Integrated corridor management

An analysis of multi-level governance and policy integration

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Preface

Sitting here at my home desk, it suddenly struck me: my university time is finished. How did that even happen? It feels like yesterday that I nervously walked into this big building on the first day of my bachelor human geography and spatial planning. After countless hours, stress, excitement and experiences the time has now come to hand in this thesis for the master spatial planning. I absolutely loved university and I appreciate all the wonderful people that I have met and all the knowledge that I have gained. I have grown as a person and became more confident, critical and open, all of which I will take with me as I move into another phase of life.

Writing this thesis would have been impossible without the help and support of several people. First and foremost, thanks to my parents and my brother who helped me where they could, listened to my writing struggles even though they had no idea what I was talking about and never stopped believing in my ability to finish this master. Next, I would like to thank my friends for all the much-needed distractions and laughter during the past months. Receiving a random text asking how I was doing with my thesis means more than you think.

Of course, I would also like to thank Patrick for his feedback and help during this thesis. Thanks to your critical questions and helpful advice I could take this thesis to the next level. I am also thankful for the people that helped me during my internship at the province of Overijssel. Kim, Nathalie and Janet, thank you for making my internship really fun and for all the opportunities that you gave me. Finally, I appreciate the time that all respondents made available for the interviews and the interesting conversations that we had.

Enjoy reading!

Simone Compagner
Staphorst, 08-07-2022

Summary

Over the past decades, it has been increasingly acknowledged that regional transport corridors are projects that need a special approach because of their multi-actor, multi-level and multi-dimensional nature. This approach is called 'integrated corridor management' and consists of a 'governance' and a 'policy integration' component. However, it is still unclear what this approach entails and what its effects are. The research objective of this thesis was to understand to what extent an intention for integrated corridor management results in actual policy integration in documents and in cooperation between actors. The resulted in the following research question: To what extent can integrated corridor management lead to policy integration and multi-level governance in regional transport corridor projects?

To answer this question, this thesis used a combination of document analysis, semi-structured interviews and participatory observation. All of this was done while taking the corridor Zwolle-Twente-Münster as a main case study. It became clear that integrated corridor management leads to a great extent of multi-level governance since actors depend on each other to benefit from the corridor project themselves and are also willing to work together. However, there are still challenges to be overcome in this cooperation. At the same time, integration corridor management leads to a lesser extent of policy integration. Reasons were found in the dominance of the infrastructural and economical domain, in the reluctance of actors to include too many policy domains in the corridor project and in the natural focus of actors on their own jurisdiction.

The results can help governments to improve both their internal and external governance processes. They also provide advice for successful cross-border cooperation in corridor projects. Finally, they results show the importance of taking all policy domains into account from the start of the corridor project. It is recommended that further research provides even more insights in corridor governance structures by means of a top-down perspective on corridors. Furthermore, research is advised that compares multiple projects which use an integrated corridor approach. This will provide more insights into its process and can further consolidate the integrated corridor management approach.

You raise me up,

So I can stand on mountains.

You raise me up,

To walk on stormy seas.

I am strong, when I am on Your shoulders.

You raise me up,

To more than I can be.

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Chapter 1 – Introduction

The corridor Zwolle-Twente-Münster is 'important for students, companies and for the people who live and work in the border region' (RTV Oost, 2021). This is a quote from a newspaper article about the need for development of the corridor Zwolle-Twente-Münster (ZTM) and it becomes clear that this development is perceived to influence the economy and society in general. The province of Overijssel has also acknowledged the need for developing the corridor ZTM and its wide impacts and therefore wants to create an integrated vision by connecting corridor development to other policy domains like climate and housing. This is a challenge, because the province is used to work in a sectoral instead of an integrated way. Furthermore, there are many different actors and government levels in both Germany and the Netherlands involved in developing the corridor ZTM which further complicates the process.

The concept of the 'corridor' was introduced in the Dutch planning debate in 1993. At first, the concept seemed to be accepted by the Dutch government but in 1999 it was abandoned and replaced with 'urban network' (Priemus, 2001). However, as the news article illustrates, the concept of the corridor has not completely disappeared in The Netherlands. This is also the case at the European scale since policies and studies continue to focus on corridors (Witte, 2016). In this thesis, a corridor is defined as a bundle of infrastructure that enables 'the free and easy flow or transmission of people, goods or information' and has multi-dimensional impacts (Chapman et al., p. 190, 2003; Guasco, 2014; Witte & Spit, 2016). Something that becomes apparent from almost all literature on corridors and from the case is that corridors have both a multi-level and multi-dimensional nature (Chapman et al., 2003; Pain, 2011; Priemus & Zonneveld et al., 2003; Roberts et al., 2020). The integration of different policy domains and different geographical scales is thus important when working on corridors (Runhaar et al., 2014). Furthermore, it becomes clear that public, private and societal actors need to contribute to the development of these corridors (Öberg et al., 2016). Corridor development therefore also has a multi-actor dimension which entails that governance matters are also of importance (Öberg et al., 2018).

The case that is used in this thesis is the corridor Zwolle-Twente-Münster which consists of a road, railway and cycle lane. Regions like ZTM were long seen as peripheral zones because of their location close to national borders. However, when considering the ambition of a 'borderless' Europe, these areas might gain more importance (Romein et al., 2003). The corridor cuts through regional and national administrative borders and thus has a transnational nature. This resembles a mismatch with the traditional national planning of infrastructure which is reflected in the fact that travellers have to switch trains in the city of Enschede in the border region because the Dutch and German railway networks do not connect. This general lack of cross-border coordination regarding spatial developments presents a challenge since policy-making and planning for corridors must go beyond the traditional institutional borders (Peterlin, 2010).

1.1 – Research aim and research questions

Knowledge regarding corridors has often developed in a sectoral-based way (Witte & Spit, 2016). This is also the case at the level of the province which poses a problem when it wants to create an integrated vision because this involves a new way of working. In this light, this thesis is interested in 'integrated corridor management' which is a holistic approach that takes the multi-dimensional, multi-actor and multi-level factors of corridors into account (Witte, 2014). In this thesis it is argued that integrated corridor management consists of multi-level and multi-actor cooperation between and within (government) organisations and of integration of policy domains within (policy) documents. There is thus a governance component and a policy integration component. The research objective is to understand to what extent an intention for integrated corridor management results in actual policy

integration in documents and in cooperation between actors. Throughout this thesis the case of Zwolle-Twente-Münster is used as an example. The research question of this thesis is: **To what extent can integrated corridor management lead to policy integration and multi-level governance in regional transport corridor projects?** To answer this question the following sub questions are answered:

- What is the relation between integrated corridor management, governance and policy integration?
- To what extent does policy integration take place in policy documents regarding the corridor ZTM?
- How does multi-level governance take place in developing the corridor ZTM?
- To what extent is integrated corridor management used in the corridor ZTM?

The sub questions and the research question will be answered by means of qualitative research in which data is collected through scientific literature review, document analysis, semi-structured interviews and participatory observation.

1.2 - Societal relevance

The societal relevance of this thesis can first be found when looking at the governance process. Every municipality or province in the Netherlands is historically working in a sectoral way, with different departments for things like economy, climate and infrastructure. Many policies that are made at government levels therefore have a one-dimensional focus (Witte, 2016) With the new Environmental Planning Act (*Omgevingswet*) the integration of these sectoral policies becomes central. This involves a new way of working, also in the province of Overijssel (Gabry, 2015). Integrated corridor management also involves working in an integrated way because corridors have multi-dimensional impacts. By providing an overview of barriers and stimulators for integrating the sectoral policies, this thesis can be of use for all municipalities and provinces in the Netherlands that deal with corridor projects. Having an integral plan is also of strategic importance for them since this provides a stronger position when lobbying for money. The lessons that this thesis provides regarding integrated corridor management can be used in the rest of the country or abroad when developing corridors.

The multidimensional and multi-level nature of corridors provides for a second reason why this thesis is socially relevant. Since corridors cross administrative borders, cross-border collaboration is important. This is especially the case in corridors like ZTM since the border between countries is crossed. However, as Witte & Spit (2016) have shown, the academic debate in which the development of such European corridors is promoted contrasts with the practice of the isolated and local-based development of corridors. Collaboration across borders is made difficult by language barriers, different legal systems and technical differences. Guasco (2014) states that there is a need to look into this in more detail to allow for better infrastructure planning. By looking into how this collaboration takes place in the ZTM region, valuable insights are provided that are of relevance for every actor that deals with cross-border collaboration, even when this involves issues that are not related to corridors.

Finally, the social relevance of this thesis can be found in the themes that are addressed by integrated corridor management. This is because traditionally plans for corridors had an infrastructural focus and failed to address other themes (Rooney et al., 2010). This is problematic in a world where, for example, climate change is a pressing issue (IPCC, 2014). An integrated approach to corridors makes it possible to include themes like sustainability and nature conservation when developing or managing a corridor. This can be done by stimulating a 'modal shift' in which people are increasingly travelling by train instead of by car. This results in less carbon dioxide and nitrogen emissions and therefore makes the corridor more sustainable (Hupac, 2021). Integrated corridor management makes it possible to reach a situation in which every sector 'wins' and has realised its goals. Getting more insights into how this

situation can be reached is important for everyone in society. It is furthermore relevant to see which role spatial planning can play in corridor development and if planners can really reach the centre of the planning triangle of Campbell (1996) and thus deliver sustainable development that benefits the whole society.

1.3 - Scientific relevance

Much has been written about governance, collaborative planning and the integration of policies in spatial planning (e.g. Benz, 2007; Van der Heijden, 2014; Visseren-Hamakers, 2018; Wagemans et al., 2019; Wegener, 2012). However, this literature has not often been linked to transport. Literature about the type of corridor, regional and cross-border, that is studied in this thesis is also scarce. Often, a corridor is seen as infrastructure within a city and articles focus on things like transport-oriented development or light rail transit (e.g. Hale, 2010; Zimny-Schmitt & Goetz, 2020). Furthermore, the articles that do write about regional transport corridors are often about corridors that belong to the European TEN-T network which entails different rules and actor constellations compared to corridors that do not belong to this network, like ZTM (e.g. Fabbro & Mesolella, 2010; Öberg et al., 2018; Otsuka et al., 2017). Besides this, there is also little written about integrated corridor management, especially not regarding Dutch cases. One of the most recent works is from Witte (2016) but he does not really address governance arrangements in depth. Later work from, for example, Öberg et al. (2018) focuses more on governance of transport corridors, but hardly addresses policy integration.

Regarding literature about the governance of corridors, the most influential papers date back to a special issue on corridors published in the early 2000s (e.g. Chapman et al., 2003; Priemus & Zonneveld, 2003 & 2004). This literature is quite old and therefore its results might not apply to the current context. In the papers that address governance of corridors, the ZTM region is not mentioned. For example, Romein et al. (2003) have written about the Randstad-Flemish Diamond eurocorridor, Guasco (2014) about the Fehmarn belt and Öberg et al. (2018) wrote about the Baltic Sea region. This thesis adds to the existing literature by providing insights from a different geographical area, the ZTM region, which has its own ways of working, legislation and problems. This will show whether the findings of corridor research are context dependent or can be generalised across cases. Furthermore, Witte & Spit (2016) pose the question at the end of their paper what effects transnational corridor development has for multi-level governance structures and policy-making. This thesis aims to answer this question by focusing on both governance and policy of the transnational corridor Zwolle-Twente-Münster.

This thesis fills a gap in the literature because it provides a detailed description of what integrated corridor management entails, especially regarding the process. While the term is sometimes used in an infrastructural sense as a way to use technology for managing the movement of goods and people in traffic like Christie et al. (2015), most authors used it to refer to governance issues. Regmi & Hanaoka (2012), outline the need for governance and policy integration regarding corridors but do not outline what such ‘corridor based management will look like. Witte (2014 and 2016) also writes about integrated corridor management in this way, but it again does not become completely clear what the process of integrated corridor management should look like. This thesis combines literature regarding infrastructure, governance and policy integration to arrive at a thorough understanding of integrated corridor management.

‘Governance’ is a broad term and therefore it is helpful to state that this thesis will focus mostly on the different administrative levels that are involved in managing a corridor and the collaboration between these actors. This ‘process oriented’ focus will be combined with a focus on integration of policy domains in the written texts of (policy) documents. It can be concluded that this thesis provides an integrated perspective, focuses on a different geographical area than other literature and combines

work regarding policy integration and governance to provide a more detailed description of integrated corridor management. By doing this, the thesis adds to existing literature while also filling a gap in the scientific literature.

1.4 - Reading guide

After this introduction, this thesis proceeds with the theoretical framework in which the most important concepts are explained after which the conceptual model is introduced. Next, chapter 3 focuses on the research methods that were used in this thesis and discusses their validity and reliability. In this chapter the case study is explained as well. In chapter 4 the results from the interviews, document analysis and participatory observation are combined and structured according to the conceptual model. Finally, in chapter 5 the sub questions and the research question are answered and a discussion of the results takes place.

Chapter 2- Theoretical framework

This theoretical framework explores the concepts that are mentioned in the research question which are integrated corridor management, policy integration and multi-level governance. In this thesis it is assumed that integrated corridor management consists of two things which are policy integration and multi-level governance. This also explains the structure of this chapter. First, 'policy integration' is explained by connecting it to spatial planning and eventually to corridor projects. Next, the connection is made with 'governance' and it becomes clear why multi-level cooperation is important in large infrastructure projects. After this, the insights from these two parts will be combined and it will be explained what integrated corridor management entails. Finally, the insights from the theoretical framework are presented in a conceptual model that will be used throughout the rest of this thesis.

2.1. - Policy integration

This part explores the concept of policy integration. In this thesis 'policy integration' is defined as the integration of aims and concerns from multiple policy domains (Tosun & Lang, 2017). The section starts off with a general description of policy integration within spatial planning. After that, the focus is on regional transport corridors and it is explained why policy integration is important when developing corridors.

2.1.1. - Integration in spatial planning

The concept of 'integration' is seen by many authors as being central to spatial planning (e.g. Nadin, 2007; Van Straalen, 2012; Vigar, 2009). As the concept of integrated corridor management already suggests, integration is important in large projects with a spatial impact (Van Straalen, 2012). Before diving deeper into infrastructure, it is important to first explain what integration entails in spatial planning. Sectoral planning is the opposite of integrated or comprehensive planning and entails that actors focus on their sectoral goals without taking other levels or sectors into account. Examples of sectors are the climate, economic or cultural sector (Runhaar et al, 2014). The demand for policy integration is often the result of the inability of the sectoral approach to achieve the desired outcomes. Spatial planning is regarded as the place where such integration must take place since many issues have implications for space or are affected by space themselves (Van Assche & Djanibekov, 2012). Spatial visions are a means to align policy domains (Friedmann, 2004).

Comprehensive or integrated spatial planning is characterised by coordinating public sector activity both horizontally and vertically and across territories (Schmitt & Smas, 2020). These types of integration are relevant for projects that cross these horizontal, vertical and territorial boundaries, like is the case with transport corridors (Runhaar et al., 2014). When policy integration takes place between policy domains within the same governmental level it is called horizontal integration (Howlett et al., 2017). Policy integration can also take place between different government tiers. When policy has to be coordinated between government levels it is called vertical policy integration. In the Netherlands, lower levels of government must take regulations and plans from higher levels of government into account when implementing projects. When vertical policy integration does not take place well, this can result in coordination challenges since each municipality would follow its own plans instead of sticking to a coherent regional or national corridor strategy (Fabbro & Mesolella, 2010; Howlett et al., 2017; Macdonald et al., 2021). Finally, territorial policy integration means that there is integration of projects, goals and ambitions across administrative jurisdictions such as municipalities. This is especially important since corridors cross these jurisdictions and consequently, certain activities like upgrading a railway will affect multiple municipalities and regions (Macdonald, 2021).

Whether policy integration has positive or negative effects is debated in the scientific literature (e.g. Pollitt, 2003; Rode, 2019; Runhaar et al., 2014; Schmitt & Smas, 2020). Integration can lead to

synergetic effects, avoiding duplication and enabling innovation (Rode, 2019). However, integration of policy is also a complex process that can take considerable time and makes it harder to coordinate everything in a corridor process. At the same time, the presence of certain 'enabling conditions' like political will, societal and institutional capacity and leadership can help to ease the process of policy integration (Rode, 2019). Guasco (2014) suggests choosing some key issues, like reduction of travel time, as a starting point for policy which may trigger the integration of other dimensions. Another objection to policy integration is that outcomes of policy integration can be different and this can partly be explained by the fact that it is very context-dependent and is thus shaped by rules, cultural factors and path dependency (Vigar, 2009). Schmitt & Smas (2020) even state that the comprehensive spatial planning ideal is outdated since many European countries are not able to conform to this idealised model. Further negative effects of policy integration are that it is less clear who is accountable for decisions and the costs of management and organisation can be high (Pollitt, 2003). Attempting to integrate policy can also lead to 'strategic ambiguity' which entails conflict over goals, uneven participation of stakeholders in decision-making arenas and complex decision-making processes due to the involvement of different sectors and jurisdictions (Suprayoga et al., 2020).

2.1.2. - Policy integration in transport corridor development

As already became clear, policy integration is an important theme in corridor development (Runhaar et al., 2014). In order to understand this, a definition is given of the word 'corridor'. Even though corridors currently have a broader meaning, the concept originates from the infrastructural domain (Zonneveld & Trip, 2003). A corridor is a bundle of infrastructure that connects two or more cities with each other. There is not just one type of infrastructure but different transport types are used, like highways, public transport, cycle paths and canals (Priemus & Zonneveld, 2003). Within a corridor, there are also cross-network connections that allow users to easily switch between the individual networks. These infrastructures are not only carrying passengers, but also freight transport (Priemus & Zonneveld, 2003). Regarding transport modes it is not 'the more, the better' since Costa Melo et al. (2018) show that a corridor of three or more routes may be inefficient. This thesis focuses on regional transport corridors and also has regard for the land surrounding the infrastructure (Chorus & Bertolini, 2016). The locations that are linked by corridors can be origins, destinations or transhipment points (Rodrigue et al., 2009). The corridor itself can be international, domestic or focused on transit (Regmi & Hanaoka, 2012). Chapman et al. (2003) state that 'connection' is the most important characteristic of a corridor. Therefore, in any conceptualisation of corridors this characteristic should be noted. The authors themselves define a corridor as something that 'must enable the free and easy flow or transmission of people, goods or information' (p. 190). This definition thus does not point directly toward highways or other visible infrastructure and expands the definition of Priemus & Zonneveld (2003) by also looking at more 'invisible infrastructure' like fibre optic cables. Arnold (2005) adds to this that a corridor is also a collection of logistic services and a set of policies and procedures. A regional transport corridor thus has physical and non-physical characteristics and spans multiple jurisdictions.

The multi-dimensional impact of corridors

Corridors themselves exert a powerful influence on the area in which they are located (Priemus & Zonneveld, 2003). This is not just related to the visible impact of transportation infrastructure since it is stated that the movement of people and goods through corridors gives a locational advantage to chains or pairs of cities that are connected to the corridor (Pain, 2011). The impacts are not just related to one policy domain or government level which illustrates the need for horizontal and vertical policy integration when planning for transport corridors. There is a connection between transportation and land use, but this is often not recognized by public and local decision-makers which resembles a lack of policy integration (Rooney et al., 2010). The multi-dimensional impact of corridors is further illustrated by the fact that infrastructure results from social and economic processes but also influences these processes. This influence is also visible from the categorization of Priemus & Zonneveld (2003) and Priemus (2001) of corridors in three distinct categories. The first one sees a

corridor as an 'infrastructure axis' which points towards traffic engineering. The goal is to develop, improve and bundle infrastructure modalities. When the corridor is seen as an 'economic development axis' attention is given to the relation between major traffic routes and the opportunities they pose for economic development. Finally, the corridor as an 'urbanisation axis' focuses on infrastructure networks as determinants of where future urbanisation will take place (Priemus & Zonneveld, 2003). What these have in common is that they regard infrastructure as a significant influencing factor for the economy, interactions and accessibility (Zonneveld & Trip, 2003). The concept of a corridor is thus connected to transport capacity, spatial structures and economic benefits and these need to be considered when working on corridors (Guasco, 2014; Witte & Spit, 2016).

From these categories the positive impacts of corridors become clear, like allowing for economic development, exchange between cultures and financial returns. However, there are also authors who highlight the negative impacts of corridors like congestion and impact on the environment (Chapman et al., 2003). The discrepancy between positive and negative views on corridors is also visible in other literature. Corridors can both lead to more balanced economic development but also to more uneven territorial development (Pain, 2011). Guasco (2014) states that more transportation can lead to negative environmental impacts at the local level. From a literature review, Roberts et al. (2020) concluded that transport corridors have beneficial effects on economic welfare, social inclusion and equity. However, they also state that trade-offs should be considered when planning for transport corridors since not everyone benefits from corridors. Furthermore, the environmental impacts of corridors are often detrimental and there is a risk of 'ribbon-development' of urban areas (Priemus & Zonneveld, 2003). Witte et al. (2014) also find that corridors do not automatically have positive effects. They might stimulate economic growth, but this is only the case in some regions where certain circumstances are present. They furthermore found a limited effect of corridors on productivity and employment growth. Transport corridors thus impact various policy sectors but their importance for economic growth is not validated. Therefore, the added value of using an integrated approach in corridor development is questioned but not completely opposed by the authors (Witte & Spit, 2016).

It thus becomes clear that various policy domains are impacted by transport corridors in both positive and negative ways. The multi-level and multi-dimensional aspects of regional transport corridors thus show the need for policy integration, but Chapman et al. (2003) also note that this is difficult to achieve. The next section moves on to the second component of integrated corridor management which is 'governance'.

