizens. The key stakeholders involved in the process of Utrecht are Ministry of Infrastructure and Water Management, Rijkswaterstaat, Province of Utrecht, Municipality Amersfoort, Municipality Utrecht, Region Amersfoort, Utrecht Science Park and potential users. The key stakeholders involved in the process of Gelderland are Province Gelderland, Municipality Nijmegen and surrounding municipalities, ROCOV Gelderland and citizens.

6.2. Participation process and rules-in-use

What kind of participation processes and rules are used to involve stakeholders in the implementation process?

Boundary rules

In each BRT implementation process boundary rules determine which kind of stakeholders are involved and assesses whether they can enter freely (Theesfeld et al., 2017). Each government authority is responsible for a different type of road which can indicate the involvement of different stakeholders. The state, including the Ministry of Infrastructure and Water Management and Rijkswaterstaat, is responsible for managing

the main road system. This system includes the highways in the Netherlands. The province is responsible for the regional public transport and the issuing of public transport concessions. Besides, the province is responsible for the regional roads. The bus carrier company that owns the concession is also involved in the process. The municipalities are responsible for local roads. Since a BRT system often crosses multiple municipalities, the overarching organisation of municipalities is also included, when this organization exists in the province. This applies for Noord-Brabant, but not to Utrecht and Gelderland. For each BRT project, the roads that will be affected are examined and in this way it is determined which stakeholders will be involved and can enter the implementation process. BRT projects are often included in the MIRT system. The MIRT system describes in each phase what kind of citizen participation process is expected and when citizens will be directly and indirectly involved (Ministerie van Infrastructuur en Milieu, 2016). Most of the time the citizen participation comes at a later stage in the process. So, the boundary rule has a significant effect on the stakeholders in the action arena, it also structures this part of the action arena (Montes et al., 2022).

Position rules

The role each stakeholder has, is primarily determined by their responsibilities. In the three cases studied in this thesis the province takes a leading role, largely due to its central role in organizing regional public transport. Every stakeholder influenced by the possible implementation of the BRT system will have a role in the process. During the process, an attempt is made to balance all the factors. This requires an extensive amount of data from stakeholders in the surrounding environment. So with that, consulting parties such as bus companies and businesses on campuses are a useful factor to include in this process. However, due to the limited policy available for BRT in the Netherlands, there are no definitive roles for each stakeholder. This results in each stakeholder operating in alignment with their own interest. As Ostrom (2011) notes that rules have potential to steer towards desirable outcomes, yet in the position rules, this is currently not very clear. This uncertainty in positions can slow down the implementation process. On the other hand, the flexibility of positions can also be an advantage and allow for individual interpretation of roles per specific case. In Noord-Brabant, there is at times a perceived lack of directing role. Whereas in Utrecht, the province has appointed a dedicated project manager to take a leading role in guiding the process.

Choice rules

The choice rules influence the actions of the implementation process. The most important regulations and guidelines are the ‘Bus on emergency lane’, ‘Wet personenvervoer 2000’, Action agenda BRT and the ‘zienswijze’. Especially the bus on the emergency lane is an important choice rule. To be able to define a bus line as BRT, the bus must be able to move quickly down the highway and past traffic jams. So the highway must be set up specifically for this purpose, and there must be agreement with Rijkswaterstaat to meet this standard. For example, when looking at the Noord-Brabant case, the bus line goes along the highway. If this highway does not meet the requirements of the choice rule, bus on emergency lane, then a modification to the infrastructure would be necessary. If Rijkswaterstaat had not committed to do this, thus respecting bus on emergency lane, then the actions of other stakeholders during this process would be

limited. The 'Wet personenvervoer 2000' defines the role of each stakeholder, which can also influence their actions. The Action Agenda BRT can be seen as an initial guideline for Bus Rapid Transit that can help with the implementation process. The MIRT is also a guideline, however it is a general framework for transportation projects and not specifically tailored to BRT. Nevertheless, it is still used as a primary guideline in the implementation process across the cases. Besides, a specific guideline is being developed by the Ministry of Infrastructure and Water Management. A 'zienswijze' is an action for citizens to influence various administrative decisions. Generally, choice rules give strict boundaries to what a stakeholder can and cannot do, as most of them are laid down in Dutch law.

