Spatial Quality in Area-Oriented Road Infrastructure Projects

The Effectiveness of Procedural Arrangements

university of groningen

Witteveen + Bos

Colophon

Master thesis	MSc Environmental and Infrastructure Planning
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Subtitle	The Effectiveness of Procedural Arrangements
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Publication date	May 3, 2022
Status	Final
Location	University of Groningen Faculty of Spatial Sciences Department of Spatial Planning & Environment Landleven 1, 9747 DA Groningen, the Netherlands

Preface

A challenging but exciting period of my life is coming to an end. This thesis completes my Master programme 'Environmental and Infrastructure Planning' at the University of Groningen. With this, I will finish an extensive and educational time period that has brought me a lot of memories. I had a lot of fun visiting lectures, sharing ideas with fellow students and professors, and diving into the realm of spatial planning. It was not always easy to be motivated to get all the work done. Especially in times of the COVID-19 pandemic, where large portions of my time was spend at home behind a computer screen. However, I do feel that during this period I have made great steps in my development as a human being: professionally and personally.

Consequently, I would like to thank some people who have helped me finalizing this thesis. First, I would like to thank the respondents of my thesis. This thesis would not have been possible without your cooperation and help. By taking the time for me, and allowing me to ask questions about a shared interest of us, you helped me to further develop my understanding of planning practice and this thesis.

Second, I would like you thank my family and friends for supporting me during the entire research process. Small things such as taking me out, making dinner, and taking care of me when I (unknowingly) refused to do that myself, is greatly appreciated. I know that trying to get me away from my computer was not always easy. But I do realise now that taking some distance from my projects and regroup, is sometimes the best thing to do.

Third, I would like to thank all my colleagues from Witteveen+Bos. This deep-dive into spatial planning practice significantly increased my understanding of our field of work. You provided me the practical tools that I needed shape this thesis into what it is now.

Lastly, a special thanks goes out to Robin Neef and Dedjer Wijmenga. Your endless help, patience, insight, and understanding is something every student wishes for when they start writing their thesis. Every meeting I had with either of you was of great contribution to this thesis, and I learned a lot from both of you. Even when I had a difficult time writing and shaping my thesis, you both gave me the space to figure things out and helped me to organise my thoughts. Thank you.

An exciting and challenging future full of opportunities lies ahead of me to apply my knowledge into the practice of spatial planning. I do not know what the future holds for me. But during my future career, I will always try to keep in mind the motto of our Faculty: 'Making places better together'.

I hope you enjoy reading my thesis,

Karsten Dallinga

May 2022, Veendam (the Netherlands)

Abstract

In the Netherlands, area-oriented approaches imply a coherent approach that incorporates the development of the planning area as a whole, proactively combining land use functions and road infrastructure planning. The external integration of the land use planning sector, with the infrastructure and transport planning sector has caused that procedural arrangements are being continuously updated to facilitate area-oriented approaches in reaching integrated objectives, including spatial quality ambitions. This continuous updating of these procedural arrangements in combination with the difficulty of governments to reach spatial quality ambitions, suggests the need for effective procedural arrangements. However, research on the effectiveness of these procedural arrangements to reach spatial quality ambitions is still lacking. This thesis bridges this research gap by investigating how effective current procedural arrangements are in reaching spatial quality ambitions. The aim is to gain insight into how effective current procedural arrangements are in reaching spatial quality ambitions in area-oriented road infrastructure projects in the Netherlands.

This thesis draws on theories of effectiveness using the concepts of conformance and performance, and policy design fit, within the realm of spatial planning. The combination of conformance and performance approaches to effectiveness, and policy design effectiveness, provide an insight in the degree to which a desired result is achieved using these procedural arrangements, whilst simultaneously understanding the influence of procedural arrangements during the process of achieving this result. Consequently, a single in-depth case study was employed. Using semi-structured in-depth interviews and a document analysis to collect and analyse the data.

Findings show a presence of policy design effectiveness, a presence of conformance effectiveness, but an absence of performance effectiveness. Procedural arrangements are thus effective the attainment of spatial quality ambitions. However, procedural arrangements did not directly support actors in understanding and addressing problems regarding spatial quality. Suggesting that performance effectiveness does not have to be reached in order to achieve conformance effectiveness. This implies that there is some level of coordination between the parties and actors involved to ensure the decision-making processes are aligned with the procedural arrangements. Furthermore, spatial quality is often considered as a side-issue. Therefore, there first has to be a willingness to invest in spatial quality, in order to include it in projects. This implies that the effectiveness of procedural arrangements regarding the attainment of spatial quality ambitions is dependent on (political) decision-making that is not influenced by the mix of procedural arrangements.

Recommendations include (1) to potentially integrate stakeholders earlier into RWS projects, (2) increase the awareness of the need for area-oriented approaches by spatial planning practitioners, and (3) synchronise the perceived imbalance between the Framework for Spatial Quality and Design and the Framework for Road Design of RWS.

Key words: Effectiveness, area-oriented approaches, procedural arrangements, spatial quality, policy design fit, performance, conformance

List of Translations

English	Dutch
Ambitionweb	Ambitieweb
Broad view	Brede blik
Coherent connecting quality vision	Verbindend Kwaliteitsbeeld
(Design) Route Decision	(Ontwerp) Tracébesluit
Environmental Impact Assessment	Millieueffectrappotage (m.e.r.)
Framework for Road Design	Kader Wegontwerpproces
Framework for Spatial Quality and Design	Kader Ruimtelijke Kwaliteit en Vormgeving
Guide to MIRT/EIA	Handreiking MIRT/m.e.r.
Initial Decision	Startbeslissing
Multi-Year Programme for Infrastructure, Spatial Planning and Transport	Meerjarenprogramma Infrastructuur, Ruimte en Transport
New Nature	Nieuwe Natuur
Preferential Decision	Voorkeursbeslissing
Project Decision	Project beslissing
Sustainability approach for Soil, Road, and Water	Aanpak Duurzaam GWW

List of Abbreviations

Abbreviation	Meaning
EIA	Environmental Impact Assessment
LABP	Lelystad Airport Business Park
MIRT	Multi-Year Programme for Infrastructure, Spatial Planning and Transport
NMCA	*Nationale Markt- en CapaciteitsAnalyse*
(O)TB	(Design) Route Decision
RWS	Rijkswaterstaat
W+B	Witteveen+Bos

Contents

1. Introduction

Road infrastructure planning requires careful consideration of the area surrounding the project, taking into account various land use functions. In the Netherlands, integrated planning approaches, as opposed to sectoral approaches, imply a coherent approach that incorporates the development of the planning area as a whole, proactively combining land use functions and road infrastructure planning (Struiksma et al., 2008). These area-oriented approaches are considered necessary to cope with several contemporary societal developments. Especially in the Netherlands, a country with a scarce amount of space, the call to choose for area-oriented approaches becomes more apparent in order to aptly deal with the fragmentation of spatial functions (Cramer et al., 2021).

Amongst these societal developments are firstly, increased environmental awareness, scarcity of space, public resistance, and the changing role of the government and other planning actors. Sectoral approaches proved to be insufficient to deal with these increasing complexities in a changing society (Arts, 2007, Heeres et al., 2012a, Struiksma et al., 2008). Secondly, infrastructure planning is notorious for time and cost overruns (Elverding, 2008, Flyvbjerg et al., 2003), and area-oriented approaches promise an inclusive planning approach with regard to actors, time, and scope, taking into account increasing complexities as explained by Struiksma et al. (2008). Moreover, area-oriented approaches seem to be very successful in linking actors and scales (Arts et al., 2016). Finally, in addition to just solving problems, area-oriented approaches promise to improve spatial quality by increasing the scope of projects and minimizing harm to the surrounding environment (Heeres et al., 2012a).

1.1 Problem

It seems that the external integration of the land use planning sector, with the infrastructure and transport planning sector is necessary. Whilst the integration of these sectors is an ongoing process, procedural arrangements are being continuously updated to facilitate area-oriented approaches in reaching integrated objectives, including the attainment of spatial quality ambitions (Heeres et al., 2012a). Procedural arrangements for this thesis can be understood as a guideline or instrument within the domain of road infrastructure planning that integrates spatial quality into the phases of the plan and design processes. However, governments have integrated ambitions regarding spatial quality, but still struggle to come up with effective ways to reach and support these ambitions (van Geet et al., 2019b). A challenge lies here for spatial planners to find the best combination of spatial and infrastructural developments that improve spatial quality (Heeres et al., 2012a). Previous authors indicate that a major barrier to area-oriented approaches is the organizational side of the integration of land use, and infrastructure and transport procedural arrangements (Heeres et al., 2012a, Heeres et al., 2012b). The continuous updating of procedural arrangements in combination with the difficulty of governments to reach spatial quality ambitions, suggests the need for effective procedural arrangements. However, research on the effectiveness of these procedural arrangements to reach these ambitions is still lacking. This thesis bridges this research gap by investigating how effective current procedural arrangements are in reaching spatial quality ambitions in the context of area-oriented road infrastructure projects. In order to unpack and discuss the effectiveness of procedural arrangements, this thesis draws on theories of effectiveness using the concepts of conformance and performance, and policy design fit, within the realm of spatial planning. The combination of conformance and performance approaches to effectiveness, and policy design effectiveness, provide an insight in the degree to which a desired result is achieved using these procedural arrangements, whilst simultaneously understanding the influence of procedural arrangements during the process of achieving this result.

1.2 Theoretical approach

First, the conformance and performance approaches are widely known in planning literature to evaluate effectiveness of planning processes. Conformance is assessing how much the plan deviates from predetermined goals (Feitelson et al., 2017). Performance on the other hand determines the effectuality of a plan process and to what extend it supports actors in understanding and addressing the problems they are faced with (van Geet et al., 2021). An insight in these concepts is required to shape this thesis in the understanding of effectiveness.
Second, the struggle of governments to come up with effective ways to support their integrated ambitions regarding spatial quality can potentially be bridged by coming up with effective policy designs and thus create an effective policy response (Peters, 2018, van Geet et al., 2019b). Attributes like Policy Design Fit contribute to policy design effectiveness, but do not necessarily imply it (van Geet et al., 2021). By exploring the literature on policy design and policy design effectiveness, the concept of procedural arrangement will be put in a theoretical perspective.

1.3 Research goals and relevance

The promises of area-oriented approaches to improve the spatial quality and minimize harm to the environment are thus important for the success of these approaches. Studying the effectiveness of procedural arrangements in reaching spatial quality ambitions is therefore pivotal for the further development of area-oriented approaches. Therefore, the aim of this thesis is to gain insight into how effective current procedural arrangements are in reaching spatial quality ambitions in area-oriented road infrastructure projects in the Netherlands. The second aim of this thesis, related to the societal relevance, is to potentially stimulate for more effective integrated planning processes in area-oriented road infrastructure projects, and ultimately the improvement of spatial quality in the Netherlands.

To investigate the described problems and reach the goals of this research, the following research question has been devised:
How effective are current procedural arrangements in reaching spatial quality ambitions in area-oriented road infrastructure projects in the Netherlands from a policy design fit, and a conformance and performance perspective?

To answer this question, the following sub questions have been devised:

- What is spatial quality in area-oriented road-infrastructure approaches?
- What makes procedural arrangements effective from a conformance and performance perspective, and a policy design fit perspective?
- What is the effectuality of procedural arrangements in supporting actors to understand and address problems with regard to reaching spatial quality ambitions in area-oriented road infrastructure projects in the Netherlands?
- What is the policy design fit between policy goals and procedural arrangements in the attainment of spatial quality ambitions in area-oriented road infrastructure project in the Netherlands?