2.2. - Governance and collaborative planning

When talking about integrated spatial planning and corridor management it is also important to talk about the shift from government to governance (Öberg et al., 2018). In this section it is explained what this shift entails regarding transport infrastructure and how this relates to multi-level cooperation. This section is followed by an explanation of the implications of the governance shift for the management of corridors. Finally, two governance models are introduced which provide insights in the way governance of regional transport corridors can be analysed.

2.2.1. - Governing transport infrastructure

In recent years there has been a general shift from government to governance and this is also the case regarding transport infrastructure (Öberg et al., 2016; Wegener, 2012). The traditional government model consists of elected bodies (e.g. the government) that provide the framework in which private actors can make decisions. This traditional model has been replaced with governance, which is a more flexible system. Influenced by neo-liberal economic theories, decision powers have been transferred from public to private actors and from higher to lower levels of government (Wegener, 2012). From the literature it becomes clear that the following definition of governance is appropriate: An intended process of steering both society and economy, undertaken by actors who try to shape, regulate or attempt to control human behaviour. There is collective action to achieve a collective end and

adjustment and communication between involved actors is necessary (Van der Heijden, 2014; Wagemans et al., 2019; Wegener, 2012). An important note with this definition is that governance networks are not always non-hierarchical since political bargaining also takes place in these networks. The question of who gets a seat at the table and who does not is an example of how governance networks can mirror power imbalances in society (Lester & Reckhow, 2012).

There are two important processes in governance, the multi-actor and the multi-level process. In the multi-actor process it is acknowledged that the public sector is just one of many actors with an interest in an issue. In order to resolve an issue, cooperation is necessary between public, private and societal actors (Driessen et al., 2012 & Wegener, 2012). The second important process in governance is the multi-level process. This means that there is coordination and cooperation between the aforementioned actors from the local, regional and (inter)national level (Benz, 2007; Öberg et al., 2016). During this process, the boundaries between public and private actors are blurred and there is interdependency between the involved government layers (Driessen et al., 2012 & Wegener, 2012). From these two processes it becomes clear that policy-makers do not operate in a vacuum and must cooperate and coordinate with stakeholders and citizens at different levels (Wegener, 2012).

In corridor governance processes, decisions are often made within 'networks' of actors rather than in top-down hierarchical institutions (Lester & Reckhow, 2012). However, governance networks are often fragmented with groups that are focused on narrow issues (Guasco, 2014). In making decisions, trust, shared responsibility and having the same interest are important (Rode, 2019). The governance of regional transport infrastructure can be seen as a 'collective action problem' which is characterised by a group of institutions and actors who are involved in a regional policy challenge, like public transportation (Evers & De Vries, 2013). Regarding these problems, successful collective action is often achieved by means of joint decision-making. When there are many actors with important powers involved in a central network, there can be a need for hierarchical intervention. A dominant role for (national) public actors, for example, makes it easier to take the long-term effects and other spatial planning goals, besides infrastructure, into account (Evers & De Vries, 2013).

2.2.2. - Implications of the governance shift for corridor management

Change of scale and involved actors

From table 1 it becomes clear that there are several changes involved with the shift from government to governance that influence the way transport corridor governance is taking place (Giuliano, 2007; Lester & Reckhow, 2012). This table is about public service provision in infrastructure, but since these are general trends, they also affect other activities in regional corridors. It can first be observed that the rise of governance is coupled with a renewed interest in the regional scale, since many governance problems cross municipal boundaries (Evers & De Vries, 2013). This can also be seen in transport corridors, which is a complex governance issue in itself. Regional transport corridors cross jurisdictional borders and therefore there are actors from the municipal, regional and (trans)national government levels involved in the governance process (Guasco, 2014). The horizontal and vertical cooperation within and between these government levels can be challenging.

The renewed interest in the regional scale also involved that within national borders, the national government is sometimes disconnected from regional corridor processes. The region through which corridors run can also cross national borders. However, cross-border cooperation is difficult since many actors are focused on making connections on their own side of the border and administrative differences between countries cause actors to have different competencies. Furthermore, there is often no formal cross-border coordination structure (Guasco, 2014). Despite these difficulties, it can also impact the governance process positively since it disrupts the status quo and forces actors to think about the institutional system that they are taking place in. This might lead to improvements being made to this system (Ng et al., 2014).

From an authoritative government to collaborative governance

Governments, especially higher levels, were traditionally the most important actors in the development of transport corridors. However, with the shift to governance the governments have started to work more together. The highest government level is the European Union (EU). Policies that are made at this level both directly and indirectly affect infrastructure development (Scott, 1998). The EU thus adds an extra government layer to many policy fields that are related to corridors such as infrastructure (De Vries & Priemus, 2003). The national level is often seen as the dominant level when it comes to infrastructure projects, but it has lost power to higher and lower levels of government (Guasco, 2014). This is illustrated in the fact that the local and regional level have become increasingly important when developing infrastructure (Romein et al., 2003). The regional level is often seen as the appropriate scale to solve problems that cross local boundaries. However, their capacity to do this is unclear since provinces are the formal regional authority in the Netherlands but there are also informal city-regional arrangements. This results in the fact that provinces are just one of many actors at the regional level (Van Straalen & Witte, 2018). The provinces are pressured by top-down international forces and bottom-up regional forces (Evers & De Vries, 2013; Guasco, 2014). Furthermore, the regional authorities have difficulties with incorporating corridors in regional policy. There are bottlenecks in politics and institutions, barriers and conflicts in rules and regulations and there is fragmentation regarding sectors and institutions (Van Straalen & Witte, 2018). Finally, the long-term development of transport corridor is for a large part dependent upon municipalities since they can decide upon land-use and infrastructure plans (Paulsson et al., 2017).

The shift from government to governance also entails that the governance process of managing corridors is characterised by the presence of public, private and societal actors from different government levels (Öberg et al., 2016). The responsibility for infrastructure systems no longer solely lies with the national government, as was traditionally the case, but also with various private organisations. Examples of private actors are train operators and businesses that are located along the corridor. Societal actors can be nature conservation organisations or users of the infrastructure which is a difficult group to include in governance processes since they are difficult to define (Öberg et al., 2016). All of these actors are often organised in their own governance structure. The organisational landscape of transport corridors has thus become fragmented in Europe (Öberg et al., 2016; Paulsson et al., 2017). This does not mean that the involved actors are isolated, since they interact with each other in various ways (Suprayoga et al., 2020; Romein et al., 2003). The shift from government to governance has thus resulted in the government needing to cooperate with a variety of societal and private actors.

The rise of private actors and the changing relations between governments can be attributed to two other, more general shifts that accompany the governance shift. The first one is privatisation which entails more participation of private actors who also gain authority over traditionally public services. For example, private companies are involved in railway transportation. Secondly, there is devolution which means that responsibilities are shifted to the lowest government level possible instead of following a top-down approach. So, even though the Dutch national government is able to take the lead in regional corridor projects, it does not do so because this can also be done by provinces. However, the national government can still devise policy and offer funds (Giuliano, 2007). These two trends lead to problems regarding accountability. The variety of actors, fragmentation and the indirect implementation of policy by lower levels of governments lead to complexity and uncertainty regarding who is responsible for corridor projects (Giuliano, 2007; Lester & Reckhow, 2012; Regmi & Hanaoka, 2012). This can be alleviated by being clear about which national or regional benefits a transport corridor has and consequently giving authority to the actor who experiences these benefits.

Public service provision in the infrastructure sector	
Government	**Governance**
Authoritative	Collaborative
Hierarchical	Horizontal
Public actors	Public, private and societal actors
Top-down	Devolution/subsidiarity
State ownership	Privatisation
Local or national scale	Regional scale

Table 1: The shift from government to governance in public service provision in the transport sector. Sources: Giuliano, 2007; Lester & Reckhow, 2012.

2.2.3. Governance models for transport corridors

From the above information on governance, insights can be gained regarding what a governance structure for corridor management could look like. In this section, the governance models of Visseren-Hamakers (2018) and Bryson et al. (2006) are introduced. In this section it will be explained what these models entail, why they are relevant for transport governance and which indicators are important for integrated corridor management. In the conceptual model, the indicators from these models will be integrated.

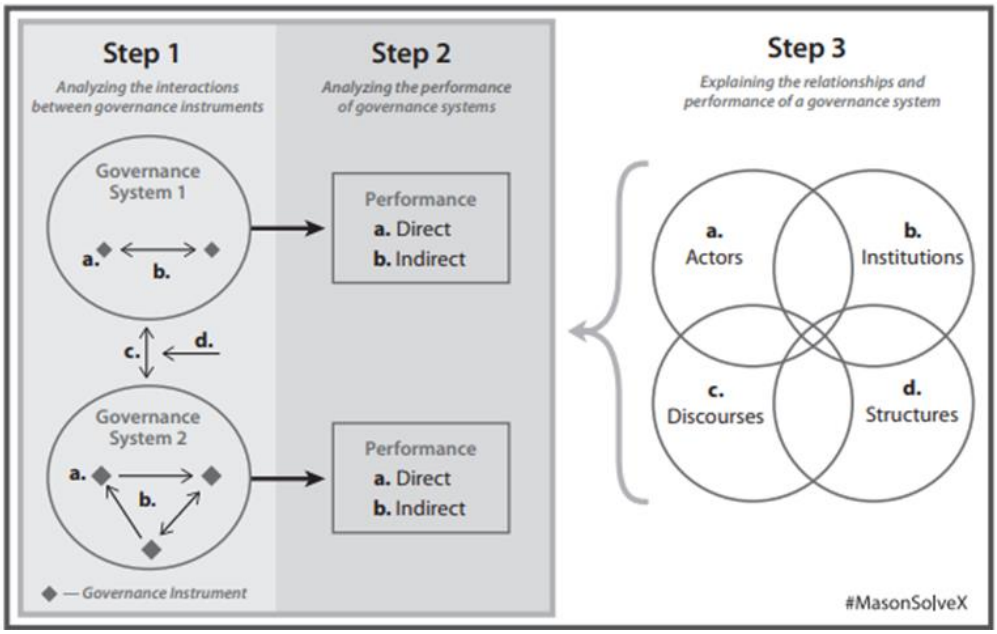

Figure 1 - The integrative governance framework. Source: Visseren-Hamakers, 2018.

The governance models of Visseren-Hamakers (2018) and Bryson et al. (2006) provide insights into how the governance process of managing corridors can play out. For this reason, they are introduced in this section. Corridor development needs a governance structure that is able to support the integration of goals from various sectors and scales and supports multi-level cooperation (Priemus & Zonneveld, 2004). This is because it can lead to common ground for activity and can therefore avoid an implementation gap. At the same time, collaboration with multiple actors from different levels also

has disadvantages since incorporation of new actors with their own agenda can lead to time-consuming discussions and low effectiveness in the short term. There is thus a tension between inclusiveness and effectiveness (Öberg et al., 2016). In this light, the framework for integrative governance of Visseren-Hamakers (2018) (figure 1) is seen as a helpful model in this thesis because it helps to analyse which actors are included and how effective their collaboration is regarding existing governance instruments and systems. This is important because it helps to see where governance structures are failing in managing corridors and since it helps academics and practitioners to develop better solutions for issues. The analysis happens in three steps, during the first an understanding is gained of governance instruments and their relationships. Secondly, the focus is on the combined performance of the governance system and finally an explanation is offered for the relationships and the performance. Governance instruments are defined as 'public, private and hybrid policies and rules' and a governance system is 'the total of instruments on a certain issue at a specific level of governance' (Visseren-Hamakers, 2018, p. 1392). This model shows that the conceptual model has to take actors, policies and structures into account. This is done by depicting the involved public, private and societal actors from all government levels, structuring the types of cooperation that they have and placing them within their context which consists of rules, policies, discourses and other structures.

The governance framework of Bryson et al. (2006) provides more concrete indicators for analysing governance processes regarding corridor development and is therefore used as an addition to the framework of Visseren-Hamakers (2018). The latter is a good basic governance model but is also a quite simplified depiction of reality. While this is the case with every model, this thesis needs more concrete indicators in order to construct a conceptual model and an interview guide. Bryson et al. (2006) focused on cross-sector collaboration in their model which is defined as: 'the linking or sharing of information, resources, activities, and capabilities by organisations in two or more sectors to achieve jointly an outcome that could not be achieved by organisations in one sector separately' (p. 44). Cross-sector collaboration thus displays the multi-level and multi-actor processes of transport governance and can be used to make transport corridor development a success (Öberg et al., 2016). A 'sector' is seen by Bryson et al. (2006) as a government, business or community but in order to reflect both horizontal and vertical integration, this thesis argues that there are also sectors (policy domains) within governments which are focused on things like economics, transport and climate (Runhaar et al., 2014).

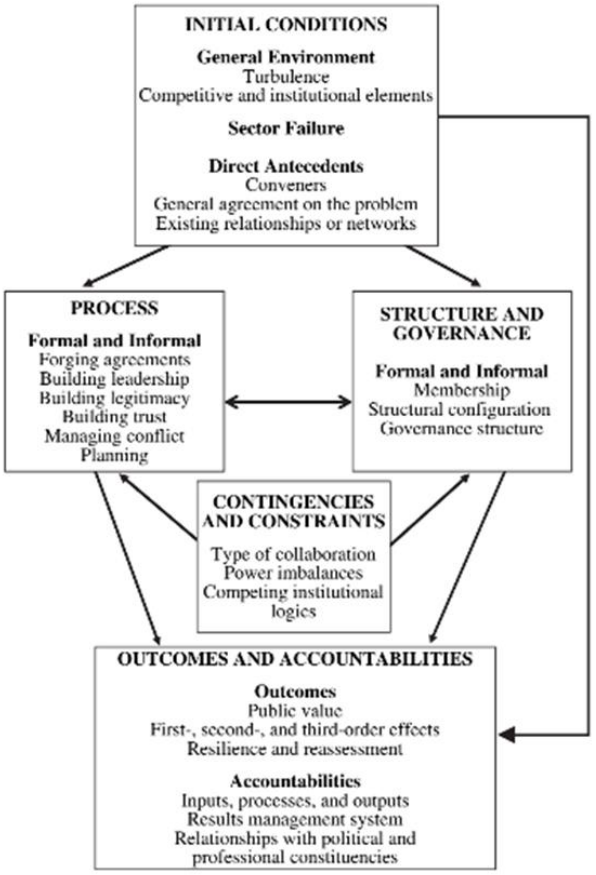

Figure 2 - A framework for understanding cross-sector collaborations. Source: Bryson et al. (2006).

The framework is visible in figure 2. The authors do not only state that a focus on the governance process is important, but also state which things are important like leadership and building trust. This is supported by Healey (1997) who states that to enhance the ability of actors to deal with corridor development, institutional capacity needs to be increased. This term refers to 'the overall quality of the collection of relational networks in a place' (Healey, 1997, p. 61). This provides a context in which decisions can be made. To achieve this, the conditions need to be enhanced like legal procedures, trust and speaking the 'same language'. It thus becomes clear that social capital is important for interacting constructively (De Vries & Priemus, 2003). The model furthermore shows that this process is both influenced by and influences the structure and governance and that there are constraints that can hinder an effective outcome. A final addition that Bryson et al. (2006) make is

showing that not only the governance process itself is important for the outcome, like Visseren-Hamakers (2018) show, but that initial conditions are also important for the governance performance. This performance is not only measured in terms of direct and indirect outcomes, but also regarding public value, resilience and accountabilities. The indicators that are used in this model are also seen by Öberg (2013) as being important for transport corridor management which consolidates the model and indicates its usefulness for the conceptual model.

Now that it has become clear what is needed from a governance perspective to work on corridor development in an integral way, the next section combines the insights about policy integration and multi-level cooperation and explains what integrated corridor management entails.

2.3. - Integrated corridor management

Regarding corridors, Stead & Meijers (2009) state that the cooperation between different sectors, actors and government levels is necessary for achieving consensus and Priemus & Zonneveld (2004) and Rode (2019) argue that governance structures are critical for the integration of sectoral objectives from different government tiers. Runhaar et al. (2014) also state that policy integration is an important theme in corridor development. All of these things come together in integrated corridor management. This section explains what the process of integrated corridor management should look like and what the desired outcome is. It does so by using a combination of literature from the spatial sciences and from the social sciences. First, the need for integrated corridor management is briefly stated after which more focus will be on the word 'management'. Finally, it will be explained what the process of integrated corridor management looks like.

The need for integrated corridor management

From the former text it has become clear that policy integration and governance are important concepts that are linked to transport corridors. The need for integrated corridor management can be found in the multi-dimensional, multi-level and multi-actor characteristics of corridors. First, there is a need to work on corridors in an integrated way because of the many themes that are affected by corridors such as infrastructure, spatial structures and economy (Witte & Spit, 2016). Corridor development is often characterised by institutional fragmentation and a lack of an institution that integrates the local and national goals (Chapman et al., 2003). Therefore cooperation between public, private and societal actors which enables policy integration is needed (Witte & Spit, 2016). Furthermore, the multi-level characteristic of corridors entails that they often span large distances and cross municipal, regional and sometimes even national borders which means that they encounter policy and actors from different levels (Priemus & Zonneveld, 2003). This means that the positive and negative effects of the corridor are also felt across jurisdictional boundaries (Chapman et al., 2003; Lester & Reckhow, 2012; Roberts et al., 2020; Witte et al., 2014). The costs involved with corridor development, like visibility, mostly remain at the local to regional level, while the benefits are experienced in a wider geographical area (Drewello, 2016; Giuliano, 2007). It is therefore important to integrate local goals with national and interregional ones through governance structures (Priemus & Zonneveld, 2004). This claim is supported by Albrechts & Coppens (2003) who state that corridors are trapped between the local and the national/global scale regarding policy goals and that policy integration and cooperation is needed.

Corridors thus have a multi-dimensional, multi-level and multi-actor nature which results in challenges when managing these corridors (Witte & Spit, 2016). Because of these characteristics, 'integrated corridor management' is an appropriate way to deal with transport corridors. Sticking to a sectoral approach when developing corridors might be cheaper and therefore the preferred option. However, this approach leads to neglecting negative effects of the corridor on the local level and leaves little capacity for solving problems in an integral way (Witte et al., 2012). Integrated corridor management

provides a more holistic approach to corridor development. Its goal is to improve the whole corridor consisting of different infrastructure, transportation modes and control systems by means of integration between involved sectors and cooperation between actors (Witte, 2014).

Integrated corridor 'management'

The word 'management' in integrated corridor management implies that some form of control or coordination is required in corridor projects (Arnold, 2005). Inspired by Van Assche and Djanibekov (2012) who regard policy integration as the 'management' of interdependencies between actors, this thesis states that integrated corridor management is about both managing actors and policies. While full control is difficult to achieve with a variety of transport modes, policy domains and actors, it is important to have a central coordination point. Within this structure, actors can plan for development, share information and coordinate stakeholder efforts. The ultimate goal is to improve the functioning of the corridor while incorporating all relevant actors, themes and legislation. Table 2 shows three different management structures that can be used for regional transport corridors. From this, it becomes clear that actors can use projects, legislation or information as a basis for managing the development of corridors. Furthermore, in each structure there is often some sort of interaction between public and private actors. Public actors focus mostly on legislation, funding and implementation, while private actors are involved in the offering of primary services in the corridor. Managing this public-private cooperation ensures efficiency and realisation of goals across policy domains (Arnold, 2005; Panagakos et al., 2015). The ultimate integrated corridor management structure depends on agreements between governments, the type of corridor, the budget and objectives (Arnold, 2005). This structure will always be impacted by interdependencies and path-dependence in policy domains and the planning system and therefore this needs to be taken into consideration (Van Assche & Djanibekov, 2012).

Management structure	Definition
Disjoined incrementalism	Focus on projects. Based on advancing agreement of the corridor concept, individual projects are linked to its development. Corridor is developed according to local problems and needs. Bilateral agreements. No formal corridor organisation.
Legislative development	Focus on consensus. Legislation is used to settle standards, routes and funding. Governments undertake implementation, private actors develop services. National or regional level coordinates the process during formal meetings.
Consensus-building	A regional institution tries to gather stakeholder support for corridor development by giving information regarding the necessity for development. Public and private actors participate in a partnership.

Table 2: Management structures for regional transport corridors. Source: Arnold, 2005.

The corridor governance structure

From all of the above information on governance it is possible to make recommendations regarding what a transport corridor governance structure which can successfully integrate policy domains should look like. It has become increasingly clear that the regional level is an appropriate scale for governing complex problems like corridor projects because its impacts are felt across jurisdictional boundaries and therefore the governance structure needs to be established at the regional level. From Arnold (2005) and from an article on the Rhine-Alpine corridor it furthermore becomes clear that a central platform is necessary for making decisions because it allows for sharing information and provides opportunities to meet (Saalbach, 2016). This collaboration can also reduce logistics costs and improve the performance of corridors (Regmi & Hanaoka, 2012). Despite these perceived advantages, there is often little political will to actually create regional institutions who are granted authority to deal with corridor issues (Lester & Reckhow, 2012). Therefore, the theoretical discourse diverges from the practice in which governmental, hierarchical approaches are still common in handling corridor projects (Evers & De Vries, 2013). The ideal corridor governance structure resembles the shift from government

to governance by having communication across actors instead of following top-down commands, sharing information and resources and by having a shared goal and normative commitment (Lester & Reckhow, 2012). Furthermore, a governance design is needed that both strengthens involvement and allows for agreement on common overarching objectives. These are often not present, like Guasco (2014) showed regarding the Fehmarn belt. These governance forums need to be designed in cooperation with stakeholders to make sure that it functions as desired (Öberg et al., 2016).