Information rules

Information rules determine how much information each stakeholder has access to and how it is distributed (Ostrom, 2011; Theesfeld et al., 2017). The distribution of information between stakeholders is mostly transparent. Most of the stakeholders are decentralized governments, therefore the information is shared with everyone and no one is withholding information. However, there is extra care taken when there is a tender for a concession for a bus carrier company. This means that the province grants the rights to facilitate this BRT line as a bus company. several bus companies can bid for these rights through a plan, and the province will make an informed choice. When the time comes that new concession is being divided the amount of information needs to stay the same between all companies, which sometimes leads to less information in general shared with the carrier companies. Also, when citizen participation events are organized not all information is shared. This is because often the municipality, wants to convey a clear message to residents and this does not require all the detailed information available about the BRT. Information is not intentionally withheld from citizens.

Aggregation rules

Aggregation rules are also measured by looking at the final contribution of stakeholders to decision-making (Theesfeld et al., 2017). The cases studied are still in progress, which indicates that final results are not yet available. However, the power of a stakeholders can also be understood in terms of aggregation rules. This is also an overlap with the power aspect of the power-interest matrix, described in the next paragraph. The analysis revealed that no clearly defined power relationships exist between stakeholders. With the province as the initiator, together with other key stakeholders they are trying to come up with a well-considered plan. The key power aspect that does influence the process are the administrative consultations, held twice a year. In these administrative consultations (BO MIRT) there is decided whether the BRT plan can go ahead and receive more funding, or whether it can no longer receive financial resources. So, within the implementation process, each stakeholder has its role and influence. Ultimately, there will be an administrative decision as to whether the plan may proceed.

6.3. Power and interest

To what extent do stakeholders possess the power and interest to participate in the implementation process?

As can be seen in the power-interest matrices developed for each case, the province most often takes a leading role in the BRT implementation process. This leadership role aligns with its formal responsibilities as defined by national laws. These laws grant provinces, the authority to oversee and develop regional public transport. The position in the matrix in terms of interest can partly be defined by their roles and responsibilities defined by legal frameworks, such as the 'Wet personenvervoer 2000'. The theoretical framework of Mendelow (1981) helped explain the relationships between key stakeholders within the cases Noord-Brabant, Utrecht and Gelderland.

As interest is defined in this thesis as the potential and direct impact of the BRT implementation on the stakeholder, most of the stakeholders involved have a high level of interest (Guðlaugsson et al., 2020). The BRT projects reach certain areas, and in the cases all stakeholders affected by this (potential) line will be involved in the process. In collaboration, stakeholders seek the best trade-off to implement an efficient and effective BRT line, that is socially desirable. Citizens are mostly involved in a later stage of the process and have in the beginning phase a low level of interest.

Power is defined as the amount of influence a stakeholder has on the decision-making. This definition is almost the same as the aggregation rule. As can be seen in the conceptual model, aggregation rules have influence on the power of the stakeholder in the action arena. So, both aggregation rules as well as the level of power in the matrix are used to measure the power variable in the conceptual model. When looking at the cases there is not a definitive power role, this can partly be explained by the amount of decentralized governments authorities involved. They all work together with the same goal, what is best for the society, there is no government body more powerful than the other as stated before. These infrastructure plans are mostly done by governments, and companies in the surrounding environment are used for knowledge and data. However, the BO MIRT is an aggregation rule that does influence power as stated before.

6.4. Overall analysis

Overall, the stakeholders involved in the cases Noord-Brabant, Utrecht and Gelderland tend to focus on their own interest and act accordingly. Some organizations aim to implement changes more quickly than others can accommodate such as the bus on emergency lane. In the cases, there are often indications that the province wants to move faster than the national government is able to manage. This requires finding balance in these situations between stakeholders.

The lack of policy can be seen as a disadvantage, as it can lead to lack of alignment among key stakeholders. Without shared understanding of roles and timelines within the process, it can become more challenging and may hinder effective implementation. However, this can also be seen as an advantage. A lot of information is shared, often with the help of DOVA. This way there can be learned from the experiences, trial and error from different cases. Such as the case of the HOV4 line in Noord-Brabant, which is nearing its final phase and can serve as a model for other BRT systems, such as in Gelderland.

