

**Exploring the Dynamics of Governance-Related Uncertainties and Stakeholder Interaction in Regional Transport Planning: The Case of RegioExpres**



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**Abstract:**

This thesis investigates how governance-related uncertainties and stakeholder interaction dynamics mutually influenced each other in the planning of the RegioExpres project, a high-frequency regional rail initiative in the Dutch province of Gelderland. Focusing on two planning phases (2018–2025), the study examines how uncertainties—namely problem framing ambiguity, role ambiguity, regulatory complexity, and financial uncertainty—emerge and evolve over time. Using document analysis and expert interviews, four types of uncertainty are analyzed in relation to interactional dimensions such as trust, deliberation, leadership, and mutual understanding. Findings reveal that while early coordination among regional actors remained intact, procedural and financial uncertainties increasingly strained interaction with national institutions and affected public trust. Informal leadership and protective local action emerged where formal coordination proved insufficient, especially in response to resident concerns. The study concludes that managing uncertainty in complex infrastructure planning requires not only procedural clarity, but also inclusive framing, responsive communication, and sustained engagement across governance levels.

**Keywords:**

Governance uncertainty, stakeholder interaction, infrastructure planning, RegioExpres

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## Introduction

The Province of Gelderland is actively pursuing a more sustainable, connected, and regionally equitable transport system, as articulated in its Vision for an Accessible Gelderland (2023). In line with national mobility transitions, regional rail projects such as RegioExpres are expected to contribute not only to accessibility and environmental goals but also to spatial justice—by reducing car dependency, supporting rural vitality, and countering the relative marginalization of peripheral areas. These ambitions render such planning projects not merely technical undertakings, but governance challenges with broader societal implications.

The RegioExpres project exemplifies these dynamics. Originally framed as a capacity-driven rail enhancement, it evolved into a high-frequency regional rail corridor between Arnhem and Winterswijk. Designed to improve train frequency and speed between Gelderland's sub-regions and the Randstad, the project has come to represent a wider ambition: stimulating regional development through enhanced rail connectivity. As of early 2025, the RegioExpres project has reached its final planning phase, characterized by intensive intergovernmental coordination and increasingly strict environmental obligations—particularly those related to nitrogen emissions near Natura 2000 areas (Province of Gelderland, 2025).

Large-scale public infrastructure projects are increasingly recognized as complex governance undertakings rather than merely technical challenges (Flyvbjerg, 2014; Bruzelius et al., 2002). Transport planning in multi-level, multi-stakeholder contexts—typical in the Netherlands—is particularly challenging due to shifting institutional responsibilities, regulatory fragmentation, and overlapping mandates (Klijn & Koppenjan, 2016; Marsden & Reardon, 2017). Such complexity requires extensive coordination among public actors, private consultants, regional authorities, and national ministries, all navigating uncertain funding structures and evolving mandates without fixed blueprints. As a result, planning becomes a politically charged process, fundamentally shaped by institutional complexity and stakeholder interaction (Sager, 2005; Mu et al., 2011; Giezen, 2012).

In this setting, uncertainty becomes a defining feature of the planning process, especially in its early conceptualization and stakeholder alignment phases. Koppenjan and Klijn (2004) distinguish three types of uncertainty: substantive, strategic, and institutional. Substantive uncertainty refers to unclear or contested definitions of the problem and its potential solutions. Institutional uncertainty arises from vague or evolving roles, rules, or procedures. Strategic uncertainty, in contrast, concerns interdependent actor behavior and negotiation tactics.

This study focuses on substantive and institutional uncertainties, as they most directly affect early-stage coordination and stakeholder engagement. While strategic uncertainty remains conceptually relevant, it is addressed indirectly through observable interaction dynamics such as trust and deliberation—drawing on complementary insights from collaborative governance theory (Emerson et al., 2012). This approach allows for an integrated yet focused analysis of how planning-related ambiguity shapes the way actors work together over time.

Governance-related uncertainties—such as unclear problem definitions, ambiguous stakeholder roles, financial uncertainty, and shifting regulatory frameworks—are widely acknowledged in the literature as factors that complicate coordination and hinder alignment in infrastructure planning (Koppenjan & Klijn, 2004; Akse et al., 2023). If unresolved, such challenges can result in delays, cost overruns, or even project failure (Flyvbjerg et al., 2003; Giezen, 2012). Much of the existing research, however, focuses on implementation phases or pilot-scale innovations. For instance, studies have examined how unresolved value conflicts undermined project manageability in RandstadRail (Leijten et al., 2010), or how role ambiguity disrupted Mobility-as-a-Service (MaaS) pilots (Akse et al., 2023).

In contrast, fewer studies have investigated how governance-related uncertainties—particularly institutional and substantive forms—emerge and evolve during extended planning processes involving multiple government levels and evolving environmental obligations (Marsden & Reardon, 2017; Giezen, 2012).

This gap is particularly relevant in complex, multi-level planning contexts like RegioExpres, where formal coordination mechanisms are in place but may face limitations when confronted with evolving uncertainties, shifting roles, or conflicting institutional expectations. Rather than assuming stable governance structures, this study investigates how uncertainties and interactions

dynamically influence one another—especially in cases where formal procedures alone do not guarantee effective alignment or continuity.

Additionally, beyond its academic relevance, the study also bears societal significance. Infrastructure projects like RegioExpres are not only technical undertakings but also deeply embedded in public life, affecting regional accessibility, perceived fairness in investment allocation, and public trust in planning institutions. Understanding how governance-related uncertainties shape such projects can offer insights into more transparent, responsive, and socially legitimate planning processes—particularly in regions navigating institutional fragmentation and political dependency.

Building on this gap, the present study examines how governance-related uncertainties unfold during the planning phases of the RegioExpres project and how they influence key stakeholder interaction dynamics. The project’s planning process can be broadly divided into two phases: the exploration phase and the plan development phase. While the exploration phase emphasized early coordination and joint problem framing, the plan development phase became increasingly formalized and legally constrained—particularly following the transition to the Environment and Planning Act, which introduced new institutional ambiguities (Province of Gelderland, 2020).

To analyze these dynamics, the study employs Koppenjan and Klijn’s (2004) uncertainty typology as its theoretical foundation. The focus is placed specifically on substantive and institutional uncertainties. Institutional uncertainty is further disaggregated into role ambiguity, financial uncertainty, and regulatory complexity, drawing on insights from Akse et al. (2023). This refined lens enables a more fine-grained understanding of how governance-related uncertainties emerge and affect coordination and engagement in infrastructure planning.

To analyze how governance-related uncertainties shape stakeholder interaction, the study incorporates selected elements from Emerson et al.’s (2012) collaborative governance framework. Specifically, it focuses on four dimensions—trust, mutual understanding, deliberation, and leadership—that are central to their framework and suited to tracing interaction patterns over time. These dimensions were selected for their process-oriented nature and empirical observability across planning documents and interview data, without assuming formalized collaboration structures or outcomes.

To operationalize this analytical approach, the study is guided by the following research questions:

- How did governance-related uncertainties and stakeholder interaction dynamics evolve and shape each other across extended planning phases in the RegioExpres project?

### **Sub-questions**

- Who were the key stakeholders involved in the planning phases of the RegioExpres project, and what specific roles did they have?
- What types of substantive (problem framing) and institutional uncertainties (financial uncertainty, role ambiguity, regulatory complexity), along with their underlying causes, emerged during the planning phases of the RegioExpres project?
- How did these uncertainties influence stakeholder interaction dynamics, in terms of trust, deliberation, leadership, and mutual understanding?

The remainder of this thesis is structured as follows. Chapter 2 presents the theoretical framework, focusing on governance-related uncertainties and interaction dynamics. Chapter 3 outlines the methodology, including case selection, data sources, and coding strategy. Chapter 4 presents the empirical findings, followed by a discussion and conclusion in Chapter 5, which reflect on theoretical implications, practical relevance, and limitations.

## **Theoretical Framework**

This section establishes the theoretical foundation for analyzing governance uncertainties and stakeholder interaction dynamics in large-scale, multi-actor infrastructure projects. By synthesizing relevant literature, the section introduces key concepts, provides a basis for exploring how uncertainties influence stakeholder interaction dynamics, and presents the conceptual model guiding this research.

### **Governance-Related Uncertainties in Infrastructure Planning**

Uncertainty is a central feature of decision-making and planning in complex, multi-actor governance environments (Head & Alford, 2015; Dewulf & Biesbroek, 2018). It refers to

situations in which actors lack sufficient knowledge about relevant aspects of a decision context—such as the nature of the problem, the consequences of actions, or the institutional rules—and are therefore unable to predict outcomes or coordinate effectively (Koppenjan & Klijn, 2004). In large-scale public infrastructure planning, uncertainty is not merely technical, but often organizational and institutional, complicating how actors define problems, interpret rules, and align responsibilities.

A substantial body of literature has addressed uncertainty in infrastructure and mobility governance, particularly in contexts of fragmented authority, contested knowledge, and dynamic institutional change. Koppenjan and Klijn (2004) conceptualize uncertainty as an inherent property of networked decision-making, rooted in network governance theory, where decisions emerge from interdependent actor networks rather than top-down hierarchies. They distinguish three types: substantive, strategic, and institutional. Dewulf and Biesbroek (2018) similarly argue that uncertainties emerge through actor interactions and should be seen not as static knowledge gaps, but as socially constructed and relational phenomena. Akse et al. (2023) extend this view, illustrating how attempts by one actor to cope with uncertainty often introduce new uncertainties for others, especially under shifting regulatory or spatial planning requirements, such as changes in land-use rules or environmental assessment procedures.

This study draws on Koppenjan and Klijn's typology but narrows its analytical lens to two uncertainty types most relevant for infrastructure planning: substantive and institutional. While strategic uncertainty—concerning actor behavior and negotiation dynamics—is relevant, this study addresses it indirectly through stakeholder interaction dynamics (e.g., trust, deliberation) derived from collaborative governance theory. Thus, rather than treating strategic uncertainty as a separate category, this research operationalizes its effects through empirically observable interactions, allowing a more focused yet integrated exploration.

**Substantive uncertainty** refers to ambiguity about what the core problem is and how it might be solved. It often arises in contexts with fragmented or contested information. A critical manifestation is the absence of a shared or stable problem definition, particularly in planning settings where authority is distributed. In such cases, how a problem is framed—and whose framing prevails—shapes agendas, actor alignment, and resource flows (Dewulf & Biesbroek,

2018; Giezen, 2012). Scholars emphasize that unclear problem definitions are not simply technical challenges, but also institutional and political, with direct implications for governance (Sager, 2005; Head & Alford, 2015).

**Institutional uncertainty**, relates to ambiguities within governance structures themselves—such as rules, roles, and procedures. These uncertainties become visible when formal arrangements are unclear, unstable, or evolving. For instance, the RegioExpres project experienced mid-process shifts in national spatial planning laws, altering environmental assessment procedures and causing confusion among municipalities and infrastructure agencies. Indicators include overlapping mandates, vague legal frameworks, and unclear responsibilities, often leading to inaction, delays, and disputes about leadership (Akse et al., 2023).

To operationalize governance-related uncertainty, the study distinguishes four core dimensions through synthesis of governance literature. Ambiguity is treated as a socially constructed expression of uncertainty—particularly relevant for understanding governance dynamics in multi-actor contexts. Categories like regulatory complexity and role ambiguity are classified under institutional uncertainty while capturing interpretive aspects where empirically relevant.

The four core dimensions are:

**Problem Framing Ambiguity (*substantive*)**: Lack of shared understanding of the core issue, leading to contested agendas and decision-making blockages. Problem frames evolve through interaction and institutional negotiation (Giezen, 2012).

**Role Ambiguity (*institutional*)**: Uncertainty regarding stakeholder responsibilities, including initiation, coordination, or authorization of planning activities, stemming from unclear authority distributions (Dewulf & Biesbroek, 2018).

**Financial Uncertainty (*institutional*)**: Ambiguity around cost-sharing, budgeting responsibilities, and political sensitivity of funding arrangements, typically resulting from fragmented jurisdictions and disagreements about costs (Akse et al., 2023).

**Regulatory Complexity (*institutional*):** Inconsistencies in applicable rules, evolving legal frameworks, or unclear procedures, often due to conflicting rule systems and unstable procedural expectations (Dewulf & Biesbroek, 2018).

These subtypes, although not explicitly named by Koppenjan and Klijn, align conceptually with their institutional uncertainty category and are further specified through more recent empirical and theoretical insights. By clustering these observed patterns, the study operationalizes institutional uncertainty clearly and analytically for the planning-phase dynamics of the RegioExpres project.

Previous research reinforces the idea that uncertainty is not a static barrier but a dynamic element of governance. Dewulf and Biesbroek (2018) argue that different uncertainty types evolve together and are shaped through stakeholder interaction. Akse et al. (2023) similarly observe that attempts to manage uncertainty are relational—responses by one actor often affect the certainty or uncertainty experienced by others. By adopting this dual-level typology (substantive and institutional) and integrating a relational understanding of uncertainty dynamics, this study comprehensively analyzes the governance challenges of RegioExpres, capturing not only the origins and nature of uncertainty but also its practical implications for stakeholder coordination and decision-making.

### Stakeholder Interaction Dynamics Under Uncertainty

Stakeholder interaction dynamics refer broadly to the patterns and qualities of how stakeholders engage, communicate, coordinate, and relate within the context of shared projects or governance processes (Basco-Carrera et al., 2021). Within complex, multi-actor infrastructure projects, these dynamics significantly influence whether and how effectively stakeholders can navigate collective challenges, manage conflicts, and achieve coherent, sustainable outcomes (Emerson et al., 2012; Ansell & Gash, 2008). While these dynamics have been studied under various conceptual labels—including collaboration (Ansell & Gash, 2008; Emerson et al., 2012), stakeholder partnerships (Basco-Carrera et al., 2021), and multi-actor coordination (Klijn & Koppenjan, 2016)—this study adopts the term “stakeholder interaction dynamics” to emphasize observable behavioral patterns without assuming the presence of formal collaboration structures or stable institutional arrangements.

Much of the literature emphasizes interaction within formalized collaborative governance frameworks. Ansell and Gash (2008), for instance, define collaborative governance as a structured, consensus-oriented process established through formal institutions to pursue collective goals. Emerson et al. (2012) build on this perspective with their Collaborative Governance Regime (CGR) framework, which identifies three core dimensions of collaborative dynamics: principled engagement (i.e., high-quality deliberation and communication), shared motivation (mutual trust and commitment), and joint capacity for action (institutional and resource capabilities). In these models, uncertainty typically functions as an external trigger that initiates collaboration.

However, this study departs from these assumptions in two ways. First, stakeholder interaction dynamics are examined within governance settings shaped by substantive and institutional uncertainties (Koppenjan & Klijn, 2004), without presuming that a stable or formalized collaborative regime is in place. Second, rather than treating uncertainty as an external trigger, this study approaches it as an inherent and continuously evolving aspect of stakeholder engagement. This perspective aligns with recent governance literature, which emphasizes how uncertainty and interaction are dynamically co-constructed through iterative actor responses and shifting relational environments (Dewulf & Biesbroek, 2018; Akse et al., 2023).

Accordingly, the dimensions typically associated with formal collaborative frameworks are reframed here as indicators of interaction quality that can be observed even in informal or fragmented governance settings. Drawing selectively from Emerson et al.'s CGR framework—focusing specifically on its principled engagement elements rather than its full regime architecture—stakeholder interaction dynamics in this study are operationalized along the following dimensions:

**Trust:** Refers to stakeholders' confidence in each other's intentions and reliability, which shapes their openness, willingness to cooperate, and information-sharing practices (Ansell & Gash, 2008; Emerson et al., 2012).