What form such corridor governance structures should take is still debated in the literature. Since there are so many actors involved in corridor projects, Öberg & Nilsson (2014) suggest using a multi-optional structure. This means that there is a group of core actors who have strong relations and there is a group with loose attachments to the corridor project. In this way, all actors are engaged but not all to the same extent which saves time since not everyone always has to be included in meetings and decision-making. Saalbach (2016) writes about another structure which is the European Grouping of Territorial Cooperation (EGTC). This is a legal structure that gives a stronger voice to regional and local governments with the goal of realising integrated corridor development. The multidimensional impacts and the multi-level component of corridors are thus taken into account. However, since it is a legal structure, organisations that are willing to become a member need to go through a process of strict rules and procedures which forms a barrier for joining the EGTC. Furthermore, societal and private actors are not included which, according to Drewello (2016), is a bad thing since he states that it is necessary to also include citizens in corridor governance structures to prevent detrimental local effects of the corridor. The corridor governance structure can thus be either formal or informal. An informal cooperation structure is easier to construct since there is no legal background required. However, formal types with a legal form highlight the seriousness of intent and makes the partnership visible for others (Saalbach, 2016).

The process of integrated corridor management

Once it has been decided what the governance structure for corridors should look like, actors enter the actual process of integrated corridor management. During this process, actors go beyond a sectoral approach since it is acknowledged that different policy domains are involved in corridor projects. Inspired by Witte et al. (2012), this thesis argues that during the process corridors need to be regarded from four perspectives. These are infrastructure, economy, space and governance and can be seen as 'puzzle pieces' that together form integrated corridor management. Regarding infrastructure, there needs to be regard for the physical aspects like congestion and also for the organisational aspects which can lead to more harmonisation and standardisation and support the corridor project. When looking at space there is both regard for the spatial planning process and for the pressures that space exerts on infrastructure and vice versa. There is, for example, regard for the environmental aspect of corridors (Regmi & Hanaoka, 2012). Integrated corridor management also entails that one realises that the impacts of corridors are not limited to jurisdictional boundaries. Successful integration of transportation and land use requires plans that cover the whole metropolitan region (Chorus & Bertolini, 2016; Rooney et al., 2010). The third perspective is the economy since market conditions, like monopolistic structures, influence corridor development. Furthermore, a lack of financial resources and positive and negative agglomeration effects of corridors are also taken into account. Finally, the governance perspective is important. On the one hand, well-functioning governance structures can integrate the aforementioned perspectives and therefore stimulate integrated corridor management. However, a lack of knowledge and integration in governance structures can hamper corridor projects. Governance structures might also be lacking because of institutional fragmentation and different rules and legal systems across borders (Witte et al., 2012).

In order to integrate these perspectives in a corridor process, a policy frame is needed. This consists of the understanding by the governance system that there are multiple dimensions involved in managing and developing transport corridors (Candel & Biesbroek, 2016). In this way, not only a common understanding is created but also an understanding of the responsibilities of each actor in addressing

corridor issues. This thus creates a narrative that shows interdependence of themes and actors (Cejudo & Michel, 2021). Since the integration of policy is a process, steering is required. This steering can be done by an authority who enables actors to implement their actions and makes sure that actions are done in order to achieve the overarching goal instead of their own goals (Cejudo & Michel, 2021). When integrating policy, it is important to see policy integration not as an end goal in itself. Policy integration has to serve the goal of a well-functioning corridor that is supported by every actor. It is also important to be aware of the complexity of the policy processes that are needed for successful integration (Biesbroek & Candel, 2019).

The process of integrated corridor management needs to resemble the 'area-based' approach about which De Vries & Priemus (2003) wrote. Its aim is to integrate the interests of different policy domains, actors and scales in a certain area to solve corridor problems. This area needs to cross borders and there must be a clear demarcation of the area to allow projects to be linked (Otsuka et al, 2017). All of this is not easy to achieve because of the many public, private and societal actors from various jurisdictions who need to be involved early in the process. Therefore, integrated corridor management needs supportive legislation and agreements to keep everyone committed during and after the process. It is important to assess the regional developments that are occurring. Furthermore, actors need to set aside their assumptions about the best solution before entering the integrated corridor management process. Policy needs to be coproduced between sectors and decisions need to be coordinated between jurisdictions, which resembles territorial policy integration (De Vries & Priemus, 2003; Otsuka et al., 2017; Rooney et al., 2010). Overall, it takes time to establish the process of integrated corridor management, but this process can be valuable in the long term (De Vries & Priemus, 2003).

The process of integrated corridor management ultimately needs to result in a plan. The ultimate goal of integrated corridor management is to create an integrated vision and implementation plan with the best possible input and to encourage collaborative involvement of governmental, private and societal actors (Rooney et al., 2010). It needs to be a regional strategic plan that is open to communication and interaction across government levels (Fabbro & Mesolella, 2010).

The context of integrated corridor management

The extent to which multi-level governance and policy integration in integrated corridor management are successful partly depends on the context in which they take place. For example, it depends on the governance culture of a certain place (Öberg & Nilsson, 2014). Paulsson et al. (2017) distinguished two different cultures regarding public transport. There can be a 'collaboration' culture in which subregional councils are formed to increase collaboration. In contrast, there can also be a 'negotiation' culture in which actors see each other as competitors and protect their own interests instead of making compromises. These governance cultures can lead to three different regional approaches regarding corridors (Evers & De Vries, 2013). The first one is hierarchy, which means that a public actor is in control of the corridor project. Secondly, there is competition in which government presence is limited and providers and governments compete. Finally, joint decision-making resembles governance the most. It refers to a structure for joint decision-making between public and private actors in which the government has a procedural role. These approaches are not mutually exclusive since Evers & De Vries (2013) argue that joint decision-making in which public actors are dominant is important for including other spatial planning goals when developing corridors. Regarding policy integration, the context is also important since Vigar (2009) states that the outcomes of policy integration can be different in each situation since it is shaped by rules, cultural factors and path dependency. The same goes for interaction between actors since Teisman et al. (2009) note that applying the same governance approach in a different context will yield different results even when the actions and intentions from the participants are exactly the same. Concludingly, there is not one corridor governance structure that fits all corridor projects because its success depends on context and governance cultures (Arnold, 2005).

In the next section, the insights that were gained from this theoretical framework are integrated and presented in the conceptual model.

2.4. - Conceptual model

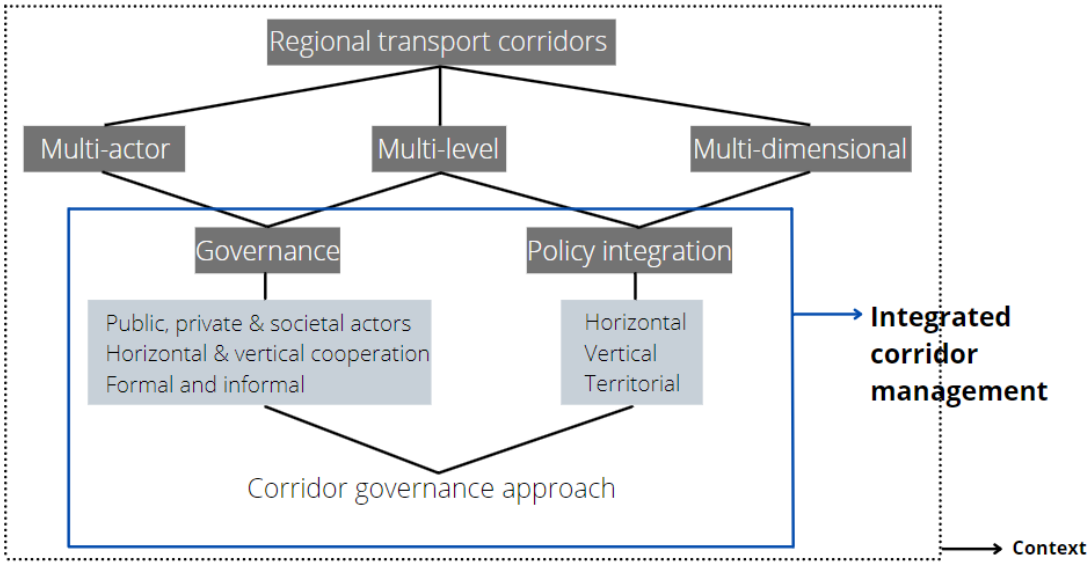

Figure 3 - Conceptual model

The insights from the theoretical framework are connected in a conceptual model (figure 3) which helps to answer the research question of this thesis: **To what extent can integrated corridor management lead to policy integration and multi-level governance in regional transport corridor projects?**

The conceptual model starts with the object of this thesis, which is the 'regional transport corridor'. From the literature review it already became clear that this consists of a bundle of infrastructure that connects two or more cities with each other and the area around this infrastructure (Priemus & Zonneveld, 2003). A regional transport corridor has three important characteristics that are depicted underneath the object (Öberg et al., 2018; Roberts et al., 2020; Runhaar et al., 2014). First, a regional transport corridor is characterised by a multi-actor aspect since many different actors are involved in the corridor. These range from users of the infrastructure to companies that are located close to the corridor to government actors. Secondly, corridors have a multi-dimensional aspect, since different policy domains like economics and infrastructure are all impacted by the corridor (Pain, 2011; Roberts et al., 2020). Finally, a regional transport corridor crosses multiple jurisdictions like municipal, regional and national ones. This results in a multi-level process when discussing issues regarding the corridor. The multi-actor process can be linked with governance and the multi-dimensional process with policy integration (Driessen et al., 2012; Wegener, 2012). The multi-level aspect fits both governance and policy integration. It fits governance since it shows that actors from different geographical scales need to be involved in the governance process. At the same time it also fits policy integration since policy from the different government levels needs to be coherent and needs to integrate issues from all levels into the documents (Öberg et al., 2016).

The conceptual model then moves to the actual 'integrated corridor management'. The multi-actor, multi-level and multi-dimensional aspects of regional corridors reflect the need for integrated corridor management (Witte et al., 2012). As stated earlier, it is assumed that this consists of both governance

and policy integration. From the model of Visseren-Hamakers (2018) it became clear that one needs to understand which policies each (government) organisation has, after which their combined performance can be analysed. Based on this, policy integration during integrated corridor management needs to take place in three ways. First, horizontal integration is needed which means that there is integration of policy domains within the policy documents of a certain government level. Policy has to take infrastructure, economy and spatial impacts into account regarding corridors (Witte et al., 2012). Secondly, vertical integration entails the coordination of policy documents across government levels (Runhaar et al., 2014). Finally, territorial integration means that municipalities across the corridor need to have similar goals and interests within their policy documents regarding the corridor (Macdonald et al., 2021; Runhaar et al., 2014). It is assumed that when policy integration has not taken place, cooperation between actors and managing the corridor as a whole will be more difficult.

The second aspect of integrated corridor management is governance and focuses on the interactions between the involved actors during the process of integrated corridor management. It became clear from the framework of Visseren-Hamakers (2018) that it is important to understand the relationships in governance systems. From Suprayoga et al. (2020) and Romein et al. (2003) it became clear that public, private and societal actors are involved in the management of regional transport corridors. These actors need to cooperate with each other in order to achieve a strong plan for the corridor. They need to cooperate horizontally with people from the same geographical level (e.g. within governments or municipal employees with people that live next to a highway). At the same time, there is also a multi-level aspect which involves vertical cooperation between actors from different geographical scales (e.g. provincial employee with someone from the national government). From Bryson et al. (2006) it became clear that these interactions can take place in both formal and informal ways to which Guasco (2014) and Öberg and Nilsson (2014) add that informal interactions can be a first step towards good formal cooperation.

In the end, integrated corridor management is not only about governance and policy integration but also about the outcomes of this process which is a certain 'corridor governance approach'. Based on Lester and Reckhow (2012), it can be stated that integrated corridor management can be successful in terms of the outcome of decision making and of the process. This also became clear from the model of Bryson et al. (2006). This outcome thus does not just consist of text in the form of plans, but also of a governance approach with a certain resilience and understanding of its accountabilities. Furthermore, the outcomes can be direct and indirect, material and immaterial (Visseren-Hamakers et al., 2018). This is also the point at which it can be seen to what extent policy integration and multi-level cooperation have taken place and therefore this conceptual model helps to answer the research question of this thesis.

The processes that are depicted by this conceptual model are in reality affected by the context in which they take place (dotted line). This also became clear from the model of Bryson et al. (2006) who talks about the 'initial conditions' which influence the outcome of corridor processes. It is also inspired by Visseren-Hamakers (2018) who states that rules, policies and discourses are important parts of the context in which integrative governance efforts take place. Since this context already existed before the process of integrated corridor management started, it is not possible to make considerable changes to this context. The governance culture of a place is a clear example of this since it is important whether actors like to negotiate or see each other as competitors before the governance process starts because this impacts the way the process plays out (Paulsson et al., 2017; Evers & De Vries, 2013).

This chapter has depicted the most important theoretical papers for this thesis and has summarised its insights in a conceptual model. In the next chapter, the methods that will be used in this thesis are explained. The conceptual model will be of importance when explaining these methods.

Chapter 3 - Methods

This chapter describes which methods were used to answer the research question of this thesis: *To what extent can integrated corridor management lead to policy integration and multi-level governance in regional transport corridor projects?* The chapter starts off with a description of the three research methods that were used. These are document analysis, semi-structured interviews and structured participatory observation. Next, the main case study and the validation case studies are explored. Finally, the validity, reliability and generalizability of the methods is discussed.

3.1 - Research methods

The aim of this thesis is to gain a deep understanding of the extent to which multi-level cooperation and policy integration take place when using an integrated corridor management approach. Using a quantitative research approach and thus describing this in numbers (e.g. the amount of times two organisations had an official meeting) does not provide such an understanding. In the case of the example, there might have been many meetings, but the cooperation between these actors can still be difficult. This thesis conducts qualitative research and as such also uses qualitative research methods which are semi-structured interviews, participatory observation and a qualitative document analysis (Bryman, 2016). These methods allow for gaining insights in the quality of multi-level cooperation and policy integration. By using these three research methods, there has thus been a mix of desk research and field research. This was done on purpose since combining methods like document analysis with interviews increases the validity and reliability of research findings (Boeije & Bleijenbergh, 2019).

3.1.1 - Literature review and document analysis

During the first six weeks a literature review and a document analysis have been conducted. The focus of the literature review was on scientific, peer-reviewed literature regarding policy integration, multi-level cooperation and transport corridors. Using this method, the first sub question can be answered: *What is the relation between integrated corridor development, governance and policy integration?* Since little is written about what integrated corridor management actually entails, several scientific papers in the field of infrastructure and governance were combined to allow the author to come up with her own definition. The literature review resulted in a conceptual model which formed the basis for the policy analysis and the interview guide.

The qualitative document analysis was focused on the main case of this thesis which is the corridor Zwolle-Twente-Münster. With this research method the following sub question is answered: *To what extent are sectoral dimensions integrated in policy documents regarding the corridor ZTM?* Documents from the local, regional and national level were analysed and the insights were integrated. The documents that have been analysed can be found in appendix A. In total, twenty documents were analysed which are written by governments and by regional organisations like the Region of Zwolle and Euregio. This fits qualitative content analysis since this method often does not have a considerable number of documents since the goal is to look for interpretations and meanings in the material instead of drawing quantitative conclusions. The code tree (appendix D) was established beforehand since it provides a guideline for reading the documents (Scheepers et al., 2016)

An important disclaimer is that only Dutch documents have been analysed and consequently the document analysis only focuses on the Dutch part of the corridor (Zwolle-Enschede). The main reason for this is the language barrier that exists between the Dutch researcher and the German documents. The document analysis started by looking at the European and national level since decisions of higher government levels can limit the room for decisions by lower levels of government

(De Vries & Priemus, 2003). However, little relevant information was found and therefore the European level gets the least attention. This can also be explained because the corridor ZTM is not part of the European TEN-T network for corridors and therefore cannot apply for these European subsidies. The choice was made not to focus on the North Sea Baltic corridor that partially crosses the corridor ZTM. This would involve other documents and interviews with other stakeholders which is not relevant for the main case study of this thesis, the corridor ZTM.

Newspaper articles

Official documents provide a general overview of available information regarding the corridor ZTM. They do not give an indication of the processes that are playing in real life. In order to explore these processes and get a better understanding of what the 'regular citizen' reads about the corridor, newspaper articles were also analysed. To collect relevant newspaper articles, the search terms 'corridor', Zwolle-Twente-Münster', 'railway', 'F35' and 'A35' were used in LexisNexis. Furthermore, only newspaper articles from 2013 and later have been used in this analysis. This timeframe was chosen because this is the time when the corridor ZTM first started getting attention and because developments before 2013 are assumed not to be relevant for the situation regarding the corridor in 2022. In total, twenty newspaper articles were selected and coded. As can be seen from the graph in figure 4, attention for the corridor has increased since 2019. The articles are quite diverse and talk in both positive and negative ways about the corridor. Most articles were written during times when cuts had to be made in government budgets and when important deliberations took place. These articles are relevant because they include interviews with various actors which provides more insight into the reason for developing the corridor and for cooperation between actors.

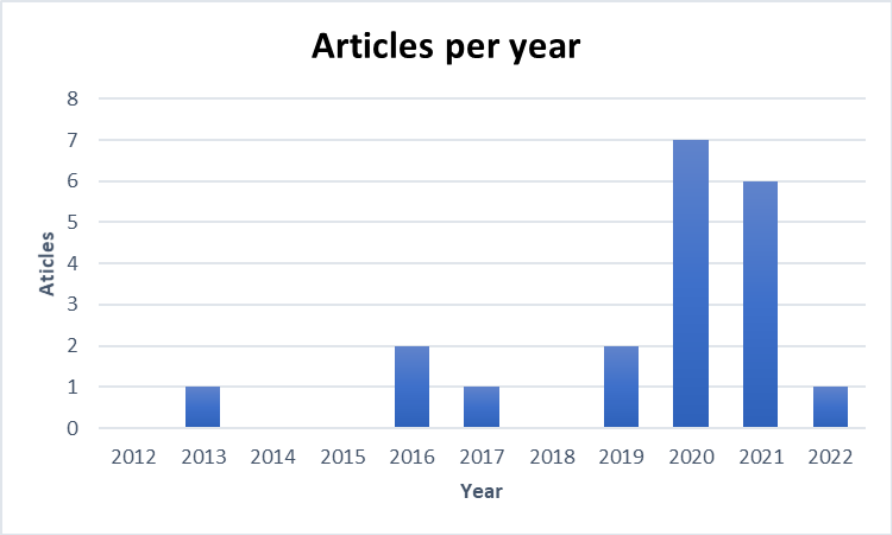

Figure 4 - Amount of newspaper articles per year regarding the corridor ZTM

Analysis

Both formal documents and newspaper articles were analysed using the code tree (appendix D) which is based on the conceptual framework of chapter two. In the policy analysis, the focus was mostly on the extent to which policy integration took place. Horizontal policy integration refers to the integration of policy domains and therefore attention was paid to which policy domains were connected in the documents. Next, vertical cooperation was analysed by assessing whether documents refer to each other and use insights from documents written by other governments. Territorial integration was analysed by looking at the coherence between the documents. This was especially done at the local level by looking at the municipal planning visions of all the municipalities that are located along the corridor. Since this thesis is also interested in the reasons for policy integration, the advantages and disadvantages of doing this were coded as well. Despite the focus on policy integration, there was also some focus for governance during the analysis. This was done by analysing which actors took part in

constructing documents and in which governance structures they were present. Furthermore, it has been taken into account whether documents talk about horizontal and vertical cooperation between actors. An integrated corridor management process eventually leads to an outcome and therefore it has also been considered what the envisioned outcome of developing the corridor is according to the documents.

3.1.2 - Interviews

Primary data for this thesis was collected by means of interviews. This research method is used for answering the third sub question: *How does multi-level governance take place in developing the corridor ZTM?* The choice for interviews was made since interviews can provide knowledge that other research methods are not able to deliver. The researcher can ask about experiences, motivations and opinions and can ask follow-up questions when things are not clear. In this way, interviews provide a deeper insight into corridor management than surveys or quantitative analysis would be able to do (Hay, 2016). The interviews were semi-structured because of the diversity of interview participants. In this way, the interview can be adjusted to each actor that is interviewed and explore different views and different ways of working (Hay, 2016). Furthermore, because the interview candidates work for different organisations, it does not make sense to ask each actor the exact same questions. Questions about horizontal collaboration at the municipal level are not relevant for people from Euregio, an organisation that works on cross-border collaboration. Semi-structured interviews thus allow for adjusting the interview to the context (Hay, 2016). They also allow for a deeper understanding of certain issues by asking follow-up questions and going into interesting points that are mentioned during the interview (Boeije & Bleijenbergh, 2019; Bryman, 2016; Hajer, 2006). A final reason for choosing interviews is that similar studies about corridors also make use of case studies combined with interviews (e.g. Guasco, 2014; Paulsson et al., 2017; Öberg & Nilsson, 2014; Öberg et al., 2018.; Rode, 2019; Rooney et al., 2010).

	Name	**Organisation**
1	Project leader corridor ZTM	Province of Overijssel
2	Fund manager	Province of Overijssel
3	Public affairs officer	Province of Overijssel
4	Public administration officer	Province of Overijssel
5	German expert	Province of Overijssel
6	Project leader Euregiorail	Euregio
7	Public affairs officer	Regio Zwolle
8	Public affairs officer	Twente Board
9	Policy advisor spatial economy	Municipality of Enschede
10	Project team member corridor Groningen	Province of Groningen
11	Two project team members corridor Gelderland	Province of Gelderland

Table 3 - The interview respondents

In total eleven interviews have been conducted with actors from the province, municipalities and regional organisations (table 3). Before conducting the interviews, the researcher had done an internal and external actor analysis (figure 7 and 8) which were checked and adjusted by provincial employees and gave an indication of which organisations would be relevant to interview. The interview respondents were contacted by means of a 'snowball technique' (Bryman, 2016). Since the researcher was doing an internship at the province of Overijssel, the first interviews were conducted with employees of the province of Overijssel. These were asked if they could provide names of other people that work for organisations that belong to the 'key stakeholders' of the external actor analysis. This resulted in a list of names and the researcher collected some more information on each person to decide who would be invited for an interview. Criteria were that they need to have experience in working on regional corridor projects and that they are somehow involved in the Zwolle-Twente-Münster region. Besides these people, the researcher also searched for people who worked on other corridors. These were found in the province of Groningen and Gelderland. When inviting people for an interview it was made clear that the researcher would conduct the interview as a student and not as an employee of the province. Furthermore, it was stressed that all information from the interviews would only be used in this thesis and not in other contexts.