Financial decisions and administrative consultations (BO MIRT), defined as aggregation rules in this thesis, can take a long time, which creates uncertainty about the actualization of plans. Since the Bus Rapid Transit is also viewed as a social objective, and because in the Netherlands all decisions are carefully weighed, a step-by-step plan for implementation is followed through the MIRT (Multi-Year Program for Infrastructure, Spatial Planning and Transport). The start of the process requires extensive research and data collection. At the end of the process the focus shifts towards citizen participation and concession granting (Ministerie van Infrastructuur en Milieu, 2016).

The action arena is assessed by evaluating the value that stakeholders assign to actions within the situation. This is done with the use of the power-interest matrix. Additionally, the resources that stakeholders can bring to the implementation process are considered (Ostrom, 2011). This identification of resources from stakeholders is typically carried out by the province. The province often initiates a BRT project and evaluates all potential stakeholders to see which are required to involve into the process. So based on the identification of which key stakeholders are required the structure and content of the action arena can be determined. Some aspects of the action arena are more clear, such as stakeholders, actions, information and power. Other variables of the arena are less thoroughly defined such as the positions. Currently the positions of the stakeholders are still taking shape, however this is expected to become clearer over time as experience is gained and more policy is developed for BRT in the Netherlands.

The rules-in-use in the BRT cases structured the action situation. It influences what kind of stakeholders were involved, their actions and the amount of information shared and distributed. As said in the theory of the IAD framework the rules-in-use are an exogenous factor which play a crucial role in determining the action arena (Ostrom, 2011). This can also be put in practice as seen in the research. All rules influence the action arena. Especially the boundary rules where is decided which stakeholders should be involved and the choice rules where the actions of stakeholders are decided and sometimes prohibited. Position rules could be more defined however the question is if that makes the process more efficient. The power-interest matrix helps to define these rules more thoroughly, especially the information and aggregation rules.

From the conceptual model there can be concluded that each type of rule influences the action arena of the implementation process. This means that when implementing a BRT system, the rules-in-use should be considered. The IAD framework and the power-interest matrix are helpful tools to show what can be learned from the stakeholder participation processes in the planning of BRT in Noord-Brabant, Utrecht and Gelderland.

7. Conclusion, discussion and limitations

7.1. Conclusion

What can be learned from stakeholder participation processes in the planning and implementation of Bus Rapid Transit (BRT) systems in Noord-Brabant, Utrecht and Gelderland?

The case studies conducted in this thesis, explored the role of stakeholders and how the collaboration was structured with the essence to explain the set of stakeholders (Yin & Campbell, 2018). The qualitative research approach provided a comprehensive understanding and seek to deeply understand the BRT systems (Tomaszewski et al., 2020). Furthermore, the coding process and scheme supported the analysis of the data (Fife & Gossner, 2024).

With the use of the Institutional Analysis and Development framework (Ostrom, 2011) and the power-interest matrix (Mendelow, 1981) the conceptual model was developed. The model was a useful tool to create an overview of the three cases by focusing on the action arena specific to each case. Even though these different action arenas were created, during the analysis it became clear that the cases share many similarities. In all three cases it became clear that the involvement of stakeholders, really depend on the environment of the potential BRT line. The province ensures that all stakeholders involved can influence the process. As a decentralized government, it strives to weigh all option by using as much data as possible. This data ranges from transport flow numbers to developments in nearby businesses.

Although the phases of each case differ, Noord-Brabant being in the plan development and realization phase, Utrecht in the study phase, and Gelderland in the beginning phase of the potential implementation, the challenges are comparable. This is further explained with the use of the exogenous factor rules-in-use. It showed that all three cases are affected by the five different type of rules.

Boundary rules are clearly defined in each case and showed clearly which stakeholders should be involved in the process. Each government authority is responsible for a different type of road, which clarifies their responsibilities. Position rules are not as well-defined as other rules. This can be explained by the fact that BRT is a relatively new concept in the Netherlands resulting in a lack of specific policy written about it. This leads to confusion regarding position rules and sometimes creates uncertainty during the BRT implementation process. The most important choice rules influencing stakeholder actions are consistent across all three cases, as they are shaped by national legal frameworks. The most important are the bus on emergency lane (Rijkswaterstaat, 2015) and the ‘Wet personenvervoer 2000’ (Rijksoverheid, 2024c). The information available to a BRT project is generally shared fairly with each stakeholder involved in the process and can be identified as an information rule. However, due to the large number of stakeholders involved, the relevant information may not reach the right stakeholder. Besides, public transport concessions influence the information distributed between bus carrier companies and the province. Administrative consultations are the most important