**Mutual Understanding:** Captures stakeholders' shared comprehension of each other's goals, constraints, and perspectives. A high level of mutual understanding facilitates clearer

communication and more effective coordination (Emerson et al., 2012; Basco-Carrera et al., 2021; Klijn & Koppenjan, 2016).

**Deliberation:** Concerns the openness and quality of stakeholder communication, including responsiveness to others' concerns, willingness to engage difficult topics, and active participation in dialogue (Emerson et al., 2012; Ansell & Gash, 2008).

**Leadership:** Involves the presence and effectiveness of actors who guide interactions, coordinate stakeholders, manage conflicts, and sustain momentum—particularly under conditions of governance uncertainty (Emerson et al., 2012; Klijn & Koppenjan, 2016).

By analyzing these dimensions in direct relation to specific governance uncertainties—namely, problem framing ambiguity, role ambiguity, financial uncertainty, and regulatory complexity—this study does not focus on whether formal collaboration emerges. Instead, it explores how different types of uncertainty shape and are shaped by the quality of stakeholder interactions. This approach offers a nuanced and context-sensitive lens for understanding the relational dynamics embedded in large-scale infrastructure planning under uncertain governance conditions.

## Conceptual Model

This conceptual model visualizes the analytical expectation—grounded in the literature—that governance-related uncertainties and stakeholder interaction dynamics mutually influence each other throughout the planning phases of large infrastructure projects. Rather than assuming a one-directional causal relationship, the model explores how these two domains co-evolve and shape governance processes in complex, multi-actor environments.

To structure this relationship, the model distinguishes two main planning phases relevant to the RegioExpres case: the *exploration phase*, marked by informal agenda-setting and open dialogue, and the *plan development phase*, characterized by technical assessments and more formalized regulatory procedures. This temporal distinction allows the study to examine how different uncertainties and interaction dynamics evolve across time.

Governance-related uncertainties—defined in this study as problem framing ambiguity, role ambiguity, financial uncertainty, and regulatory complexity—are conceptualized using the network governance tradition (Koppenjan & Klijn, 2004). This framework highlights how interdependent actors struggle with fragmented authority, evolving rules, and incomplete information in networked decision environments. However, it offers limited analytical leverage to assess the quality of stakeholder interaction. Therefore, interaction dynamics—specifically trust, mutual understanding, deliberation, and leadership—are analyzed through selected elements of the Collaborative Governance Regime (CGR) framework (Emerson et al., 2012), particularly its principled engagement dimension. These elements are selected because the study does not assess whether or not a formal collaborative governance regime emerges, but rather focuses on how interaction unfolds under uncertain planning conditions. The two frameworks are not integrated but used in a complementary manner: one to conceptualize structural uncertainties, the other to interpret the interactional patterns through which actors navigate those uncertainties.

Importantly, while strategic uncertainty is acknowledged as a relevant concept in network governance, it is not treated as a separate category in this study. Instead, its effects—such as behavioral unpredictability and strategic maneuvering—are analyzed through observed interaction dimensions like trust and deliberation.

Governance-related uncertainties are expected to complicate coordination and shape the nature of stakeholder interaction. For instance:

**Problem framing ambiguity** may result from fragmented or contested information in early planning stages, which can lead to divergent interpretations of project goals and erode mutual understanding (Dewulf & Biesbroek, 2018; Giezen, 2012).

**Role ambiguity** may emerge from overlapping mandates, evolving responsibilities, or gaps in institutional arrangements, weakening leadership and impeding deliberation (Akse et al., 2023).

**Financial uncertainty** typically arises when funding responsibilities are not pre-negotiated, or when fiscal authority is split across multiple actors with limited coordination, thereby reducing openness in dialogue.

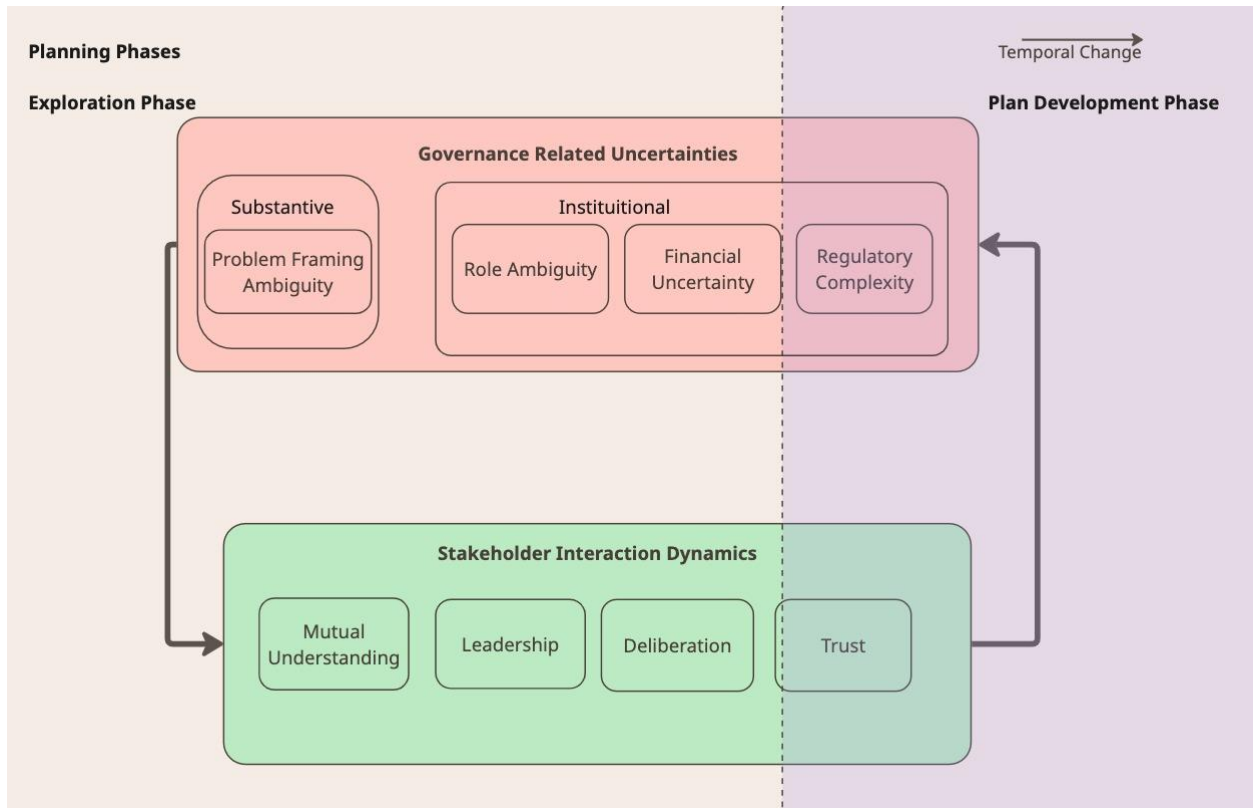
**Regulatory complexity** is frequently caused by shifting or conflicting legal frameworks, ambiguous procedures, or unclear authority over rule enforcement—factors that may disrupt trust and hinder coordination (Dewulf & Biesbroek, 2018).

In turn, interaction dynamics are understood not just as effects of uncertainty, but also as mechanisms through which uncertainty is interpreted, responded to, and potentially reconfigured. For example, greater trust and mutual understanding can help actors reinterpret ambiguity as manageable, while weak deliberation and ineffective leadership may intensify perceptions of uncertainty.

In sum, the model proposes a dynamic and iterative relationship:

- Governance-related uncertainties shape interaction dynamics.
- Interaction dynamics evolve in response to those uncertainties.
- These dynamics, in turn, influence how uncertainties are interpreted and navigated throughout the planning process.

By embedding this interaction within a temporal frame, the model enables a nuanced analysis of how uncertainty and stakeholder relations shift over time in large-scale infrastructure planning.



**Diagram 1: Conceptual Model**

## Dynamic Hypothesis

This study builds on the expectation, grounded in literature, that governance-related uncertainties and stakeholder interaction dynamics mutually influence one another. Uncertainties shape the quality and direction of stakeholder interactions, while these interactions, in turn, affect how uncertainties are perceived by the stakeholders throughout the planning process.

Rather than testing this hypothesis in a causal or statistical sense, the study explores how this dynamic relationship manifests in the RegioExpres case. Specifically, the research traces how different types of uncertainty and interaction dynamics co-evolve across two distinct planning phases—exploration and plan development—highlighting shifts in emphasis, relational quality, and governance responses over time.

# Methodology

## Research Strategy

This research adopts a qualitative case study methodology to explore governance-related uncertainties and stakeholder interaction dynamics in high-frequency public transport planning, with a focus on the RegioExpres project in Gelderland. The case study approach allows for an in-depth examination of complex, real-world dynamics involving multiple stakeholders, changing institutional conditions, and evolving governance arrangements. This aligns with Yin's (2014) view that case studies are particularly suitable for addressing "how" and "why" questions, especially when the boundaries between the phenomenon and its context are blurred. Similarly, Denscombe (2012) emphasizes that case studies are well-suited for investigating context-dependent governance issues involving diverse actors and institutional settings.

RegioExpres was selected as a suitable case because it reflects a planning process marked by gradual scope expansion, increased financial requirements, and the involvement of additional stakeholders over time. These developments occurred alongside a transition in the legal framework—the introduction of the Environment and Planning Act—which altered relevant procedures during the project's planning phase. Taken together, these factors created a context in which various forms of governance-related uncertainty—particularly concerning roles, responsibilities, and institutional clarity—were likely to emerge. The case also offered strong data accessibility through publicly available documents and expert interviews, making it a feasible and analytically relevant choice for the study's research questions.

## Case Description

RegioExpres project is a high-frequency regional rail initiative in the Dutch province of Gelderland, aimed at enhancing public transport connectivity between the eastern Achterhoek region and the city of Arnhem. Initially introduced in the context of regional mobility agendas, the project gradually evolved from a localized infrastructure enhancement into a spatial and legal corridor intervention embedded in multilevel governance.

Although the formal planning trajectory consists of four stages (Initiative, Exploration, Plan Development, and Realization), this study analytically combines the Initiative and Exploration phases due to limited standalone documentation and continuity in decision logic. The period from 2018 to 2021 is thus treated as the Exploration Phase, which—according to ProRail—comprised three sub-stages: start, analysis, and assessment, centered on spatial alternatives, stakeholder coordination, and identification of a preferred option (Voorkeursalternatief, VKA).

The Plan Development Phase (2022–2025) operationalizes the VKA through technical detailing, permit acquisition, legal formalization, and environmental assessment. Formal public consultation (zienswijzen) is embedded in this phase.

The project involves a diverse constellation of actors, including the Province of Gelderland (strategic lead and participatory coordination), ProRail (technical execution, land acquisition, and permitting), Arriva (regional operator), municipalities, national agencies, and residents. The planning trajectory coincided with the national transition from the Spatial Planning Act (Wro) to the Environment and Planning Act (Omgevingswet), which introduced significant procedural reconfiguration. Although the new regime no longer mandated a full Environmental Impact Report (MER), the Province opted to conduct one voluntarily, reflecting caution amid legal ambiguity.

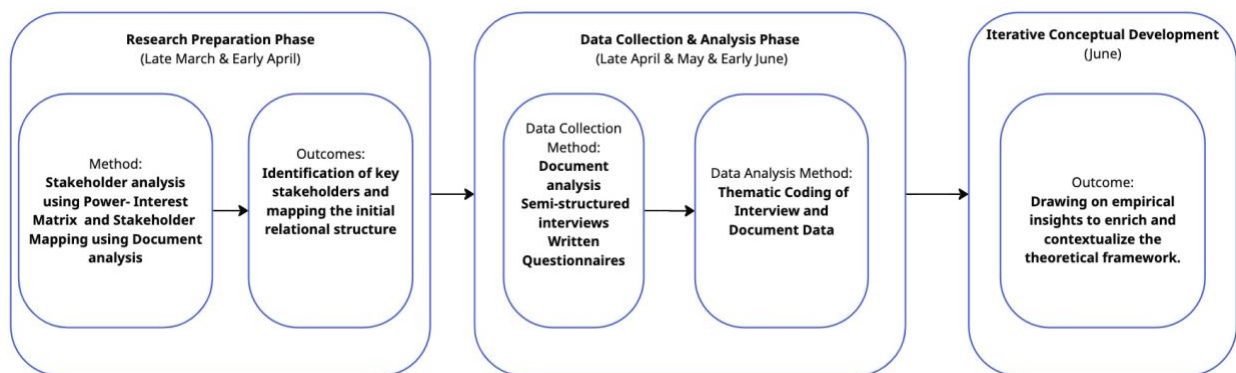
However, one important consequence of this legal shift was the reallocation of responsibility for compensation and land acquisition procedures: whereas municipalities had previously handled such processes under the Wro, the Omgevingswet transferred this authority to the designated competent body—ProRail in this case. (IPLO, n.d.) This change generated considerable role ambiguity among both implementing institutions and residents, especially regarding who was accountable for compensation eligibility and communication.

Environmental complexity further exacerbated regulatory uncertainty. Given that the corridor intersects Natura 2000 areas, nitrogen regulations emerged as a key constraint. An initial strategy based on external balancing was eventually replaced by a switch to renewable fuels (HVO), illustrating shifting technical and institutional expectations.

Project documents and interview data highlight persistent governance-related uncertainties, including unclear financial commitments, fragmented legal interpretation, and uneven public engagement. A key challenge stemmed from the project's exclusion from the national rail investment agenda, fully allocated until 2040, necessitating prolonged negotiation.

While formally aligned with broader mobility strategies, the project sparked public contestation regarding its environmental and spatial implications. This thesis focuses exclusively on the planning phase and does not address implementation or operational outcomes. As of 2025, RegioExpres nears the end of its plan development phase. Its evolving scope, regulatory shifts, and actor constellation render it a compelling case for examining how governance-related uncertainties shape coordination in complex infrastructure planning contexts.

## Research Process Map



**Diagram 2: Research Process Map**

This research follows a phased design, where each step builds on the analytical output of the previous. It begins with a preparatory phase focused on mapping the institutional and relational structure of the RegioExpres planning network. This was based on systematic document analysis, including participation plans and planning records that indicated actor presence across stages and sessions. These sources enabled the reconstruction of an initial stakeholder constellation based on formal roles, co-decision participation, and official tasks.

To complement this structural mapping, a preliminary power–interest matrix was developed to approximate stakeholder positions and salience. This early mapping was treated as provisional:

interview data later refined and re-evaluated these assumptions. For example, while Arriva initially appeared as a formal advisor, interviews revealed its initiating role and operational interest. These insights not only reshaped the stakeholder map but also highlighted discrepancies between formal roles and practical influence—revealing governance-related uncertainty.

The second phase involved empirical data collection via semi-structured interviews and additional document analysis. Additionally, written responses were obtained from representatives of Montferland, ProRail, and the Province of Gelderland. Although these were generated through researcher-sent open-ended questions, they were not interactive in nature and were thus treated as stakeholder-authored documentary sources within the broader document analysis. Data were thematically analyzed using categories from the theoretical framework to trace how governance-related uncertainties (e.g., role ambiguity, regulatory complexity) affected stakeholder interaction.

In the final phase, the conceptual understanding of stakeholder interactions and governance-related uncertainties was iteratively developed, drawing on interview insights to enrich and contextualize the initial theory-informed structure.

## Sample and Access Strategy

A purposive sampling strategy was used to target stakeholders with direct involvement in the RegioExpres planning process or exposure to key governance-related uncertainties. Given the project's multi-level structure, initial access was gained through a regional entry point. The first interview was conducted with a representative from Arriva, the regional rail operator and project initiator for the Arnhem–Winterswijk corridor. Arriva's dual role as service provider and contractual stakeholder offered early insights into decision-making and expectations.