The interviews took about 30-50 minutes and in total eleven people have been interviewed. The participant could choose whether the interview would take place in person or in Microsoft Teams. In total three interviews were conducted in person and nine were conducted online. During the interviews it became clear that people told similar stories and after nine interviews it was concluded that saturation had been reached regarding the corridor ZTM. Respondents themselves also told the researcher that they expected others to tell the same story and that interviewing more people would not be helpful. Furthermore, during the last interviews the respondents could not come up with new people that would be relevant to interview, indicating that the researcher thus has a complete overview of the most important actors. This is also confirmed by the fact that almost all 'key stakeholders' from the external actor analysis have been interviewed. At the same time, this also shows that these people are most connected in the corridor process (Bryman, 2016).

Before starting the interviews, verbal consent was asked for recording the interviews. This allowed for them to be transcribed and coded using NVivo. All respondents agreed to having the interview recorded. However, one respondent noted that it restrained her since she was cautious of what she was answering. Other respondents did not feel like this and even encouraged recording the interview. After the thesis was finished, all recordings were deleted. When writing the results, the actual names of the participants were not mentioned. Instead, the name of the organisation for which they are working is mentioned. The code tree followed the conceptual model and can be found in appendix D. During the interviews, respondents repeatedly came up with positive and negative points regarding governance. The researcher felt like these comments provide insights into how people experience working on the corridor and are therefore included this is a separate code in the code tree.

Interview questions

The literature review and the policy analysis provided the input for the interviews. The interview guide that was used during the interviews is structured according to the conceptual model and can be found in appendix B. The main theme of 'policy integration' has been divided in the subthemes multi-level and multi-dimensional. Next, the relevant interview questions were put in these subthemes. For the main theme of policy integration, questions regarding the 'multi-level' subtheme are about the coherence between documents from different government levels and regarding multi-dimensional policy integration, there are questions regarding the themes that are covered in the documents. Since the document analysis had already provided most insights regarding policy integration, the interview had the function of confirming these results and putting them into context. The second main theme of the interview guide is 'governance'. The most questions were asked regarding this theme because the document analysis had provided little insights into governance. The two subthemes are multi-actor and multi-level. Questions about the different actors that are involved in the corridor project are

located in the subtheme of multi-actor governance. Regarding multi-level governance, the researcher asked about the cooperation between these involved actors. The final theme of the interview guide is 'context and outcome'. In this theme questions can be found about the ideal situation regarding governance and policy integration to see how far this is removed from the reality. This allows for seeing which contextual factors complicate the efforts in the corridor process.

3.1.3 - Participatory observation

By means of participatory observation, in combination with the other research methods, the fourth sub question can be answered: *To which extent is integrated corridor management used in the corridor ZTM?* While writing this thesis, the researcher was doing an internship at the province of Overijssel and was allowed to join the project team and all meetings related to the corridor ZTM for a period of five months. During these meetings, the researcher took notes regarding the information that internal and external actors provided, their nonverbal expressions, interactions, ways of communicating, time that is spent on certain themes and quotes regarding governance or policy integration. Following De Walt & De Walt (2002), a structured observation was done by means of a guide that was created for the two official meetings (appendix C). During smaller meetings, notes were made in a notebook. The observation allows for gaining insights about the organisation and prioritisation of things in a corridor management process which cannot be found through conducting interviews. The reason for this is that people are acting in their 'natural working environment' and are not reflecting on their behaviour afterwards in an 'unnatural interview setting' (Kawulich, 2005). Furthermore, Guasco (2014) states that access to the field is needed to find informal networks, which proved to be the case in the corridor ZTM. Finally, participatory observation helps to check statements that are made during interviews.

The observations were done during the meetings that can be seen in table 4. These meetings were all solely focused on the corridor ZTM. Besides these regular meetings there were also meetings with superiors and other colleagues when people felt like this was needed at a certain point in the process. In total, the researcher has joined 34 meetings. The most notes were taken during two official 'starting meetings' in which the most relevant stakeholders came together in order to assemble views, opinions and knowledge and to determine future steps. The first starting meeting was initiated by the province of Overijssel in order to start the provincial process of writing a spatial vision for the corridor ZTM. During this meeting Regio Zwolle, Twente Board and Euregio were present. The second starting session was initiated by Euregio and was attended by both Dutch and German actors from regional organisations and local governments. During these sessions, the goal was to have a discussion regarding the corridor between the actors who were present. Therefore, these sessions also slightly resemble a focus group. However, the researcher was not the one asking the questions during this session. Instead, the researcher was a 'participatory observer' which entails that she is a member of the group and that her presence during the session is a given and that she could talk to all participants. However, the main focus of the researcher was to observe and take notes and not to participate in the conversations. The other participants were aware of this since this was exemplified at the beginning of the session. According to Kawulich (2005) this is the most ethical approach to observing.

Meeting	**Date**
Meeting with project team corridor ZTM	Once every week
Internal meeting with provincial employees from different departments	Once every week
Meeting with province, Twente Board, Regio Zwolle	Once every month
Starting session of provincial project with regional organisations	11-05-2022
Starting session with the main German and Dutch actors	20-06-2022

Table 4 – Overview of all meetings that were joined by the researcher

3.2 - Case study information

Following the choice for a qualitative research and the research methods, the corridor Zwolle-Twente-Münster was selected as the main case study. Focusing on one specific case study was done based on Guasco (2014) who suggests conducting a contextual study in order to gain a deeper understanding of multi-level governance processes in transport corridors. The corridor of the case study runs from Zwolle to Münster and the infrastructural part of the corridor consists of a railway connection, a road and partially of a bicycle highway, all of which are depicted in figure 5. The focus of the actors that work on the corridor is mainly on the development of the areas around this infrastructure. In the development of this area a 'broad welfare' perspective is used (see chapter 4) in which both material and immaterial aspects are important.

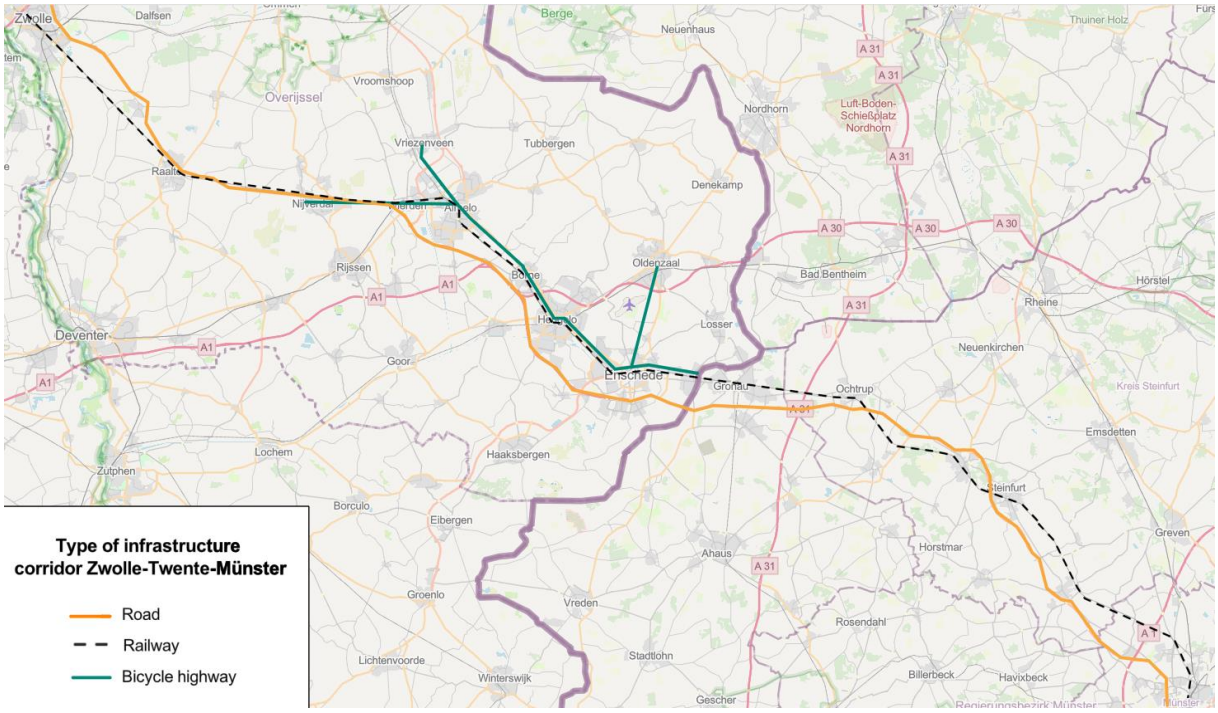

Figure 5 – The infrastructure of the corridor Zwolle-Twente-Münster. Source: Own image.

There are several reasons why this corridor needs to be developed. The first reason is because of time. Currently, travelling from Zwolle to Münster by train takes a long time. First, it takes 50 minutes to travel from Zwolle to Enschede, then travellers have to switch trains and have to travel for another 70 minutes in order to get to Münster (*3*). Developing the rail infrastructure considerably shortens this time. For example, travellers save 20 minutes between Zwolle and Enschede (*5*). The amount of people that travel by train yearly is currently 80.000 which will increase to 120.000 (*2,18*). Regarding the railway, there is also a need to act before 2026 because Germany has replaced its diesel trains with electric ones by then. If the Netherlands does nothing, the connection between Enschede and Münster is lost because there is a diesel part between Enschede and Gronau which then acts as a barrier between the two electric railways in the Dutch and German part of the corridor.

A second reason for developing the corridor is safety. Regarding the road infrastructure, the road is partly a highway (100-120 km/h) and partly a provincial road (80 km/h). On these roads there is often just one lane which is not sufficient for the amount of traffic that uses these roads. Consequently, there are traffic jams and dangerous situations emerge which lead to accidents. The bicycle highway between Nijeveen and Enschede is an already developed part of the corridor and is an example of safe travel. The highway is a four meter wide path that provides people a safe way to travel by bike between places along the corridor. It is designed to cross as few road junctions as possible which minimises the risk of accidents (Fietssnelweg F35, n.d.).

The final reason for developing the corridor is found by looking at the broader context in which the corridor ZTM is located. The regions that are located along the corridor can use a boost of their 'broad welfare'. The corridor is expected to do this, by not only delivering economic benefits but also by improving social factors and liveability. Better infrastructure connections are thus expected to lead to better regions. Regarding housing, for example, there is potential in the corridor region for building more houses, which is needed since the Netherlands is experiences housings shortages. When the corridor is developed, people who live in the corridor region can either work close to their home, but also in the Randstad or in Germany since the faster connections allow them to do this.

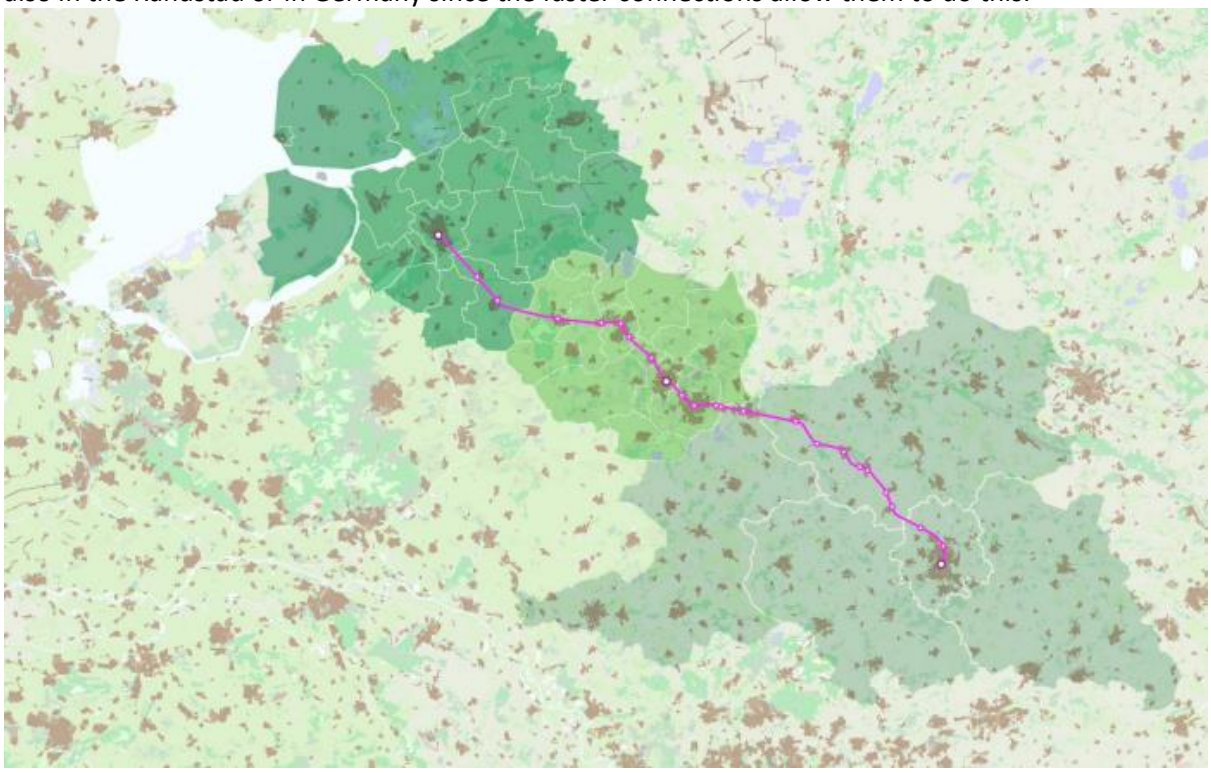

Figure 6 - The three regions through which the corridor runs. From top to bottom: Zwolle-Twente-Münster. Source: Public Result, 2022

3.1.1 - Core stakeholders

This corridor needs to be developed according to multiple actors in the ZTM region. These actors are also considered to be the main stakeholders in the Dutch part of this corridor. The corridor runs through three different regions which are consequently core stakeholders (figure 6). In the Dutch part of the corridor, these regions have their own organisation which are Regio Zwolle and Twente Board. These organisations represent the municipalities within their region. The region of Münster is represented by its Bezirksregierung. Another regional organisation that belongs to the main group of stakeholders is Euregio. This is an organisation that connects Germany and the Netherlands and aims to decrease the barriers for cooperation between these two countries. Furthermore, they are working on a project regarding the railway which is called Euregiorail (Euregio, n.d.). Finally, the province of Overijssel is working on an integrated plan for the corridor. As can be seen in figure 7, these actors mostly constitute the key stakeholders. This also explains why they have been chosen as interview candidates. It also explains the choice for which documents are used in the document analysis, since most of them are written by key stakeholders. Within the province of Overijssel there are different departments who work on the corridor, as the internal actor analysis shows (figure 8). This figure has been used in looking for interview candidates and for interview questions about the internal governance process.

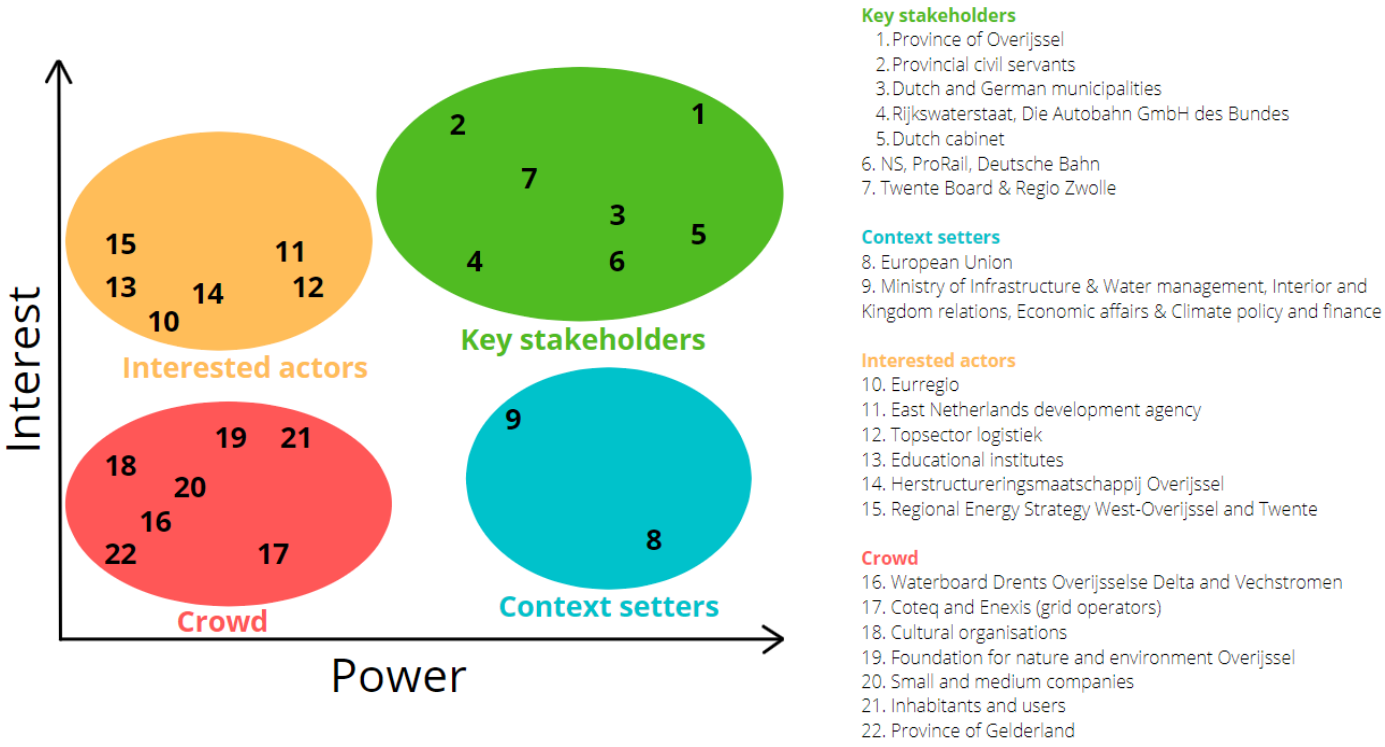

Figure 7 - External actor analysis corridor ZTM

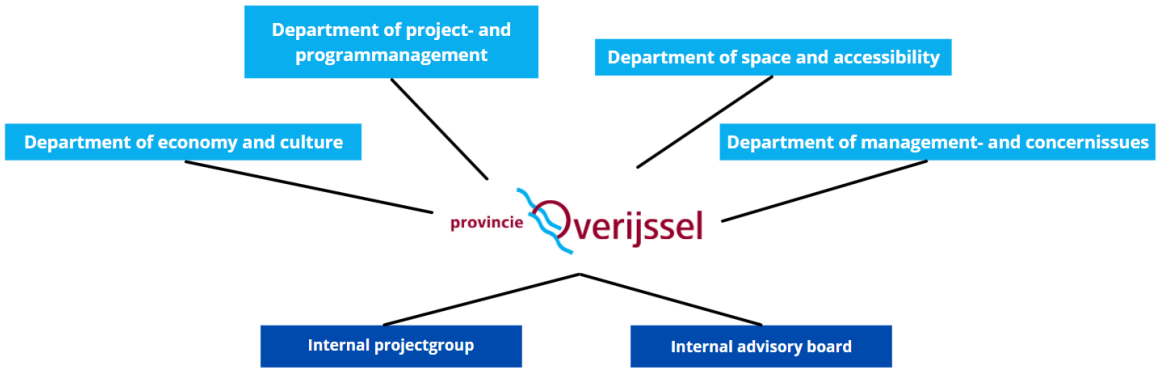

Figure 8 - Internal actor analysis

3.1.2 - Validation case studies

Besides the main case study of the corridor ZTM, two other corridor projects have been briefly studied in order to be able to validate the findings of the main case study. The first one of these corridor projects is the A7/N33 corridor in the province of Groningen (figure 9). This corridor project started in 2018 when the municipalities of Groningen, Midden-Groningen, Oldambt and Veendam decided that an integrated vision on the corridor was needed. The goal was to connect the economical, ecological and recreational values of the corridor region through the development of the A7/N33 corridor. However, the focus is mostly on economic development and the location of big companies. Besides the municipalities, the province of Groningen was also involved in the project. Furthermore, private and societal actors were included in workshops in which they could give their opinion. The choice was made to not cross the border with this corridor project and thus to not include German actors (Hoogendoorn & Mulder, 2022; Respondent 10).

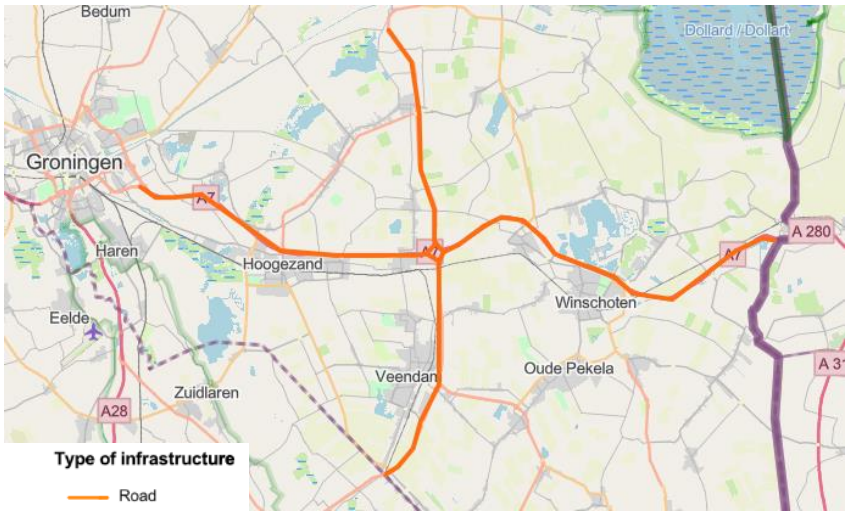

Figure 9 – The corridor A7/N33 in Groningen. Source: Own image.