aggregation rules, influencing the power distribution among key stakeholders. Using the power-interest matrix, these roles were further analysed, leading to the conclusion that there is generally an equal relationship between stakeholders involved. However, at the beginning phases of the process, citizens have less direct influence. This can be explained by the importance of timing in citizen participation. In the early stages of a BRT development, the project can often appear too abstract. For this reason, governments can communicate more effectively with residents once more concrete plans are in place.

In conclusion, the BRT implementation is a complex process, highlighting the need for greater structure in stakeholder participation and clearer definitions of when and how different key stakeholders should be involved. The IAD framework and power-interest matrix proved useful in this case study, showing that the rules-in-use have a significant impact on the action arenas of the cases in Noord-Brabant, Utrecht and Gelderland.

7.2. Discussion

This thesis contributes to the current existing literature because it shows how the Institutional Analysis and Development framework (Ostrom, 2011) can be applied to the stakeholder participation processes in the Netherlands and what kind of effect the rules-in-use have on these processes. With the use of this framework and the help of the power-interest matrix the key stakeholders and their actions are defined. Besides, it shows what kind of relationships the stakeholders have and how they interact. This aligns with the literature review and shows the increase in the participants' knowledge and understanding of the BRT process (Stewart, 2017; White & Langenheim, 2021). Furthermore, gaining more insights leads to more available information, which contributes to a better understanding of the problem. The results show that stakeholder participation facilitate the decline of the complexity of the problem (Guise et al., 2024; Theesfeld et al., 2017). Additionally, this thesis showed how stakeholders act in the action arena which is important to acknowledge and improve cause they are the fundament of the whole process. Without a well-functioning collaboration, there were no existing BRT systems in the Netherlands.

7.2.1. Reliability and validity

The reliability can be measured by checking interview transcripts to make sure the results are consistent with each other (Burnard, 2024). Across all three cases the same interview guide was used during interviews, this showed consistent and accurate results. Construct validity can be achieved by using multiple sources of data which is done in this research by using semi-structured interviews and desk research. These different data collection methods are used to verify interpretations. Besides what supports the construct validity is the consistent appliance of the IAD framework and the power-interest matrix on the three cases. Also the process of identifying rules is based on theoretical definitions established beforehand which indicates a good construct validity. This is because with these definitions each construct is measured in a way that aligns with the operationalization of the concepts. The internal and external validity is measured with a cross-case comparison (van Thiel, 2014; Yin & Campbell, 2018). Because of the use of the conceptual model based on IAD framework, it created a controlled cross-case

comparison which increases the internal validity. The external validity of this research is hard to measure. The results of the specific cases are only applicable on these specific cases. This means that the conclusion is not fully generalizable for the Netherlands and it is hard to apply findings to other cases. However, when keeping in mind the results are only valid for each case, stakeholders can learn from the cases. The general step-by-step plan used for BRT projects is the same throughout the Netherlands and is called MIRT. The cases follow it reasonably well, noting that they are in different phases of this plan. Some results are similar such as responsibilities of each stakeholder however this still does not indicate the generalizability of the results for other cases as each case is slightly different from one another.

7.2.2. Limitations and recommendations for future research

Research is never without any limitations. First of all, there are limitations in terms of methodology. The interviews were held in Dutch, but quotes used in this research were translated to English. However, this could have resulted in certain statements that got lost in translation. Besides, the number of respondents is 13 which is on the low side. There could always be more respondents found. Opinions expressed by the experts are always subjective and can give a perspective of the BRT system. However, conducting more interviews could provide more insights and perspectives, which could give a better overview of all stakeholders involved. An improvement for future research could be to interview more stakeholders and also more different type of stakeholders. This research is more focused on institutional stakeholders, but travellers interest organizations and other representatives could be included in future research.

The participation ladders of Hurlbert & Gupta (2015) and Arnstein (2019) are not used in the research, due to a lack of time and the focus on institutional stakeholders. However, future research could benefit from the application of this framework to assess the quality of citizen participation.