The sample was then expanded iteratively through snowballing (Bryman, 2016), with interviewees recommending further contacts across institutional layers. Access was shaped by availability, particularly within public sector organizations during the ongoing Plan Development Phase.

In total, three interviews were conducted between April and May 2025. Participants included a representative from the municipality of Doetinchem, a representative from Arriva (accompanied by a translator), and a member of the national ‘OV-Toekomstbeeld’ working group. The Arriva interviewee provided insight into project initiation and operational concerns, while the OV-Toekomstbeeld participant contributed to the national assessment of MIRT funding eligibility. Although the sample size was limited by time and access constraints, each interview was selected for its direct relevance to the uncertainties under investigation.

While it was not possible to conduct direct interviews with three key institutional actors—ProRail, the Province of Gelderland, and the municipality of Montferland—all three submitted written responses in June 2025. These were brief and jointly authored in some cases, limiting opportunities for follow-up or individual perspective. To address this, the written inputs were triangulated with planning documents (such as the NRD, and consultation responses) and complemented by perspectives from actors who closely collaborated with them. This strategy provided insights into formal responsibilities, coordination practices, and how institutional decisions were perceived externally. While not a full substitute for internal perspectives, this approach helped reduce blind spots in the analysis.

Interview invitations and written questionnaires were shared via email, outlining research aims and confidentiality terms. All interviews were conducted online, audio recorded, and transcribed with verbal consent.

## Data Collection Methods

Data collection in this study relied primarily on two complementary qualitative methods: document analysis and semi-structured interviews.

**Document analysis** served as the empirical backbone of the research. A wide range of official sources was systematically reviewed, including participation plans, decision-making documents, project scope notes (NRD), legal notices, and *zienswijzennota* (response to public input). These documents were used to identify key stakeholders, reconstruct the formal coordination structure, and trace the evolution of project milestones and responsibilities. They also provided insight into

institutional communication, public responses, and the procedural logic underpinning planning decisions.

In addition to policy and planning documents, the document analysis also incorporated written responses to open-ended questions submitted by the researcher to key stakeholders who were not available for live interviews, including representatives from ProRail, the Province of Gelderland, and the Municipality of Montferland. Although these responses were generated in direct reply to the research instrument, they were not collected in an interactive setting and lacked the opportunity for follow-up probing. Therefore, they are treated as stakeholder-authored documentary material rather than interview transcripts. These written responses provided valuable organizational perspectives and helped clarify positions and interpretations that were otherwise only indirectly represented in official documents.

**Semi-structured interviews** were used as a complementary method to deepen and contextualize findings from document analysis. The interview guide (Appendix 4) was informed by the study's theoretical framework—particularly governance-related uncertainty types (Koppenjan & Klijn, 2004) and stakeholder interaction dynamics (Emerson et al., 2012)—and refined iteratively based on early document insights.

The guide followed a two-layered structure. Each section first addressed a specific uncertainty type—substantive, role ambiguity, financial, or regulatory—and then probed how that uncertainty affected trust, leadership, communication, or mutual understanding. This sequencing was designed to explore the interdependence between uncertainty and interaction, not treat them as isolated domains.

In addition to these embedded probes, the guide included a dedicated section on relational challenges, as well as integrative questions on spillover effects across phases. Participants were also encouraged to reflect on how different uncertainties reinforced one another, or how relational dynamics mitigated—or exacerbated—uncertainty over time.

This design allowed the guide to function not only as a data collection tool but also as a structured lens to explore the recursive relationship between uncertainty and coordination within the RegioExpres planning process.

Together, these methods enabled triangulation between institutional narratives and stakeholder interpretations, ensuring analytical robustness.

<b>DATA SOURCES</b>			
<b>Semi-Structured Interviews</b>	<b>Official Planning Documents- Exploration Phase (2018-2021)</b>	<b>Official Planning Documents - Plan Development Phase (2022-2026)</b>	<b>Written Responses</b>
Arriva	Participation Plan (2018)	Scope and Level of Detail Note (2022)	ProRail
Municipality of Doetinchem	Exploration RegioExpres Achterhoek Phase 2 (2019)	Participation Plan (2023)	Municipality of Montferland
OV-Toekomstbeeld working group	Assignment Exploration RegioExpres (2020)	Zienswijzennota (2025)	Province of Gelderland

**Table 1.** Overview of key empirical data sources used in the analysis, categorized by data type and stakeholder/document.

## Stakeholder Mapping and Power–Interest Matrix

During the preparatory phase, stakeholder mapping and power–interest analysis were conducted to identify key actors, their roles, and their influence in the RegioExpres planning process. These tools supported both data collection and early analysis.

The initial mapping was based on official project documents—such as participation plans, the Note on the Task of Exploration, the Scope and Level of Detail Note (NRD), and Zienswijzennota consultation records—focusing on formal roles and decision-making involvement. Interview insights later refined this map, revealing informal influence and changing responsibilities.

Power–interest matrices were developed for both the Exploration and Plan Development phases (Appendix 1–2), allowing comparison of actor salience and role shifts. For instance, Arriva and the Ministry of Infrastructure and Water Management (I&W) showed high interest during the exploration phase, but their involvement decreased in the plan development phase. In contrast, landowners, initially with limited formal power, gained influence in the second phase by using legal instruments to delay the project.

A relational stakeholder map (Appendix 3) was used to illustrate the direction and structure of communication indicating whether it was one-way, limited, or reciprocal.

These tools informed interview design and revealed early signs of structural asymmetries, interaction gaps, and emerging governance-related uncertainties

## Data Analysis Methods

The data analysis followed a multi-step qualitative strategy that combined theory-informed thematic coding with temporal phase comparison. The objective was to examine how governance-related uncertainties emerged and evolved during the planning process, and how these uncertainties influenced stakeholder interaction dynamics over time.

In the first step, all interview transcripts, planning documents and written responses to open-ended questions from key stakeholder were coded manually using a spreadsheet-based structure. Initial open coding was used to identify recurring issues such as coordination breakdowns, role ambiguity, regulatory complexity, and relational trust gaps. These codes were then clustered into two main categories and eight themes: governance-related uncertainties (e.g., substantive, role, financial, and regulatory uncertainty) and interaction dynamics (e.g., trust, leadership, deliberation, mutual understanding), based on the frameworks of Koppenjan & Klijn (2004) and Emerson et al. (2012).

Each coded excerpt was also labeled with its associated planning phase—Exploration or Plan Development—based on internal time references, document dates, or interviewee recollections. This temporal tagging enabled comparison of how specific uncertainties and interaction dynamics evolved across phases. It also helped identify spillover effects, such as earlier

uncertainty about problem definitions reappearing as role ambiguity or reduced trust in later stages.

The analysis was abductive: while codes were guided by theory, empirical observations from interviews and planning documents revealed context-specific sub-themes. These included, for example, “strategic reframing” as a response to funding delays, or informal leadership stepping in during institutional inertia. Such emergent patterns led to iterative refinement of the analytical structure.

Triangulation was applied throughout: interview data were compared with document-based evidence to confirm stakeholder roles, uncover discrepancies, and validate interpretations. The analysis was guided by Braun and Clarke’s (2006) principles of reflexive thematic analysis and supported by Krippendorff’s (2018) emphasis on meaning contextualization in content analysis. A complete coding table with uncertainty types, interaction dynamics, and planning phase attribution is provided in Appendix 5.

## Research Ethics

This study followed standard ethical guidelines for qualitative research. Participants were contacted through official channels and received written information about the study’s aims, data use, and confidentiality. Verbal informed consent was obtained before each interview, including for audio recording. Participation was voluntary, and interviewees were informed that they could skip questions or withdraw at any time. All data were used exclusively for academic purposes, and stakeholder perspectives were represented fairly and without attribution.

## Results

The findings in this chapter are based on three types of qualitative data: semi-structured interviews, official planning documents, and written stakeholder responses, as outlined in Table 1 (methodology chapter). This multi-source approach enabled triangulation across institutional records, interpretations, and feedback, and forms the basis for analyzing governance-related uncertainties and stakeholder interaction dynamics throughout the planning process.

### Governance Related Uncertainties

#### Substantive Uncertainty

##### Problem Framing Ambiguity

Substantive uncertainty refers to ambiguity about the core problem and how it might be solved, especially in settings with fragmented or contested information. A key manifestation is the absence of a shared or stable problem definition, particularly where authority and decision-making are distributed. In such contexts, how the problem is framed—and whose framing prevails—shapes agendas, stakeholder alignment, and resource allocation (Head & Alford, 2015; Koppenjan & Klijn, 2004; Dewulf & Biesbroek, 2018).

In the RegioExpres case, substantive uncertainty unfolded through shifting frames and contestation. The project did not emerge from a publicly recognized transport need but from operational and developmental ambitions of the regional operator, Arriva. As an Arriva representative explained: “...we initiated the project on the role of that development task of our operating contract... We saw a problem with full trains on the short direction and a market on the longer direction... so one solution was the RegioExpres.”

This framing was echoed by regional authorities. A representative from Doetinchem Municipality stated: “...capacity is solved. But also, the train goes 13 minutes faster... From the Municipality of Doetinchem, we spoke on behalf of other municipalities... The general aim of the RegioExpres was broadly supported.” Arriva added: “There were no conflicting views. Everyone was in favor of it.”

Similar alignment was confirmed by written responses from other public actors. The Province of Gelderland described the project's objective as improving accessibility through a fast, robust, and

sustainable connection, noting that “stakeholders fully agreed with this.” Likewise, Montferland stated that the project goal “was clear: there must be a sustainable, robust train connection to make the Achterhoek and Liemers municipalities more accessible,” and that there were no diverging opinions.

However, this capacity-based framing was not sufficient to secure public investment. The project was later reframed in broader terms. According to Arriva, it became positioned not only as a solution to congestion, but also as a tool for enhancing regional accessibility and supporting housing agendas. This reframing is visible in the Scope and Level of Detail Note (NRD), which links the project to national housing policy and Achterhoek’s spatial development. Strategic narratives also associated the project with reversing the region’s “shrinking area” (krimpgebied) status, gaining support from the Province of Gelderland.

Despite this evolution, ambiguity persisted. During the plan development phase, several residents questioned the project’s necessity and proportionality. One comment asked: “How do you intend to solve all the self-invented problems and bottlenecks with 1 extra express train per hour?” Others proposed alternatives: “Improving the A12 and A15 would better support accessibility for more residents.” Some questioned the narrow benefit of time savings for a limited group.

This progression—from a technical issue to a development-oriented narrative—demonstrates how the problem framing shifted over time. While this helped secure political and financial alignment, it did not fully resolve differing interpretations among external stakeholders.

## Institutional Uncertainties

### Regulatory Complexity

Regulatory complexity in the RegioExpres project arose from evolving legal frameworks, environmental compliance challenges, and the timing of procedural requirements across different planning phases. While some regulatory issues were noted during the exploration phase, they became increasingly prominent and operationally significant in the plan development phase.

A primary source of legal uncertainty was the transition from the Spatial Planning Act (Wro) to the Environment and Planning Act (Omgevingswet). This transition created ambiguity regarding which framework would govern the project’s formal decisions and introduced uncertainty about related procedures, documentation standards, and decision-making instruments. According to the

Scope and Level of Detail Note (Movares, 2022), “Depending on timing, Wro or Omgevingswet would apply ... the legal framework applicable to the decision moment is not yet definitively known.” A representative from Montferland also emphasized this legal transition as a key source of uncertainty, stating: “... it was changing laws and regulations that always gives uncertainty in planning.”

Besides procedural ambiguity, the Omgevingswet brought institutional changes, including transferring responsibilities for compensation from municipalities to ProRail. This shift disrupted established expectations and heightened role ambiguity, particularly in resident-facing processes.

Environmental concerns, notably nitrogen emissions, further amplified regulatory uncertainty. Although public transport is typically viewed as environmentally beneficial, the introduction of a diesel-powered express service raised ecological concerns, especially near Natura 2000 areas. A national working group representative noted: “Public transport is a good thing for the environment, but it also means extra emissions when we bring an extra train.” While an environmental impact assessment (EIA) was conducted as legally mandated, initial planning documents lacked clarity regarding mitigation strategies. The Province recognized this issue in project documents and written correspondence, noting mitigation measures such as HVO and external balancing were still under consideration at the draft stage. The Province also confirmed in writing that nitrogen issues significantly impacted project progression and contributed explicitly to delays. Eventually, the Provincial Executive decided to transition to HVO for the new concession.

These uncertainties were compounded by the sequencing of spatial and procedural tasks. Regulatory alignment—including zoning changes, nitrogen permits, and land acquisition—was deferred until political and financial feasibility had been secured. An Arriva representative explained: “These kinds of things (environmental issues, land acquiring etc.) are not dealt with beforehand... When you’ve got the money, then the spatial planning issues come up. And that might take a while.” Retrospectively, the Province identified nitrogen as the most significant uncertainty during the plan development phase, contrasting with financial uncertainty during the exploration phase. This sequence—first securing funding, then addressing regulatory issues—contributed to fragmentation and delays.

Land acquisition further increased procedural uncertainty. Although ProRail was responsible for expropriation, residents retained legal rights to challenge compensation offers in court. Compensation negotiations followed national guidelines, and ProRail stated in writing that owners and users would be "fully compensated," declining further detail due to privacy considerations. Despite this commitment, citizen submissions indicated disagreements over compensation, often related to perceived inadequacy or unrecognized emotional attachments. These concerns led not only to potential delays but also to increased financial uncertainty from residents' perspectives.

In sum, regulatory complexity in the RegioExpres project went beyond mere technical compliance, reflecting layered uncertainties about how to act under shifting legal frameworks, manage environmental responsibilities, and engage stakeholders across institutional and judicial channels. Addressing these challenges required continuous interpretation and adjustment throughout the plan development phase.

## Financial Uncertainty

Financial uncertainty was a dominant and evolving institutional challenge that shaped the RegioExpres project. It developed from a manageable budget issue into a political deadlock and eventually became a micro-level risk borne by individual stakeholders.

Initially, uncertainty was limited. When conceived as a track doubling between Didam and Doetinchem, the Province of Gelderland reserved €25–€30 million in 2017. At that point, funding was provincially contained and financially manageable.

This stability shifted when the project expanded into a full corridor improvement, raising the estimated budget to ~€150 million and requiring national co-financing. Phase 2 analysis reported a budget bandwidth of €108–€167 million (Province of Gelderland, 2019). The project entered an immediate funding impasse. As the Arriva representative noted, the national MIRT agenda was already committed until 2040, forcing RegioExpres to compete with Randstad-focused priorities.

In the Dutch planning system, infrastructure projects cannot proceed beyond preliminary exploration without a clear funding perspective. As a national working group member stated, “In the Netherlands, you are only allowed to start a study on infrastructure when there is also a perspective on funding.” Planning documents reiterated: “The financing of the RegioExpres is not yet complete at this time. Depending on the promise of an appropriate contribution from the State and provincial co-financing, the preparation will continue.” (Movares, 2022). Thus, financial uncertainty became a key gatekeeper for further project development.

According to the Arriva representative, resolution came not through technical recalibration but strategic political reframing. The Province and regional operator repositioned RegioExpres within the national housing crisis narrative. By framing it as essential for regional housing development, they aligned with a top national priority. This was crucial in unlocking alternative funding, culminating in the Dutch State’s €75 million commitment in November 2022.

Yet resolving macro-level funding did not eliminate financial uncertainty—it shifted it. Public consultation documents revealed micro-level concerns: property devaluation, land compensation, and planning-related damages (Province of Gelderland, 2025). In its written response, ProRail emphasized that landowners would be “fully compensated” in accordance with national guidelines but declined to disclose negotiation details due to privacy. Despite this assurance, resident submissions revealed disagreement with compensation arrangements, leading to local-level financial uncertainty and perceived risk.