The second corridor is the 'Gelderse corridor' (figure 10). The Betuweroute, the river the Waal and the highway A15 form the infrastructural components of this corridor. The province of Gelderland feels like it is already profiting from the corridor in terms of economic growth and creation of jobs. To strengthen this, the province aims to develop a reliable, smart and sustainable corridor in which there is attention for the working and living conditions. The corridor project started in 2014 and is mainly focused on infrastructure, which also becomes clear from the name of its overarching project organisation 'Logistics Valley'. Within this structure, cooperation is sought with other governments, companies and inhabitants. There is active cooperation with the national government and with other countries since the corridor is part of the Rhine-Alpine corridor which belongs to the TEN-T network (Province of Gelderland, n.d.; Respondent 11).

Figure 10 – The corridor in Gelderland. Source: Own image.

3.3 - Validity and reliability

The validity and reliability of this research are assured by means of providing interview guides, the code tree and observation guide and by being clear about the choices that were made during the research. Methodological triangulation, in this case combining document analysis, interviews and observations, in itself increases the validity and reliability of research findings (Boeije & Bleijenbergh, 2019; Scheepers et al., 2016). No major differences were found in the insights that were gained from these three research methods which indicates that the results are reliable (De Walt & De Walt, 2002). Regarding methods, the researcher does not think that using completely different research methods would have led to better research findings. The descriptive research question required a qualitative research approach in order to get the insights that were needed. The only other qualitative research method that could have been used are surveys. Conducting interviews takes time and therefore there is a limited number of people that can be interviewed. Sending surveys to stakeholders who work on

corridor projects allows for a better analysis of people their opinion regarding the corridor process. These surveys can be sent to corridor projects across the Netherlands or even Europe which makes the results more generalizable.

Multiple measures were taken to maximise the validity and reliability of the document analysis. The list of documents that were used for policy analysis can be found in appendix A. This list has been checked by several employees of the province of Overijssel in order to make sure that it was complete. Therefore, any other person that would conduct a policy analysis on the exact same topic would use the same documents. When the same method for analysing these documents is used, it is likely that the same insights would be received. Since the code tree was established before reading the documents, it is possible that some bias was present while reading. The researcher tried to prevent this by being open to other subjects instead of skipping them.

Regarding the interviews, validity is a bit more difficult since the interviews are semi-structured. This means that the researcher has not always followed the interview guide in great detail and has sometimes added extra questions. However, the transcripts of the interviews are added to this thesis in a separate document which allows for checking the interpretations of the researcher. Furthermore, each respondent told roughly the same story and indicated that interviewing other persons would be of little use because they would also tell the same story. Therefore, this thesis provides a reliable description of the situation regarding the corridor project. When someone else would conduct interviews with key stakeholders using the same interview guide and using the code tree, the same conclusions would emerge.

Validity is most difficult to establish with the method of participatory observation. It is not possible to join these meetings again and they also have not been recorded since sensitive information was sometimes discussed. Since the researcher was an intern without personal responsibility during the meetings, she could take a more observant role and made sure to not make comments that influenced the behaviour of the candidates. This increases the reliability of the findings. Reliability is also improved because the respondent had joined meetings for several months before the official starting sessions took place. Being used to the context allowed for determining what was normal behaviour and what stood out during these sessions. By constructing an observation guide, the researcher has lowered the risk of researcher bias and has made the observation as structured as possible which allows for replication or verification for others (Appendix C) (Kawulich, 2005).

3.4 - Shortcomings and generalizability of results

Shortcomings of the research

The timing of this thesis provides a shortcoming of the research. The observed meetings take place during a specific moment in the corridor process, namely at the start. This means that participatory observation represents a snapshot in time and does not provide insights in the full process of corridor development. In order to still be able to make conclusions about the whole corridor process, interviews with the province of Gelderland and Groningen were held, both of which have been working on their corridor way longer than Overijssel has. They provided a similar story about corridor development as was found with the corridor ZTM, which indicates that the timing of this thesis is not a major shortcoming. In fact, it can also be an advantage since it provides a better insight into the opinions of people regarding the process because they are actively involved in it. When people have to think back about a certain situation there is a chance that they do not remember correctly how they felt at that time.

There is a risk of researcher bias when conducting the interviews and reading the documents because the researcher was doing an internship at the province of Overijssel while writing the thesis. The chance of this has been minimised by strictly following a schedule in which three days a week were used solely for the internship and during the rest of the week the researcher was able to reflect on this by working on the thesis from home. Furthermore, the interview guide was the same for all interviews and questions were not asked in a suggestive manner. However, there is a Dutch bias in this thesis since it proved not to be possible to interview German stakeholders regarding the corridor ZTM. This also means that all statements about cooperation between German and Dutch stakeholders are not confirmed by Germans themselves. To make sure that the information is still as reliable as possible, a German expert was interviewed on cross-border cooperation.

Generalizability of results

The generalizability of the results of this thesis is limited by the small number of corridor projects that was studied, as is often the case with qualitative research. Only the corridor ZTM was studied extensively which in itself would not allow for generalising the results. To ensure external validity and thus to make sure that the findings of this thesis are applicable to other Dutch corridor projects, two validation interviews were held with people from the province of Groningen and Gelderland (Bryman, 2016). These respondents were often dealing with the same problems and challenges in their corridor project and it can therefore be concluded that the results of this thesis are representative of other corridor projects in the Netherlands. However, since it also became clear that context plays a significant role in the process of corridor projects, it is likely that the results of this thesis do not fully apply to corridor projects in other countries who deal with their own political, cultural and regulatory context. For example, the Dutch 'poldermodel' in which actors have endless conversations in order to reach a compromise, is not found in all countries.

This chapter has described which research methods were used to collect the data that is needed for answering the main question of this thesis. In the next chapter, the results of these research methods are explored.

Chapter 4- Results

This chapter presents the insights that were gained from document analysis, interviews and participatory observation. The chapter is structured according to the blue box in the conceptual model that represents integrated corridor management (figure 3). Therefore, the chapter is divided into two main sections that represent the two components of integrated corridor management. The chapter starts off with governance and explains which actors are involved and how they cooperate in a horizontal, vertical, formal and informal way. Next, the focus is on policy integration in which it becomes clear to what extent there is horizontal, vertical and territorial integration in policy documents regarding the corridor ZTM. After these two sections, these insights are placed in perspective since the third section of this chapter compares them with the interview results from the corridors in Groningen and Gelderland. Throughout the text, references will be made to the respective interview respondent in a normal fond, to newspaper articles in an *italic fond* and to documents in the APA manner. This chapter will only present the results and in the next chapter this will be used to answer the sub questions and the research question.

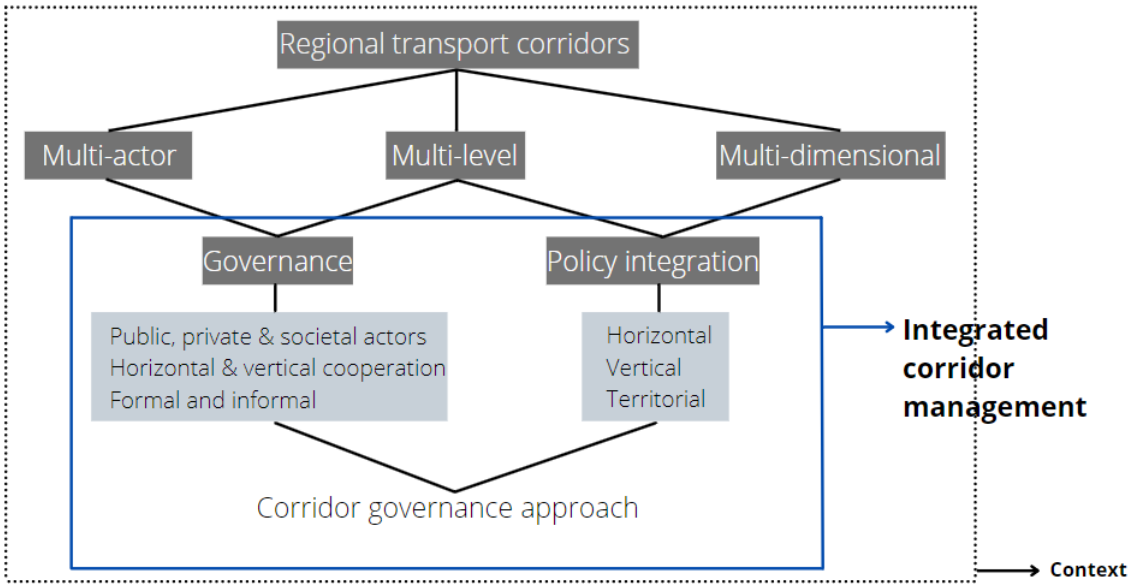

Figure 3 - Conceptual model

4.1 - Governance

This section focuses on the first component of integrated corridor management, which is governance. It therefore helps to answer the subquestion: *How does multi-level governance take place in developing the corridor ZTM?* It became clear that developing a corridor is a task that involves public, private and societal actors from different levels of government. This relatively new way of working asks a lot, both regarding horizontal and vertical cooperation. This section is structured according to the grey box that the conceptual model places underneath 'governance'. First the focus is on public, private and societal actors that are involved in developing the corridor. After that, this section moves on with horizontal and vertical cooperation and it concludes with focusing on formal and informal cooperation.

4.1.1 - Public actors

There are two types of public actors involved in the corridor ZTM. The first consists of the various government layers. The European level is not very prominent in the corridor ZTM because the corridor is not part of the TEN-T network, but there are lobbying efforts in order to change this. The national level was often mentioned by respondents in light of the regional lobby for political will and funds for the corridor (9). In general, respondents were not confident that the lobby efforts will be successful since the national government does not see the importance of the project and because there are eleven other provinces who are also trying to get funds for their corridor projects (7,8). Nevertheless, as became clear during meetings it is an important actor since infrastructure planning seems to be 'stuck' on the national level. Infrastructure investments mainly come from the national level and projects are carried out by Rijkswaterstaat which can overrule local and regional decisions by means of a planning approval decision (*tracébesluit*) (Rijkswaterstaat, n.d.).

Moving on to the regional and local government level, the province is the initiator of the corridor project and sometimes struggles with its position between the national government to which it must comply and the local level which can determine many things by itself (1). Despite not having the power to decide over all things that are important for the corridor project, multiple respondents saw the province as the central actor and were generally positive about its efforts. Finally, municipalities that are located along the corridor are involved in the project. At the start of the project, only the biggest municipalities like Enschede are involved in meetings and later on the smaller ones will actively join as well, partly because these do not have the capacity to extensively participate in corridor projects (1,2,5). As also became clear from the document analysis, municipalities are most interested in the local impact of a corridor and do not feel responsible for the whole corridor. Municipalities highlight their dependence upon higher levels of government when it comes to corridor development and are often indirectly represented by Twente Board and Regio Zwolle (*2, 4*, 2, 4, 9, Municipality of Borne, 2011; Municipality of Raalte, 2020; Municipality of Zwolle, 2019).

The second type of public actors consists of the regional organisations Twente Board, Regio Zwolle and Euregio. They have no legal status but represent the municipalities and companies within their region in order to give them a voice at the regional level and in The Hague or Brussel (2,7). These organisations are talk regularly with each other and with other public, private and societal actors. They most often talk with the province because together with the province they constitute the 'core network' of the corridor ZTM. Since the regional organisations are focused on triple helix cooperation, this core network is broadly supported by companies, knowledge institutions and economic boards which makes it a rather surprising network (6).

4.1.2 - Private actors

When talking about private actors in the interviews, the respondents referred to companies that are located along the corridor. In Twente, these are united in an organisation which has stated that the speed of the railway connection is their top priority and that they are open to help. However, they do feel like the corridor is currently a 'governmental affair' and want to be included in a meaningful way (4). This cooperation is complicated because companies have a different culture and way of working compared to public and private actors. Companies like to just start with the corridor project and deal with anything that they run into along the way. Governments like to think carefully about their actions first and talk with stakeholders before they implement projects, which takes longer. Besides this, companies are more direct in their communication compared to governments since they do not have to take political factors into account (2).

Respondent 2 and 4 states that there is quite some trust but also a lot of distrust and discomfort in communication when private actors interact with others. Respondent 2 states: '*If you want to set up projects like this in which multiple parties participate, you need to invest in bringing parties together, building trust, stimulating the feeling that you will do it together and then you can start building the project*'. When talking with all these different actors, the respondent feels like an

interpreter who speaks both the language of the private parties, e.g. companies, and the public parties. In the ideal world, one common language appears but the respondents do not expect this to happen because of the different cultures. It can thus be concluded that even though in theory the private actors support the corridor because of their involvement in triple helix structures, in practice their cooperation with other actors is difficult.

4.1.3 - Societal actors

Since triple helix cooperation is important in the corridor ZTM, schools are also involved in developing the corridor. Cooperating with universities (of applied science) and other educational facilities was seen as important by multiple respondents. These schools have an interest in helping in the corridor process since developing it will lead to fast connections which helps them in sharing knowledge and attracting students. As became clear from Euregio (2020b) and Panteia (2021) the corridor region, especially Twente, is dealing with a brain drain and by incorporating the needs of students and educational facilities in the corridor project, a brain gain needs to be realised. Despite this important issue, the educational facilities are not seen as core stakeholders by the respondents but educational facilities also do not want to belong to this core group (4,8).

Societal actors also include citizens and organisations whose aim is not to make a profit from their work like nature organisations. From the actor analysis, which is displayed in chapter 3, it already became clear that these do not have a central role in the development of the corridor ZTM. They were also hardly ever mentioned during corridor meetings in which the core stakeholders were present. However, from analysing newspaper articles it became clear that societal actors should not be forgotten because there are already protests regarding the expansion of the infrastructure from people who worry about the potential nuisance from more train tracks or roads (*9*). There is also another type of societal actor that needs to be kept in mind which are people who own land that is needed for developing the corridor (*10*). Both public and private actors thus depend more or less on the cooperation of societal actors with the corridor project since the latter are able to slow down or stop the project. However, so far these actors have barely been taken into account.

4.1.4 - Horizontal cooperation

Now that it has become clear which public, private and societal actors are involved in the corridor ZTM, this governance section moves on to horizontal cooperation. As became clear from the theoretical framework, horizontal cooperation refers to actors who interact with each other at the same government level, e.g. between sectoral departments (Romein et al., 2003). This section is therefore structured according to the different government layers that are involved in the corridor ZTM, ranging from highest to lowest level. The highest level will be the province and not the national government since no insights were gained about cooperation within national government departments from the documents and interviews. This section thus starts off with describing how employees of the province work together and then moves on to discuss cooperation within and between regions and within and between municipalities.

Difficulties regarding horizontal cooperation within the province

Horizontal cooperation regarding the corridor within the province of Overijssel is not going smoothly even though the deputies call for doing it and respondents note that it is impossible to develop a corridor without working in an integrated way (2). This will be explained in this section by first looking at the historical way of working, then to what is going wrong and finally to changes that need to be made. Regarding the historical way of working, respondents stated that the province is used to working in sectoral departments and has therefore stayed quite traditional in the way people work (1,3,7). Respondent 7 described the situation as: '*We used to take care of our own garden. We planted, could do what we wanted, gave some water and everything was growing. What you now see with the corridor is that all the fences between the gardens are removed and that someone is shovelling in my garden*

and I am doing that in his garden'. The corridor thus involves working in an integrated way which is new for the employees and therefore poses a challenge for working on the corridor ZTM. Currently, there are nine different groups of people within the province who all somehow work on the corridor. In total, there are fifty people involved in these structures who often do not know about the other structures (3).

The above situation results in making mistakes, missing opportunities and doing unnecessary work because many people might be working towards the same thing without realising (1,3). During meetings there was often some irritation when yet another new name came up of a colleague that is working on the corridor. The reason for this lack of overview of what is happening regarding the corridor can partly be found in Covid-19 which made cooperation between departments more difficult (3). However, the main reason is that everyone has their own project and sticks to tasks that are mentioned in the project description. When things come up that do not fit this description, they keep their hands off of it (3,4). Therefore, they also do not feel responsible for integrated projects like corridors. This was illustrated by an employee of the province who received a phone call from his colleague who asked what 'they' were doing with the corridor, as if it is not the province who is working on it (7).

Working in an integrated way on the corridor involves making changes in the provincial organisation. A lesson that was learned is that it helps to have a clear understanding of which themes are involved in the corridor project and what the aim of developing the corridor is (1,3). The people who assign projects that are linked to the overarching corridor project need to have an overview of what is happening in other parts of the organisation in order to link projects with each other (4). The first step has been taken since people from all relevant departments are brought together every two weeks to talk about the corridor and learn from each other's projects. However, this did not happen at the start of the project. Furthermore, there needs to be a core team that takes ownership of the project and also makes people from other departments feel responsible for the corridor (3). The core team in Overijssel falls under the department of project- and program management, which is a non-sectoral department. This is generally considered to be a good thing because it allows people to have a more 'open view' compared to people who have been working within their own sector for several years (2). Finally, when working in an integrated way on the corridor delivers successes, these need to be celebrated to show employees what they have achieved (7).

Horizontal cooperation within and between regions and municipalities

The cooperation within the regional organisations of Euregio, Regio Zwolle and Twente Board is good and efforts are made to work together with people from various departments in order to create an integrated plan. Respondent 7 calls them 'integrated clubs' since they make integrated strategic agendas and are not working in sectors. However, horizontal cooperation is also about cooperation between the same government levels and in this sense improvements can be made (6). Current cooperation between regions is sometimes lacking or only includes the Dutch regions and leaves Münster out. It would be beneficial to improve these contacts since it allows for sharing knowledge which gives them a stronger position within the whole governance network and prevents doing unnecessary work. Cross-regional connections can also expand the daily urban system and market of a region. The regions are willing to improve the horizontal cooperation, as respondent 5 notes: '*Everyone has their own strategy. Everyone knows how their own region is doing, where they want to go. Let us see now what we can do together*'.

Regarding cooperation within municipalities, the insights from Enschede showed that municipalities are trying to work in an integrated way on the corridor. This municipality includes people from mobility, economy and spatial planning in a project group which discusses developments related to the corridor (9). This matches the document analysis which shows that municipalities couple many themes to the corridor ZTM. However, the strategy of Enschede is not found in all municipalities. The municipality of Raalte (2020) and many other small municipalities state that the corridor ZTM is not a project for local

governments and have therefore decided to join either the Region of Zwolle or Twente Board in which they work together.

Regarding cooperation between municipalities, it became clear from the document analysis that municipalities tend to stay within their own daily urban system (Enschede, 2021; Kracht van Oost, 2020). The interviews strengthened this statement since an employee of the municipality of Enschede, located in Twente, had no idea how the municipality of Zwolle thinks about the corridor because there is little contact (9). There is more contact between German cities and the city of Enschede since they are neighbours. This has not yet resulted in actual projects but has strengthened the relationships and networks between the cities. The respondent does feel like working together with other cities outside of the current cooperation in regional networks would be a good idea in the corridor project since the cities are facing almost the same problems. Speaking to the province together would give them a louder voice in the corridor process (9).

4.1.5 - Vertical cooperation

From horizontal cooperation, this governance section moves on to vertical cooperation which is the cooperation between actors and organisations from different government levels (Romein et al., 2003). In the corridor project, people first discussed their plans and ambitions within their own government level and then moved to vertical cooperation with other actors. This section explores the experiences with vertical cooperation. It again starts off with the highest government level and discusses the cooperation between the national government and other actors. After that, it moves on to governance structures initiated by regional organisations. Municipalities have not initiated vertical governance structures for the corridor and are therefore not discussed separately. In the interviews it became clear that cooperation across borders is also an important theme regarding vertical cooperation and therefore this section concludes with this.

Cooperation of local and regional actors with the national government

The Ministry of Infrastructure and Water Management (2021) states that cooperation between all involved stakeholders is needed to achieve the full range of positive effects of corridor development. The same ministry also mentions the corridor ZTM in its document 'the future image of public transport 2040'. Consequently, the province tried to get in contact with the national government but this proved to be difficult. Respondents feel like the ministry does not want to talk to the province and doubted whether they take the corridor efforts seriously and realise why the corridor development is needed (3,7,8). This matches the statement of respondents that the further an actor is removed from the border region, the less engaged they are with the corridor (3,5,8). However, as respondent 9 has stated and as became clear during meetings, the development of the corridor ZTM is ultimately dependent upon the political will and financial support of the national government. Therefore, lobby efforts are made by the province and regional organisations to get attention and funds. This lobby has taken off in the past year (6). The reason for this is that the 'core network' of the corridor ZTM, consisting of Twente Board, Regio Zwolle, Euregio and the province of Overijssel, has publicly presented themselves in The Hague to members of the national parliament. During this event, they kept repeating the message of why the corridor ZTM needs to be developed (4). So when cooperating with the national governance, respondent 6 said that: '*Focus, a consistent message with a strong coalition and visibility has been important for taking steps*'.