In the next section the theoretical framework of this thesis is described, engaging with theories on area-oriented infrastructure and effectiveness on procedural arrangements, followed by a conceptual model. After that, the research methods are described in how the data was collected and analysed. Then, the results are discussed starting with explaining the case study, followed by the data found during the data collection. The discussion section discusses the findings in relation to scientific literature. And lastly, conclusions are drawn based on the findings of this thesis.

2. Theoretical Framework

2.1 Area-oriented approaches, integration and spatial quality

Area-oriented approaches are connected to three important integration: (1) internal integration, (2) external integration; which are then two distinguished types of (3) policy integration. Internal integration is the process of convergence between planning components within the infrastructure and transport sector. External integration is the process of convergence between the infrastructure and transport sector, and other spatial policy sectors (de Roo, 2003). Policy integration can then be employed as the process dealing with cross-sectoral policy problems, by transcending and rearranging the boundaries of already existing policy sectors (Trein et al., 2019). Some authors have stated that policy integration might be fruitful in terms of overcoming the complexity issues in Dutch road infrastructure planning, as described in the previous part of this thesis (Heeres et al., 2012a, van Geet et al., 2019a).

2.1.1 Internal integration

Internal integration of the Dutch infrastructure and transport planning sector started around the 1970s (Heeres et al., 2012a). This type of integration considers the coherence of the current road network and underlying roads, rather than dealing with the different levels of road networks separately. By internally integrating road infrastructure policies, the focus was to steer the demand for mobility in a desired direction (Heeres et al., 2012a). The overall aim of this internal integration was to improve traffic flows on the road infrastructure network based on the experiences of its users.

2.1.2 External integration

Thinking more carefully about the spatial design, increasing the scope of projects and improve spatial quality, and looking at the synergetic development and redevelopment of areas, leads to a slow emergence of area-oriented approaches. This thesis focusses on the external integration of the infrastructure planning sector and the land use planning sector, since it is pivotal in Dutch planning practice and defining for area-oriented approaches (Heeres et al., 2012a). Road infrastructure projects cannot be considered as a mere isolated “line” through the surrounding area and should be adapted to the various land uses and vice versa. Leading to two perspectives: thinking from the road (inside) to the surrounding area (outside), and thinking from the surrounding area to the road (Arts, 2007, see figure 2.1).

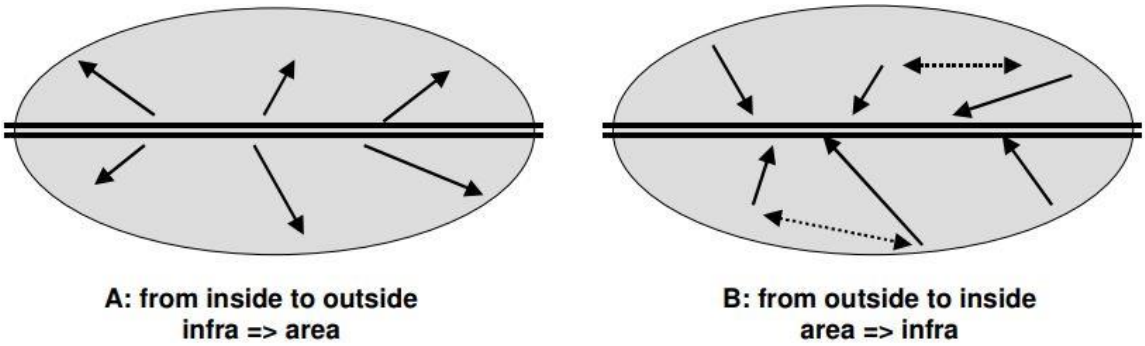

Figure 2.1: Area-oriented approaches; two perspectives (from: Struiksma et al., 2008)

According to Heeres et al. (2012a), three types of external integration in road infrastructure planning are important for area-oriented approaches: routing, landscaping & mitigation, and total design. These

different approaches and developments in infrastructure planning can be seen in figure 2.2. When the spatial design and the functional scope of a project increases, the institutional scope should increase as well according to Heeres et al. (2012a).

The core of integrated planning is thus to recognize in the early phases of a project (and onwards) that different land uses are part of a greater and shared spatial system, and do not exist in a vacuum (Heeres et al., 2016). Being proactive from the beginning of the process will prevent problems at later stages. Alongside these developments and the increasing functional and institutional scope of road infrastructure projects, the risk of running into time and cost overruns increases (Lenferink et al., 2014). Therefore, when integrating policy of different sectors to reach these objectives, it should be done in an effective way, taking into account the effectuality of the plan process by delivering on the promise of area-oriented approaches: reaching spatial quality ambitions and minimizing harm to the environment.

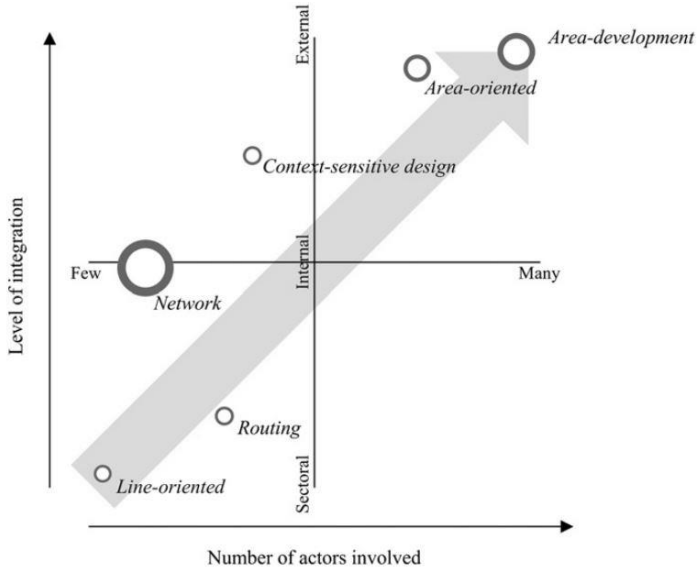

Figure 2.2: Different infrastructure approaches in relationship with the level of integration, amount of actors involved, and spatial dimensions. Small circle: local focus; larger circle: regional focus. (Heeres et al., 2012a).

2.1.3 Spatial quality

Accordingly, an understanding of 'spatial quality' is needed. Drawing on Hartman et al. (2016), spatial quality is concept that cannot be defined in absolute terms since it is interpreted differently by each individual. It is thus a social construct in which the definition depends on its context. However, the study concludes with the notion that 'what is conceptualized and enforced as spatial quality relates to choices made in decision-making processes which are influenced by politics, authority and power relationships' (Hartman et al., 2016, p. 311). This notion is in line with the definition of spatial quality from Leendertse et al. (2016) stating that spatial quality is an outcome of interaction processes that bring stakeholders together, consequently dismissing spatial quality as a pre-defined value. The outcome of the decision-making process, in which government and project-organization uses the expertise of involved local stakeholders in joint design is then regarded as an improvement of spatial quality.

However, there are authors that identify certain aspects that can contribute to spatial quality. Heeres et al. (2012a) for instance distinguishes between economic aspects, environmental aspects, and social aspects. Especially the synergy between these different aspects are important for spatial quality. However, Heeres et al. (2012a) do note that spatial qualities are highly context specific. Furthermore, in the integration between water management and spatial planning, Busscher et al. (2019) distinguishes between three different dimensions that can define spatial quality: User value, experiential value, and future value. Focussing on the physical structure of water management projects and multifunctional benefits for the surrounding area.

Combining these literatures on spatial quality, it can be concluded that spatial quality is (inter-) subjective, context specific, and there are different aspects or dimensions on how we could go about spatial quality. For this thesis the spatial context of spatial quality will focus on the project scope. This implies that the attainment of spatial quality ambitions will depend the contextual circumstances of the project and how it is defined within the plans the project. Thus, following Hartman et al. (2016), it will depend on the outcomes of the decision-making process what is regarded as spatial quality within the scope of the project. The dimensions of user value, experiential value, and future value can then potentially be used to define spatial quality (Busscher et al., 2019).

2.2 Effectiveness

This section discusses performance and conformance approaches to effectiveness. Hence, there are multiple ways to conceptualise the effectiveness of procedural arrangements and how these contribute to decision-making.

So specifically discussing various ways how we may evaluate effectiveness and how effectiveness is understood in the context of this thesis is then pivotal. According to Lexico (2021), effectiveness can be defined as follows: 'the degree to which something is successful in producing a desired result; success.' Apart from just solving the problems with sectoral approaches (Heeres et al., 2012a), area-oriented approaches promise an improvement to the spatial quality within the scope of a certain project. Crucially, for this thesis it thus implies that reaching spatial quality ambitions within the scope of a project, can be called effective. However, this description is not enough for this thesis in order to fully grasp and evaluate the effectiveness of procedural arrangements.

First, Faludi (2000) mentions the approach of conformance to evaluate the effectiveness in planning processes. Conformance defines effectiveness in terms of the degree to which the "outcomes" of a project conforms to predetermined "goals". Measuring conformance is essentially assessing how much a plan deviates from predetermined goals or ambitions (Feitelson et al., 2017). If for instance the integrated goal that was set beforehand, at the end of the project is reached, the plan can be considered "effective" (Faludi, 2000). Effectiveness can then be conceptualised as: the degree to which pre-defined spatial quality ambitions within the scope of the project have been reached. Most empirical assessment is leaning towards this approach of measuring effectiveness (Feitelson et al., 2017). To elaborate on this, Mastop and Faludi (1997, as cited by van Doren et al. 2013) distinguished between three stages of conformance effectiveness:

1. Formal conformity: the literal adoption of policy statements by other governmental levels.
2. Behavioural conformity: actors behave in accordance to their declared intentions.
3. Final conformity: the plan's objectives are or will be adopted in material reality.

Second, in order to understand the full contribution of procedural arrangements it is necessary to also look further than the outcome of the planning process (Faludi, 2000). To fully understand this, providing insight in how a procedural arrangement has been taken into account and whether it helped to clarify the choices during the process is pivotal. In this line, using a performance approach to evaluate the effectiveness of procedural arrangements in area-oriented road infrastructure projects would give a more comprehensive overview. Area-oriented approaches consider local circumstances and various interests whilst simultaneously pursuing multiple goals (Wu et al., 2017). Thus looking at the process could also be considered valuable.

Furthermore, the performance approach is also used in the policy literature. Here, it is not about achieving specific policy targets, but about creating a frame for action (Peters et al., 2018). Effectiveness can then be seen 'as legitimation of the process through which problem, process, and result are collectively defined and accepted' (Peters et al., 2018, p. 14). This is in line with Faludi (2000) stating that in order for indicative plans to be effective, the criterion should be invoked whether the plan performs well in the subsequent communicative process. The influence of the plan in the whole decision-making process is then the focal point. The effectuality of the policy process becomes important in the performance approach. In this line, van Geet et al. (2021) has made clear that effectiveness can be determined by the analysis of the effectuality of the policy processes and determining whether a policy supports the actors involved in understanding the problems they are faced with and addressing them.