Overall, the RegioExpres case shows that financial uncertainty in infrastructure projects spans budgeting, political timing, institutional alignment, and narrative framing. Navigating this landscape required actors like Arriva to adopt advocacy roles to sustain political momentum. The experience underscores that overcoming financial barriers in multilevel governance requires not only sound planning, but also strategic communication and incentive alignment.

## Role Ambiguity

In the RegioExpres project, role ambiguity emerged at key uncertainty moments—particularly during phases of political inertia and in interactions with the public—when institutional responsibilities were either unclear or shifted informally. Notably, dominant uncertainties in each

phase—financial in the exploration phase and regulatory in the plan development phase—played a central role in triggering these ambiguities by creating leadership gaps or confusing procedural responsibilities.

One prominent case involved the regional operator Arriva. Although formally positioned as a transport provider with a consultative role, the representative from Arriva explained that the company had acted as the project's "initiator." During periods of funding stagnation, when no formal actor had the mandate to lead, Arriva stepped into a lobbying role—described as the "oil in between" provincial and national governments—to build political support. This informal leadership became especially relevant when formal planning efforts were stalled by financial uncertainty. However, it also blurred the boundary between advisory and strategic functions, as Arriva was not officially tasked with steering the project. This proactive lobbying was not unique to Arriva; other actors, including ProRail, also engaged in similar efforts due to their operational or institutional interests. As explained by Arriva representative as " ... MIRT agenda is quite an organic process. There's not a clear process... it's depending on the political color of the government. And, you have to be creative to find solutions to get people involved and warm them up for your idea. So, that's not a responsibility of just one party, but you have to find more people who think it's a good idea. In this case, also ProRail or Gelderland as well. And you have to find ways and momentum that fits the political agenda as well. To get the process right for a mere application for the funding, the given process of the national government to get that money."

This illustrates how the absence of a clearly mandated actor for political advocacy created a shared informal space, where multiple stakeholders acted beyond their formal roles to fill the leadership vacuum.

Another manifestation of role ambiguity became evident in public-facing governance. Residents reported confusion when seeking answers about compensation and spatial claims, often being passed between municipalities, the province, and ProRail. As one citizen wrote in submission: "This is almost literally a case of a cash-wall situation: It is not the province but the municipality that is the point of contact, while ProRail is the party with which the damage must be settled."

This reflected a structural mismatch between ProRail’s legal authority over land acquisition and public expectations that municipalities should serve as the main point of contact. In the Zienswijzennota, the Municipality of Montferland even requested that the Province ensure a "generous solution" for residents—an appeal that lies outside ProRail’s formal remit but aligns with local political norms.

These ambiguities were dynamic. As the project transitioned from lobbying and agenda-setting to spatial detailing and technical planning, actor influence shifted. Arriva’s informal leadership receded, while ProRail’s formal authority increased. Yet these transitions were not always clearly communicated, leaving affected residents uncertain about who was responsible at different stages.

In summary, while not constant, role ambiguity in the RegioExpres project surfaced at critical moments, enabling informal leadership but also contributing to confusion over accountability—particularly at the interface between institutions and the public.

## Stakeholder Interaction Dynamics

### Trust

Trust in the RegioExpres project evolved as a stratified and context-dependent phenomenon. Rather than a unified experience, it varied significantly across institutional levels and phases. Three domains emerged: functional trust among regional partners, structural distrust between governance levels, and procedural erosion of public trust.

In early stages, functional trust between actors such as Municipalities, Arriva, and the Province provided momentum. Interview data and written responses —particularly from Montferland and Gelderland— showed general alignment on project goals with minimal internal disagreement. However, this trust was situational. While the project was regionally prioritized, uncertainty over its inclusion in national programs revealed how broader political dynamics shaped perceptions of institutional reliability.

Trust during the funding impasse diverged across actors. The Arriva representative took a pragmatic view: “We know the government has no money... it’s not creating some kind of

distrust,” framing it as a technical constraint. In contrast, an OV-Toekomstbeeld Working Group participant voiced broader skepticism from the perspective of Gelderland: “There is always a distrust in the national government... They put first all the issues of the Randstad...” highlighting perceived asymmetries in investment priorities that led to distrust.

Additional distrust was directed at ProRail’s monopoly over infrastructure development. The same participant remarked: “They are the only stakeholder that can start a research, build it, maintain it... the price they ask for, that’s the price you have to pay.” Limited cost transparency and dependency reinforced institutional asymmetry and accountability concerns.

At the public level, trust eroded over time. *Zienswijzennota* submissions reflect growing skepticism toward procedural transparency and responsiveness. Residents questioned technical assessments and institutional follow-through. One asked: “Should we as residents just trust that the results... have been checked by an additional independent party?” Another remarked: “No matter what we say, the project will go ahead anyway.” One submission suggested deeper distrust: “Sometimes the self-interest of a municipality... takes precedence over the general interest of the residents.”

Further concerns came from affected landowners, including State Forestry. Submissions indicated that the Province had promised direct contact once planning advanced, yet this communication never materialized. The perceived lack of follow-through further undermined trust in procedural integrity.

In sum, trust dynamics in the RegioExpres project were layered and temporal. Functional alignment among regional actors initially supported progress. But structural distrust between governance levels and procedural breakdowns in public engagement challenged the project’s legitimacy. These patterns illustrate how trust in complex governance is unevenly distributed and sensitive to transparency, responsiveness, and perceived fairness.

## Deliberation

In the RegioExpres project, the quality of deliberation varied across institutional levels and planning phases.

Among core project actors—such as municipalities, ProRail, and the Province of Gelderland—deliberation was described as constructive. Representative from Municipality of Doetinchem noted that “the cooperation and coordination was good between the stakeholders,” while Arriva described the process as “quite collaborative” among all actors involved in the planning phase. Written responses from the Province and Montferland further supported this view, emphasizing regular coordination, good communication, and the ability to resolve conflicting interests through consultation. This collaborative setting was seen to support alignment around initial project objectives and contributed to higher levels of trust and mutual understanding within the core group.

However, deliberation was more limited at higher levels of governance. Participant of the OV-Toekomstbeeld Working Group described how decision-making became increasingly “tactical and less transparent” at the managerial level, particularly in discussions involving funding or long-term strategic commitments. The same participant added that ‘the more politics is involved, the less open the conversation will be,’ noting that as broader agendas come into play, project-specific dialogue becomes overshadowed. In this environment, RegioExpres was perceived as ‘just one project in a whole bubble of problems,’ making room for open deliberation more constrained.

For external stakeholders, perceptions of deliberation were more mixed. The representative from Arriva stated that “the whole process is quite open and transparent ... everybody had the opportunity to participate” when asked about public perception. Provincial and local governments echoed this view in written responses. The Province emphasized that legitimacy was ensured “by participating well and recording everything properly,” while Montferland highlighted that “various kitchen table discussions” and local participation meetings were held to involve residents in thinking through possible solutions.

In contrast, residents described the consultation process as reactive and overly procedural. Zienswijzennota submissions expressed frustration about the timing of engagement, with one resident writing: “Why are we being asked now, when the project seems already fixed?” Others highlighted a lack of communication on directly impactful decisions—such as temporary construction sites—indicating that site-specific concerns were excluded from the formal deliberative process. Organizations such as State Forestry also noted the absence of concrete consultation regarding the use of land under their management.

In summary, while early-stage deliberation among core institutions was open and facilitative, deliberation at later phases—especially involving the public—was often perceived as limited, late, or symbolic. The RegioExpres case highlights how deliberative quality can diverge sharply across actor groups and phases, shaping the inclusivity and legitimacy of governance processes. Early-stage alignment among core stakeholders supported progress, but structural and procedural distrust persisted—particularly in national-regional relations and in public engagement. This layered landscape illustrates that trust in complex governance settings is contingent, unevenly distributed, and shaped by perceptions of influence, transparency, and responsiveness.

## Mutual Understanding

Throughout the project, there was a general baseline of mutual understanding among core institutional stakeholders. Written responses from Montferland and the Province confirmed that key actors—such as the Province, ProRail, and the municipalities—shared a clear sense of each other’s goals and constraints. While uncertainties did influence the process, the core group was reported to be generally able to maintain mutual understanding through open communication and regular coordination.

During the exploration phase, financial uncertainty exposed fractures in mutual understanding across different institutional levels. A representative from Arriva reflected a pragmatic stance, explaining that they “knew from the beginning that there was no money,” and that “if you want anything, you have to push hard for it,” signaling acceptance of national-level constraints. In contrast, a participant of the OV-Toekomstbeeld Working Group noted that actors from the Province of Gelderland found the national government’s stance increasingly difficult to accept: “National government has not so much a clear view of the issues in the Region... So the region

wants to feel heard and the way that can happen is by providing money to certain projects..." The same participant remarked that the Province questioned "why such a small amount, in national terms, was not made available." While all parties acknowledged the same financial limitations, they diverged in their interpretation of what those limitations meant politically—creating a disconnect in mutual understanding.

In the plan development phase, the absence of mutual understanding was especially pronounced among residents. Submissions in the *Zienswijzennota* (2025) documented frustration not only with mitigation decisions, but also with the technical measurements underpinning them. Several residents reported that official assessments, such as noise and vibration studies, did not reflect their lived experience, with one noting that the results "did not correspond with the actual observations in their home."

This disconnect was particularly acute regarding the justification of mitigation measures. Authorities explained that certain decisions were based on proportionality and cost-effectiveness thresholds tied to a fixed budget. One formal response stated: "Due to the small excess compared to the preferred value... the costs for the barrier are too high in relation to the effect... For that reason, an additional noise barrier will not be installed." One resident commented: "Millions are being spent on this project, but for someone like me... not a single extra euro is being spent." A legal submission echoed this frustration, arguing that the reliance on a "low budget" to deny mitigation did "not testify to careful preparation." While these justifications may have been procedurally valid, many residents viewed them as insufficiently responsive to their lived concerns—reinforcing a broader perception that expert reasoning and institutional decision-making were disconnected from local realities.

In sum, mutual understanding in the *RegioExpres* project was stratified and fragile. Among some professional stakeholders, it enabled early coordination, but diverging institutional interpretations soon revealed underlying fractures. At the public level, technical explanations failed to resonate with resident concerns, contributing to procedural resistance and reinforcing low levels of mutual understanding between authorities and the public.

## Leadership

Leadership in the RegioExpres project was not centralized in a single authority but unfolded as a dynamic set of roles distributed across stakeholders and phases. In line with Emerson et al. (2012), leadership emerged through functions such as initiating, framing, and mobilizing action, rather than via a fixed hierarchy.

The Province of Gelderland served as the project's formal leader throughout, overseeing spatial planning, consultation, and legal compliance. This procedural role ensured administrative continuity. Written responses emphasized that regular coordination, trust, and communication played a key role in maintaining alignment, suggesting that leadership was also exercised relationally, not just procedurally.

However, the project's initial momentum stemmed from Arriva's informal leadership. Citing its contractual "development task," Arriva acted as the project's catalyst. As the Arriva representative recalled, they approached ProRail and pushed the Province of Gelderland to realize the project, framing it as a valuable opportunity. In the absence of formal initiative, Arriva mobilized early support.

As planning advanced and the funding impasse persisted, no actor filled the emerging leadership gap. The Arriva representative described how, in the absence of funding and a visible process, collaboration stalled. This indicated a vacuum in coordination during a critical phase.

Informal leadership later resurfaced through political reframing. Arriva helped reposition the project within the national housing agenda, which proved effective in unlocking additional funding streams. Arriva described itself and ProRail as "the oil in between," lobbying national actors to keep the project on the agenda.

In later phases, leadership transitioned back to formal mandates. The Province led legal procedures and public communication, while ProRail handled technical implementation and land-related negotiations. In parallel, the Municipality of Montferland took a role in advocating for residents. As one submission stated: "Fortunately, the municipality of Montferland is now also standing up for its citizens who have to hand over land and who receive little or no proper compensation for this." Another emphasized urgency: "We believe it is of great importance that

you and ProRail reach an adequate, generous solution... to prevent our residents from ending up in lengthy procedures.”

In summary, leadership in the RegioExpres project was situational and adaptive—emerging in informal forms when formal leadership lagged, reactivating through political reframing, and surfacing protectively in response to public concerns.

## Temporal Evolution of Uncertainties and Interaction Dynamics

This section describes how governance-related uncertainties and stakeholder interaction dynamics manifested and evolved across the two planning phases of the RegioExpres project. The focus lies on shifts in dominant uncertainty types and changes in stakeholder behavior and communication patterns.

### **Exploration Phase (2018–2021)**

During the early planning phase, substantive and financial uncertainties were most visible. The problem was initially framed around increasing train capacity and improving regional connectivity, as promoted by Arriva and supported by other regional actors. This framing encountered little contestation within the regional coalition but had limited reach at the national level. National co-financing was not yet secured, and provincial resources were constrained.

Despite these financial and substantive uncertainties, interaction among regional stakeholders remained constructive. Trust, mutual understanding, and deliberation were described as high, especially within the group of early supporters. Deliberation with national actors was more limited. Existing documents and interview data indicated the presence of role ambiguity, as no single actor was formally mandated to lead national-level advocacy. During this period, actors such as Arriva and ProRail supported the Province by promoting the project and engaging in lobbying activities. Regulatory complexity was not a significant issue at this stage, as relevant environmental laws and permitting frameworks had not yet come into effect.

## **Plan Development Phase (2022–2026)**

In the later phase, the project entered a more formalized stage, during which governance-related uncertainties became more institutional and procedural. The introduction of the Environment and Planning Act (Omgevingswet) brought regulatory changes that led to uncertainty about procedures, responsibilities, and timelines—particularly in areas such as permitting and land acquisition. Documents indicated that these procedural ambiguities affected how tasks were coordinated among institutions.

Although national co-financing was eventually secured, financial uncertainty continued to be present at the local level. This was not due to a lack of funds, but rather to unclear processes and responsibilities concerning communication and compensation. Residents expressed uncertainty about who to approach regarding spatial impacts and whether compensation mechanisms applied to them. Interview data and public responses reflected a lack of clarity and follow-up, contributing to feelings of frustration among affected communities.

The quality of deliberation also appeared to change. Communication with residents became more formalized and procedural. Interviews and participation documents suggested that the style of consultation was perceived as one-directional, with fewer opportunities for clarification or ongoing dialogue. In some municipalities, particularly Montferland, local officials became more actively involved in representing residents' concerns. These actions were not formally assigned but emerged in response to perceived information gaps.

Across this phase, uncertainty was not fully resolved but continued in different forms. Coordination efforts focused on technical planning and compliance, while some procedural and relational challenges remained visible in institutional communication and resident engagement.

## Discussion and Conclusion

### Cross - Phase Analysis: The Interplay of Uncertainty and Interaction Dynamics

The findings presented in the previous chapter indicate that governance-related uncertainties and stakeholder interaction dynamics in the RegioExpres project were not separate phenomena, but closely interconnected. Uncertainty shaped how actors engaged with one another, while patterns of interaction—such as trust, leadership, and mutual understanding—played a key role in how uncertainty was interpreted and addressed. This section reflects on these interdependencies across the two planning phases, highlighting how uncertainty and interaction co-evolved under shifting institutional and procedural conditions.

#### **Exploration Phase (2018-2021)**

During the exploration phase, substantive uncertainty was initially low due to a coherent, shared understanding among regional stakeholders—Arriva, the Province of Gelderland, and local municipalities—regarding the project's main goal: increasing regional connectivity and transport capacity. This shared framing fostered strong internal cohesion and facilitated early coordination, reflecting Koppenjan and Klijn's (2004) proposition that clarity in problem framing is essential for effective stakeholder alignment in early governance stages.