Vertical governance structures initiated by regional organisations

In the corridor ZTM, regional organisations have involved various stakeholders in governance structures which they create with every new research or project (Euregio, 2020; Public Result, 2022). These structures all somehow work on the corridor ZTM but do not work together, even though respondents repeatedly stated the importance of this since it provides support for the project and it makes each actor stronger (4,5,6). Furthermore, the document analysis showed that often the same actors are included in these governance structures. For example, the municipality of Zwolle is involved in the governance structure of Euregio (2020), the region of Zwolle (2020) and the omgevingsagenda

Oost (2020). During meetings, this was addressed several times since it hinders the creation of one coherent plan for the corridor ZTM and it was stated that '*we are playing chess at so many boards at the same time'*. In general, the interview respondents have no overview of what happens in these structures (1). Why this is a problem was explained by respondent 6: '*In all processes things happen that we do not know from each other but should know since this connects with other issues. This leads to splintering, too much work, unnecessary work all of which could have been organised differently if we had communicated beforehand*.' Reasons for this situation were found by the respondents in the lack of physical meetings due to Covid-19 and because of poor communication in general (6). The consultancy firm Public Result (2022) and the province have recognised the problem and try to work from existing governance structures instead of creating even more new ones since they state this is the only way to make implementation of corridor plans possible (1).

Considering all these structures, respondents express the need for one actor that is responsible for the corridor project. By provincial employees and by external actors, the province is seen as the actor that is most suited to bring stakeholders together and align public and private interest in the Dutch part of the corridor since it is a regional project and the province knows best how to do things in Overijssel (2, 8, *11*). The province is also the logical actor to take the lead since it is aware of regional interests, the corridor is located for 75% in Overijssel and because they are already dominant in many governance structures regarding accessibility, railways and spatial development (2,3,4,7,8). Even though most respondents state that the province should take the lead, they doubt whether the province can actually take up this role since it does not have authority over all issues and still struggles with its internal governance. However, it was also stated that the province simply does not put enough effort into it (3,4,6,7). Furthermore, other actors like Prorail and Rijkswaterstaat should also feel some kind of responsibility since others are dependent upon their actions to realise the development of the corridor ZTM (1,8). The Germans will not like it when Overijssel also takes the lead in the development of the German part of the corridor. Therefore the responsibility for the whole corridor, including the German part, is still unaccounted for.

Cross-border cooperation in the corridor ZTM

The corridor project is characterised by poor communication across borders even though it is repeatedly stated that this communication is vital for a successful corridor project (Euregio, 2020a). The cause of this can be found at the start of the project as noted by respondent 8: '*There is a weakness in our corridor story, which is that we as the province came up with it because we think it is a good idea. It needs to be integrated and there needs to be one big spatial vision. This is called Zwolle-Twente-Münster. However, we have not even spoken to one German actor about this plan*.' Because of this, big efforts need to be made to get the Germans involved in the project. German actors seem to be less interested in the corridor compared to Dutch actors as became clear from the document of Panteia (2021) and during an official 'starting session' of the corridor project in which three Germans were willing to be present compared to eight Dutch actors who also gave their opinion more frequently. Nevertheless, Euregio (2020b) states that there is potential for cooperation since the Dutch and German corridor regions are quite similar in terms of spatial layout and the problems that they face. However, the physical border is still present in the minds of people and cooperation is complicated by linguistic, regulatory and cultural barriers (5,8; Euregio, 2020; Nederland Slim Benutten, 2020; Panteia, 2021). Consequently, opportunities are missed because of a lack of knowledge about career possibilities, existing information, recreational possibilities and spatial developments at the other side of the border (5, Panteia, 2021). Euregio is seen by the respondents as the actor that can bring both sides of the border together (1,5,6).

The main reason for poor communication is that the government levels at the Dutch and German part of the corridor are not similar. The Netherlands has three layers: national-regional-local. This is not the case in Germany since there five government layers involved in the corridor (figure 11). These all have their own governors and responsibilities for parts of the corridor. Therefore, it is always necessary to

cooperate with multiple German government levels at the same time. The province has the most contact with the Staatskanzlei of the Bundesland Nordrhein-Westfalen because they are responsible for cross-border cooperation and work for the Europe minister and prime minister of Nordrhein-Westfalen. The Bezirksregierung does not exist in the Netherlands and is the executive organisation of the Bundesland. There are three of them in Nordrhein-Westfalen and Münsterland is the one that is involved in the corridor ZTM. The respondent calls the cooperation between the province and Münsterland the regional cooperation. The Kreize are the 'mini provinces' which have their own Landrat. Finally, there are the Gemeinde which can be compared to the Dutch municipalities (5).

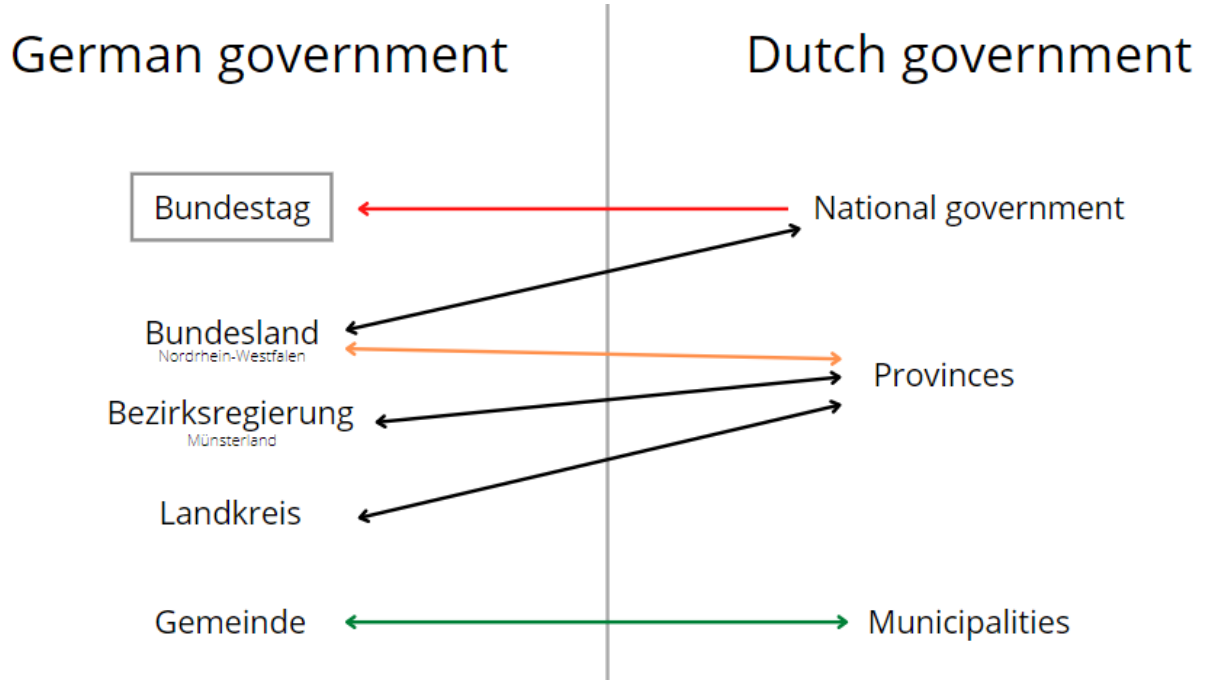

Figure 11 - Government layers in Germany and the Netherlands

Communication between these government layers is difficult as can be seen in figure 11. The national government wants to speak to the Bundestag in Berlin but is often referred to the Bundesland Nordrhein-Westfalen (red arrow). The province wants to speak to the Bundesland, but the latter does not prefer this because they tend to think of them as 'just' a province that does not have the responsibility for the corridor and only wants to speak to the national government (orange arrow). However, the Dutch national government is not really active on the corridor ZTM. Therefore, the province does talk with the Staatskanzlei from the Bundesland and even though the province is officially too important for a Bezirksregierung or Kreis, they are forced to interact with them as well. The only thing that matches are the Gemeinde and the Dutch municipalities but these do not have enough power, money and knowledge to develop the corridor ZTM (green arrow). Despite the difficulties, respondents do feel like the Germans are willing to cooperate with Dutch actors regarding the corridor ZTM (3,5,8). However, during meetings it also became clear that Germans do not like future visions, which the Dutch actors want as a first step, and instead like to have more concrete projects. The German government layers themselves are trying to work together, but this is complicated by hierarchy and responsibilities that are fenced off. All of this illustrates the quote of respondent 8: '*Everything that is integrated and needs to be solved in an integrated way is for the German government always a challenge*'. All of this complicates the development of cross-border transport corridors.

4.1.6 - Formal and informal cooperation

To close of this governance section, attention is paid to formal and informal forms of cooperation that take place in the corridor ZTM. In formal governance meetings, responsibilities are divided and the decisions are made. The two official starting sessions that were organised by Public Result and the province of Overijssel can be seen as examples of these formal governance structures. However, there were no official procedures to become a member and there are also no formal rules during the process. Furthermore, it is not clear which actor is responsible for the corridor governance process, even though respondents noted the need for this. Despite this, respondents were generally satisfied with this structure and stated that these structures should be used for the corridor ZTM instead of constructing yet another governance structure (8). In this way the Germans will also join more quickly because they do not like new governance structures.

Even though these formal governance structures are important, respondent 7 noted that without informal interactions this formal cooperation will never be possible. Actors that work on the corridor ZTM also work with each other in other projects. Therefore, they know each other well and speak often outside of formal meetings. This leads to trust between these actors which makes making official decisions a smoother process. The importance of informal conversations also became clear during the official starting session of the corridor project in which actors were not really talking with each other during the official meeting but rushed to each other during the break and after the official meeting was over to catch up with each other and to talk about the corridor project. People from the province also had regular lunch meetings with actors from other organisations during which they could speak about the corridor in an informal setting. Respondents stated that this leads to better cooperation during formal meetings.

4.2 – Policy integration

The second part of this chapter focuses on the other component of integrated corridor management which is policy integration. It therefore helps to answer the sub question: To what extent does policy integration take place in policy documents regarding the corridor ZTM? In line with the conceptual model, the section starts off with horizontal policy integration after which it moves on to vertical and territorial integration.

4.2.1 – Horizontal integration

Horizontal policy integration means that there is integration of policy domains within the policy documents of a certain government level (Runhaar et al., 2014). From the interviews, document analysis and the observations it became clear that horizontal policy integration is both inevitable and a way to get funds. Many documents stress the importance of an integrated approach when developing corridors. However, the word ‘integration’ does not have the same meaning in each document. On the one hand, integration is seen as combining sectoral implementation plans into network plans in which multiple modalities are combined. The effects of these network plans need to be considered at the corridor level, which is termed integration. (Province of Overijssel, 2021; Region of Zwolle, 2020; Royal HaskoningDHV & Urhahn, 2020). On the other hand, the majority of documents regard ‘integration’ as combining several policy domains in a transport corridor project which is the definition that is used in this thesis. The next section will discuss which policy domains are most often mentioned regarding the corridor ZTM.

The dominant focus on infrastructure and economy

The policy domains that were most often mentioned by respondents in relation to the corridor ZTM are infrastructure and economy. This was also the outcome of the document analysis (e.g. Raalte, 2020). Infrastructure is seen as an important theme since it is the theme that initially started the project, is the most visible part of the corridor, already has concrete projects and because it is the first thing that comes to people’s mind when thinking about the corridor (2,3,5). This focus on

infrastructure can also be due to a narrow definition of the word 'corridor' in which it is seen as a collection of infrastructure and no further connections are made (e.g. Ministry of the Interior and Kingdom Relations, 2020). Another reason for its popularity is that it is the domain that can attract the most money from the national and European government which makes it possible to realise housing, economic and social projects that are swept under the overarching corridor project (2). Infrastructure then forms the basis since people work from the question how it can support other themes like liveability (5,6; Almelo, 2020).

Economy is also mentioned in every document and in each interview. There is a big belief that developing the corridor ZTM will increase the economy of all corridor regions because it will open up the currently separated daily urban systems of the three regions (e.g. *1, 8,* Almelo, 2020; Euregio, 2020; Hellendoorn, 2014; Nederland Slim Benutten, 2020; Panteia, 2021; Royal HaskoningDHV & Urhahn, 2020; Raalte, 2020; Zwolle, 2021). Not developing the corridor is seen as an economic disaster for the corridor region (*11*). The researcher could not find a document in which this was seriously questioned and when respondents were asked about the possibility that the positive predictions do not become reality, it became clear that people find it hard to imagine a different scenario. A few documents talk about potential nuisance for citizens and one respondent noted that better infrastructure can have negative effects for a city since people are more likely to get a job farther from home.

Despite the focus on these two themes, it is increasingly acknowledged that a sectoral approach has been dominant and that a broader view of corridor development is needed. This became clear during meetings and is illustrated by the fact that there was not a respondent who mentioned just one theme when asked which themes should be taken into account in the corridor ZTM. Furthermore, the national government also calls for an integrated and area-based approach (College of government advisors, 2018; Ministry of Infrastructure and Water Management, 2021). Respondents have noted that parties that invest in corridor projects are also increasingly interested in more than just the '*flat mobility story*' because it is increasingly realised that it takes more than just mobility to make a region successful (9).

Towards an integrated approach: the broad welfare perspective

Themes that documents most often mention in relation to regional transport corridor development, besides infrastructure and economy, are housing, inclusivity, energy, climate adaptation, liveability, health and social and recreational services (Euregio, 2020; Province of Overijssel, 2021; Region of Zwolle, 2020; Royal HaskoningDHV & Urhahn, 2020). Which theme is dominant in a certain corridor project also depends on the people who are working on the corridor. When an economic team becomes responsible for the corridor, economy might receive more attention than infrastructure (2). The team that is working on the corridor ZTM within the province is from an interdisciplinary department and the researcher has experienced that there is no natural bias towards a certain theme. Following the document of Nederland slim benutten (2020), the province included many themes in the corridor project by taking 'broad welfare' as a leading term in the development of the corridor ZTM. Broad welfare includes everything that present and future generations find important. Which themes Overijssel perceives to be indicators of broad welfare can be seen in figure 12. The sustainable development goals are the inspiration for these themes. The broad welfare focus is apparent throughout the corridor process and it is stated that the three corridor regions all have their own strengths and weaknesses and can therefore help each other in increasing their broad welfare.

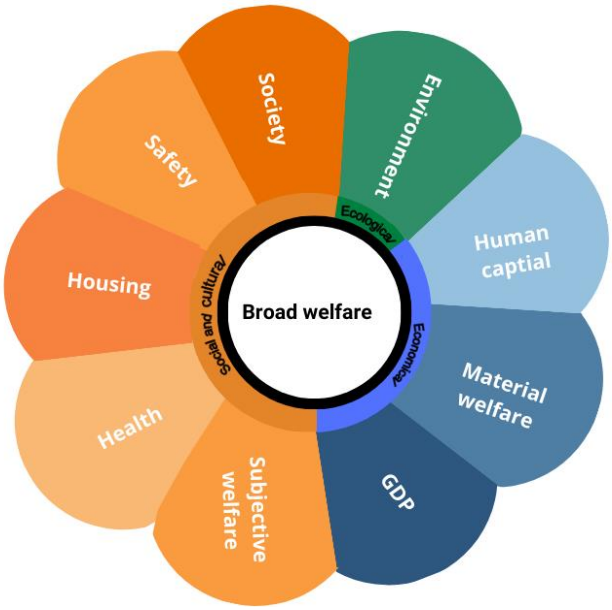

Figure 12 – Broad welfare indicators. Source: Own image based on information from Swart, 2021.

This broad welfare focus also becomes apparent in documents from and interviews with other actors, even though this is not always explicitly stated. According to these documents and newspaper articles, developing the corridor can support the environment and combat climate change since it can lead to a modal shift and because electricity networks can be connected across borders which allows for sharing of renewable energy. Furthermore, human development can thrive through the corridor and educational benefits are expected to arise since knowledge can travel more easily (*11, 12, 13, 15, 17*, Euregio, 2020; Hellendoorn, 2014; Panteia, 2021). These are just a few examples of broad welfare themes that are covered. Corridor development is seen in these documents and by most interview respondents as connecting policy domains and constructing a story about what you want to do with these domains (4).

The dangers of horizontal policy integration

Even though cooperation between sectoral departments can be difficult, integration of themes is seen as very important in the corridor ZTM, even to the point where respondents are afraid that too many themes are included. Respondents described the corridor project as having a 'snowball effect' that makes it difficult to determine when enough integration of themes has taken place (1,3). As respondent 1 noted: '*You can always find another hook, but it has been told to me that integration can be fatal, so at some point you need to curb things in and we are not good in doing that*'. Finding these hooks is inevitable since upgrading a railway will not happen without a description of why this is necessary in terms of economy, liveability and other themes (4,5). However, compiling themes gives the impression that everything is equally important, while this might not be the case (Enschede, 2021). Furthermore, it is not clear where the scope of corridor projects should stop. Respondents repeatedly noted that adding new policy domains postpones the actual implementation of the project (1,5,6). Ultimately, the politicians must decide which themes are included in the corridor ZTM since the corridor plan has to be approved by local and provincial councils (1).

Another danger is that in practice integration does not take place to a satisfactory extent. It seems impossible to not use an integrated perspective when working on corridor projects, but in practice this is difficult to achieve. Some respondents stated that on paper it seems easy and logical to connect themes and therefore the corridor is nicely integrated on paper. However, putting this into practice is more difficult than is often thought (1,3). There is a lot of talking but little concrete action has been undertaken thus far which is illustrated since every respondent agrees that an integrated approach is needed but no one is satisfied with the way in which this currently takes place.

4.2.2 – Vertical integration

The second form of policy integration is vertical integration. Vertical policy integration entails coherence between documents across government levels (Runhaar et al., 2014). It became clear that there are many documents regarding the corridor ZTM but that people are not always aware of this. Furthermore, there was hardly any attention for national and European policy.

Limited knowledge of documents

Over the years, many documents have been written that have some sort of connection with the corridor ZTM. These documents entail information regarding history, economic structure, future plans and trends. However, when the respondents were asked whether they knew what documents are out there and what their content is, none of them answered with a convincing yes and said that they had not taken enough time to explore this at the beginning of the project (6). The researcher herself also got this feeling because, to name an example, after a few months people started to discover that they were doing something (writing a report about the economic structure of the region) that was already done by others a year earlier. It also became clear from the document analysis since Public Result (2022) sends out forms to other actors asking them to provide their documents and Euregio (2020) acknowledges that their 'study of studies' is probably not exhaustive. Consequently, little vertical integration of policy documents had taken place.

The researcher conducted a policy analysis for the national, regional and local level and presented this to employees of the province who were surprised to see that there were already so many policy documents out there (see figure 13 for an example of the regional level). Respondents did state that in order to gain support for the corridor project from other actors, it is necessary to keep their documents into account throughout the corridor process (1). During meetings it became clear that regional actors regard documents from the local level as especially important, even though these were not mentioned in regional documents. The existence of the documents makes the corridor project difficult because ideally the project had started before all of these documents were written and since this is not the case, irritation emerges (4,6). The task is now to put all useful information and policy decisions from these documents together as pieces of a puzzle and then determine what the shared ambitions or goals are and what is missing (2,4,5,6).

Integration of European and national policy

From the interviews it already became clear that respondents had little consideration for policy from the national government and this also showed in their documents. The documents were mainly focused on the effects that the corridor would have for their own jurisdictions and about reasons why this corridor needs to be developed. However, as also becomes clear from figure 13, the national government does have policy that affects the corridor ZTM. Besides this, there was no attention in the documents for European policy. This is despite the fact that respondents did state the ambition that the corridor ZTM is taken up in the comprehensive network of TEN-T corridors. In documents from municipalities there was also no indication that regional or national policy had been considered. It can thus be concluded that no vertical integration of policy documents has taken place in the corridor ZTM.

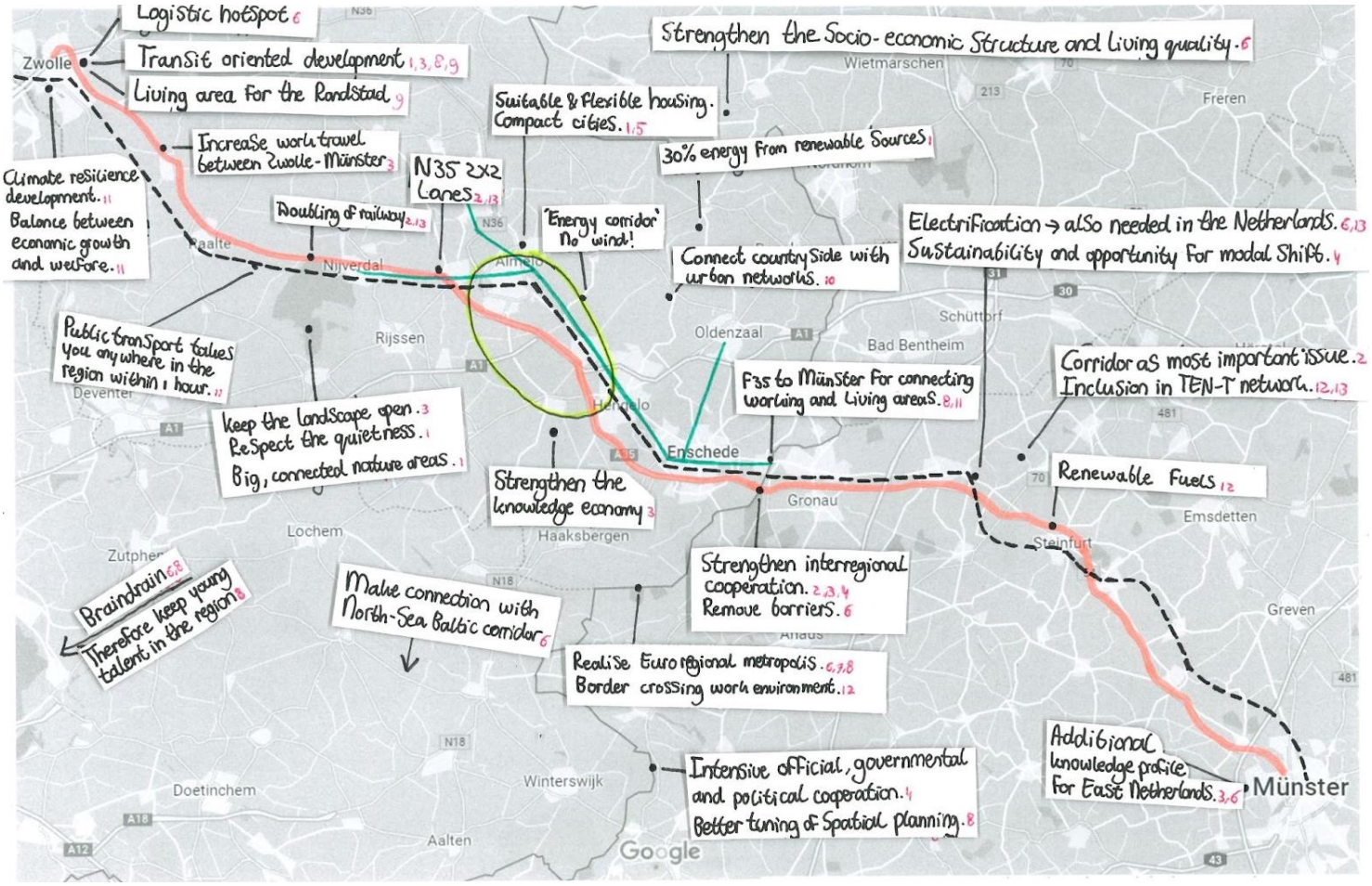

Figure 13 – Policy analysis for the regional level. Source: Own image

4.2.3 – Territorial integration

This policy integration section closes off with territorial integration. Territorial policy integration means that organisations who belong to the same geographical scale, like municipalities or regions, need to have similar goals and interests within their documents regarding the corridor (Runhaar et al., 2014). For example, regarding the corridor ZTM the municipalities of Zwolle and Enschede need to have the same aims. This is important since having different goals also means that there will probably be an uneven implementation of regional corridor agreements which weakens the corridor as a whole (Macdonald et al., 2021). When there is full vertical integration, this does come close to the ideal outcome of integrated corridor management. However, it became clear that coherence between documents is not always intentional and can also be explained because neighbouring jurisdictions deal with the same problems. Furthermore, textual integration does not mean that it also takes place in practice.