In this line, Herweijer et al. (1990, as cited by van Doren et al., 2013) have identified a total of three stages of performance effectiveness:

1. Acquaintance: actors get acquainted with the content and vision of the plan.
2. Consideration: the plan serves as a frame of reference when actors make a decision.
3. Consent: actors acknowledge and allow themselves to be influenced by the content of the plan. Actors then come up with a problem definition, vision, or solution, using information from and in line with the plan.

Once actors have reached the last stage of performance effectiveness (Consent), there are two options for further action (Faludi, 2000). (1) They will also conform with the plan (formal conformity) or (2) they are influenced by the plan, but choose not to conform to it, and thus depart from the plan (van Doren et al., 2013). Van Doren et al. (2013) have adopted a step-wise model in their research to show the impact a plan can have (figure 2.3).

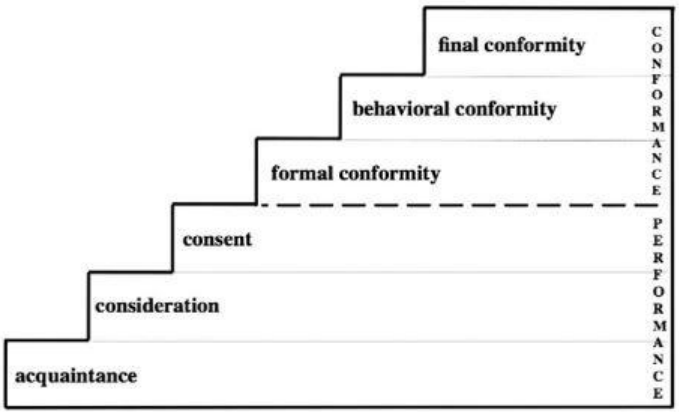

Figure 2.3: A step-wise scale of performance and conformance influence of a plan (adopted from: Aardema, 2002, as cited by van Doren et al., 2013).

2.2.1 Acquaintance

Acquaintance signifies that actors within the decision-making process get acquainted or rather, become familiar with the content of the procedural arrangement. This can be achieved by either reading and/or consulting it during the decision-making process.

2.2.2 Consideration

Consideration means that the procedural arrangement should be used as a reference by actors in the decision-making process in order to review and develop alternatives to plans (Faludi, 2000). It is important to consider whether actors used the procedural arrangement as a frame of reference in further discussions about the development and review of plan alternatives.

2.2.3 Consent

The next step, consent, means that actors within the decision-making process acknowledge and allow themselves to be influenced by the content of the procedural arrangement. Furthermore, actors should then change their understanding or visions in line with this. This means that procedural arrangements can help steer actors into reaching a certain defined ambition of spatial quality. Consequently, actors can change their ideas about spatial quality within the plan, due to the procedural arrangement.

2.2.4 Formal conformity

Formal conformity has been reached when the procedural arrangement has led to direct changes within the plan regarding ambitions of spatial quality. This also means that adverse effects in the plan regarding spatial quality are minimized.

2.2.5 Behavioural conformity

Behavioural conformity implies that the measures taken to reach spatial quality ambitions, and minimize adverse effects regarding spatial quality, are implemented as was decided. It could be that decisions to improve spatial quality could be decided upon on a higher level of government: i.e. it has to be translated to a project level first (van Doren et al., 2013). It is then important to assess whether the recommendations for procedures are being complied to in lower levels of government.

2.2.6 Final conformity

Final conformity means that ambitions of spatial quality have been reached, and adverse effects on spatial quality have been minimized due to the procedural arrangement. As mentioned before, final conformity means that the plan's objectives are or will be adopted in material reality, which then has to be evaluated. Measuring the direct effect procedural arrangements have on the attainment of spatial quality ambitions in this way can be difficult because various indicators of procedural arrangements should then be outlined in order to able to measure this. Such precise measurements are however beyond the scope of this thesis.

2.2.7 The meaning of effectiveness

The combination of the performance literature with the definitions of effectiveness within this section helps defining the concept for this thesis. Effectiveness for this thesis within the scope of the performance literature is then understood as: the effectuality of procedural arrangements in supporting actors to understand and address problems in reaching spatial quality ambitions within the scope of a project. The effectiveness of procedural arrangements is thus not only conceptualised as

the degree to which a desired result is achieved. The process of how the procedural has been taken into account during the process of decision-making is just as important. Thus, the combination of conformance and performance approaches to effectiveness can provide an insight in the degree to which a desired result is achieved, whilst simultaneously understanding the influence of procedural arrangements during the process of achieving this result.

2.3 Policy Design and procedural arrangements

This section discusses policy design to conceptualise procedural arrangements and policy design effectiveness. Policy design revolves around how to effectively reach policy objectives by fitting a mix of policy goals and policy instruments, in a way that both goals and instruments support and/or reinforce each other (van Geet et al., 2019a). Design is a concept in policy making that is frequently used to describe a process of solving a policy problem by creating a policy response (Peters, 2018). Since governments struggle to find effective ways to support their integrated ambitions regarding spatial quality (van Geet et al., 2019a), coming up with effective policy design is important for the further development of area-oriented approaches. This is because spatial quality is a cornerstone in area-oriented approaches. One of the attributes that can potentially affect policy design effectiveness is the policy design fit. The "fit" is then the "supportive relationship" between the policy goals and instruments. Together, these then form the policy design. The "fit" 'may be understood as the sum of goal coherence, instrumental consistency, and congruence between goals and means' (van Geet et al., 2019a, p.325). The same authors have thus coined the term 'Policy Design Fit' in order to establish to what extend goal coherency, instrument consistency and the congruence between goals and instruments are met (figure 2.4).

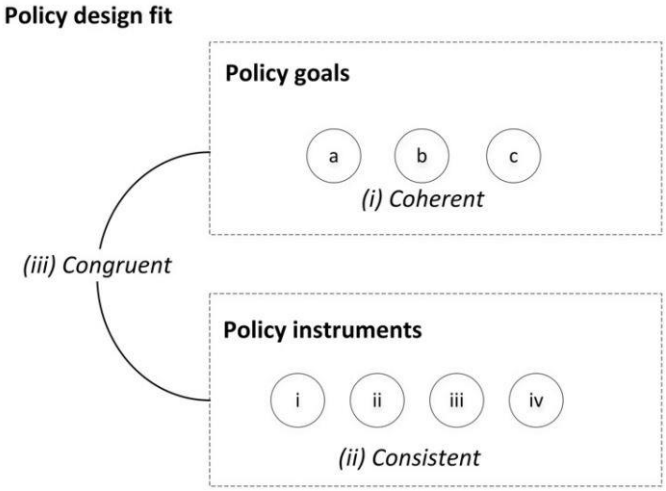

Figure 2.4: The targets or elements that define the Policy Design Fit as explained and visualised by van Geet et al. (2019a).

Policy goals may be defined as statements of government ambitions and objectives in the area of infrastructure planning. More specifically, these are then a combination of on-the-ground measures that are formulated regarding spatial quality in order to address policy problems or mitigate harm to the surrounding environment. Furthermore, policy instruments are the procedural arrangements used throughout the planning process to attain the objectives and ambitions of the project stated beforehand. These can be guidelines that are used to fit various spatial quality goals in the final design or instruments to guide policy action and coordinate government action regarding spatial quality. Moreover, instruments are (partly) applied for delivering policy measures for spatial quality. Policy design can therefore be defined as 'the deliberate and conscious attempt to define policy goals and to

connect them to instruments or tools expected to realize those objectives' (Howlett et al. 2015, as cited by van Geet et al., 2019a, p. 326). Effective policy design is no easy feat: area-oriented infrastructure projects commonly deal with complex problems with multiple actors, ideas and interests. Subsequently, it is difficult to find common ground on which policy alternatives will succeed. Even when choices are well thought out, failures are bound to occur (Howlett & Mukherjee, 2018).

Coherence, consistency, and congruence can be considered targets or elements that complex design should aspire to achieve (Figure 2.4) (Howlett & Mukherjee, 2018). In terms of the policy integration of the land use planning sector and the infrastructure and transport sector, it is axiomatic that policies "fit" properly in order for them to be effective. According to Kern & Howlett (2009), policy goals are considered coherent when they are related to the same policy objectives and the goals can be reached simultaneously without any substantial trade-offs. So the aim here is to reach the overall policy objectives, without these objectives causing significant problems to the spatial quality ambitions. Second, policy instruments are considered consistent when they work together and are mutually supportive in reaching the same policy goal. Lastly, goals and instruments are considered congruent when they serve the same purpose and are successful at working together (Kern & Howlett, 2009). These evaluative criteria thus help to determine the effectiveness of these policies: (1) investigating whether or not goals are mutually exclusive, (2) instruments are mutually exclusive, and finally (3) if goals and instruments serve the same purpose.

2.3.1 Conditions for effectiveness

Coming up with effective policy design is therefore essential. It is widely acknowledged that effectiveness is a fundamental goal of policy design (Peters et al., 2018). Understanding the specific context in which a policy will function is pivotal for the effectiveness of the policy design (Peters, 2018). In the scientific literature it is stated that public policy aims to address societal problems or improve policy outcomes through a deliberative process (Peters et al., 2018). Consequently, policy design focusses on developing policy solutions in a deliberate manner (Mukherjee & Bali, 2019). But, due to the ongoing external integration process, the outcomes will not always be successful. According to Peters (2018), policy design and policy integration (as discussed in an earlier section) should be brought more closely together. 'This awareness of the need for integration will mean that the elements of the policy being designed must be able to work well with other relevant policies in the domain' (Peters, 2018, p. 25). As an example: when a highway through a dense urban area needs to be widened to increase traffic flow, it is important to understand the implications this has to the surrounding land use functions in dealing with this increased traffic flow. Knowing the exact implications for both sectors, can benefit and affect spatial quality in the area as a whole.

To reiterate, Policy Design Fit comes down to matching goals and instruments in order to achieve the desired effectiveness. However, there are authors that suggest that policy design effectiveness is more than Policy Design Fit. Van Geet et al. (2021) found that there are two configurations of conditions (between the elements of Policy Design Fit) to reach policy design effectiveness. (1) The presence of coherence, consistency, and congruence, and (2) a combination of incoherence and incongruence are sufficient for policy design effectiveness. This shows that 'the relationship between policy design fit and policy design effectiveness is more intricate in practice than theory suggests' (van Geet et al., 2021, p. 24). According to the same source, despite interests in exploring various attributes that go beyond just matching goals and instruments, a systematic assessment between Policy Design Fit on the one hand and effectiveness on the other hand is still missing. This thesis will look at policy design effectiveness in terms of content. This means studying the extent to which the actual policy design is successful in attaining the desired spatial quality outcomes.

2.4 Conceptual model

All of the important concepts mentioned in the theoretical framework, are captured in the conceptual model below (figure 2.5).

Effectiveness of procedural arrangements used to achieve spatial quality ambitions can be measured using two approaches. First, Policy Design Fit consists of matching policy goals (Coherence), matching policy instruments (Consistency), and matching goals and instruments (Congruence), in order to achieve the desired effectiveness. Second, the conformance/performance approach determines if and how a procedural arrangement supported an actor in making spatial quality decisions, and if the project's objectives are or will be adopted in material reality, which then has to be evaluated. This can be measured through various intermediate steps of performance/conformance. Using these two approaches, a comprehensive analysis can be conducted into how effective procedural arrangements are in reaching spatial quality ambitions.