However, deeper tensions surfaced beneath this apparent cohesion, particularly related to financial uncertainty regarding national co-financing. Stakeholders perceived this uncertainty differently: Arriva adopted a pragmatic stance, viewing funding as a manageable operational and lobbying challenge. Conversely, the Province of Gelderland interpreted the funding shortfall as indicative of systemic neglect by the national government, especially regarding investment biases favoring the Randstad region. This interpretative divergence reinforced existing structural distrust and undermined mutual understanding, highlighting the sensitivity of mutual understanding to the trust and quality of deliberation processes as described by Emerson et al. (2012). Specifically, deliberations at the national-regional interface remained limited and strategically driven rather than genuinely collaborative, intensifying regional polarization. This uneven distribution of deliberative quality across governance levels—more open and consensus-driven at the regional level, more strategic and closed at the national level—is also consistent

with observations by Koppenjan (2004) and Dewulf & Biesbroek (2018), who note the limited involvement of national political actors in interactive processes and the fragmented nature of meaning-making across governance scales. This erosion of trust not only exacerbated financial uncertainty but also contributed to a leadership vacuum and role ambiguity, as stakeholders lacked clear direction and alignment across governance levels.

Additionally, role ambiguity became prominent during this phase, creating both governance risks and opportunities for adaptive responses. Although formally positioned only as a service provider, Arriva informally assumed a leadership role by not only initiating the project, but also reframing its core objectives, and advocating strategically alongside ProRail to overcome financial uncertainty. This informal leadership enabled progress despite institutional stagnation, supporting Koppenjan and Klijn's (2004) view of role ambiguity as both a risk and a potential enabler in fluid governance settings.

In sum, the exploration phase illustrates how low substantive uncertainty and high regional cohesion coexisted with deep financial uncertainty and structural distrust toward national institutions. Informal leadership helped advance coordination, but role ambiguity introduced vulnerabilities. These findings reinforce the theoretical claim that governance effectiveness in complex settings depends not only on problem clarity and formal roles, but also on relational dynamics such as trust, perceived legitimacy, and interpretive alignment (Emerson et al., 2012).

### **Plan Development Phase (2022-2026)**

In the plan development phase, governance-related uncertainties became more operational and fragmented. Regulatory complexity intensified with the transition from the Spatial Planning Act (Wro) to the Environment and Planning Act (Omgevingswet), introducing uncertainty about applicable procedures, documentation requirements, and institutional responsibilities.

Consultation responses and public submissions reflected confusion among both institutional stakeholders and residents—particularly regarding responsibility for tasks such as land acquisition and environmental assessment. These findings align with Koppenjan and Klijn's (2004) observation that unclear institutional boundaries can exacerbate coordination challenges and diminish stakeholder confidence. In the RegioExpres case, role ambiguity and low-quality deliberation did not just co-occur but reinforced one another. Limited procedural clarity created

confusion over responsibilities, while symbolic forms of participation reduced opportunities for mutual understanding.

While financial uncertainty in the earlier phase centered around national co-financing, it took a different form during this stage, becoming localized and increasingly shaped by regulatory complexity. Specifically, procedural ambiguity caused by shifting law and fragmented communication about land acquisition and compensation created confusion for residents, who reported being redirected between institutions without clarity on responsibilities. This role ambiguity—compounded by what many participants described as symbolic or procedural participation—contributed to perceptions of being unheard or inadequately represented. As a result, residents began to question not only technical decisions (e.g., noise measurements) but also the legitimacy of the institutions involved. As deliberation became more legalistic and one-directional, mutual understanding declined and skepticism grew—especially where local concerns were met with procedural rather than dialogic responses. As a result, mutual understanding and trust deteriorated not due to overt conflict but through the absence of responsive, two-way engagement—an outcome noted in Emerson and Nabatchi's (2012) work on principled engagement. In this way, regulatory complexity—compounded with low deliberation—indirectly amplified financial uncertainty, particularly from the perspective of residents whose interests were directly affected. This dynamic resonates with Dewulf and Biesbroek's (2018) and Akse et al.'s (2023) view that uncertainty and interaction dynamics are co-constructed, shaped by institutional responsiveness and the quality of engagement.

Unlike the exploration phase, where financial uncertainty appeared to trigger role ambiguity and informal leadership from Arriva, the plan development phase exhibited a reversed dynamic: regulatory complexity and limited deliberation triggered both role ambiguity and localized financial uncertainty. This inversion also reveals a shift in informal leadership. Here, the Municipality of Montferland stepped into a more active role, advocating for residents in land acquisition processes and relaying concerns to higher levels. While less prominent than Arriva's earlier leadership, Montferland appear to reflect a different motivation—grounded not in project advancement, but in the perceived need to protect local interests and respond to gaps in procedural clarity. In this light, Montferland's protective engagement can be understood not only as a reaction to procedural shortcomings but also as a substitute for missing mutual

understanding and trust. This dynamic is consistent with Akse et al. (2023), who observe that when formal structures fail to support reciprocal engagement, actors may reconfigure roles informally to restore coordination and perceived legitimacy.

Institutional responses at the local level also varied. Montferland exhibited a comparatively proactive stance, advocating for residents and relaying concerns beyond its formal remit. In contrast, Doetinchem remained more reserved, with no similar efforts reported in the available material. While this contrast is noteworthy, it should be interpreted cautiously, as the underlying causes—whether rooted in institutional culture, political priorities, informal norms, or local constraints—remain unclear. As Marsden and Reardon (2017) note, governance behavior is often shaped by context-specific dynamics and embedded institutional logics.

These behavioral differences are further illustrated by the stakeholder interaction map (Appendix 3), which highlights predominantly formal, narrow communication channels between stakeholders. Notably, the relationships between Montferland, Doetinchem, and other actors show no substantial structural differences. Both municipalities exhibit similarly limited institutional ties, with no clear distinction in the strength or direction of their connections. Against this backdrop, Montferland's decision to advocate for residents suggests a localized response that was not structurally predetermined. Rather than reflecting a more reciprocal network position, Montferland's actions show how informal leadership can emerge in similarly constrained environments—making the map a useful reference for identifying when divergence stems from behavior rather than structure. This offers an illustrative but preliminary insight into how local characteristics might influence institutional responsiveness. Future research could explore how local institutional cultures, political dynamics, or relational histories shape municipal engagement, particularly under procedural ambiguity.

Rather than being managed within a formal collaborative regime (Emerson et al., 2012), stakeholder interaction in RegioExpres evolved unevenly, shaped by emerging uncertainties and asymmetrical engagement. In line with Akse et al. (2023), the case supports the view that interaction dynamics are not stable inputs but are themselves continuously reshaped by the uncertainties they are meant to address.

## Discussion of Findings in Relation to the Literature

The RegioExpres case provides an opportunity to reflect critically on established literature on infrastructure governance, uncertainty, and stakeholder interaction. The findings largely support core ideas in the literature but also highlight some dynamics that are more layered and context-dependent than often assumed.

The project's trajectory aligns closely with core theories of governance under uncertainty, particularly the typology proposed by Koppenjan & Klijn (2004). Substantive uncertainty appeared through shifting problem frames, while institutional uncertainty manifested as role ambiguity, financial deadlocks, and regulatory complexity. In parallel, the interaction dynamics emphasized by Emerson et al. (2012)—notably trust and deliberation—proved central. Public distrust and limited deliberative quality contributed to procedural friction and legitimacy challenges, reinforcing the theoretical salience of these dynamics.

Yet the case also adds important nuance. Uncertainty, particularly ambiguity, was not merely a barrier but served as a strategic resource. The shifting problem narrative helped actors link the project to broader regional ambitions, which supported alignment. Similarly, role ambiguity during the funding impasse created room for informal leadership—most notably by Arriva—to step in when formal responsibilities were unclear. These findings echo existing literature (e.g., Dewulf & Biesbroek, 2018) that sees uncertainty as both a constraint and an opening for action.

Still, the RegioExpres case adds an extra layer. Role ambiguity worked in two directions at once. While it enabled flexibility and leadership among core actors in the exploration phase, it also created confusion for residents in the plan development phase, who struggled to understand who was accountable. Although the dual nature of uncertainty is recognized (Koppenjan & Klijn, 2004), this case shows how both opportunity and threat can emerge in parallel, depending on the actor and setting.

Finally, the findings challenge the assumption—often present in collaborative governance frameworks such as Emerson et al. (2012)—that interaction dynamics like trust and mutual understanding develop system-wide. In this case, such dynamics remained mostly within the project coalition, while interactions with the public were limited and marked by exclusion. This

suggests that collaborative qualities do not spread evenly but can become stratified, especially in multi-level settings shaped by power differences.

## Managerial Implications

The RegioExpres case offers practical insights for managing uncertainty and improving multi-actor governance in complex infrastructure projects. Rather than treating uncertainty as something to eliminate, institutions should focus on building the capacity to respond constructively as it unfolds.

First, regional projects require predefined fallback mechanisms for leadership during institutional standstills. In the absence of formal authority, actors like Arriva informally filled coordination gaps. While effective in the short term, this highlights the need for structured alternatives—such as temporary shared mandates—to maintain direction without relying on informal leadership.

Second, legal explanations alone were not enough to maintain public trust. In cases where institutional responsibility shifted—especially due to regulatory changes—people found it difficult to know whom to contact, even when earlier communication had promised clarity. For individuals already in low-power positions, such disruptions intensified existing barriers to access and reduced perceived legitimacy. In these situations, it is essential not only to have communication protocols in place, but also to ensure their consistent and proactive implementation. This could include assigning a clear next contact person whenever institutional responsibilities change, and reaffirming communication expectations at each stage to reduce confusion and maintain trust.

Third, framing should be developed in dialogue with both institutional and public actors. While aligning with national housing policy helped secure funding, it lacked local resonance. Participatory framing practices—such as co-developed objectives or framing workshops—can help bridge this gap. Importantly, public engagement must go beyond information sharing. Several participants expressed frustration with one-way updates, such as email briefings, and preferred participatory meetings where concerns could be voiced directly. Increasing the number of focused, in-person sessions at key stages could improve the sense of involvement and strengthen perceived legitimacy.

Fourth, regions with difficult past experiences—such as Gelderland’s difficulty to secure co-financing—need extra attention to trust-building. Local actors who already feel disadvantaged may be more likely to interpret silence or lack of presence from national actors as a sign of disinterest or withdrawal, even when this is not the intention. National institutions should be aware of how their presence or absence is perceived. Even when limited involvement is legally justified, it can still damage relationships if local expectations are unmet. To address this, it can help to organize structured conversations across governance levels, ideally supported by a neutral facilitator. In addition, national actors could commit to minimum engagement standards, such as attending key decision-making meetings or assigning a consistent contact person throughout the process.

These recommendations emphasize structured flexibility: enabling institutions to anticipate, absorb, and adapt to uncertainty without sacrificing clarity or legitimacy. Rather than prescribing universal tools, they call for practical design principles suited to multi-level contexts where roles, narratives, and expectations evolve together.

## Limitations and Directions for Future Research

While this research offers insights into governance-related uncertainties and stakeholder interaction dynamics in the RegioExpres project, several limitations should be acknowledged.

First, as a single-case study situated in the Dutch planning context, generalizability is inherently limited. However, the case’s complexity—characterized by multi-level governance, regulatory change, and political asymmetry—offers lessons relevant for other fragmented planning settings where institutional capacity and infrastructure ambitions are misaligned.

Second, the absence of direct interviews with two key actors—the Province of Gelderland and ProRail—limited the depth of analysis on formal coordination and internal trust. While written responses were provided, the answers were short and submitted jointly with Montferland. This collective format reduced the ability to capture individual perspectives and positions, particularly on sensitive topics such as interaction dynamics. The lack of direct dialogue also meant that questions could not be adapted in real-time or clarified through follow-up, which limited contextual depth. These limitations made it more difficult to assess how these actors perceived

uncertainty and their roles within evolving collaboration. To partially address this, their responses were triangulated with planning documents and insights from other interviewees. Still, future research would benefit from separate and in-person interviews to better reflect internal diversity and relational nuance.

Third, interaction dynamics were interpreted through retrospective interviews and document analysis. This approach limited access to relational cues—such as tone, timing, and informal exchanges—that often influence trust and deliberation. Hindsight bias may also have shaped how participants recalled and framed past uncertainty.

Finally, the study's theoretical lens—primarily informed by collaborative and network governance—provided structure but left limited room to explore power asymmetries, contested legitimacy, or emotional undercurrents in stakeholder relations. Future research could apply more critical governance perspectives to explore whose interpretations of uncertainty dominate and why.

Several directions for future research follow from these limitations. Comparative studies could also test whether dynamics observed here—such as informal leadership or fragmented trust—appear in other settings with multi-level governance and regulatory transitions. Additionally, real-time methods such as meeting observations or embedded fieldwork could offer deeper insight into how interaction dynamics evolve in practice, beyond retrospective accounts.

Lastly, longitudinal studies extending beyond the planning phase could examine whether early uncertainty and coordination patterns continue to shape implementation and adaptation over time. Comparative studies could examine whether similar dynamics—such as informal leadership or fragmented trust—appear in other governance systems. Further investigation into the legitimacy and long-term effects of informal leadership is also needed, especially in contexts without clear mandates. Finally, longitudinal research beyond the planning phase could assess how early-stage uncertainty and coordination shape the implementation and adjustment of infrastructure projects over time.