Coherence between regional policy

Regarding regional territorial policy integration, regions mostly state the same reasons for developing the corridor. However, there is a difference between the documents of Twente Board and Regio Zwolle. Twente Board is focused on connecting Twente with Zwolle since this will stimulate their economy. However, Zwolle is less focused on a better connection with Twente since they already have a blooming economy and are more focused on the Randstad (7). This incongruence was also noticed by the researcher during the process. Twente takes up most attention in the corridor project since this is the region where the corridor can yield the greatest benefits. Connecting Münster with Twente is quite logical because of the educational and economic links that already exist between these regions. However, it is difficult to come up with links between Zwolle and the other regions. One really had to

be creative and ask a lot of people to eventually come up with a story of why connecting Zwolle and Münster would be beneficial. The same goes for Zwolle and Twente. It seems like the regions are not on the same pace which can hamper the implementation of and the support for the corridor project.

Coherence between local policy

There are no documents from the local level that talk only about the corridor ZTM. Instead, they have environmental and mobility visions in which the corridor is occasionally mentioned. Overall, the goals of the municipalities are quite similar. Accessibility needs to be improved, houses must be built, the economy needs to grow and the environment must be considered. The municipality of Enschede feels like it is important to tackle challenges with other municipalities in their daily urban system. Therefore, it also wants to synchronise its policies with other municipalities (Enschede, 2021). During an interview, an employee of Enschede stated that the economic agendas of nearby German cities are taken into account, especially when there are similarities with what happens in Twente (9). In documents from other municipalities this statement was not explicitly found. However, because of the similarities in the environmental visions of Dutch municipalities it is likely that they have taken other municipalities into account. However, this can also be explained because all municipalities are dealing with the same problems like the braindrain or the housing shortage (5). At the same time, each actor deals with these problems in their own way. This explains occasional differences between the documents, like whether wind turbines along the infrastructure is a goal. In the end this all refers to the same issue of renewable energy production and climate change. Still, these differences can make working on the corridor as a whole more complicated (7). Territorial integration with German municipalities is more difficult since there are different administrative systems in the Netherlands and Germany. In the Netherlands, data is available on a broad range of subjects while in Germany this is often not the case. This makes it harder to make sure that plans are a good fit across borders (9).

Territorial integration in practice

An important thing to note is that there is a difference between text and practice regarding territorial policy integration. Respondents have noted that on paper there is coherence between the policy documents that they know which confirms the outcomes of the document analysis. For example Nordrhein-Westfalen and the Dutch government both want more electric and faster trains (8). However, in practice there is hardly any coordination between these governments which leads to the implementation of projects that do not match each other. When devising policy, everyone is focused on their own jurisdiction and there is no habit of looking at the policies of other countries, especially not regarding infrastructure since the Netherlands and Germany are not at the same pace and deal with different actors and regulations (8). Coherence between documents is thus not always intentional and it remains to be seen how much coherence there will actually be in practice.

4.3 - Placing the corridor ZTM in perspective

Now that it has become clear what insights were gained from the corridor ZTM regarding governance and policy integration, the last section of this chapter compares these with the insights that were gained from the case studies in Groningen and Gelderland. As became clear in chapter 3, these provinces are involved in their own corridor projects and were both interviewed on their experiences. Comparing the insights from Overijssel with these two provinces will show whether the above results are specific for the corridor ZTM or whether they are valid for other Dutch regional corridor projects. This will be done in the same order as the rest of the chapter, first the focus is on governance and then on policy integration.

Validation of results: Governance

The governance processes of Groningen and Gelderland were quite similar to those in Overijssel. All started with a horizontal governance process in which colleagues from different policy domains were invited to provide input in the corridor process. These governance processes were not easy in both provinces. The province of Groningen clearly experienced that not all people are able to work in an

integrated way and Gelderland also stated that it is difficult to involve other policy domains in the corridor project. This becomes clear since the respondent said: '*There is a literal fight within our organisation to convince everyone of the importance of an integrated corridor approach since we are so thematically organised*.' Nonetheless, the horizontal governance process was seen as vital for the success of integrated corridor management since it allows for connecting policy domains in an effective way.

Regarding vertical cooperation, the province of Groningen cooperates most with the three municipalities that are located along the corridor. There is no official hierarchy in this network, but the municipalities did ask the province to take responsibility in the corridor process. This cooperation was first hampered because the representatives of the four actors did not know each other personally. Besides the core network, private and societal actors were invited to participate in workshops to give their opinion. The decision to involve them early in the process was logical according to the respondent since the integration of multiple policy domains in the corridor project means that it partly determines the future of the area in which these actors live and work. The willingness of these actors to participate becomes clear from the fact that the province has received 500 responses on the first draft of the corridor plan. There were hardly any other governance structures that were working on the corridor at the start of the corridor project. The fragmentation of the organisational landscape, which was observed in Overijssel and Gelderland, was thus not found which made vertical cooperation easier and less time-consuming.

Gelderland chose a different approach regarding vertical cooperation and cooperated from the start within the governance structure 'Logistics Valley'. This is a triple helix cooperation which means that academia, industry and government work together. This kind of cooperation takes a lot of time which can partly be attributed to complexities in integrating scales and policy domains and to the lack of a responsible actor. However, respondents also blamed it on the fact that not all relevant actors are present in Logistics Valley and that it does not have a legal status. Therefore, the respondents suggested that one needs to dare to say goodbye to unnecessary governance structures and that a good external actor analysis needs to be conducted at the start of corridor projects. Only people with money and an interest in the corridor were included in governance structures since inclusion of opponents would hamper the project as stated by the respondent: '*It is not necessary that everyone runs equally hard, but you need people that do want to run with you. If people do not agree, we will meet them in court. That is how it is organised in the Netherlands*.' Gelderland is also involved in national and European governance networks since their corridor is part of the TEN-T network (Rhine-Alpine corridor). However, the respondents had no idea what decisions were made in these networks.

Concluding, it can be stated that there is a difference regarding the extent to which societal and private actors are included in the corridor process. While Overijssel has not yet involved these actors in their governance process, the other two provinces have done this and also stated that this is vital in corridor processes. The national government was not a key actor in any province, which confirms the insights from Overijssel. Another thing that is validated is that both informal and formal processes are important in corridor governance process, which is resembled in the stated importance of actors knowing each other and the need for an actor who takes responsibility.

Validation of results: Policy integration

Policy integration followed a different process compared to the corridor ZTM since the corridors in Groningen and Gelderland did not immediately integrate policy domains in their corridor project. In Groningen, it was initially not the plan to integrate different policy domains in the corridor A7/N33. Instead, the focus was on the economic potential of developing the road infrastructure. However, when this plan was presented to the local and provincial councils this changed as told by the respondent: '*They all responded that space is scarce and a wider focus was needed since the corridor influences energy, liveability, agriculture and climate*'. The respondent is also satisfied with the extent

to which these policy domains are eventually integrated in the draft plan for the corridor, even though the economic dimension still receives the most attention.

In Gelderland, the corridor started to be developed from a logistical perspective but the key actors themselves soon realised that an integrated approach is needed since the corridor can have beneficial effects on welfare, health and liveability in the province. However, there is one precondition for this integration as stated by the respondent: '*Integration needs to bring added value, when this is not the case it is better to keep doing everything separately from each other*.' The respondents called the corridor an '*umbrella*' since it is an overarching project that aims to connect smaller projects. This is also the reason why corridors ask for an integrated approach. Doing everything separately would lead to imbalances in the province.

As was the case in Overijssel, there was little indication that vertical integration of policy from different government levels had taken place in Groningen. The respondent stated that Groningen was not focused on the national and European level and only paid attention to regional and local policy documents. The corridor of Gelderland is part of the TEN-T network and is therefore more involved with the national and European level. The corridor project in Gelderland also started because it was mentioned in European and national policy documents. Regarding territorial policy integration, Groningen had some troubles since municipalities had different plans and ambitions regarding the development of housing and companies along the corridor than the province. This involved making decisions and the respondent noted that eventually, the province had to give in to the municipalities and change its plans regarding the placement of heavy industry. In Gelderland, these problems were not prevalent since respondents noted that municipalities have common ambitions as the province regarding the corridor and are also willing to hand over issues to the province.

Concludingly, it can be stated that there are no major differences regarding policy integration in regional transport corridors between the three provinces. Eventually, the importance of the integration of policy domains in corridor projects was recognised in all projects. However, the infrastructural and economic domains still prevail, as is also the case in Overijssel. Territorial integration was an issue in Groningen and not in the other two provinces, but after some discussion the territorial integration did eventually take place. The differences that were found regarding vertical policy integration can be explained by Gelderland having a more national and European focus compared to the other provinces because its corridor is part of the European TEN-T network.

In this chapter, the results that were gained through document analysis, interviews and participatory observation were presented and structured according to the conceptual model. In the next chapter, it will be discussed what these results mean for integrated corridor management by means of answering the sub questions and the research question. Furthermore, a discussion of the results will take place and recommendations for further research are given.

Chapter 5 - Conclusion and discussion

The research question of this thesis is: To what extent can integrated corridor management lead to policy integration and multi-level governance in regional transport corridor projects? Data was gathered by means of qualitative document analysis, semi-structured interviews and participatory observations. For a reflection on the limitations of the research methods and on the generalizability of the results, the reader is referred to chapter 3. In this chapter, the answer to each sub question will be given, after which these insights will be used to answer the research question. Next, the results will be used to reflect on the scientific literature. After this, suggestions for further research are given. Finally, policy and societal implications are discussed.

5.1 - Conclusion

In this section, the sub questions and the research question of this thesis will be answered. This will be done by referring to scientific literature and to the results of the document analysis, interviews and observations. From the answers to these questions it will also become clear what this research has added to the existing knowledge.

What is the relation between integrated corridor management, governance and policy integration?

The first subquestion aimed to make the connections clear between the concepts that are used in the research question. From scientific literature on the development of corridors it became clear that integrated corridor management is an approach that takes the multi-level, multi-actor and multi-dimensional nature of regional transport corridors into account. Consequently, two components of integrated corridor management could be distinguished which are governance and policy integration. From the literature and from the case study on the corridor ZTM, it became clear that these are interlinked concepts. Governance entails that public, private and societal actors have to strive for a collective end through collective action (Van der Heijden, 2014; Wagemans et al. 2019). This shows the connection of governance to the concept of policy integration since the word 'collective' means that goals and interests of all actors need to be taken into account. Since corridors have a multi-dimensional impact regarding both physical and non-physical factors, this also means that multiple policy domains need to be taken into consideration when working on regional transport corridors (Guasco, 2014; Witte & Spit, 2016). The case study of the corridor ZTM has illustrated the connection between policy integration and governance in an integrated corridor management process. On the one side there is a fragmented organisational landscape since there is a multitude of governance structures that work on the corridor and all involve actors from different sectors. The poor communication between these structures hinders effective policy integration. On the other hand, there is a certain unwillingness within governance structures to connect the corridor to other policy domains because this will make the corridor process complicated and long. When a more sectoral way of working is chosen, there is no need for governance processes in which many policy domains from different levels are present. Regardless of whether governance or policy integration is lacking, or both, it becomes clear that problems in these components have a detrimental effect for the extent of integrated corridor management since it results in multi-level, multi-actor and/or multi-dimensional factors not fully being taken into account.

To what extent does policy integration take place in policy documents regarding the corridor ZTM?

This sub question focused on one component of integrated corridor management, which is policy integration. It thus explicitly focused on the actual text of documents. From the document analysis it became clear that organisations make real efforts to integrate many policy domains regarding the corridor ZTM within their documents. This was done because they expect that the corridor will benefit all these domains. This especially became clear from the 'broad welfare' focus that the province of

Overijssel uses in the corridor project. Even though the economic and infrastructural domain often still receive the most attention, it can be concluded that, in their documents, actors are committed to horizontal policy integration. This indicates that organisations are not involved in the discussion of whether policy integration has positive or negative effects (e.g. Pollitt, 2003; Rode, 2019; Runhaar et al., 2014; Schmitt & Smas, 2020) and almost automatically choose to integrate policy domains when it comes to regional transport corridors. There was no vertical integration found in policy documents regarding the corridor ZTM. This indicates that organisations are not focused on regulations and plans that are made at the European, national and, regarding municipalities, the regional level. Instead, they focus on the effects and potential of the corridor ZTM for their own jurisdiction. Regarding territorial integration, the documents show no major differences between the jurisdictions regarding goals and plans for the corridor but it also became clear that this coherence was not always intentional. Still, it can be stated that there is a shared understanding of the need for corridor development which will make the cooperation between actors in the actual governance process easier. Policy integration thus takes place to various extents in documents regarding the corridor ZTM and it can be concluded that integration mostly takes place when it is perceived to have added value for the actors themselves.

How does multi-level cooperation take place in developing the corridor ZTM?

The third sub question focuses on the governance aspect of corridor development and therefore on the second component of integrated corridor management. It has long been recognized that multi-level governance structures are needed in corridor development (e.g. Romein et al., 2003). By means of combining more recent literature (e.g. Öberg et al., 2018) with the insights from the case study, a deeper understanding has been gained of what happens in these structures and of barriers and stimulators for effective multi-level governance. First of all, it became clear that before organisations can fully participate in vertical governance structures, they first go through a horizontal, and thus internal, governance process. This proved to be a complicated process since people are often unwilling to think outside of their own sector and work together with colleagues on issues that need an integrated approach, like corridor projects. This is thus in contrast with the commitment to policy integration that organisations state in their documents. Next, the vertical, multi-level governance process is also a challenge despite the willingness of actors to work together. This is mainly caused by the lack of a central platform in which actors can share information and goals. Instead, there is a fragmentation of regional governance structures which means that there are many governance structures that all somehow work on the corridor, but do not work together. Within these multi-level governance structures there is also no hierarchy since it is unclear who is responsible for the corridor ZTM. Informal interactions between stakeholders outside of corridor meetings can smoothen their formal cooperation. It also became clear that national and regional processes regarding corridors are separated because there is a lack of communication between these government levels. Finally, the transnational nature of the corridor ZTM proved to be the biggest obstacle for multi-level governance. Due to unequal enthusiasm on both sides of the border and due to legal, administrative and cultural differences the governance process was complicated. This thesis thus shows that multi-level cooperation is a complicated process in the corridor ZTM and that the following things are needed to make multi-level governance work: commitment to work in an integrated way, trust, a central governance platform, leadership and knowledge of culture, legislation and politics of other countries.

To what extent is integrated corridor management used in the corridor ZTM?

Integrated corridor management proved to be a holistic approach to corridor development with the goal to improve a variety of policy domains that are affected by the corridor (Rooney et al., 2010) This is done through horizontal, vertical and territorial integration in policy documents and through effective horizontal and vertical governance processes. Sub questions 2 and 3 have already provided insights in the two components of integrated corridor management and this fourth sub question focused on its actual process. During this process it is important to have a central coordination point in which actors can make plans, share information and coordinate efforts (Cejudo & Michel, 2021; Saalbach, 2016; Van Assche & Djanibekov, 2012). There are efforts by the province to create this

central point for the corridor ZTM, but since there are many other governance structures they have to try hard to become the central structure. Successful corridor management also requires leadership, which is still an issue since respondents state that the province should take the lead but does not do this yet (Arnold, 2005). Furthermore, there needs to be interplay between public and private actors (Panagakos et al., 2015). Even though there is some interaction with private and societal actors, these do not belong to the core stakeholders and therefore the corridor ZTM is currently mainly a governmental affair. During this cooperation, there needs to be communication across actors instead of following top-down commands and a shared goal and normative commitment to develop the corridor (Lester & Reckhow, 2012). In the corridor ZTM, communication is not hierarchical, but is also not without its problems. The actors do have equal reasons for developing the corridor and shared goals for its future. In this sense, territorial policy integration is an important component of integrated corridor management. Regarding policy integration, there needs to be an area-based approach in which there is an understanding of the involved policy domains (Candel & Biesbroek, 2016; De Vries & Priemus). These need to be integrated horizontally with the goal of getting a well-functioning corridor (Biesbroek & Candel, 2019; Otsuka et al., 2017). In the corridor ZTM, actors do understand which policy domains are linked to the corridor. They also see policy integration not as a goal in itself but as a necessity for improving the corridor. It can thus be concluded that actors intend to use integrated corridor management to a great extent in the corridor ZTM. In practice, there is still room for improvement but the corridor ZTM is well on its way.

Research question: To what extent can integrated corridor management lead to policy integration and multi-level governance in regional transport corridor projects?

The answers to the sub questions allow for answering the main question of this thesis. In short, the answer is that integrated corridor management leads to a great extent of multi-level governance and a comparatively lesser extent of policy integration. In the ideal situation without any obstacles an integrated corridor management approach will lead to full policy integration and smooth multi-level governance. This means that all policy domains that are influenced by the corridor and all policy from other government levels are taken into account. Regarding multi-level governance, actors from all organisations and government levels would speak regularly with each other without any problems. However, the ideal situation cannot be realised in practice because corridor projects always have to deal with a certain context which consists of politics, people and regulations.

This first becomes clear with policy integration. It is likely that integrated corridor management leads to the inclusion of many policy domains since people are generally of the opinion that this is inevitable in corridor projects. However, these people are also the ones that prevent the full integration of all policies. People find it hard to work in an integrated way and do not want to include too many domains since they want to keep the corridor project manageable. Even when there is full commitment for policy integration, it will still be difficult to achieve since corridor projects often start from a sectoral focus on infrastructure or economy and keep this focus despite the gradual inclusion of other policy domains. It is also difficult to achieve full vertical and territorial policy integration since it is hampered by the natural focus of each actor on its own jurisdiction, even when they are involved in regional projects like transport corridors.

With multi-level governance, the answer is slightly different since it is likely that a great degree of multi-level governance will take place when using an integrated corridor management approach. Regional transport corridors cross multiple jurisdictions and each of these has its own government or organisation that controls this area. Consequently, it is necessary to bring these actors together in a governance structure regardless of who initiates the corridor project. In theory, it is possible for a province or the national government to overrule all municipalities through which the corridor runs and to construct the infrastructure of this corridor without any multi-level governance. However, this does not fit in an integrated corridor management approach that wants to achieve wider benefits of the corridor besides infrastructural ones. For integrated corridor management a corridor is not just a road or a railway, but a means to achieve wider goals. Achieving this is only possible when there is cooperation with experts, employees and other stakeholders from various government levels and

organisations. This does not imply that cooperation is not difficult or without problems, but since the actors all need each other in order to benefit from the corridor project themselves they are committed to make the cooperation work which provides a higher chance of success.

5.2 - Reflecting on the theory

Witte and Spit (2016) posed the question at the end of their paper what effects transnational corridor development has for multi-level governance structures and policy-making. From this thesis it became clear that multi-level and multi-actor governance processes are indeed important in corridor projects, but that these processes can be hampered by the governance landscape itself (Öberg et al., 2016; Paulsson et al., 2017; Suprayoga et al., 2020). The organisational landscape of transnational corridor projects is often fragmented. This means that actors have already organised themselves in several governance structures because corridor projects consist of many smaller projects that have often already started. The effect of transnational corridor development is that attempts are made to create one central governance structure in which actors from all levels cooperate and make policy. However, it is challenging to realise this because actors are reluctant to join yet another structure. This is especially the case in big, complicated corridor processes since these involve many meetings and cost a lot of time. Furthermore, political and legal differences between countries prevent them from working together effectively. Regarding policy-making this thesis has shown that transnational corridor development does lead to more attention for the integration of domains and scales in policy, but that this is especially difficult when multiple countries participate in the corridor project.