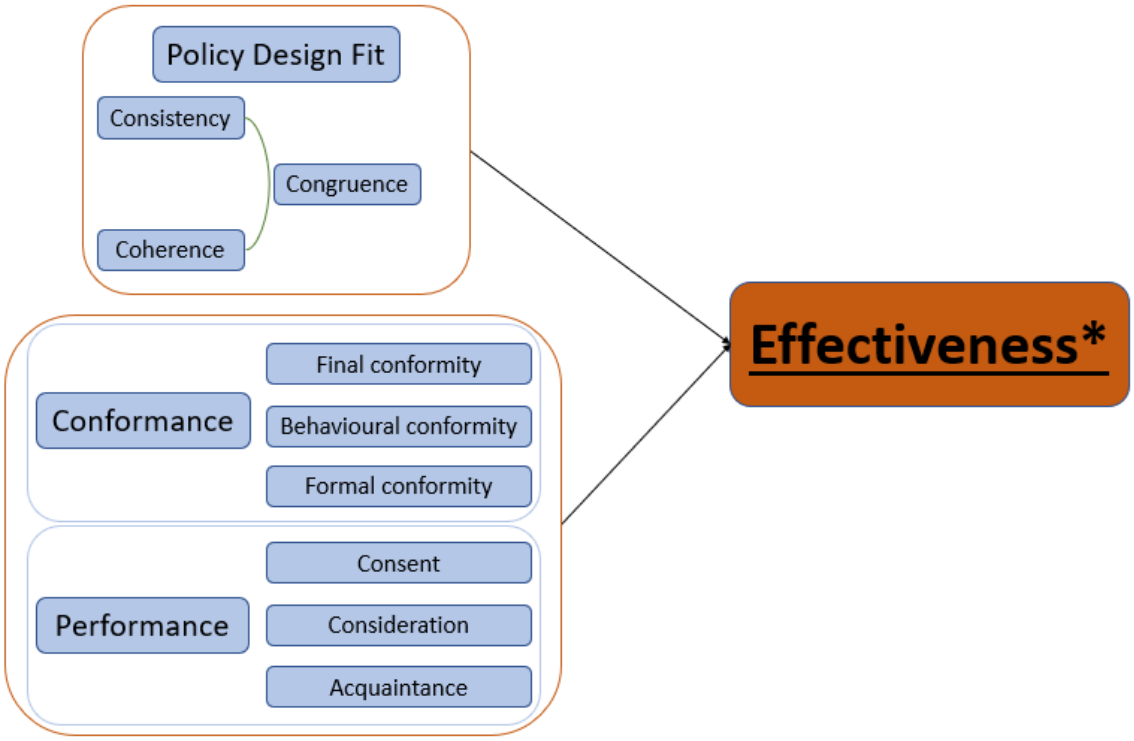

Figure 2.5: Conceptual model on the effectiveness of procedural arrangements to reach spatial quality ambitions in the integrated planning process of area-oriented road infrastructure projects in the Netherlands.*

3. Methods

3.1 Research design

The main research question of this thesis (*How effective are current procedural arrangements in reaching spatial quality ambitions in area-oriented road infrastructure projects in the Netherlands from a policy design fit, and a conformance and performance perspective)* requires in-depth understanding and exploration of procedural arrangements in the context of area-oriented planning projects in the Netherlands. A qualitative research method was used in this thesis. First, this thesis seeks a comprehensive and in-depth understanding of a certain phenomenon, within the field of spatial planning (Punch, 2014). Second, this thesis requires high validity since general operational variables are unavailable. Validity concerns if methods and measurements are accurate in what they are supposed to measure, rather than measuring something else (Babbie, 2013, Punch, 2014). Lastly, this thesis seeks quality of reasoning rather than representativeness (Hennink et al., 2011).

This thesis employed a single in-depth case study. A case study can be defined as an empirical inquiry that 'investigates a contemporary phenomenon within its real-life context; when the boundaries between phenomenon and context are not clearly evident' (Yin, 2003, p. 13). A case study is appropriate for this study because it aims to understand the case in-depth and in its natural setting, whilst at the same recognizing the complexity of the case in its own context (cf. Punch, 2014).

The aim of this research is to gain insight into a particular issue by examining a particular case. Therefore, this research uses an instrumental case study approach (Stake, 1994, as cited by Punch, 2014). Furthermore, single in-depth case study methods require careful investigation of the case in order to minimize the chances of misrepresentation (Yin, 2003). It is therefore important to justify why a single case study method would achieve the desired outcome. For this thesis, it is important that the case study is a typical and representative form of an area-oriented infrastructure project in the Netherlands. Employing such a case where spatial quality objectives played a central role in the decision-making process of the project has the potential to offer valuable insights in (1) how the procedural arrangements where used, and (2) to what extent they contributed to the attainment of spatial quality goals in the project. The single case study can hereby function as a "force of example" for other, similar cases (Flyvbjerg, 2006). Employing a single case study was beneficial for this thesis due to resource limitations for the researcher. A single case study allowed for a more thorough and in-depth analysis of the case within the scope of the available resources.

3.1.1 Case selection

First, case selection was done together with experts of the engineering and consultancy firm of Witteveen+Bos (W+B). This was done on the basis of the definitions of area-oriented approaches and spatial quality mentioned in section 2.1. During the entire research process the researcher did an internship at the engineering and consultancy firm Witteveen+Bos in Heerenveen, the Netherlands. This allowed the researcher to make use of the social network and project documents provided by W+B regarding this thesis. Hereby, more (in-depth) data became accessible for the researcher which allowed for a more thorough and brought analysis for this thesis.
The following selection criteria were employed:

1. The case used an area-oriented approach within a road-infrastructure problem (as defined in chapter 2.1 of this research) in the Netherlands.

2. Rijkswaterstaat (RWS) is the client and executive agency of the project. This means that the case will go through a standardized and nationally recognised decision-making and planning process regarding spatial quality. This strengthens the representativeness and generalizability of the case.
3. The case has drafted its (Design) Route Decision (in Dutch: (Ontwerp) Tracébesluit). The moment a (Design) Route Decision is being delivered to the Ministry of Infrastructure and Water management for review, decisions made to reach spatial quality will generally not change anymore. Furthermore, the moment the Route Decision is accepted it is legally binding, meaning that these decisions have to be implemented. All in all, when a (Design) Route Decision is drafted, it gives the opportunity to compare spatial quality ambitions, with spatial quality outcomes in the decision-making process.

To explore possible cases, employees from W+B who have experience with area-oriented projects were asked to fill out a table (see Appendix A) with projects they know or worked on that (partly) adhere to the criteria mentioned in the table. A wide inventory of cases was considered and on the basis of these criteria an eventual case was selected. This will be further elaborated on in the result section of this thesis.

3.2 Data collection

One of the characteristics and major strengths of case studies is that multiple sources of data and multiple data collection methods can be used (Punch, 2014). This is called data source triangulation (O'Leary, 2004). An important advantage to using multiple sources of evidence is '(…) the development of converging lines of inquiry' (Yin, 2003, p. 98). To this end, for this thesis data collection was conducted by (1) collecting relevant documents related to the spatial quality of the case, and (2) conducting semi-structured in-depth interviews.

3.2.1 Documents

First, once a case was selected, documents regarding this case were selected and collected. For this thesis, documents are relevant when they are either (1) procedural arrangements used as a guideline in order to achieve spatial quality goals within the case, or (2) policy documents containing information about the goals and ambitions (regarding spatial quality) of the case. This is an important distinction regarding the document analysis in order to complete the comparison with goals and instruments. Examples of documents that were included are an Initial Decision (in Dutch: Startbeslissing) and an Environmental Impact Assessment (EIA) (in Dutch: Millieueffectrapportage (m.e.r.)).

A procedural arrangement for this thesis can be understood as a guideline or instrument within the domain of road infrastructure planning that (1) integrates spatial quality into the phases of the plan and design processes, (2) helps to signify the importance of spatial quality within the project, and (3) assists in delivering policy measures regarding spatial quality. Documents were obtained through the network database of W+B. As explained before, projects in which W+B was involved in were used to select a proper case for this thesis. The researcher had access to the project document database of W+B, which means the researcher had access to relevant project documents once a case was selected. An overview of the documents that were included and their description and aim can be viewed in Appendix B.

3.2.2 Semi-structured in-depth interviews

Second, semi-structured in-depth interviews were conducted. Semi-structured implies that the sequence of questions can be changed during the interview with the participant (Clifford et al., 2016). The goal of the qualitative interview data collection was to (1) collect primary and rich information, and (2) ensure to collect information up to saturation level about the effectiveness of procedural arrangements. Interviews within a case study are of an open-ended nature, meaning that respondents can be asked about factual and more opinionated perspectives (Yin, 2003). The combination of these two functions of a case study interview ensured that as much rich data as possible was gathered from the respondents which represents their perspective as much as possible.

Furthermore, in order to select respondents for the interviews, a purposeful sampling strategy was used (cf. Burt et al., 2009) and respondents were selected based on three criteria: (1) their experience or expertise regarding procedural arrangements of spatial quality, and/or (2) they were actors that engaged with the case, and/or (3) they were actors involved in the decision-making process of the case regarding spatial quality. For the last two criteria examples include: the client of the case, a technical manager, or involved stakeholders from the province/municipality or other institutions that have an interest regarding spatial quality. There were also some respondents that met all selection criteria. The criteria and the goal of the interview for each criterium can be viewed in table 3.1, below. Interviews conducted with respondents that met multiple criteria aim to achieve each goal paired with the corresponding criterium.

Table 3.1: Selection criteria and goals of interviews

Criterium	Goal of interview
Experience or expertise regarding procedural arrangements of spatial quality	Gain an in-depth understanding of the use of procedural arrangements and the processes linked with spatial quality
Actors engaged with the case	Gather experiences of the planning process linked to spatial quality
Actors involved in the decision-making process of the case regarding spatial quality	Gain an in-depth understanding of the decision-making process regarding spatial quality and if and how a procedural arrangement might have influenced their decisions

Respondents were selected and contacted in consultation with colleagues of the researcher within W+B. The researcher used the social network of practitioners from W+B to reach out to respondents. Purposeful judgement was used to decide which individuals that meet the selection criteria were included in the sample (Burt et al., 2009). Furthermore, the stakeholder manager from RWS of the case study was contacted to ask permission to contact stakeholders that were involved in the decision-making process of spatial quality. In addition, findability and accessibility within the available time and resources were also important criteria to whether or not respondents were included in this research. The full list of respondents that were involved in this thesis can be viewed in table 3.2.

Table 3.2: Respondent list

Reference**	Function	Date of interview
R1	Technical manager W+B*	December 12 2021
R2	*Planstudiemanager* RWS*	January 13 2022
R3	Stakeholdermanager RWS	January 13 2022
R4	Spatial Quality Advisor RWS*	February 21 2022
R5	Employee W+B*	February 23 2022
R6	Technical manager RWS*	January 26 2022
R7	Representative of the Municipality of Lelystad	February 11 2022
R8	Manager Project Control W+B*	February 18 2022
R9	Representative of the Province of Flevoland	February 25 2022

*Experience/expertise regarding procedural arrangements
**R = Respondent

Almost all respondents (except for respondent 5) engaged with the case. On top of that, a distinction is made between respondents who have experience or expertise (experts) on procedural arrangements and actors who were involved in the decision-making process (actors) regarding spatial quality of the case. The experts were able to provide a more in-depth look into the procedural arrangements themselves, whilst the actors provided primary information on their experiences with the procedural arrangements based on the case.