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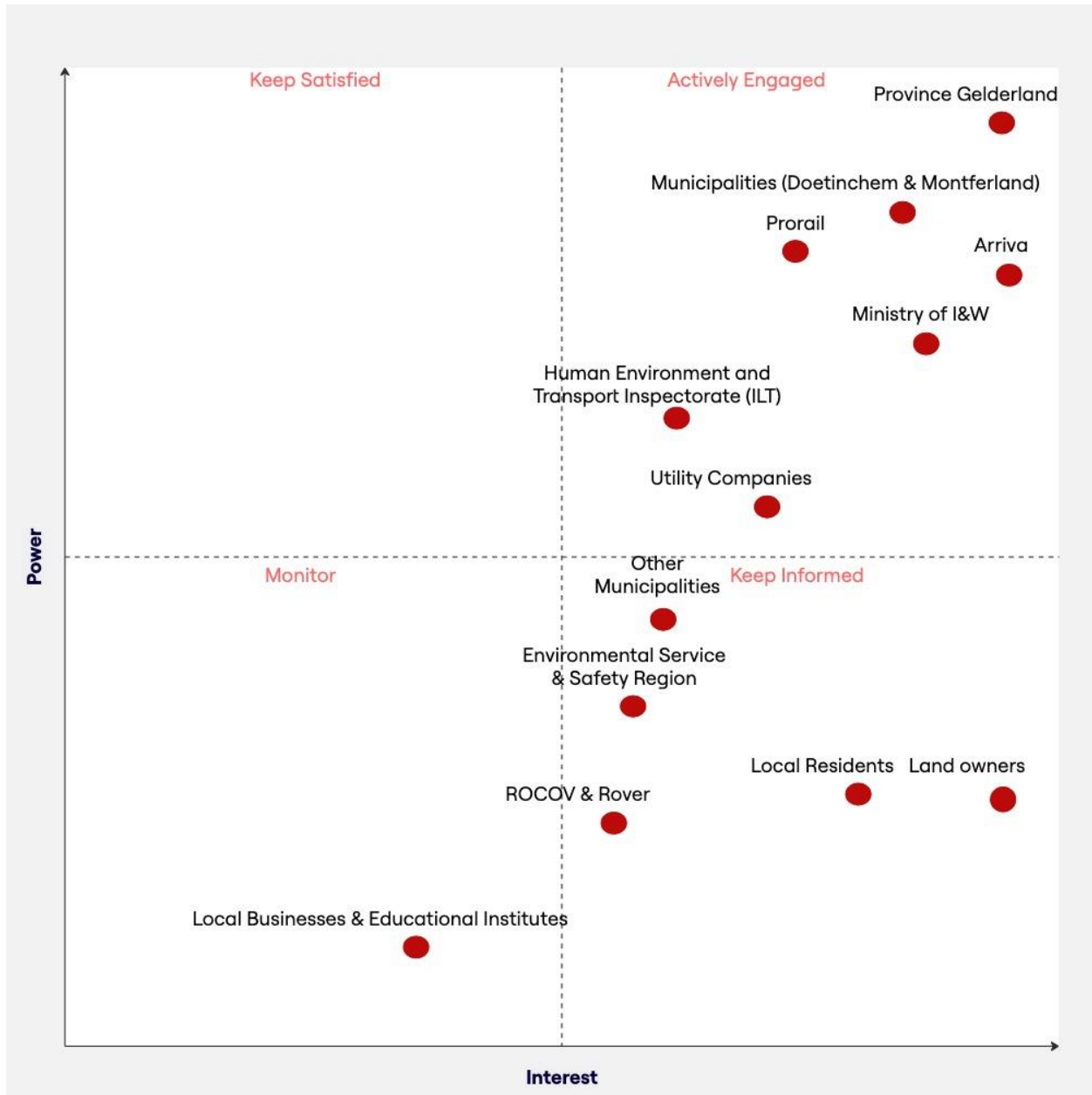
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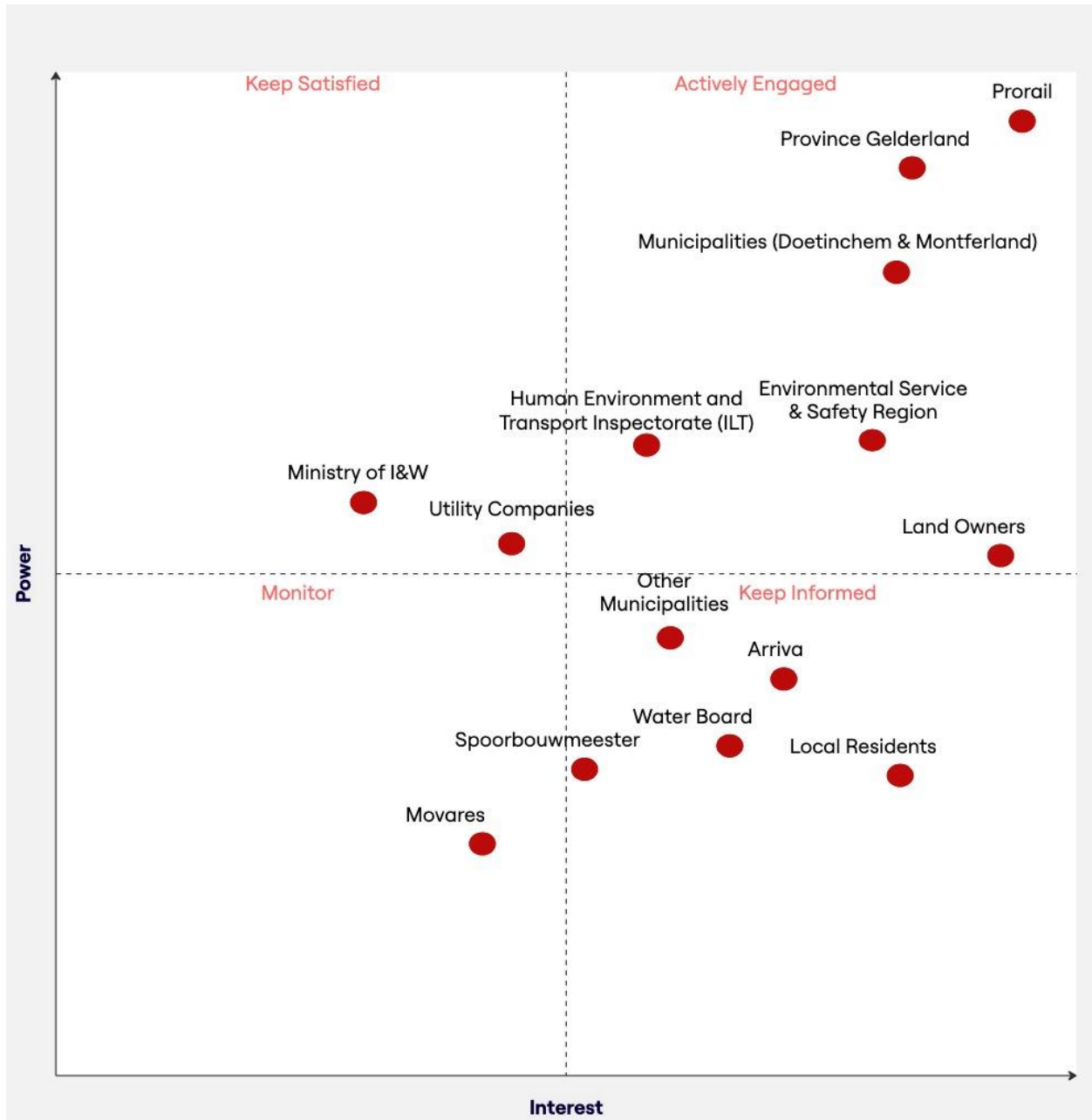
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# Appendices

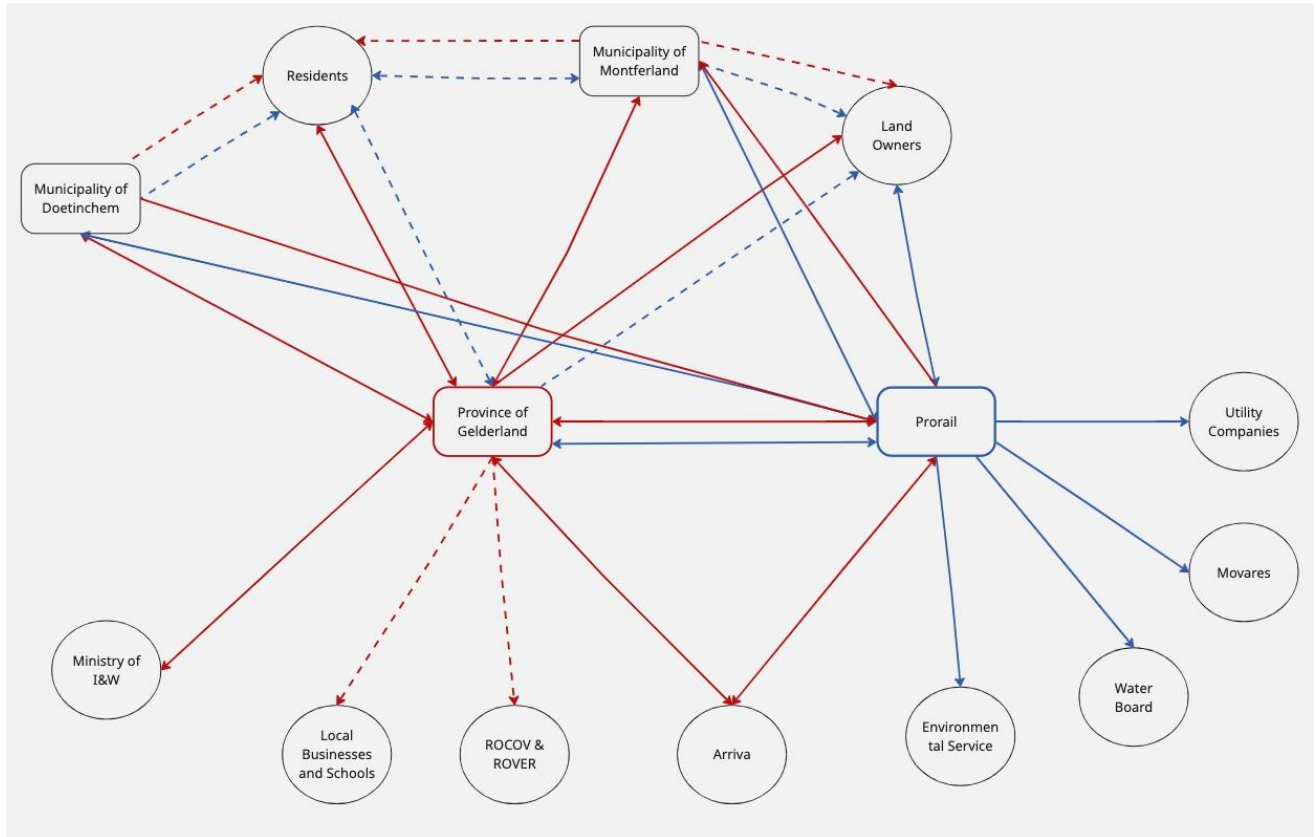
## Appendix 1- Power - Interest Matrix - Exploration Phase



## Appendix 2 - Power - Interest Matrix - Plan Development Phase



### Appendix 3- Stakeholder Interaction Map



#### Stakeholder Interaction Map Legend:

Appendix 3 presents a relational interaction map of the RegioExpres project across two key planning phases: the **exploration phase (red lines)** and the **plan development phase (blue lines)**.

- Solid lines represent instances of full and consistent information exchange between stakeholders.
- Dashed lines indicate limited or fragmented communication, where interaction was either procedural, indirect, or perceived as insufficient.
- Arrow direction denotes the flow of information, clarifying whether communication was unidirectional or mutual.

## **Appendix 4 - Semi-structured Interview Questionnaire**

Introduce myself

Formal notice: Voluntary, recordings, data using purpose

Brief introduction of research: I study governance-related uncertainties—such as unclear problem definition and goals, roles, financing, or regulations—and how these affect stakeholder interaction in terms of trust, mutual understanding, leadership and deliberation (open communication, inclusiveness etc.) in complex infrastructure projects like RegioExpres. I focus on the exploration and plan development phases, aiming to understand how uncertainties and interaction dynamics influenced each other over time.

### **Participant Introduction**

1. Could you please briefly introduce yourself? What is your current role and department?
2. How were you involved in the RegioExpres project?
3. During which phases (exploration, plan development) were you active?
4. What were your key responsibilities? (e.g., coordination, technical input, political decisions, community involvement?)
5. Who were the stakeholders you interacted with most frequently or most intensively during meetings or other collaborative moments?

### **Core Questions**

#### **1. Framing the Problem (Substantive Uncertainty)**

- What did you (or your organization) see as the core problem RegioExpres was meant to solve? (speed, accessibility, capacity, etc.)
- Did other stakeholders share that view, or were there different priorities?
- How did this evolve across the exploration and plan development phases?

- In what ways did this uncertainty influence interactions — such as mutual understanding, trust, leadership gaps or communication clarity and openness?
- Did differences in problem framing contribute to or reinforce other uncertainties later in the process?

## ***2. Role Ambiguity***

- Was it clear to you and others who was responsible for what, and when? Was this different across the two phases?
- Did uncertainty about roles affect the quality of communication, cooperation, or trust?
- Were there moments where this ambiguity reinforced or was reinforced by other issues — such as unclear goals or institutional complexity?
- Were certain individuals or organizations able to guide others or coordinate this ambiguity?

## ***3. Financial Uncertainty***

- Were there any financial uncertainties during the planning process—for example about available budgets, funding arrangements, or investment commitments?
- Did this change between exploration and plan development phases? If yes, how did it change?
- How did this affect interactions — e.g., openness, mutual understanding, leadership, trust?
- Were financial concerns tied to other uncertainties (e.g., roles, environmental measures)?
- Did stakeholder relations (trust, shared understanding, leadership) help clarify or complicate financial matters?

#### ***4. Regulatory Complexity***

- Did evolving regulations (e.g. Omgevingswet-Environmental Law) or procedural requirements generate confusion or uncertainty?
- How did they affect the process? Did it cause any other uncertainties?
- How did stakeholders respond to these uncertainties — through collaboration, avoidance, reliance on leaders?
- Were other uncertainties amplified or softened by legal complexity?

#### ***5. Interaction Dynamics and Relational Issues***

- Were there moments of low trust, miscommunication, or even conflict during the planning phases?
- Can you recall examples where a lack of communication or mutual understanding made things more difficult?
- Did relational issues (e.g., distrust, unclear leadership, poor information sharing) reinforce uncertainties?
- Conversely, were there moments where strong relationships, good communication, or effective leadership helped reduce uncertainty or facilitate alignment?
- Would you describe interaction quality differently in the exploration phase compared to the plan development phase?

#### **Conclusion- Reflection & Integration Questions**

Looking back, which uncertainties were most significant during the exploration phase? Which ones during the plan development phase?

Were there uncertainties that became worse or more manageable over time?

Did interaction issues (e.g., lack of trust, poor communication, unclear leadership) make it harder to resolve those uncertainties — or vice versa?

Do you see connections between different uncertainties and the way people worked together? For instance, did financial issues trigger trust breakdowns or leadership tensions?

Would you say earlier uncertainties or interaction patterns spilled over into later phases, or were they ‘reset’ with each phase?

### **Final Follow-up**

Thank you again for taking the time to speak with me today — I really appreciate your contribution to this research.

## Appendix 5 - Thematic Codebook

The following tables present the thematic codes developed through the qualitative content analysis of interviews, formal submissions, and planning documents. The codebook is organized under two major categories: (1) Governance-Related Uncertainties and (2) Stakeholder Interaction Dynamics. For each code, key sub-themes are summarized and illustrative quotes are provided with source references.

### Source Codes Used in the Coding Table

To ensure transparency and traceability, each quote in the coding table is referenced using a unique code. These codes correspond to the following sources:

- **(I1)**: Interview with a representative from *Arriva*
- **(I2)**: Interview with a representative from *Municipality of Doetinchem*
- **(I3)**: Interview with a participant from the *OV-Toekomstbeeld working group*
- **(ZX)**: Formal opinion submitted in the **Zienschijfnota**; e.g., *(Z14)* refers to Opinion No. 14
- **(D1)**: *Exploration Phase Document – RegioExpres Achterhoek Phase 2*
- **(D2)**: *Note on the Task of Exploration*
- **(D3)**: *Participation Plan – Summary of Exploration Phase*
- **(D4)**: *Plan Development Scope and Level of Detail Note (NRD)*

## GOVERNANCE RELATED UNCERTAINTIES

<b>SUBSTANTIVE UNCERTAINTY - PROBLEM FRAMING AMBIGUITY</b>			
<b>Sub-Themes</b>	<b>Salient Points</b>	<b>Quotes from interviews, formal submissions and official documents</b>	<b>Phase</b>
Initial Problem Development	The project was not initiated from an acknowledged societal problem but it started as a development task of the operator.	"We've got a development task here and it's not basically all based from a problem because we've got the task to develop our public transport operation in a broader way to increase efficiency, improve the whole product. " (I1)	Exploration
Internal Problem Definition Consensus	The core project group had a clear understanding of the goal of the project/what it tried to solve.	"From the Municipality of Doetinchem, we spoke on behalf of other municipalities in the Achterhoek region, ... The general aim of the RegioExpres was broadly supported...other municipalities, I believe they shared a similar understanding of the problem."(I2) "There were no conflicting views. Everyone was in favor of it the project" (I1)	Exploration
External Problem Definition Ambiguity	The project's goal had consensus within the core project team, however, external stakeholders did not perceive it the same.	"So that was the biggest challenge to create people and say, okay, that's a good idea to justify the amount of money we're spending here to improve this service."(I1) "Improving the A12, extending the A15 and expanding the N18 would make more sense for the accessibility of the Achterhoek." (Z14) "The benefit of a barely shorter travel time is negligible—especially given the irresponsibly high investment and low number of travelers." (Z9), (Z14), (Z44) "How do you intend to solve all the self-invented problems and bottlenecks with 1 extra express train per hour?" (Z43)	Plan Development