The conceptual model based on the IAD framework shows a simplistic view of a BRT system, in reality there are more factors to consider when developing a Bus Rapid Transit system. The system's biggest competitor is the private car. Therefore the before and after transport must also be taken into account. This includes shared mobility, mobility hubs and integrating the system into the already existing public transport system. In addition, future research could include more factors which were already identified during the coding process of this thesis. These are incorporated in the coding scheme which can be found in the appendix. The three most important factors that occasionally overlap with the factors examined in this thesis are: politics, financial resources, and the duration of the process.

The aggregation rule BO MIRT has influenced the actions of the stakeholders. The choices made by these government institutions are partly based on the political focus of the Netherlands at the time. Firstly, such an administrative decision can take quite a long time. Politicians are allowed to make these decisions at any time, which also allow them to postpone the decision-making. This can lead to uncertainty in the province and can also lead to tensions between regions and municipalities (Interview 12, 2025). Another

challenge that can pose in the politics is the fact that every four years the political cycle in the Netherlands changes. The administrators approving plans, have a political background that can influence them. The implementation process can take longer than four years, which can lead to different outcomes of decisions during the process (Interview 5, 2025). Therefore, for future research it could be helpful to include politics as an exogenous factor affecting the action arena.

Financial resources are indirectly included in this thesis by looking at the power of stakeholders and what kind of actions they are allowed to take. However for future research it could be helpful to research the direct effect of financial resources on the implementation process. Given that the allocation of financial resources is crucial for BRT projects, it really can determine whether a project can be developed further or must be discontinued. The Ministry of Infrastructure and Water Management and Province Council that allocate this money, have a lot of power. Besides for BRT projects, tax money is used which can explain the weighed in options of every possibility to spend the money as efficiently as possible. Another argument to include financial resources as a variable is about the fines the province sometimes hands out to bus carrier companies when there is not met with the requirements asked in the concession agreement (Interview 7, 2025). This factor could be explored further to assess its direct effect on the action arena and potentially on the power relationships between key stakeholders.

The last factor that could be more focused on in future research is the duration of the process, which can also be linked to financial resources. In the Netherlands, there is a culture about weighing every possible option repeatedly. Sometimes, it is necessary to move past this and accept that some plans are unlikely to succeed, in order to speed up the process (Interview 2, 2025). With clearer policies and defined rules, it could be easier to move to the next step (Interview 5, 2025). This could make the process more time-efficient, however thoroughly weighing all options may lead to the best possible solution within regulations. Besides, administrative decisions always take time, staying within regulations can fasten this decision. These aspects of the duration of the process could be an interesting focus for future research.

7.2.3. Recommendations for praxis

The perception of stakeholders roles often differed among actors. For example, the role of Rijkswaterstaat, is perceived as a small role. Rijkswaterstaat only focuses on the guideline ‘bus on the emergency lane’. Yet in practice, the role of Rijkswaterstaat is crucial. When the bus is not allowed on the highway, the whole BRT project could be halted. This highlights the need for Rijkswaterstaat to broaden its focus beyond car traffic and place more emphasis on bus transportation infrastructure. The researched BRT cases have already made steps in regards of this goal. A similar situation applies for the Ministry of Infrastructure and Water Management. The Ministry see its role as small and primarily focused on providing knowledge and expertise. But the decisions about the financial resources that are made administratively have a crucial role in the implementation process of BRT. These decisions are made by government bodies from the Ministry or the province. In addition, the role of residents is often overlooked or

underestimated in early stages of the implementation process. There are various reasons for this, but the main reason is that the plans are often not yet concrete enough to convey a clear message. This suggests that, in practice, the roles of such stakeholders could be further clarified and developed. As already mentioned, the Ministry is currently in the development of policy describing these roles. However, the role of residents is not included in this policy. A recommendation for practice is to clearly define the role of residents during the implementation process. It is important to make it understandable when and why residents are involved in certain phases of the process. This can help manage expectations and improve information transparency.