3.3 Operationalisation

Table 3.3 shows the operationalisation of the concepts outlined by the theoretical framework. This simultaneously serves as the basis for the code book explained in the data analysis section of this chapter (section 3.4).

Table 3.3 Operationalization of the concepts outlined in the theoretical framework

Effectiveness of procedural arrangements			
Concept	**Subcomponents**	**Variable**	**Attribute**
Effectiveness	Performance	Acquaintance	0 = Actors who write the plan did not familiarize themselves with the content of the PA* 1 = Actors who write the plan have become familiar with the content of the PA by reading it during the decision-making process
		Consideration	0 = Actors did not consult the PA during the decision-making process regarding spatial quality ambitions 1 = Actors consulted the PA during the decision-making process in order to make more informed decision regarding spatial quality ambitions
		Consent	0 = Actors did not learn about the spatial quality implications of the plan due to PA 1 = Actors learned about the spatial quality implications of the plan due the PA and altered their visions accordingly
	Conformance	Formal conformity	0 = PA did not lead to direct changes in the plan regarding spatial quality ambitions 1 = PA led to direct changes in the plan regarding spatial quality ambitions

	Behavioural conformity	0 = Measures to attain spatial quality ambitions as described in the plan are implemented not conforming to what was decided beforehand 1= Measures to attain spatial quality ambitions as described in the plan are implemented as decided beforehand
	Final conformity	0 = Spatial quality ambitions were not reached and will not be adopted in material reality 1 = Spatial quality ambitions were reached and will be adopted in material reality
Policy Design Effectiveness	Policy Design Fit Consistency (Instrument)	General aim of PA and how PA is applied in delivering policy measures regarding spatial quality
	Congruence (Both)	Policy goals and PA's serve the same purpose: reaching spatial quality
	Coherence (Goals)	Main project goals and on-the-ground measures that are formulated regarding spatial quality in order to address policy problems or mitigate harm to the surrounding environment

*PA = Procedural Arrangement

Considering this thesis uses two theories to conceptualise the effectiveness of procedural arrangements, this needs some further explanation as to how this will be used when writing the results.

According to both theories a procedural arrangement can be regarded as effective, however for both these theories it can be conceptualised in a different way (see chapter 2). Performance/conformance effectiveness looks at the extent to which the procedural arrangements are successful at supporting actors and attaining the desired spatial quality ambitions, and policy design effectiveness looks at the 'fit' between policy goals and procedural arrangements.

Also, the deliberate choice was made to measure the attributes in table 3.3 in binary variant instead of a continuing spectrum. By using this binary variant of performance it complies to the definition that it provides insight in how the procedural arrangement was taken into account and whether it helped to clarify the choices that have been made during the process. Based on table 3.3 and this elaboration, the interview guides for this thesis were constructed (see Appendix C).

3.4 Data analysis

The goal of the data analysis was to gain insight into the effectiveness of procedural arrangements in reaching spatial quality ambitions. This was done by using the concepts mentioned in the theoretical framework (chapter 2). This was done by conducting a document analysis and analysing semi-structured interviews as outlined in section 3.3. Both of these actions were performed simultaneously for this thesis.

3.4.1 Documents

The document analysis was used to establish policy design effectiveness and conformance effectiveness. After collecting the documents, a document analysis is a procedure for systematically reviewing or evaluating documents in both electronic or printed form, and is especially applicable in qualitative case studies (Bowen, 2009). The document analysis can provide inside into the policies that were used and provide context specific information in which the research respondents operate (Bowen, 2009). Documents were coded and analysed using attributes the of coherence and consistency described in the operationalisation table (table 3.3). This thus means that the table functioned as a code book for the documents where the attribute of each variable was used as a description of a code. A general model of the document analysis process can be viewed in figure 3.1.

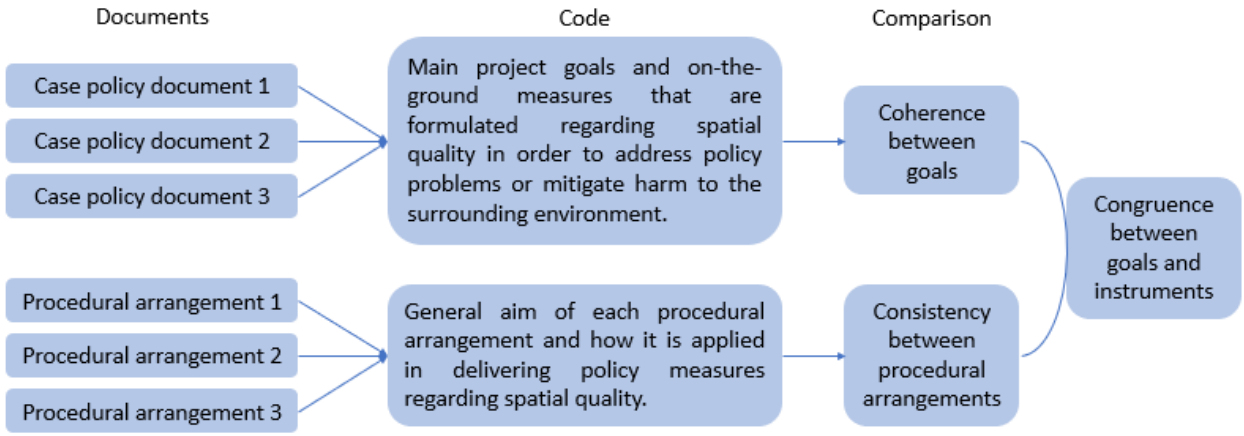

Figure 3.1: A general model of the document analysis process

First, for goal coherence, case policy documents such as the Initial Decision and the *Landschapsplan* were used. The EIA of the project was used to analyse if the main project goals infringe with the spatial quality goals, and thus if they are mutually exclusive. In this way, conformance effectiveness can also be established: the degree to which the spatial quality outcomes of the project conforms to the spatial quality goals. Second, for procedural arrangement consistency, procedural arrangements were compared on what they aim to achieve in general and how they are applied in delivering policy measures regarding spatial quality. Thus analysing if these are mutually exclusive.

Furthermore, the mix of spatial quality goals and the mix of procedural arrangements are analysed for their congruence i.e. do they serve the same purpose: achieving spatial quality? When goal coherence, instrument consistency, and goal and instrument congruence are established, the presence of policy design fit, and policy design effectiveness can be established.

3.4.2 Interviews

The interview analysis was used in order to establish performance effectiveness. All interviews were recorded after the participant gave consent to do so. Furthermore, in light of the surging COVID-19 pandemic during the data collection phase of this research, all interviews were conducted using the video chat software *Microsoft Teams*. This gave the opportunity to transcribe the interviews using live transcribing option during the interviews. However, because this software add-on was not hundred percent accurate in transcribing the interviews, the researcher corrected the mistakes made by the software manually by listening back the entire interviews. For analysing the interviews the software programme *Atlas.ti* was used, whilst using elements from the operationalization table (table 3.3). This means that this table was used as a code book, where the attribute of each variable was used as a description of a code, the variable itself is the code, and the subcomponent is the code family.

In this way, the researcher was able to separate useful information from less useful information and it creates transparency in the research process. When this was done, two activities were performed by the researcher: abstracting and comparing (cf. Punch, 2014). Figure 3.2 illustrates the process of abstraction, which is necessary in order to move from concrete to abstract over this continuum of abstraction.

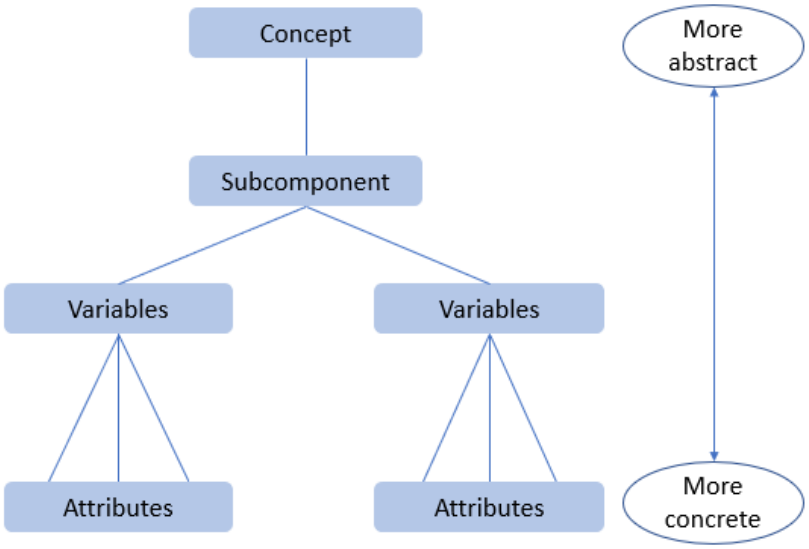

Figure 3.2: the continuum of abstraction in data analysis (cf. Punch, 2014)

The attributes (table 3.3) in the data were compared to each other, in order to reach the next level of abstraction (the variables). This enabled the researcher to test what stages of performance effectiveness as described by van Doren et al. (2013) were completed and thus to what extend the procedural arrangement was helpful (effective) in making decisions regarding spatial quality.

3.5 Ethics

Regarding the semi-structured interviews, there are two ethical issues that need to be mentioned: confidentiality and anonymity (Clifford et al., 2016). Respondents were requested to fill in and sign an informed consent form before each interview. They were informed about the purpose of this research, the audio and video recording, and confidentiality matters. Information of, and given by respondents was anonymised, unless specifically requested otherwise by the respondent. Audio and video recordings were deleted after this thesis was completed. Because talking to practitioners and professionals in the field of spatial planning about their profession, it was not expected that interviews will contain information that will harm the participant in a personal manner. However, there might be an unwillingness to share certain detailed or sensitive information about for instance a case study; this was respected. Conducting the interviews online was considered the best option for both the researcher and the respondents regarding the COVID-19 pandemic. This was to minimize travel movements for all people involved in this research, which is in line with the regulations to work from home set be the Dutch Government during the time of data collection (Rijksoverheid, 2021). During the entirety of this research, the three principles of ethical behaviour (justice, beneficence, and respect) were kept in mind (Clifford et al., 2016). The 5 principles of an honest research process namely, honesty, diligence, transparency, independence, and responsibility have been taken into account during the entire research process (KNAW et al., 2018).

During the entire research process the researcher did an internship at the engineering and consultancy firm Witteveen+Bos in Heerenveen, the Netherlands. The internship was used as a tool to bridge the gap between theory and practice. This was done by taking guidance from practitioners within the field of spatial planning. Documents, information provided by colleagues, and meetings of W+B were used to shape this thesis. The researcher tried to stay objective by taking the role of an independent observer of the information provided.

4. Results

The results section is divided into three sections. The first section describes the case study in general and for spatial quality in specific, following an explanation of the planning process and the current situation. This helps to understand the current situation of the project and why document D11 was chosen as a baseline to assess spatial quality ambitions in the sections that will follow. The second section describes the findings of the policy documents and the procedural arrangements that were found. Lastly, in the third section, the findings of the interviews are described.