<b>Sub-Themes</b>	<b>Salient Points</b>	<b>Quotes from interviews, formal submissions and official documents</b>	<b>Phase</b>
Strategic Framing/ Evolving Problem Definition	The project was not inherently seen as urgent or high-priority by external decision-makers. To increase its visibility or access to funding, actors strategically linked it to broader goals e.g., regional development, capacity issues, thus reframing its purpose over time.	<p>“Everyone thought it was a good idea, but to make this the project fly, we had to link it to the broader issue of regional economic development.” (I1)</p> <p>“Luckily for this project... there was also a housing challenge in the Netherlands. So one of the lucky things we had is to combine the RegioExpres with the housing crisis. If that wasn't the case, the project was still waiting.” (I1)</p> <p>"In addition to the autonomous growth in travellers, Arnhem and the Liemers are facing an urbanisation challenge. As a result of the extra homes, a greater growth in travellers is expected. "</p> <p>(D4)</p>	Exploration

**ROLE AMBIGUITY**

<b>Sub-Themes</b>	<b>Salient Points</b>	<b>Quotes from interviews, formal submissions and official documents</b>	<b>Phase</b>
Undefined Roles During Political Inertia	During periods of funding stagnation, no actor took formal leadership to maintain momentum. This governance vacuum enabled informal leadership to emerge from Arriva, a private actor with a vested interest in the project's continuation.	"So when there was no money, when there was no visible process towards funding, the project just stopped basically. It was just on the wish list at several institutions, but basically there was no collaboration. towards processing the RegioExpress" (I1) "You have to be creative to find solutions to get people involved and warm them up for your idea. So that's not a responsibility of just one party, but you have to find more people who think it's a good idea. In this case, also Prorail or Gelderland as well. " (I1)	Exploration
Unclear Communication Channels for the Residents	Residents faced institutional confusion when trying to resolve claims. Multiple authorities municipality, province, ProRail were cited without clarity on who held final responsibility.	"This is almost literally a case of a cash-wall situation: it is not the province but the municipality that is the point of contact, while ProRail is the party with which the damage must be settled." (Z34)	Plan Development

<b>REGULATORY COMPLEXITY</b>			
<b>Sub-Themes</b>	<b>Salient Points</b>	<b>Quotes from interviews, formal submissions and official documents</b>	<b>Phase</b>
Legal Transition Uncertainty	The shift from the Spatial Planning Act Wro to the Environment and Planning Act Omgevingswet created procedural uncertainty about which legal framework would apply	"Depending on timing, Wro or Omgevingswet would apply" (D4) "Since adoption was planned after January 2023, the project fell under the new Environment and Planning Act. This shift introduced procedural uncertainty, as it required different documentation, legal basis, and participation standards than the previous zoning plan system." (D4) "In the draft zoning plan, it was not yet clear how the additional nitrogen deposition as a result of the RegioExpres would be tackled." (ZIntroduction)	Exploration
Natura 2000 Compliance Uncertainty	Due to the proximity of Natura 2000 sites, the project was subject to strict nitrogen emission regulations. However, the EIA initially failed to demonstrate with certainty that these emissions would remain within acceptable thresholds	" Then the environmental law changed. ... It's a new challenge that came up with the nitrogen as well. ... public transport is a good thing for the environment, but it also means extra emissions when we bring an extra train." (I3) "In the draft zoning plan, it was not yet clear how the additional nitrogen deposition as a result of the RegioExpres would be tackled. It was indicated that both the possibilities of HVO Hydrotreated Vegetable Oil, a biodiesel and external balancing were being examined. ..." (ZIntroduction)	Plan Development
Dealing Time of the Regulatory Complexities	The environmental and spatial planning issues are acknowledged in the exploration phase but not dealt with until the plan development phase which created confusion among the ones affected by the project.	"One of the things is nitrogen as well. That wasn't a thing we thought of beforehand. ...it's something you have to deal with later on in the process. " (I1) " ... This means an enormous impact on the ecological conditions and nitrogen deposition..... It is not made clear at all what will happen in our environment. ... Research and clarity must be provided in advance." (Z16)	Plan Development

<b>FINANCIAL UNCERTAINTY</b>			
<b>Sub-Themes</b>	<b>Salient Points</b>	<b>Quotes from interviews, formal submissions and official documents</b>	<b>Phase</b>
Funding as a Prerequisite for Exploration	Without national co-financing prospects, even technical and feasibility studies could not be initiated. This led to standstill.	"In the Netherlands you are only allowed to start a study on infrastructure when there is also a perspective on funding." (I3)	Exploration
Who Should Take the Financial Burden	There was a financial uncertainty with the role ambiguity about who should pay	"... we do not invest in infrastructure. It is regulated in the Netherlands that the government should do that. The discussion is, does the state government do that, as well as the provincial government?" (I1)	Exploration
Initial Large Budget Range for the Project	In the exploration phase, ProRail estimated the cost for the project with a wide uncertainty range.	"ProRail has made a cost estimate based on the most recent available information. ProRail's estimate amounts to €137 million, with a bandwidth of €108 - €167 million being used in this phase. There are still many uncertainties in this phase and the bandwidth is therefore still very large." (D1)	Exploration
Co-funding Delays Stalling the Project	Systemic competition towards funding, delays/ potentially stops the project.	"Depending on the promise of an appropriate contribution from the State and provincial co-financing, the preparation will continue." (D4) "When there was no money, when there was no visible process towards funding, the project just stopped basically. It was just on the wish list... but basically there was no collaboration." (I1) "Most of the funding of infrastructure will be done by the Ministry... And that list is full until 2040." (I1)	Exploration

Sub-Themes	Salient Points	Quotes from interviews, formal submissions and official documents	Phase
Strategic Reframing for Funding	To unlock national co-funding, project proponents strategically linked the RegioExpres to the Dutch housing crisis, arguing that the rail improvement would enable large-scale regional housing development. This helped the project gain visibility and priority within national investment agendas	<p>"... One of the lucky things we had is to combine the RegioExpress with the housing crisis. So there was extra funding available to make this project fly." (I1)</p> <p>"It was the province of Gelderland who said, OK, you want housing. That's the national issue. We think the RegioExpres is a good idea. We want to combine it. And they've just made a deal of it." (I1)</p> <p>"In addition to the capacity problems, the average speed is low... As a result, the accessibility of the region will deteriorate. This growth is reinforced by the homes to be built in the Achterhoek... ” (D4)</p>	Exploration
Land Acquiring	Prorail is officially authorized for the land acquiring process based on a "full compensation" policy however residents and Municipality of Montferland have different views on the subject. This divergence in expectations reflects a disconnect between national compensation frameworks and local lived experience.	<p>"The municipality considers it of great importance that the province and ProRail reach an adequate, generous solution for these parties as soon as possible. In this way, the municipality hopes to prevent residents from ending up in lengthy procedures." (Z47)</p> <p>"The current proposal for the required land for the second track is too low and not in proportion to the loss of value. The house is surrounded by trees and shrubs which guarantee the sound and certainly the privacy. The compensation currently reserved for this is insufficient." (Z25)</p>	Plan Development

<b>Sub-Themes</b>	<b>Salient Points</b>	<b>Quotes from interviews, formal submissions and official documents</b>	<b>Phase</b>
<p>Politic Situations' Effect on the State's Funding Decision</p>	<p>The lobbying for funding was not enough, the political wind also affects the decision.</p>	<p>"Financing was just the biggest issue... you have to start a lobby, and find the right political momentum... That's the biggest step and that takes a while. Time is a big uncertainty here as well." (I1)</p> <p>"It's depending on the political color of the government... you have to find ways and momentum that fits the political agenda... just to get the process right for a funding application." (I1)</p>	<p>Plan Development</p>
<p>Circumstantial Financial Loss Concerns</p>	<p>People who are affected by the project also waiting for compensation due to multiple reasons such as value loss due to noise, vibration or temporary value loss during 5 years of construction. Residents are exposed to prolonged uncertainty and personal financial pressure.</p>	<p>"As I have already indicated, I am very concerned about my future in Didam. The arrival of the RegioExpres will drastically reduce the quality of living, the value of the house will decrease and it will become unsaleable." (Z11)</p> <p>"The value of our home will decrease... This is unacceptable to us and is not sufficiently explained in the zoning plan." (Z44)</p>	<p>Plan Development</p>

## STAKEHOLDER INTERACTION DYNAMICS

<b>TRUST</b>			
<b>Sub-Themes</b>	<b>Salient Points</b>	<b>Quotes from interviews, formal submissions and official documents</b>	<b>Phase</b>
Low Trust Due to ProRail's Monopoly Position	ProRail's exclusive position in infrastructure led to a perception of procedural dominance which contributed to distrust.	"... ProRail, for example, is the owner of the infrastructure. They've got a monopoly position on building it and they are the only stakeholder that can start a research, build it, maintain it, and the price they ask for, that's the price you have to pay. ...." (I3)	Exploration
Regional Distrust Toward National Government Investment Priorities	The region perceived that national infrastructure decisions favored urban western areas Randstad, leading to distrust.	"It's always like a distrust in the national government. They put first all the issues of the Randstad, which might be larger, but also more expensive. ... For the region, it's a lot of money, but the impact is also good. So there is a distrust in region and national government in those in collaborating because they don't have the same priorities on where to invest money in infrastructure." (I3)	Exploration
Low Procedural Trust in Technical Procedures	Some residents questioned the credibility of technical assessments, and expressed skepticism about the fairness and openness of the planning process.	"Should we as residents just trust that the results of the measurements performed are correct because we as citizens have no further knowledge of this and were not there.?" (Z19) "The report was viewed very formally. The GPP and the measures were examined in the noise investigation, but that was viewed very formally." (Z24)	Plan Development
Distrust in Institutional Alignment with Public Interest	The resident perceived that project decisions were driven by internal interests of powerful institutions rather than public welfare.	"Sometimes the self-interest of a municipality, the self-interest of a small group of provincial or ProRail officials, takes precedence over the general interest of the residents..." (Z43) "No matter what we say, the project will go ahead anyway." (Z15)	Plan Development

<b>MUTUAL UNDERSTANDING</b>			
<b>Sub-Themes</b>	<b>Salient Points</b>	<b>Quotes from interviews, formal submissions and official documents</b>	<b>Phase</b>
Realistic Funding Perception by the Project Initiator	As the operator with the most direct benefit from the project, Arriva showed a clear and realistic understanding of structural funding limitations.	"It's not creating some kind of distrust... we know that the national government has no money. So if you want anything you have to push hard for it." (I1)	Exploration
Misaligned Expectations About Funding Priority	The Province of Gelderland perceived the national government's funding decisions as disconnected from regional needs.	"National government has not so much a clear view of the issues in the Region. It's kind of relatively small money, I would say, for the national government, but it has a large impact on the Region... There is a feeling from the perspective of the province of Gelderland that the national government doesn't care about their issues because they prioritize the western part of the Netherlands. So the region wants to feel heard and the way that can happen is by providing money to certain projects... (I3)	Exploration
Perceived Neglect Despite Societal Investment	Residents expressed that, despite the scale of public investment in the project, they did not receive proportional attention or relief for their individual concerns such as noise, vibration, or compensation needs.	"...with regard to noise pollution... the province will not take additional measures... I feel abandoned. Millions are being spent on this project, but for someone like me... not a single extra euro is being spent." (Z11) "The general interest is not or hardly served for the residents of Didam " (Z34) "Based on case law, the lifestyle of the residents and the properties of the property must be taken into account... For the time being, the responses from Prorail do not show any hopeful starting point." Z34	Plan Development

<b>LEADERSHIP</b>			
<b>Sub-Themes</b>	<b>Salient Points</b>	<b>Quotes from interviews, formal submissions and official documents</b>	<b>Phase</b>
Informal Initiation and Entrepreneurial Leadership	The project emerged without a formal initiating authority. Instead, the initiator identified the core issue and took proactive steps to explore options with key infrastructure actors.	“Arriva was the initiator of the project. And to see the possibilities, I went to ProRail. And explaining the problem we were seeing and ProRail was looking at it and he said, hey, you're right, really there's a problem and I think it's good. And because ProRail was also involved and was thinking it's a good idea, then we pushed towards the province of Gelderland like,, you should find money for this project because it's a good idea...” (I1)	Exploration
High Informal Leadership (Strategic Reframing)	At a time when formal actors had not yet acted, Arriva helped keep the project alive by lobbying and advising the Province of Gelderland to link it to the national housing agenda. This informal support helped create political momentum for funding.	“ ... And one of the lucky things we had is to combine the RegioExpress with the housing crisis. So there was extra funding available to make this project fly ....” (I1) “... we (Arriva) are like the oil in between them to push them a little bit in the lobby about it's a good idea and we should continue with it. And we tried to put it on the agenda and push those parties in the right direction.” (I1) "Prorail doesn't have money by themselves. So if they want to build a project or extend the network, they need funding for it as well. So they also did some lobby work" (I1)	Exploration

Sub-Themes	Salient Points	Quotes from interviews, formal submissions and official documents	Phase
Low Formal Leadership in Times of Crisis	In the absence of secured funding, the project stalled. No formal actor took clear initiative to resolve the deadlock, suggesting a temporary leadership gap during a critical phase.	"So when there was no money, when there was no visible process towards funding, the project just stopped basically. It was just on the wish list at several institutions, but basically there was no collaboration" (I1)	Plan Development
Protective Informal Leadership in Response to Insufficient Formal Action	The Municipality of Montferland intervened to defend residents' interests during land acquisition, despite not being formally responsible for the process.	"Fortunately, the municipality of Montferland is now also standing up for its citizens who have to hand over land and who receive little or no proper compensation for this." (Z43) "We would like to emphasise once again that, in our opinion, a number of our residents in Didam are being disproportionately disadvantaged by the upcoming doubling of the railway, as they will have to give up land belonging to their homes for the benefit of this development. These people have often lived here for decades. As yet, no agreement has been reached with the owners of these eight residential plots. We believe it is of great importance that you and ProRail reach an adequate, generous solution for these parties as soon as possible. In this way, we hope to prevent our residents from ending up in lengthy procedures." (Z47-Municipality of Montferland))	Plan Development

<b>DELIBERATION</b>			
<b>Sub-Themes</b>	<b>Salient Points</b>	<b>Quotes from interviews, formal submissions and official documents</b>	<b>Phase</b>
Core Project Team High Deliberation	The communication within the core project group was expressed as open and constructive.	"The cooperation and coordination was good between the stakeholders." (I3) "When the people that are looking for how to design the project, they're quite collaborative" (I1) "In the design phase of such a project, if it's a good thing and doing study about the impact, there is quite an open conversation among all the stakeholders in there. railway sector and somehow that's also because everybody believes if we collaborate, at the end we get a better product" (I2)	Exploration
Low Deliberation at Decision-Making Level	At the managerial and political level, decision-making became tactical and deliberation channels were not perceived as open.	"...when you're more at a level of, I would say management, the policies ,... The guys who take, or a woman who take the decisions, Then it's getting more tactical and then it's just one project in a whole bubble of problems. So then there is definitely a level of distrust, and that level is not open at all." (I3)	Plan Development
Perceived High Deliberation for External Stakeholders	Arriva stated that the planning process was transparent and that everyone had the opportunity to participate, including residents.	"The only thing that can happen is that if the province of Gelderland wasn't transparent, then people might create a distrust. But in this case, our feeling is that the whole project was transparent about what we want, what the implications might be. And everybody had the opportunity to participate." (I1)	Plan Development

<b>Sub-Themes</b>	<b>Salient Points</b>	<b>Quotes from interviews, formal submissions and official documents</b>	<b>Phase</b>
Partial Deliberation for External Stakeholders	Residents reported that while they were consulted on certain topics mostly non-controversial, important decisions—especially those affecting their living environment—were made without their input.	<p>"We would very much appreciate being informed when procedural steps are needed again we have been promised this!. Unfortunately, something went wrong during the information rounds at this point. In other words: we would like to be invited personally and not via letters in the area." (Z16)</p> <p>"Neighborhood participation on this topic is lacking. We have generally been kept well informed of the steps and by means of letters about the procedures that are running. ... When it comes to the temporary work areas that are necessary, no local residents have been spoken to... I have serious objections to looking at a building site - for up to 5 years. It makes the house less saleable during this period. The choice is, to say the least, reprehensible.." (Z13)</p>	Plan Development
No Consultation on Site-Specific Issues	Some external stakeholders, including the State Forestry Service and residents near temporary work zones, stated that they were not consulted at all on the direct impacts in their area.	"Staatsbosbeheer State Forestry Service has been informed in the past about the arrival of the RegioExpres, but no concrete agreements have been made about the exact content of the plan and the implementation. Staatsbosbeheer has not yet given permission for the development and use of the necessary land for the RegioExpres and would like to enter into consultation. " (Z8)	Plan Development

## **Appendix 6 - Full Written Responses from Stakeholders**

### **Municipality of Montferland**

#### **I. General Context**

**Q:** How was the municipality of Montferland involved in the RegioExpres project during the exploration and plan development phase?