While writing this thesis, the question emerged whether there would have been different results when the object of study was not corridor projects but something else, like an environmental vision. This ultimately comes back to the question of what makes corridor projects different from other projects. Scientific literature has often focused on what makes corridors unique from an infrastructural perspective (e.g. Priemus & Zonneveld, 2003; Regmi & Hanaoka, 2012; Zonneveld & Trip, 2003). This thesis adds to this that corridor projects set themselves apart from other projects for a couple of reasons. First, a corridor project is actually an 'umbrella term' for several smaller projects that take place in this corridor. The reason for this is that corridors have multi-dimensional impacts and therefore touch upon projects that were already running like projects regarding traffic congestion and housing projects in the vicinity of the infrastructure (Pain, 2011; Roberts et al., 2020). The fact that these projects have been collected into a singular corridor project suggests that it is important that these efforts are adjusted to each other. This is only possible when there is a shared image of what the end goal of all these efforts is (Friedmann, 2004). This leads to the second reason why corridor projects are different, because they involve writing a shared vision for the future of the corridor. One respondent noted that without such a shared vision it would not make sense to have an overarching corridor project at all. Thirdly, the issue of responsibility makes corridor projects unique. There is no definite answer as to who should bear this responsibility since it became clear that corridors cross multiple jurisdictions and even countries (Öberg et al., 2016). Provinces can take the lead in developing a shared vision but when it comes to implementing this shared vision, the municipalities are at play.

These unique corridor characteristics call for both informal (shared understanding and vision) and formal governance approaches (division of responsibilities). This can be understood by looking at the 'trust and control' discussion about which Edelenbos & Eshuis (2012) have written a paper. In this thesis, informal processes refer to actors meeting each other outside of corridor meetings and getting to know each other. This leads to trust since people are convinced that others will stick to agreements which in turn allows for making decisions. Formal processes refer to official corridor meetings like the starting meetings that Euregio and the province of Overijssel organised in order to make concrete decisions and agreements. This is a form of control in which things like output indicators are established. In the 'trust and control' discussion it is stated that both trust and control can facilitate

complex governance structures, like the ones in regional corridor projects. There are two views in this discussion. First, interferential coevolution states that more trust in governance processes decreases the need for control and vice versa. In this case, informal processes would make formal processes unnecessary. The other view, symbiotic evolution, states that trust and control can reinforce each other. When actors trust each other, they might want to consolidate this trust in official contracts. This can be seen in the corridor ZTM in which actors aim for governance agreements. Actors can also decide together that control is needed in order to reach common goals, which leads to control increasing trust. This also is the case in the corridor ZTM since actors are all looking for someone to take control and to lead the process. The province is often mentioned as the actor to take up this role and according to Edelenbos & Eshuis (2012) this corresponds with symbiotic evolution, since the province is a governmental organisation which means that it is independent and can be monitored itself, which increases the trust in governance structures. Following the discussion, it can thus be stated that both informal and formal processes, and thus trust and control, are important in regional corridor projects and reinforce each other.

The governance of transport corridors is also linked to the discussion regarding governance and hierarchy in metropolitan regions which was briefly mentioned in the theoretical framework (Evers & De Vries, 2013; Lester & Reckhow, 2012). The paper of Lester and Reckhow (2012) argues that governance issues often correspond with the scale of metropolitan regions which consist of multiple jurisdictions. Consequently, there is not one actor that is responsible which results in governance processes with many actors and a risk of decision-making paralysis. In the corridor ZTM, actors also struggle with the question of who should be responsible for the development of the corridor in the current process of joint decision-making. This leads to the discussion on hierarchy from Evers and De Vries (2013). They state that when many powerful actors are involved in governance structures, some hierarchy is needed. Based on the paper this means that the national government gets a privileged role. In the corridor ZTM, the national government is currently hardly involved in the governance structures and actors also do not feel the need for this. The actors do seem to search for some steering in the process of integrated corridor management and mention the province as the appropriate actor. However, the province often does not have the institutional capacity to take this role (Van Straalen & Witte, 2016). This governance structure with a certain amount of hierarchy can take several forms and it became clear that actors themselves struggle with this. Öberg and Nilsson (2014) have suggested a multi-optional structure in which all relevant actors are engaged, but not all to the same extent. This could be a good option for regional corridors since the external actor analysis of chapter 3 showed that there is a small group of key stakeholders, but that there are also 'interested actors' and actors who belong to the 'crowd'.

It became clear from the theoretical framework that the shift from government to governance had also taken place regarding transport corridors. Corridor development thus involves public, private and societal actors (Guasco, 2014; Öberg et al., 2016; Wegener, 2012). However, government organisations proved to be the most prevalent core actors and it seemed like private and societal actors were only involved when needed. The governance of corridors thus still proves to be largely a governmental affair and it can therefore be questioned whether the full shift from government to governance has actually taken place in regional transport corridors. Furthermore, it became clear from the results that respondents were well aware of which actors are included in the group of core stakeholders, since Gelderland stated that opponents of the corridor projects were not involved since this would prolong the process. There is thus a tension between public support and time. This situation is not unique for corridors, but it does relate to the discussion of Lester & Reckhow (2012) of who decides which actors are involved in the most influential meetings and which are not. From the corridor ZTM, it became clear that the actors with the most money are also considered to be core stakeholders. Consequently, these actors can influence the governance process and can frame problems in a way that benefits themselves. Corridor governance structures can thus mirror resource inequalities in society.

Policy integration is important for corridor development since it allows for coordinating public sector activity both horizontally and vertically across territories, which is important in projects that cross jurisdictional boundaries (Schmitt & Smas, 2020). From the literature it became clear that policy integration is an important theme in corridor development since corridors have multi-dimensional impacts, but that the connection between transport problems and local and regional land use is not always recognized by decision makers (Guasco, 2014; Priemus & Zonneveld, 2003; Rooney et al., 2010; Runhaar et al., 2014). This connection was recognized in the corridor ZTM and respondents also found it logical to integrate policy domains. This can be attributed to the rise of comprehensive spatial planning in the Netherlands in anticipation of the new Environmental Planning Act in which integration is a central theme (Tisma & Meijer, 2018). Under this law, each government level in the Netherlands makes its own spatial vision in which all policy domains are taken into account and ambitions are made for their jurisdiction. Making visions and plans in an integrated corridor management approach can resemble this process since this influences the future of the areas around the infrastructure. Respondents did not want this, since they did not feel like this was their task and are still struggling with the form that corridor plans should take instead and with the extent to which policy domains need to be integrated.

5.3 - Suggestions for further research

From this thesis it has become clear that the process of integrated corridor management is context dependent. For example, in the Netherlands there is 'collaboration governance culture', but it became clear that Germans are not used to working in a collaborative way (Paulsson et al., 2017). Despite these differences in context, there might still be similarities across countries or things that can be learned from other countries. Therefore, it would be interesting to use the concept of integrated corridor management with its governance and multi-level components and compare the corridor processes from 5-10 different countries from multiple continents with each other. Consequently, an overview can be provided of the extent to which other countries have used integrated corridor management, how this has impacted the outcome of their corridor project and to what extent the context has influenced the process.

Another suggestion for further research concerns the process of integrated corridor management. Since little has been written about this approach, especially not outside of scientific literature, actors are unsure how to start this process and what things they should or should not do. However, there are many regional corridor projects in the Netherlands and abroad that go through this same process. Therefore, it is interesting to compare the processes of these corridor projects with each other in order to create a sort of 'handbook' for integrated corridor management that is scientifically supported. This will help governments and other actors to make the right decisions and save time. It will also help to further consolidate the concept of integrated corridor management.

The final suggestion for further research is to look at the governance of corridors from a top-down perspective. This thesis has mainly looked from the bottom-up since it talks mostly about provinces and municipalities and about their efforts to get support and money from higher levels of government. From these insights, it seemed like higher levels of government were not as interested in corridor projects, especially when these do not belong to the TEN-T network. However, this is a speculation and it would be interesting to research how employees from different national government departments think about the corridor efforts at the provincial and local level and how they perceive the governance structures surrounding these corridors. These insights can help to bring local, regional and national governance processes closer together.

5.4 - Societal and policy implications

This thesis shows that changes need to be made in the way government organisations work when they aim to use integrated corridor management. Municipalities and provinces are working in a sectoral way and therefore its policy is often focused on one policy domain. Changing this is easier said than done since people are not used to sharing ideas and knowledge with colleagues from other policy domains and do not think outside of their own domain. It became clear that informal contact helps to improve the cooperation between actors in horizontal and vertical governance. It would thus be good if governments organise events for all employees in which they get to know each other. Furthermore, for the corridor ZTM it proved to be helpful to organise monthly formal meetings with a small group of people that all work on different policy domains. In these meetings they can share knowledge, goals and ideas which strengthens policy integration and also helps these governments to provide a consistent story to external actors. Before extensive efforts are made for multi-level governance in corridor projects, it is thus first important to enhance internal policy integration and cooperation.

Since the corridor ZTM crosses the border between the Netherlands and Germany, cooperation between these countries is needed. This proved to be one of the most complicated aspects of the corridor ZTM. Cooperation was hard because the government systems of the countries do not match and because of differences in culture and language. It is to be expected that this is not only an issue for corridor projects, but for all projects that have to deal with cross-border collaboration. Efforts to involve the Germans were not made at the start of the corridor project. However, it would be advisable to do this in future corridor projects since involving the Germans after plans and visions have already been made by Dutch actors is not always appreciated and takes time. It is also important to have physical meetings at strategically chosen locations, e.g. somewhere close to the border. During these meetings there needs to be good translation to make sure that all participants are on the same pace. Furthermore, actors from both sides of the border need to study the rules, political system and culture of the other country since this smoothens cross-border cooperation.

In the introduction it was asked whether it is possible for planners to reach the centre of the planning triangle of Campbell (1996) in which economy, environment and society are combined in a corridor project. Öberg et al. (2018) also stressed the need for sustainable development in corridors. This thesis shows that the integration of these themes in corridors is generally seen as important and inevitable, but that it is likely that there will always be a focus on economy and infrastructure while other dimensions tend to be forgotten. This is not surprising since the origins of the corridor concept lay in the infrastructural domain (Zonneveld & Trip, 2003). Furthermore, as is the case in many other projects, money proves to be a leading factor in corridor development despite the call for using a 'broad welfare' perspective in the corridor ZTM. However, once a corridor project starts from a certain sectoral dimension, it proved to be hard to achieve full policy integration since the initial focus will likely remain dominant. Therefore, extensive efforts need to be made to include the environmental and societal dimension from the start. This will allow for taking the full range of corridor effects into account and achieve a 'sustainable development' of corridors.

This thesis has shown that an integrated corridor management approach is used in developing the corridor Zwolle-Twente-Münster. This approach leads to extensive efforts for horizontal and vertical cooperation between public, private and societal actors, but also to problems regarding this governance. Furthermore, it leads to varying extents of horizontal, vertical and territorial policy integration. The future will tell if and how these components of integrated corridor development will change and what effects this has for the eventual implementation of the corridor Zwolle-Twente-Münster.

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Appendix A - list of analysed documents

Document	Organisation
European	
EU white paper: Roadmap to a single European transport area	European Commission (2011). https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2011:0144:FIN:en:PDF
National	
NOVI	Ministry of the Interior and Kingdom Relations (2020) https://www.denationaleomgevingsvisie.nl/publicaties/novi-stukken+publicaties/HandlerDownloadFiles.ashx?idnv=1760380
Panorama Nederland	College of government advisors (2018) https://www.collegevanrijksadviseurs.nl/projecten/Adviezen-publicaties/publicatie/2018/12/06/panorama-nl
Toekomstbeeld OV 2040	Ministry of Infrastructure and Water Management (2021) https://open.overheid.nl/repository/ronl-2311ee8d-89c9-4278-9f75-8dd8f3e4db51/1/pdf/Ontwikkelagenda%20Toekomstbeeld%20OV%20-%20Nu%20instappen%20naar%202040.pdf
Dutch multi-year programme for infrastructure, spatial planning and transport	Ministry of Infrastructure and Water Management (2022) https://www.mirtoverzicht.nl/mirt-overzicht
Regional	
Uitvoeringsprogramma economische structuurversterking Zwolle-Münster	Public Result (2022) *Internal document*
Regionale economische structuurversterking Euregio	Panteia (2021) *Internal document*
Strategie en actieagenda omgevings- en issuemanagement Euregiorail	Euregio (2020a) *Internal document*
Uitvoeringsagenda Euregiorail, euregionale metropool realiseren, spoorverbinding Zwolle-Münster verbeteren	Euregio (2020b) *Internal document*
De kracht van Oost 2.0	Nederland Slim Benutten (2020) https://nederlandslimbenutten.nl/wp-content/uploads/sites/3/2021/01/Kracht-van-Oost-2-rapport.pdf
Bereikbaarheidsambitie regio Zwolle	Regio Zwolle (2020). Retrieved from https://regiozwolle.info/wp-content/uploads/2020/07/20200701-Bereikbaarheidsambitie-Regio-Zwolle.pdf
Omgevingsagenda Oost	Royal HaskoningDHV & Urhahn (2020). Retrieved from www.denationaleomgevingsvisie.nl
Omgevingsvisie Overijssel	Province of Overijssel (2021). Retrieved from https://overijssel.tercera-ro.nl/MapViewer/Default.aspx?id=NLIMRO9923Omgevingsvisie2017-GV08
Local	
Mobiliteitsvisie Zwolle	Municipality of Zwolle (2019). Retrieved from

	https://www.zwolle.nl/sites/default/files/2019-10-visie-mobiliteit-brengt-zwolle-verder.pdf
Horizon gemeente Raalte 2040, onze omgevingsvisie	Municipality of Raalte (2020). Retrieved from https://www.raalte.nl/sites/default/files/Omgevingsvisie-Horizon-gemeente-Raalte-2040.pdf
Toekomstvisie mijn Borne 2030	Municipality of Borne (2011). Retrieved from https://issuu.com/ikwilvanille/docs/toekomstvisiemijnborne2030
Omgevingsvisie Natuurlijk Avontuurlijk	Municipality of Hellendoorn (2014). Retrieved from http://www.ruimtelijkeplannen.nl/web-roo/roo/bestemmingsplannen?planidn=NL.IMRO.0163.GOVHELLENDOORN-VG01
De opgaven voor de omgevingsvisie	Municipality of Enschede (2021). Retrieved from https://online.ibabs.eu/ibabsapi/publicdownload.aspx?site=enschede&id=810b3fc4-c796-49df-ad35-98940493ec8a
Omgevingsvisie voor de ideale gemeente Almelo 2020-2040	Municipality of Almelo (2020). Retrieved from https://omgevingsvisie.almelo.nl/download/Omgevingsvisie-Almelo-2020-2040.pdf
Ons Zwolle van morgen 2030, omgevingsvisie	Municipality of Zwolle (2021). Retrieved from https://www.zwolle.nl/sites/default/files/omgevingsvisie-2021-november.pdf

Newspaper articles

1	Tubantia (4 november, 2016)	Binnen een halfuur met trein in Zwolle
2	De Stentor (8 december, 2021)	Snel hom of kuit geven voor spoorlijn Zwolle-Münster
3	Tubantia (30 juli, 2020)	Met de intercity van Zwolle naar Münster
4	Hengelo's weekblad (21 mei, 2019)	11 miljoen Europese subsidie voor verbreding Twentekanaal
5	Algemeen Dagblad (30 september, 2021)	Binnen anderhalf uur met de trein van Enschede naar Amsterdam: het kan, maar kost miljarden
6	Algemeen dagblad (9 juni, 2020)	Brandbrief aan staatssecretaris met steun uit Overijssel: 'Meer actie voor trein naar Berlijn en Münster'
7	De Stentor (13 maart, 2020)	Dieseltrein in de ban, maar blijft er geld over voor extra intercity tussen Enschede en Zwolle?
8	Tubantia (5 november, 2016)	Gaan we naar Amsterdam of Münster?
9	Tubantia (30 oktover, 2020)	Gesprek met minister over N35
10	Tubantia (8 maart, 2021)	Gezocht: grond voor parelketting van zonnevelden langs A35/N35
11	De Stentor (5 februari, 2013)	Karretje blijft op de 'zandweg' rijden
12	De Stentor (1 oktober, 2021)	Komst intercity zal zegen voor de regio zijn
13	Tubantia (9 oktober, 2020)	Manifest bedrijfsleven over N35, maandag gesprek met minister
14	Tubantia (27 november, 2020)	Meer succes in Twentse lobby: 'Trein tussen Enschede en Zwolle is straks geen armetierig lijntje meer'
15	De Stentor (25 november, 2019)	Met de trein van Zwolle naar Münster
16	Tubantia (4 december, 2020)	Nieuwe kansen voor het spoor
17	Tubantia (17 januari, 2022)	Op de fiets van Zwolle naar Münster via Enschede: provincie Overijssel werkt aan grensoverschrijdende verbinding
18	Tubantia (29 september, 2017)	Provincie: Kansen voor betere treinverbinding naar Duitsland
19	Tubantia (30 september, 2021)	Snellere treinverbinding tussen Randstad en Zwolle-Enschede-Münster kost 3,5 miljard
20	Tubantia (8 november, 2021)	Weinig enthousiasme bij staatssecretaris voor snellere trein Zwolle-Enschede-Münster

Appendix B - interview guide

Introductie		• Wat is uw achtergrond en huidige functie? • Hoe bent u betrokken bij de corridor ZTM? • Scriptie uitleggen

Governance	Multi-actor	• Heeft u een goed beeld van welke partijen bezig zijn met de corridor ZTM?
		• *Hoe kan dat?*
		• *Wat betekent dit voor het werken op een integrale manier aan de corridor?*
		• *Hoe kan deze situatie veranderd worden?*
		• Vereist het werken aan een integraal plan voor een corridor een andere werkwijze dan bij 'sectorale' plannen?
		• Zijn er ook informele samenwerkingsverbanden of overleggen rondom de corridor ZTM?
		• Hoe werk je vanuit economie aan de corridor?
		  ○ *Hoe verloopt dit proces?*
		• Wie draagt de verantwoordelijkheid voor de corridor? Waarom en moet dit veranderen?
		• Wat zijn gebruikelijke partijen waarmee u om de tafel zit in samenwerkingsverbanden rondom de corridor?
		  ○ *Vindt u dat er sprake is van een duidelijke governancestructuur rondom de corridor ZTM?*
		• Wie is de oprichter van deze samenwerkingsverbanden? Top-down of bottom-up?
		  ○ *Hoe wordt bepaald wie hierbij aanwezig mag zijn?*
		  ○ *Zijn er partijen die u mist of die juist overbodig zijn in de governance structuur?*

	Multi-level	• Zijn er binnen de gemeente verschillende afdelingen die werken aan de corridor?
		  • *Hoe verloopt de samenwerking tussen deze afdelingen?*
		  • *Wat zijn volgens u belangrijke voorwaarden voor een succesvolle samenwerking tussen afdelingen?*
		• In hoeverre is contact met andere overheidslagen belangrijk in het werken aan de corridor ZTM? Waarom?
		• Hoe verloopt het contact met andere overheidslagen aangaande de corridor?
		  • *Lokaal, regionaal en (inter)nationaal*
		  • *Hoe verloopt de samenwerking tussen Nederland en Duitsland wat betreft de corridor?*
		• Hoe verloopt de samenwerking met de onderwijsinstellingen?
		• Hoe verloopt de samenwerking met het bedrijfsleven?
		• Welke voordelen brengt het samenwerken met verschillende actoren en niveaus rondom de corridor?
		• Welke nadelen brengt het samenwerken met verschillende actoren en niveaus rondom de corridor?
		• Hoe verhoudt dit corridor proces zich tot andere projecten zoals de spoorzone ontwikkeling?

Policy integration	Multi-dimensional	• In hoeverre is men op de hoogte van beleid en programma's van andere overheidslagen en organisaties rondom de corridor ZTM?
		  • *Hoe kan dat?*
		  • *Wat betekent dit voor de ambitie om integraal te werken aan de corridor?*
		  • *Hoe kan deze situatie veranderd worden?*
		• Welke thema's zijn vanuit economie belangrijk binnen de corridor ZTM?
		  • *Waarom is de keuze gemaakt voor deze thema's en niet voor andere thema's?*
		  • *Brede welvaart*
		  • *Tijdens mijn beleidsanalyse bleek dat de focus van corridor-gerelateerde documenten veelal ligt op infrastructuur en economie. In hoeverre herkent u dit binnen de gemeente Enschede?*
		  • *Herkent u dit zelf ook in het beleid?*
		• Zijn de bestaande documenten rondom de corridor ZTM niet integraal genoeg of is er een andere reden waarom een integrale visie nodig is?
		  • *Hoe is deze situatie ontstaan?*
		• Wat zijn de voordelen van het integreren van beleid tijdens het ontwikkelen van een corridor?
		• Wat zijn de nadelen van het integreren van beleid tijdens het ontwikkelen van een corridor?

	Multi-level	• Zouden verschillende overheidslagen beleid dat raakt aan de corridor op elkaar moeten afstemmen? Waarom wel of niet? Hoe? • Is er aandacht voor beleid van andere overheidslagen in het proces rondom de corridor ZTM?

Context en uitkomst		• Wat zijn volgens u de grootste knelpunten in het governance proces rondom de corridor ZTM?
		  • *Is dit bij soortgelijke projecten ook vaak het geval?*
		  • *Hoe kunnen deze knelpunten worden opgelost?*
		• Los van alles wat nu al bedacht is, hoe zou u het governance proces van deze corridor aanpakken?
		  • *Wat is de ideale governance en tekstuele uitkomst?*

Afsluiting		• Bedanken • Heeft u zelf nog dingen die u wil toevoegen? • Weet u andere personen die ik kan interviewen?

Appendix C - observation guide

Empty guide

Observed person	
Organisation	
Surroundings and time	
Behaviour	
Body language	
Communicates most often with	
Quiet or talks a lot	
Informational input	
Willingness to cooperate	
Way in which decisions are made	
Comments	

Appendix D - code tree