4.1 Case study

4.1.1 A6 Lelystad – general

The A6 is a highway in the Netherlands of 101 kilometres located between junction Muiderberg (A1) in the Province of Noord-Holland, and leads via Almere, Lelystad, Emmeloord and Lemmer to junction Joure (A7) in the Province of Fryslân. Most of the traffic that makes use of the A6 are commuters from the Northern-Netherlands and Flevoland to the *Randstad* (a conurbation of the four largest cities in the Netherlands) and the region of Utrecht. Between exit 8 (Almere-Oostvaarders) and exit 10 (Lelystad) the A6 will be widened from 2x2 to 2x3 lanes, leading to the project 'A6 Almere-Oostvaarders – Lelystad' (after this: A6 Lelystad). The planning area is between the polders of Eastern Flevoland and Southern Flevoland. One of the ambitions for this project is to give rise to most sustainable highway in the Netherlands (D6). For a general area project overview, see figure 4.1.

Figure 4.1: Project overview of the A6 Lelystad (Rijkswaterstaat, 2022).

The A6 Lelystad is part of the MIRT program: the Multi-Year Programme for Infrastructure, Spatial Planning and Transport (in Dutch: Meerjarenprogramma Infrastructuur, Ruimte en Transport). Integrated planning projects are included in which the national and regional governments work together in the physical-spatial domain. The MIRT process (see figure 4.2) consists of several phases in

order to achieve integrated ambitions within this domain. The widening of this road is needed because (1) the *Nationale Markt- en CapaciteitsAnalyse* (NMCA) of 2015 showed a bottleneck on the A6 between Almere and Lelystad, and (2) the national and regional governments want to develop Lelystad Airport (D6). This new development will give rise to various other land use developments in the Province of Flevoland: mobility, industry, living, and a lot of traffic going in and out of the Province. Therefore the A6 needs to be able to cope with more traffic in the future.

Furthermore, other land use developments take place near the A6. First, together with the development of Lelystad Airport, Lelystad Airport Business Park (LABP) is being developed, and business park Larserpoort will also be growing further. Second, housing projects are rising in the neighbourhood Warande (Lelystad), and there are plans to develop a multimodal port called *FlevoKust* in the vicinity.

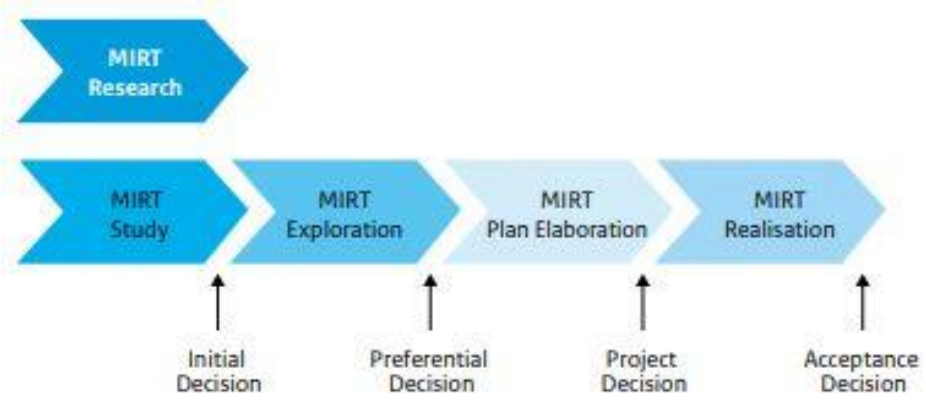

Figure 4.2: General overview of the MIRT process (Ministry of Infrastructure and Water Management, 2018).

Third, alongside the A6 there are plans to upgrade the *Oostvaardersplassen* to a National Park, and the Province is working on various environmental projects in the programme called *'Nieuwe Natuur*' (In English: New Nature). Lastly, the A6 needs to play an active role in the generation of sustainable energy with wind energy and solar panels, which can be used by the surrounding area. All of this creates the necessity to make sure the highway fits neatly into the surrounding landscape.

The reason this case fits well into this research is because of its area-oriented approach and characteristics. The aim was to combine the widening of the A6 with the before mentioned housing projects, business parks, and environmental projects, to make sure these developments would not create any problems during later stages in the project (Rijkswaterstaat, 2019). This is in line with the definition of Heeres et al. (2016) stating that it is important to recognize in the early phases of a project (and onwards) that different land uses are part of a greater and shared spatial system, and do not exist in a vacuum. This is the core integrated planning approaches.

4.1.2 A6 Lelystad – Spatial quality

Within the planning area of the A6 Lelystad the current arrangement of the landscape is characteristic for its spatial quality. The Province of Flevoland is a polder, which means that the environment in which the A6 is situated is characterised by the polder landscape. In the 1970s, the A6 was designed with the idea that the road and the surrounding landscape should be a coherent whole, a 'Gesamtkunstwerk' (D10). The emphasis was on the experience of the agricultural and spatial qualities of the polders. Consequently, the arrangement of the surrounding landscape of the A6 is

largely optimized for agricultural use, and the edge of the polders were assigned to other land use functions such as nature, urban landscapes, and business districts (D9).

The A6 has several characteristic elements. First, to create a road which is part of the surrounding landscape the roadways are separated by a wide middle berm, without road furniture (D8). Second, the plants in the berms are adapted to the plants in the surrounding area, creating a smooth and continuously changing landscape of dense and open routes. Third, the emphasis is on the surrounding landscape instead of on the road, due to the spatial arcs of the road. The A6 is also slightly elevated above its surrounding environment to strengthen the view to this open polder landscape, creating a panoramic view. Fourth, the city landscapes of Almere and Lelystad are separated from the open polder landscape by a wall of large trees and green areas. Lastly, the artworks along the road are large and wide, some with a panoramic view, creating a transparency to the landscape behind them (D10). To visualise what this description looks like, see figures 4.3 and 4.4 on the next pages.

In 1998 and 2005 the original idea of the A6 were revised due to developments in the polder over time (D10). The emphasis of the polder shifted more towards nature values, laying the emphasis on ecological pathways and the view on the *Oostvaardersplassen* and the passage *Knardijk*.

One of the ambitions of the A6 Lelystad is to maintain and strengthen the current landscape characteristics and qualities. Hereby, the landscape scenery can be renewed with longer and straightforward scenes. In order to achieve this goal, a separate landscape and design agency (next to an engineering firm) was incorporated in every design phase of this project by RWS (D8). The creation of document D10, the *Landschapsplan*, was done by the landscape and design agency in close collaboration with all involved stakeholders.

First, the landscape and design agency analysed various documents related to the spatial quality ambitions regarding the A6 Lelystad. Their analysis resulted in 6 core spatial qualities which characterise the planning area of the A6 Lelystad (an elaboration and explanation on these qualities can be found in Appendices D and E).

1. Open and landscaping characteristics
2. Continuous, slowly changing route with large, spatial arcs over the length of the A6
3. Generous cross-section with a wide middle berm
4. Open scenery and minimal road furniture
5. Plants strengthen the coherence of the surrounding landscape
6. Panoramic artwork, large span length for viaducts

Second, in collaboration with stakeholders and the engineering firm, a coherent connecting quality vision (in Dutch: Verbindend Kwaliteitsbeeld) was established. This creates a basis for the design of the road and fitting the road into the landscape (D10). Three main landscape scenes are distinguished within the planning area (based on D10) and what the vision for these scenes entail for the A6 Lelystad.

Figure 4.3: The wide middle berm, the open polder landscape, the spacious arc of the road, and the change in scenery are spatial characteristics of the A6 (Van Paridon x de Groot, 2020).

Figure 4.4: Artworks along the A6; large, wide, some with a panoramic view, creating a transparency to the open landscape behind them (Van Paridon x de Groot, 2020).

1. Transition Parkway Almere
   Currently at junction 8 there is a transition from the city landscape to the agricultural polder landscape and the nature of National Park *Nieuw Land*. The artworks function as a gate to the open landscape. The roadways split, with in the middle a large berm. The vision describes the plants in this transition need to match the swamp-like character of the nature areas close-by. Furthermore, poplar meadows need to be created to mark the urban character of junction 8.
2. Display 'National Park *Nieuw Land*'
   Between junction 8 and 9 the experience of nature and the spacious open agricultural polder landscape intensifies. The aim here is to achieve an experience of the surrounding landscape that matches the *Oostvaardersplassen*, National Park *Nieuw Land,* and the agricultural polder landscape. The berms of the road will form a coherent whole with the surrounding landscape. With flowery and grassy berms on the side of the road, a wide middle berm with reed and a rough look, and changing vegetation of plants and trees along the side of the road, the wood-like and natural character of the polder is broad to the road-users.
3. City Allee Lelystad
   Due to the external (to this project) development of junction 9 and the business districts surrounding Lelystad, the city landscape of the A6 near Lelystad comes forward. The widening of the A6 aims to include a double row of trees in the middle berm and a single row of trees on each side of the road. The trees strengthen the arc of the A6. The trees strengthen the coherence on this part of the road and simultaneously offer possibility to see the companies that present themselves along the A6. Furthermore, these rows of trees create a connection between the '*Groene Boog'* and the poplar rows along the A6 (outside the project scope) around Lelystad.

All in all, the spatial quality of the A6 is expressed in the six core spatial qualities. This makes clear what the precise ambitions regarding spatial quality are for the A6 Lelystad. These are thus the on-the-ground measures that are formulated regarding spatial quality in order to address policy problems or mitigate harm to the surrounding environment.

4.1.3 The planning process and the current situation

As mentioned before, the A6 Lelystad is a MIRT project and follows the MIRT phases outlined in figure 4.2. For the A6 Lelystad, the MIRT Exploration and Elaboration are considered as one phase. This is because it was clear-cut that the A6 needed to be widened from 2x2 to 2x3 lanes. At this moment, the project is still in the MIRT Elaboration phase. In order to make the construction of a new road possible, Dutch law outlines the procedure that needs to be completed before a new road can be constructed (or widened). This is called the Route Decision procedure. The procedure will go through several phases during the planning process of a project. Figure 4.5 shows a simplification of the planning process of the A6 with the MIRT and Route Decision phases and milestones.

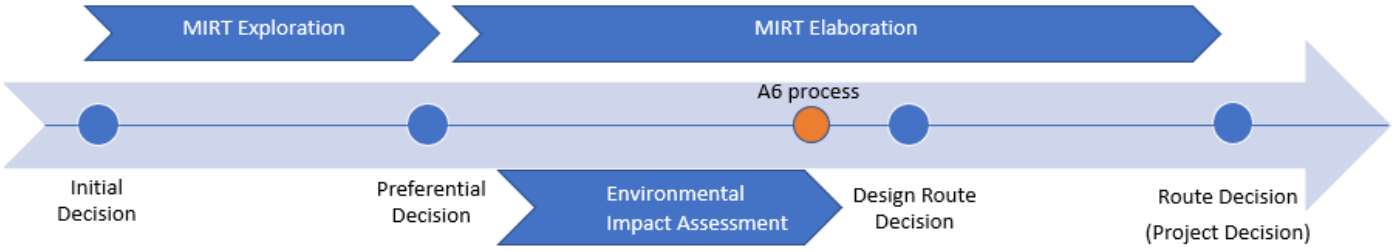

Figure 4.5: Important elements for the A6 Lelystad from a part of the MIRT and Route Decision planning procedure (Creation of Author)

During the MIRT Elaboration phase an EIA was created for the A6 Lelystad. This report entails the results of the investigation of the impact of the project to its environment. What is important to understand is that a regular Route Decision procedure will eventually first lead to the Design Route Decision (in Dutch: Ontwerp Tracébesluit (OTB)). This document and its attachments entails how and why the road is being constructed and what this potentially means for the surrounding environment. This document will then be publicly available and can be commented upon by everyone who is interested for a period of 6 weeks. Based on the review period, changes to this document can be made. However decisions made to reach spatial quality will generally not change anymore. Then, a final Route Decision can be created. This is an iterative process before a final Route Decision is drawn up. The Minister of Infrastructure and Water management will then sign this Route Decision, which makes it legally binding and has to be enforced.