**A:** *During the phases mentioned, the municipality was always represented in various working groups and a project and steering group.*

**Q:** How has the role of the municipality evolved during the project?

**A:** *That has remained the same: cooperation.*

#### **2. Substantive Uncertainty – Problem Framing Ambiguity**

**Q:** How was the core problem or the objective of the project understood by the municipality of Montferland during the exploration phase?

**A:** *That was clear: there must be a sustainable, robust train connection that to make the Achterhoek and Liemers municipalities more accessible.*

**Q:** Were there differing opinions among stakeholders about the purpose of the project (e.g. speed, capacity, reliability)?

**A:** *No*

**Q:** Have these perspectives converged over time, or did they continue to diverge during the plan development phase?

**A:** *Not applicable*

**Q:** Has this lack of clarity affected the municipality's ability to contribute or engage? And what impact do you think this has had on the involvement or coordination of other stakeholders?

**A:** *Not applicable*

### **3. Institutional Uncertainties – Roles, Financial and Regulatory Complexity**

**Q:** Were the responsibilities and rights of the municipality clearly defined in both phases? Was there any ambiguity about who should initiate or coordinate important decisions, and who had a leading role in the different phases?

**A:** *Yes, this is laid down in project plans per phase. There has been no ambiguity about the leading role, which lies with the Province.*

**Q:** Was the municipality involved in discussions about financing or budgeting? Were there uncertainties about cost responsibilities, the feasibility of the project or the political sensitivity of the financing? If so, did these issues lead to conflicts of interest or tensions between stakeholders? How did they affect decision-making processes or relationships (e.g. trust, cooperation, coordination)?

**A:** *No, the municipality of Montferland is not involved in this, especially the municipality in principle does not make a financial contribution to this project.*

**Q:** Were there challenges related to changing environmental or spatial planning regulations (e.g. nitrogen policy or the Environment Act)? How was this process of interpreting and responding to these changes handled, if applicable? Did this regulatory complexity lead to new uncertainties or affect stakeholder relationships (e.g. trust, coordination, clarity of roles)?

**A:** *(Province's response)*

### **4. Dynamics of Stakeholder Interaction**

**Q:** Was there a stakeholder or actor who took the lead in uncertain times? Does this differ per phase?

**A:** *In the previous phases this was the Province.*

**Q:** How did uncertainties affect trust between stakeholders, including the municipality of Montferland?

**A:** *Not*

**Q:** Were there opportunities for open and honest discussion? Did uncertainty hinder or stimulate dialogue?

**A:** *Yes, uncertainties had no influence on that.*

**Q:** Have stakeholders (including the municipality) developed a shared understanding of each other's goals and constraints? How have uncertainties affected this shared understanding?

**A:** *Yes, but uncertainties had no influence on that.*

**Q:** Who were your main interlocutors at each stage? Did this change over time?

**A:** *Province, Prorail and the municipality of Doetinchem. This has remained the same.*

## **5. Montferland-Specific Questions**

**Q:** How did Montferland coordinate or negotiate with ProRail and the province during the discussions on level crossing safety (particularly at Didam and Wehl)? Were there differences of opinion or unclear responsibilities?

**A:** *As a municipality, we have been given the opportunity to express our requirements and wishes at an early stage. Stadium to be made known to Province/Prorail via a CRS (Customer Requirements Specification). Level crossing safety is, however, a responsibility of Prorail, whereby there are national guidelines. There were no differences of opinion or unclear responsibilities.*

**Q:** How did Montferland deal with the possible environmental impacts of the project (e.g. noise, flora, fauna) and how did this relate to the expectations or decisions of other stakeholders?

**A:** *As a municipality, we are involved in the creation of the environmental impact report. Our comments have often been included in this.*

**Q:** Multiple technical actors were involved in the integration of the rail infrastructure with existing underground infrastructure and waterways. How did Montferland work with them to resolve practical limitations or planning conflicts?

*A: By participating in a Technology working group.*

**Q:** How did Montferland deal with local residents especially during the redevelopment of the access roads? And were there tensions between local feedback and the preferences of other stakeholders in the decision-making?

*A: Various kitchen table discussions have been held with the Province and participation meetings with the residents concerned took place to discuss this to allow local residents to participate in the project as much as possible and to participate in the thinking process about possible solutions. There are two variants for relocating the Lange Klauwenhof has been developed and the variant chosen is one where the environment allows it to be viewed most support. This solution did not lead to tensions between stakeholders among themselves.*

**Q:** The transition from the Wro to the Omgevingswet had consequences for the planning procedures. What influence did this legal shift have on the coordination of Montferland with the province and other involved bodies in spatial planning?

*A: None, in anticipation of the Environmental Act, there was already (joint) cooperation in accordance with the idea of the Environmental Act.*

**Q:** Looking at these issues, has Montferland experienced uncertainty or friction in its interactions with other stakeholders — regarding roles, responsibilities or expectations?

*A: There are always disagreements in a larger scale project like this because there are also different interests are at stake. However, these have always been dealt with in good consultation.*

## **VI. Final Reflections**

**Q:** Looking back, what were in your opinion the main obstacles to effective coordination during the planning of RegioExpres? How did these uncertainties and interaction dynamics influence each other during different processes?

*A: I think it was changing laws and regulations. That always gives uncertainty in planning.*

**Q:** Are there any other considerations or lessons you would like to share?

**A:** *No.*

## **Province of Gelderland**

### **Introduction of the Participant**

**Q:** Can you briefly introduce yourself? What is your current position and department?

**A:** *Environmental manager at the Department of Area Development and Implementation (G&U) of the province of Gelderland.*

**Q:** How were you involved in the RegioExpres project?

**A:** *As an environmental manager at the RegioExpres project.*

**Q:** During which phases (exploration, plan development) were you active?

**A:** *During the exploration, plan development and preparation of the realization,*

**Q:** What were your main responsibilities? (e.g. coordination, technical input, political decisions, community involvement)

**A:** *Various activities as an environmental manager, such as making an analysis of the stakeholders, writing the strategic environmental management plan, supervising research and permits. Including participation, among other things, collecting customer requirements and wishes, holding (kitchen table) discussions with residents and other stakeholders and organizing information meetings.*

**Q:** With which stakeholders did you have the most frequent or most intensive contact during meetings or other collaboration moments?

**A:** *Municipality of Doetinchem, municipality of Montferland, ProRail, the government, residents and other stakeholders in the area, utility companies and water boards.*

### **Key Questions**

#### **1. Formulating the Problem (Substantive Uncertainty)**

**Q:** What did you (or your organization) see as the core problem that RegioExpres had to solve? (speed, accessibility, capacity, etc.)

**A:** *The Province of Gelderland is committed to improving accessibility. The Arnhem-Doetinchem-Winterswijk rail link is one of the busiest regional rail lines in the Netherlands. It is the backbone of public transport in the Achterhoek and Liemers.*

The RegioExpres is an extra express train between Arnhem and Doetinchem, which then continues as a stopping train between Doetinchem and Winterswijk. The improvement of the railway line ensures a fast, sustainable and robust connection between the Randstad and the Gelderland regions and for a more attractive living, working and living environment.

see the RegioExpres project site: <https://regioexpres.gelderland.nl>.

**Q:** Did other stakeholders agree with this or were there other priorities?

**A:** *Stakeholders fully agreed with this. Faster connection between Achterhoek and Arnhem/Nijmegen and Randstad. Robustness by means of construction of double track. Comfortable train journey for intermediate stations (Doetinchem-Arnhem) because fewer passengers enter the trains.*

**Q:** How has this developed during the exploration and plan development phases?

**A:** *Fine.*

**Q:** In what ways did this uncertainty affect interactions, for example on mutual understanding, trust, leadership gaps, or the clarity and openness of communication?

**A:** *Not.*

**Q:** Did differences in the problem definition contribute to or reinforce other uncertainties later in the process?

**A:** *No.*

## **2. Role Ambiguity**

**Q:** Was it clear to you and others who was responsible for what, and when? Was this different in the two phases?

**A:** *The roles in the different organizations were completely clear.*

**Q:** Did role ambiguity affect the quality of communication, collaboration, or trust and how?

**A:** *No.*

**Q:** Were there times when this ambiguity was reinforced or compounded by other problems, such as unclear objectives or institutional complexity?

**A:** *No.*

**Q:** Were certain individuals or organizations able to guide others or coordinate this ambiguity?

**A:** *Not applicable.*

### **3. Financial Uncertainty**

**Q:** Were there any financial uncertainties during the planning process, for example regarding available budgets, financing arrangements or investment obligations?

Relatively speaking, the investment costs were reserved late (in the first phase of the plan development).

**Q:** Has this changed between the exploration and plan development phase? If so, how has this changed?

**A:** *Yes, see above.*

**Q:** How did this affect interactions, for example openness, mutual understanding, leadership and trust?

**A:** *It was a significant lobbying process but led to solidarity in this project.*

**Q:** Were financial concerns linked to other uncertainties (e.g. roles, environmental measures)?

**A:** *No.*

**Q:** Did stakeholder relationships (trust, mutual understanding, leadership) help clarify or complicate financial matters?

**A:** *Yes.*

#### **4. Regulatory Complexity**

**Q:** Have changing regulations (for example the Environmental Act) or procedural requirements led to confusion or uncertainty?

**A:** *The RegioExpres project started before 1 January 2024 (before the new Environmental Act came into effect). The Provincial Council has adopted a provincial Inpassingsplan (PIP) for this project. We have taken the new Environmental Act into account.*

**Q:** What influence did they have on the process? Did it create any other uncertainties?

**A:** *There was an additional round of consultation.*

**Q:** How did stakeholders respond to these uncertainties? By working together, avoiding situations and trusting leaders?

**A:** *Stakeholders want the zoning plan. This will allow for faster agreements and contracts to be made about the land.*

**Q:** Were other uncertainties amplified or mitigated by the legal complexity?

**A:** *No.*

#### **5. Interaction Dynamics and Relational Problems**

**Q:** Were there moments of lack of trust, miscommunication or even conflict during the planning phase?

**A:** *No, there was certainly no lack of trust, miscommunication or conflict.*

**Q:** Can you give examples where and how a lack of communication or mutual understanding made things more difficult or increased the uncertainties?

**A:** *Not applicable.*

**Q:** Conversely, were there times when strong relationships, good communication, or effective leadership helped reduce uncertainty or facilitate alignment?

**A:** *Regular coordination and good communication and trust made coordination easier.*

**Q:** Would you describe the quality of interaction in the exploration phase differently than in the plan development phase and how?

**A:** *No.*

### **Province-Specific Questions**

**Q:** The project shifted from improving the railway to a broader regional development strategy, including links with housing and accessibility.

How did the province contribute to this reorientation? Was this a conscious repositioning or a reaction to external circumstances?

**A:** *The RegioExpres project has a long lead time and therefore adapts to external circumstances.*

**Q:** Documents and interviews show that there is a lack of clarity about which actor is responsible for which task, especially during the plan development phase.

How are the responsibilities of the province defined in relation to ProRail and municipalities?

**A:** *This has been established in a project plan by the Steering Committee.*

**Q:** The introduction of nitrogen standards and the Environmental Act occurred during the planning process.

What impacts did these regulatory changes have on the legal and procedural responsibilities of the province?

**A:** *Nitrogen has a major impact and this led to delays.*

**Q:** During the public consultation, some residents expressed concerns about the responsiveness of the process.

How did the province deal with these perceptions and how was the consultation process designed to ensure legitimacy?

**A:** *By participating well and recording everything properly.*

**Q:** Several stakeholders noted that there was a lack of national sensitivity to regional needs. How has the province fulfilled its mediating role between regional stakeholders and national authorities?

**A:** *See answer above.*

### **Conclusion - Reflection and Integration Questions**

**Q:** Looking back, which uncertainties were most significant during the exploration phase? And which during the plan development phase?

**A:** *During the Exploration: financial uncertainty. During the Plan Development: nitrogen.*

**Q:** Were there any uncertainties that became greater or more manageable over time?

**A:** *No.*

**Q:** Were interaction problems (e.g. lack of trust, poor communication, unclear leadership) make it more difficult to resolve those uncertainties, or vice versa?

**A:** *No, there were virtually no interaction issues that were not resolved.*

**Q:** Do you see connections between different uncertainties and the way people worked together? For example, did financial problems lead to breaches of trust or tensions in leadership etc.?

**A:** *No.*

**Q:** Would you say that earlier uncertainties or interaction patterns carried over into later phases, or were they 'reset' at each phase?

**A:** *At each stage these were 'reset'.*

## **ProRail**

**Q:** How ProRail experienced and managed its involvement during the exploration and plan development phase, particularly with regard to formal planning responsibilities, spatial integration and infrastructure-related coordination?

**A:** *Every project that ProRail executes runs via the core process. This fixed route through four phases provides ProRail, together with all other parties, with a sense of security. Each phase has its own challenges and stakeholders. A project starts with an initiative. In this case, the province of Gelderland approached us with the wish to add an extra express train, the RegioExpres, to the existing passenger product.*

ProRail has carried out an Exploration on behalf of the province of Gelderland. During the Exploration, various studies were conducted. The studies provide answers to, among other things, the effect of the RegioExpres and the required doubling of tracks on the environment. The Exploration also provided insight into what is needed to realise the RegioExpres. The Exploration leads to the preferred decision.

We are now in the third phase of the core process, the Planning and Studies phase (formerly Plan Development). During the third phase, the plans are further elaborated and we prepare for the realization. We develop the preferred decision into a project decision in order to proceed with the actual construction. This includes topics such as the scope of the project (what does it all include?), the implementation period, the financing and the distribution of risks between the parties. The end product of this phase is the project decision.

**Q:** ProRail's interactions with local residents and other stakeholders (e.g. the province, municipalities, Arriva) — how participation, feedback and concerns were dealt with throughout the process?

**A:** *A participation plan has been drawn up jointly. There is a Communications working group in which the collaborating parties participate.*

**Q:** The role of land acquisition, which was stated at recent provincial documentation and in an interview with Arriva, was the responsibility of ProRail. Could you explain how this process was organised and how any related challenges (e.g. legal, social or procedural) were addressed?

**A:** *For the arrival of the RegioExpres, a double track of approximately nine kilometers is needed between Didam and Doetinchem De Huet. In order to make the doubling of the track with associated systems, facilities and measures possible, land must be purchased. ProRail acquires this land that is needed for the main railway infrastructure. The first discussions will start in 2023. The starting point is that the owners/users will be fully compensated. For privacy reasons, ProRail will not make any statements about the order and content of the discussions. The aim of the discussions is to reach agreement on the land that will be purchased.*