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Appendix

Interview guide

Dutch version

Introductie
Allereerst wil ik u bedanken voor uw deelname aan dit interview. Voordat we beginnen, wil ik mezelf graag voorstellen en wat informatie geven over het interview. Mijn naam is Janna Al, ik ben 22 jaar oud en ik ben masterstudent Spatial Planning aan de Radboud Universiteit in Nijmegen. Ik ben op dit moment mijn scriptie aan het schrijven en doe onderzoek naar de participatie processen tijdens het implementeren van het HOV systeem. Ik probeer dus antwoord te vinden op de vraag wat we kunnen leren van participatie in het HOV systeem van *Noord-Brabant/Gelderland/Utrecht*.

Doel van het onderzoek en interview
Het doel is om meer informatie te vergaren over de participatie processen in het HOV systeem wat is geïmplementeerd in de provincie. Hoe hebben stakeholders invloed op de implementatie van het systeem.

Anonimiteit en vertrouwelijkheid
Van tevoren, gedurende en na het interview, zal uw anonimiteit gewaarborgd blijven. Uw persoonlijke data zal niet benoemd worden in de scriptie tenzij daar toestemming voor is gevraagd. De informatie zal alleen gebruikt worden in deze scriptie. En mocht u geïnteresseerd zijn in de resultaten van deze scriptie kan ik het altijd achteraf nog naar u mailen.

U mag me altijd onderbreken gedurende het interview voor vragen of verduidelijking. Mag ik het interview opnemen? Heeft u nog vragen voordat we beginnen?

1. **Zou u zichzelf willen voorstellen? Hoe heet het bedrijf waarvoor u werkt en wat is uw functie in het bedrijf?**
2. **Kunt u omschrijven op wat voor manier u betrokken bent/wordt bij de implementatie (proces van implementeren) van HOV?** Welke rol heeft u in het systeem?
3. **Welke partijen zijn betrokken geweest bij het proces van implementatie van HOV en op welke manier?** Waarom deze partijen wel en andere partijen niet?
4. **Kan je de relatie tot andere stakeholders omschrijven? Hoe is de samenwerking met deze partijen?**
5. **In hoeverre ziet u dat partijen hobbels ervaren om te delen wat ze vinden? En hoe gaat u hier mee om, heeft u hier zelf last van?**
6. **Hoe wordt participatie** *(hiermee wordt bedoeld hoe andere partijen worden meegenomen in het proces, denk aan gemeente, busbedrijven, inwoners)* **meegenomen bij het implementeren van het HOV systeem, hoe worden inwoners meegenomen in het proces** en waarom pas op dit tijdstip**?**
7. **Heeft u voorbeelden wat voor soort participatie er heeft plaatsgevonden?**

8. **Wordt u beperkt door bepaalde regels of normen, bij het deelnemen/uitvoeren van participatie proces?**
9. Heeft u toegang tot alle informatie die er beschikbaar is? **Hoe wordt er afgebakend welke informatie wel of niet wordt gedeeld?**
10. **Wat heeft u uiteindelijk bijgedragen aan het project, hoeveel invloed heeft u op het project gehad** (hypothetisch gezien)**?**
11. **Wat vindt u van de participatieprocessen?**
12. **Wat voor resultaten hebben de participatieprocessen opgeleverd en zou u hier dingen aan veranderen?**

13. Wie denkt u dat nog handig is om hierover te interviewen en waarom?
    Mocht u nog extra geschreven informatie hebben, zou dat helpen voor mijn onderzoek. En enorm bedankt!

English version

Introduction
First of all, I would like to thank you for participating in this interview. Before we start, I would like to introduce myself and give some information about the interview. My name is Janna Al, I am 22 years old and I am a master student in Spatial Planning at Radboud University in Nijmegen. I am currently writing my thesis and doing research on the participation processes during the implementation of the HOV system. So I am trying to answer the question what we can learn from participation in the HOV system of North Brabant/Gelderland/Utrecht.

Purpose of research and interview
The purpose is to gather more information about the participation processes in the HOV system that has been implemented in the province. How do stakeholders influence the implementation of the system.

Anonymity and confidentiality
Before, during and after the interview, your anonymity will be preserved. Your personal data will not be named in the thesis unless permission is requested. The information will only be used in this thesis. And should you be interested in the results of this thesis, I can always email it to you afterwards.

You may always interrupt me during the interview for questions or clarification.
May I record the interview? Do you have any questions before we begin?

1. **Would you like to introduce yourself? What is the name of the company you work for and what is your position in the company?**
2. **Can you describe in what way you are/will be involved in the implementation (process of implementation) of HOV?** What role do you have in the system?
3. **Which stakeholders have been involved in the process of implementing HOV and in what way?** Why these stakeholders and not others?