The baseline for this research is the current OTB from May 2020 (D11), meaning there is no Route Decision yet. For the A6 Lelystad, there have been various OTBs that incorporated almost all necessary aspects in order to complete a Route Decision. However, earlier versions of the OTB required various changes (in e.g. traffic safety) in order to be released. Due to problems with nitrogen (Redactie OTAR, 2020), the project has been delayed since the beginning of 2021 until the beginning of 2022.

Within this timeframe a separate project called ‘A6-Zon’ from the Ministry of Economic Affairs researched the possibility of placing solar panels on various plots of land in the surrounding area of the A6 Lelystad. A6-Zon since then finished its research and it was determined that solar panels have to be placed within the planning area of the A6 Lelystad. Meaning, the design for the road and the surrounding landscape needs to be evaluated again to incorporate ‘energy-landscapes’ along the A6 for these solar panels. This could potentially change the current road and landscape designs for the A6 Lelystad. The potential implications of this are however outside the scope of this thesis.

This basic overview underlines where the A6 Lelystad is currently in the planning process and what phases still need to be completed. It helps to understand the current situation of the project and why D11 was chosen as a baseline to assess spatial quality ambitions in the following sections of this thesis.

4.2 Understanding coherence and consistency

In this section the data of the document analysis will described. First, the mix of policy goals for the A6 Lelystad will be described. These include the overarching project goals and the spatial quality ambitions. The baseline for this thesis regarding the on-the-ground measures that are formulated regarding spatial quality in order to address policy problems or mitigate harm to the surrounding

environment is the OTB of May 2020 (Document D11). Second, the mix of instruments will be described and explained. These are the mix of procedural arrangements that are applied in delivering policy measures regarding spatial quality in the A6 Lelystad. All the project documents and procedural arrangements that were found for this thesis can viewed in Appendix B.

4.2.1 The coherence of goals

Within policy design fit theory, coherence is achieved when the mix of policy goals are related to the same policy objectives and they can be reached simultaneously without any substantial trade-offs. For this thesis this means: can the spatial quality ambitions be reached without the overarching policy goals infringing with these ambitions within the A6 Lelystad? Is this mix of policy goals mutually exclusive or not? An overview of the spatial quality ambitions and overarching policy goals is given in table 4.1.

Table 4.1: Overview of the spatial quality ambitions (D9, D10) and the overarching policy goals (D6) of the A6 Lelystad

Mix of policy goals	
Spatial quality ambitions	*Overarching policy goals*
- Open and landscaping characteristics - Continuous, slowly changing route with large, spatial arcs over the length of the A6 - Generous cross-section with a wide middle berm - Open scenery and minimal road furniture - Plants strengthen the coherence of the surrounding landscape - Panoramic artwork, large span length for viaducts	- Guarantee the accessibility of Lelystad Airport, the Province of Flevoland, and the Northern Provinces of the Netherlands. - Ensure traffic flow on the A6 in the nearby future - Create the most sustainable highway of the Netherlands

To elaborate on the overarching policy goals, ensuring good accessibility will provide optimal development opportunities for Lelystad Airport. Furthermore, the A6 is an important route for commuters from Lelystad to Almere and the regions of Utrecht and Amsterdam. Given the small amount and inefficient road alternatives for these traffic users, it is important that the A6 can deal with the expected increase in traffic in the future. With the widening of the A6, it is believed that these goals will be reached.

For the spatial quality ambitions it is important to understand that these are defined as a baseline to maintain and strengthen the current characteristics and qualities of the surrounding landscape of the A6 (D10). So, in order to investigate the coherence of the mix of policy goals, the impact of the widening of the road on spatial quality has to be evaluated. This was done in the EIA (D8 and D9), which is an attachment of the OTB of May 2020. In the EIA, the impact of the Preferential Decision (in Dutch: Voorkeursbeslissing) would be on the surrounding environment. After weighing various alternatives, the Preferential Decision of the A6 Lelystad is: a widening from 2x2 to 2x3 lanes.

In order to measure the impact in the EIA, spatial quality is defined in three components: user value, experiential value, and future value. This thus means that each of the spatial quality ambitions mentioned in table 4.1, can be placed within one of these components. User value refers to the usability and the functional coherence of the design, experiential value refers to the diversity, identity, and beauty of the design, and lastly, future value refers to the sustainability, adaptability, and maintainability of the design (D9). For the A6 Lelystad, the reference for the impact assessment on the surrounding environment is the current situation (before the widening) of the planning area and its external functions. The description of the current situation from a spatial quality perspective in the EIA can be found in Appendix F. So, designing the widening of the A6 from 2x2 to 2x3 lanes from this perspective is either a way to optimize or mitigate the impact on spatial quality (D9).

The paragraphs below describe the impact assessment of the Preferential Decision on each of the spatial quality components:

1. First, experiential value is evaluated on impact of the widening on the identity and diversity of the planning area. The characteristic spacious arc of the viaducts (artworks) declines. Furthermore, the removal of trees in the middle berm at junction 8 interferes with the spatial quality of not seeing the roadway with oncoming traffic, and the characteristic diversity declines. Lastly, an increase in road furniture (obstacles in the berms of the road), decreases the identity and diversity of the surrounding landscape. Despite the widening of the A6, the cross-section of the road is still recognizable as a typical part of the *Zuiderzeeroute*. All in all, the experiential value of the A6 is expected to decrease slightly. However, with the measures mentioned in the *Landschapsplan* (D10) (cf. Appendix E), the negative effects are expected to be mitigated.

2. Second, user value is evaluated based on the impact of the widening on the three land use functions mentioned earlier. The importance of evaluation for the A6 Lelystad is mainly in the distance between the land use function and the road. Due to the relative large distance between the road and the land use functions of living, working, and recreation, negative effects on user value are not expected, and was thus evaluated as neutral.

3. Third, future value is evaluated based on the impact on the sustainability, adaptability, and maintainability of the surrounding environment of the A6. Climate adaptation, and the sustainability of the road-design itself are evaluated in other reports. An important *meekoppelkans* for the A6 Lelystad is the possible construction of solar panels which was evaluated positively.

Summarising, the overarching goals of the A6 Lelystad were to (1) guarantee the accessibility of Lelystad Airport, the Province of Flevoland, and the Northern Provinces of the Netherlands, (2) ensure traffic flow on the A6 in the nearby future, and (3) create the most sustainable highway in the Netherlands. In the EIA, the impact of the Preferential Decision on the surrounding environment is assessed. This assessment includes the impact of all three overarching goals of the A6 Lelystad on the spatial quality ambitions. User value is evaluated as neutral, and future value is evaluated as positive due to the sustainable energy ambitions for and around the A6 Lelystad. The overarching goals of the A6 Lelystad thus are expected to interfere with the experiential value. However, due to mitigating measures, the negative effects are expected to be minimal. Spatial quality ambitions of the A6 Lelystad

can thus be reached without being interfered by the overarching goals, meaning the mix of policy goals is thus coherent.

4.2.2 The consistency of instruments

Within policy design fit theory, consistency is achieved when the mix of policy instruments works together and are mutually supportive in reaching the same policy goal. For this thesis this means: do the procedural arrangements work together and are they mutually supportive in reaching spatial quality ambitions in the A6 Lelystad? First, it is reiterated what is understood as a procedural arrangement for this thesis. Following, it is stated what procedural arrangements were found for the A6 Lelystad. After that, several components from the mix of procedural arrangements that ensure an emphasis on spatial quality during the planning process are described and explained. Consequently, it will become clear whether or not the mix of procedural arrangements is mutually supportive in reaching spatial quality ambitions.

A procedural arrangement for this thesis can be understood as a guideline or instrument within the domain of road infrastructure planning that (1) integrates spatial quality into the phases of the plan and design processes, (2) helps to signify the importance of spatial quality within the project, and (3) assists in delivering policy measures regarding spatial quality. Based on this definition, 5 of these procedural arrangements were identified that have been used for the A6 Lelystad (see Appendix B for the entire document analysis). Each of these procedural arrangements has its own function during the planning process of the project regarding spatial quality:

- 2016 MIRT Rules (D1)
- 2019 Guide to MIRT/m.e.r. (D2)
- 2019 Framework for Road Design (D3)
- 2019 Framework for Spatial Quality and Design (D4)
- Sustainability approach for Soil, Road, and Water (D5)

A Broad view, meekoppelkansen, and ambitionweb

One of the cornerstones early on in the MIRT process (cf. figures 4.2 and 4.5) is taking a Broad view (in Dutch: Brede blik) in the Research phase (D1). This helps to involve other parties which creates opportunities to come up with new solutions to problems: solving accessibility issues by taking into account other land use sectors. Problems regarding liveability and sustainability can become visible, and measures taken could contribute to spatial quality such as: integration, sustainability, liveability, and safety (D1). Furthermore, the potential project is investigated during this beginning phase and a development path is made concrete, which makes an area-oriented development ready for execution (D4).

In addition, it is obligated to obligated to integrate sustainability in MIRT projects and look at potential *'Meekoppelkansen'* (opportunities within the spatial-economic domain that do not necessarily directly contribute to the widening of the road) (D1, D2). This was an explicit wish for the A6 Lelystad, looking at sustainability aspects, nature, environment, landscape, spatial quality, and opportunities for future innovation (in line with D2 and D4). There is also a general checklist for determining spatial quality, landscape, cultural history, and archaeology of the planning area of a project (D2):

- What are the core qualities of the area?

- Spatial analysis on how the area functions
- Balance the opportunities of creating new qualities or potentially losing some.
- Create a hierarchy of potential solutions to the extent to which these could contribute to the functioning of the area and more spatial quality.

Furthermore, the creation of an Ambitionweb (in Dutch: Ambitieweb) can help to determine project-specific sustainability opportunities, and what the influence of 12 sustainability "themes" (one of which spatial quality) can be on sustainability. This helps to explicitly integrate sustainability in all phases of the planning process, using a stepwise approach (see Appendix G) (D5). Together with stakeholders, the project team investigates the importance of the 12 themes for the project. For the A6 Lelystad, the final Ambitionweb can be found in Appendix H, were the importance of spatial quality in relation to the other themes can be found. In this project, for spatial quality there are measurable and verifiable ambitions, and there is a wish to accomplish a significant strengthening of spatial quality (D5). For spatial quality the incorporation of these steps are crucial in the early phases of a project because scope, timescale, and budget are being established (D4).

Road design as a research method, and the EIA
Using road design as a research method during the design process, the ideal synthesis and balance between user value, future value, and experiential value can be found (D2, D4). For the road design it is pivotal to (1) create an unambiguous road design process which leads to a carefully considered road design, and (2) to deliver a road design that includes the results of all the impact studies, including spatial quality (D3). The process of designing the road has various phases and design products (see Appendix I). Actively incorporating spatial quality in the road design process, puts an emphasis on it.