4. **Can you describe the relationship to other stakeholders? How is the collaboration with these parties?**
5. **To what extent do you see parties experiencing bumps in sharing what they think? And how do you deal with this, does this bother you?**
6. **How is participation** (meaning how other parties are included in the process, think municipality, bus companies, residents) **included in the implementation of the HOV system, how are residents included in the process** and why only at this time?
7. **Do you have examples of what kind of participation has taken place?**
8. **Are you limited by certain rules or standards, when participating/executing participation process?**
9. Do you have access to all the information available? **How is it delineated what information is or is not shared?**
10. **What did you ultimately contribute to the project, how much influence did you have on the project** (hypothetically speaking)**?**
11. **What do you think of the participatory processes?**
12. **What results have the participatory processes produced and would you change things about them?**

13. Who else do you think would be useful to interview about this and why?
If you have any additional written information, it would be helpful for my research. And thank you very much!

Interviewees

	Number	Organization	Function	Name
Netherlands				
	1	Ministry of Infrastructure and Water Management	Policy officer public transport	-
	2	DOVA	Senior policy coordinator	Paul Eradus
	3	Rijkswaterstaat (South-Netherlands)	Traffic and transportation consultant	Naomi Heijnen
Noord-Brabant				
	4	Provincie Noord-Brabant	Regional public transportation project manager	Bart Winkel
	5	Metropoolregio Eindhoven	Program manager Brainport hubs	Floris Bakermans
	6	Municipality Eindhoven	Spatial development project manager	Jordy Zijlstra
	7	Hermes (Transdev)	Traffic and transport expert	Peter Kors
	8	Arriva	Transport consultant	Frank van Setten
Utrecht				
	9	Province Utrecht	Project manager BRT USP - Amersfoort	Ruben Visser
	10	Municipality Utrecht	Project manager Europalaan Noord	Mandy von Eckardstein
	11	Municipality Amersfoort	Strategic consultant mobility	Vincent Wever
Gelderland				
	12	Province Gelderland	Regional public transportation project manager	Bas Kippers
	13	Municipality Nijmegen	Public transportation policy consultant	Bas Bosman

Coding scheme

Variable	Indicator
Boundary rules	How can actors enter and leave
Position rules	Which role does an actor have in the system
Choice rules	How do rules and norms limit you
Information rules	How is information distributed, and does the stakeholder have access to all information
Aggegration rules	Who takes the final decision, what is the eventual influence of the stakeholder on the process
Stakeholders	Involved groups
Positions	What position do stakeholders have in the participation process
Actions	Examples of participation
Information	Information distribution
Control	Influence on the system
Interactions	Relationships and collaboration between actors participating

Coding scheme:

- Action Arena
    - Stakeholders
        - Decentralized government
        - Transport companies
        - Public representatives
        - Citizen participation
        - Other stakeholders
    - Positions
    - Actions
    - Information
    - Control
    - Interactions
- BRT Netherlands
    - BRT Noord-Brabant
    - BRT Utrecht
    - BRT Gelderland
- Collaboration process
    - Process Netherlands
    - Process Noord-Brabant
    - Process Utrecht
    - Process Gelderland
- Power-Interest Matrix
    - Power
    - Interest

- Rules-in-use
    - Aggregation rules
    - Boundary rules
    - Choice rules
        - BO MIRT
        - Concession
        - Frameworks and guidelines
        - Plans and visions
        - Restrictions
        - Wet personenvervoer
    - Information rules
    - Position rules
- External influence
    - Time
    - Financial resources
    - Politics
    - Documents
    - Other countries
- Improvements

List of documents

Document	Received from
Actieagenda BRT	Rijksoverheid (2024a)
MIRT	Ministerie van Infrastructuur en Milieu (2016)
Stakeholder analysis USP – Amersfoort	Ruben Visser (project manager, personal communication, 2025)
BRT Amersfoort – Utrecht Science Park	Vincent Wever (strategic consultant mobility, personal communication, 2025)
BRT Meierij	Provincie Noord-Brabant & Arriva Nederland (2023)
HOV network in the region Zuidoost-Brabant	AGV-Movares (2009)