To illustrate (cf. Appendix I); in the beginning of the road design process the first ideas of the new (widened) road are designed on blank pieces of paper (functional designs) using the general ambitions and aims from the Initial Decision as a starting point. Next, the road is designed on the current situation of the current road as is (elementary designs). Comparing the new road to the current situation, an investigation is needed to find potential spatial bottlenecks in the road design (D3). These bottlenecks also include other disciplines such as spatial quality. After this analysis, potential incorporated designs are made to come up with promising solutions to these bottlenecks. These incorporated designs then show what the spatial feasibility is of these solutions (D3). One incorporated design will eventually result in a Preferential Decision (cf. figure 4.2).

Furthermore, it is important to think about the three components that define spatial quality early on, since this is how spatial quality is assessed in the EIA (D2, D4). A viable assessment framework for spatial quality thus depends on the context of the project. The focus of the assessment is then on spatial coherence of the road and the current landscape, and the new opportunities for the area. The EIA is conducted to assess the effect the Preferential Decision has on the surrounding landscape, and can provide several mitigating measures. For the A6 Lelystad, these measures are mentioned in the *Landschapsplan* (Appendix E).

Next, the impacts of the Preferential Decision will be analysed and processed in a road design called the Integrated Incorporated Design (i.e. make sure the road fits into the surrounding landscape) (D3). The aim here is to make sure that the road fits into the landscape, taking into account the mitigating

measures from the impact studies, including spatial quality. Thus, creating an integrated design that takes into account and adds the most value to societal wishes (D3, D4).

Separate design tracks between road and landscape
For the A6 Lelystad, a separate Landscape and Design Agency is responsible for delivering products regarding spatial quality, including the *Landschapsplan*, for the project (D4). Taking in to account the Preferential Decision, a vision (the *Landschapsplan*) on what is important for spatial quality and how to fit this into the landscape of the planning area (including the road) is pivotal. Two separate agencies are needed for both design "tracks": one for the technical road design, and one for spatial quality. The aim here is to prevent choices based on technical aspects, time, and money have the upper hand during the design process (D4). In this way, spatial quality has more emphasis in the entire design (for the road, and the surrounding environment) process.

Then, it is pivotal that coordination takes place between both agencies working on the separate design tracks. The aim here is to make sure a final integrated design is delivered (D3, D4). So, there are separate, yet integrated tracks of the technical road design and the design for the surrounding environment (spatial quality).

Consistent procedural arrangements
All in all, the mix of procedural arrangements used in the A6 Lelystad is considered consistent. The comparison between the procedural arrangements shows that they complement each other in guaranteeing spatial quality ambitions during the planning process.

Taking a Broad view in the beginning phases allows for spatial quality to become prominent early on. Establishing that *meekoppelkansen* are officially part of the project scope, spatial quality becomes a serious part of the discussion in later phases of the project. Defining core qualities and knowing what is important for all stakeholders regarding spatial quality will define eventual project outcomes. Later, it is important to assess what the exact impacts are for spatial quality and how to mitigate these impacts. From technical design of the road, as well as the design for the surrounding environment, procedural arrangements aim to integrate spatial quality in the final design as much as possible. The mix of procedural arrangements then seems necessary in order to come to a total integrated design.

4.3 Understanding spatial quality and performance

In this section the data of the interviews is described. The goals of these interviews were to (1) gain an in-depth understanding of the use of procedural arrangements and the processes linked with spatial quality, and/or (2) gather experiences of the planning process linked to spatial quality, and/or (3) gain an in-depth understanding of the decision-making process regarding spatial quality and if and how a procedural arrangement might have influenced their decisions. First, the perspective of the experts regarding area-oriented approaches, spatial quality, and procedural arrangements is described. Second, the perspective of the actors regarding the performance of procedural arrangements is described.

4.3.1 Experts: area-oriented approaches and spatial quality

In theory, area-oriented approaches imply a more coherent approach to road infrastructure projects because these view the planning area and its land use functions as a coherent whole. Given

their increased complexity, procedural arrangements are slowly getting more tailored to these approaches (Heeres et al., 2012a). Consequently, it is important to know how practitioners of spatial planning understand and define area-oriented approaches, and spatial quality in this context. And if this has any potential implications on the effectiveness of procedural arrangements to reach spatial quality ambitions in these projects.

All experts mentioned they were hesitant about what area-oriented approaches exactly entail. This could be explained due to the fact RWS gave a different name to the approach used in the A6 Lelystad, and most respondents (except for R5) were involved in the project. In the A6 Lelystad, it was conceptualised as *meekoppelkansen* (R2). All experts defined area-oriented approaches using one, or a combination of, the components used to define the concept in this thesis. Taking a Broad view from the beginning of a project, looking from the road to the surrounding environment and vice versa, and what ambitions can be achieved, apart from increasing traffic flow in the future, were mentioned by R1, R4, R5, and R8. Furthermore, R1 and R5 mentioned that with area-oriented approaches it all comes down to the question: how to fit the assignment (e.g. a widening of the road) correctly into the landscape?

To add to this, taking a Broad view at the beginning of a project can be daunting since it is unknown as to what challenges or opportunities you can come across in the surrounding area (R4). This also adds to the complexity of area-oriented road infrastructure projects. However, taking a Broad view will provide the initiator of a project with solid arguments on what to include in the project scope, leading to a more stable scope further later on (R4). Also, this Broad view can also create opportunities for stakeholders to get involved in the project (R2, R3). Consequently, a support base can be created for the project, which also creates opportunities to solve challenges within the planning area together with these stakeholders. Potentially increasing the scope of projects can thus lead to more clarity and opportunities further down the planning process (R2, R4).

Understanding spatial quality

For all experts the connection between area-oriented approaches and spatial quality was evident. R2 and R3 mentioned that spatial quality is project specific and it depends on the project itself and the stakeholders involved on what spatial quality entails and how important it is in a project. Spatial quality is also multi-interpretative (R2) and it thus depends on the context how it is going to be defined. However, all experts agreed that spatial quality, in the context of road infrastructure projects, is not often considered a top priority. The explanation given by R1, R4, R5, and R6 was often a lack of budget to fund spatial quality ambitions. This is often preceded by a (political) willingness to invest in spatial quality or not. Especially when it is not the main aim of a project, including spatial quality ambitions within the project scope and planning process, more often than not, makes the project more expensive. Arguing for spatial quality as an opportunity that does not necessarily directly contribute to the main aim of a project, can then be difficult.

As a solution, R1, R2, R4 and R8 also mentioned ways to make spatial quality more prominent in a project in general. First, approach the project from a different perspective: taking the surrounding area as a starting point instead of taking the road as a starting point, and then look at the opportunities that can arise in terms of mobility. Second, as was done in the A6 Lelystad, giving spatial quality more emphasis by hiring an external (external to the technical road design process) landscape and design agency to deal with the spatial quality challenges in the planning area. In this way, there is an

opportunity for both the technical road design and the landscape design to work out bottlenecks together on the same level. An integrated design will then be the result.
Furthermore, R3 mentioned it is important to know from the start what is going on in the surrounding area in order to make well thought-through decisions later on. In addition, explicitly considering spatial quality in the beginning of a project, gives the project team and its stakeholders more bargaining power to argue for the inclusion spatial quality in the project (R6). This means that design variants that put more emphasis on spatial quality could be more expensive, but have more added value and societal relevance than other design variants. Arguing for, and allocating budget to such variants can then count on more support. For the A6 Lelystad, this was achieved, and spatial quality is considered an important criterium during the road and landscape design process (R6).

These insights of practitioners on area-oriented approaches and spatial quality helps to understand how they look at these concepts and what is perceived as important for them. This gives a more in-depth perspective on how spatial quality is dealt with in area-oriented approaches and shows potential solutions on how to put more emphasis on spatial quality in these projects. Thus, this could implicate potential effects on the effectiveness of procedural arrangements in reaching spatial quality ambitions.

4.3.2 Experts: procedural arrangements and arguments for effectuality

A procedural arrangement can be understood as a guideline or instrument within the domain of road infrastructure planning that (1) integrates spatial quality into the phases of the plan and design processes, (2) helps to signify the importance of spatial quality within the project, and (3) assists in delivering policy measures regarding spatial quality.

Experts mentioned two procedural arrangements that adhere to the definition given above. These are the Framework for Spatial Quality and Design (D4), and the Framework for Road Design (D3). On top of that, so called vision documents[1] were also mentioned with regards to spatial quality (R5, R6).

Differences between procedural arrangements
To further elaborate on D3 and D4, experts mentioned some significant differences between these procedural arrangements. First, a difference in strict and unconstrained measures (R1, R2). During the planning process, the road design has to adhere to strict measures that complete the design, while spatial quality is more unconstrained. There is a clear-cut and strict phasing in the Framework for Road Design, whilst the Framework for Spatial Quality and Design is more unconstrained and abstract in its phasing (R1). Which means that the former procedural arrangement is more unambiguous than the latter when it comes down to making decisions in an integrated design. Spatial quality measures and phasing should be more concrete then. Criteria for the technical road design are clear-cut and exact, whilst criteria for spatial quality can be ambiguous and debatable. This makes spatial quality vulnerable to political decision-making, and has more potential to be left out of a project (R1).

This also introduces the second point: the technical road design process is faster in reaching a finer level of detail than the design for spatial quality (R1, R4). This refers back to the separate design tracks for the A6 Lelystad. Meaning, it is difficult to synchronise both of these design tracks, realise a

[1] Vision documents describe the vision on spatial quality which, depending on the document, can be on a national, regional, local, or project scale. Although being a framework, these documents do not conform to the definition of a procedural arrangement for this thesis and are thus not further analysed. An example is for instance the *Landschapsplan*.

streamlined design process, and come to an integrated final design of road and landscape. Currently, there is still a focus in projects on the technical design of the road. The technical road design is prioritised, and other disciplines come react to this design. As a solution to thus, using the entire area as a starting point of the design (instead of using the road as a starting point) will eventually result in more integrated infrastructural designs (R4). It is also expected that this will lead to better long-term solutions to proposed area-oriented problems.

Factors influencing effectiveness
Experts mentioned various factors on why it is difficult to come to a fully integrated design process. The technical road design and the landscape design were split into two separate design tracks for the A6 Lelystad. An imbalance between these two design tracks was observed (R1, R4, R8). It is difficult to synchhronise both design tracks throughout the planning process, given the technical road design reaches a finer level of detail faster. R8 coined this as an 'asynchronized design process'. Another factor could be the knowledge about the procedural arrangements by practitioners (R8). Knowledge about the current Framework for Road Design and how to apply it is more common knowledge amongst practitioners than knowledge about the Framework for Spatial Quality and Design in its current form. It could be that the Framework for Road Design is easier to work with for practitioners.

Experts also gave three other explanations that could contribute to the degree to which procedural arrangements reach spatial quality ambitions. The first one has to do with money. In the context of infrastructure projects, specifically widening a road, the main goal is to ensure future traffic flow. Which means there is a certain budget available to reach this overarching goal. But it also means that other ambitions (such as spatial quality) could gain less attention when there is not enough budget available (R1, R4, R6). Second, if spatial quality ambitions should be a prominent part of your project it is pivotal that these ambitions are formulated at the very beginning (R4, R6). Knowing what opportunities and challenges there are in the planning area in the early stages, could lead to more stable scope later on (R4). Third, there has to be a willingness to invest into the surrounding landscape by the client and stakeholders and it is thus important to formulate what is envisioned about the landscape (R1, R4, R6, R8). Spatial quality is thus partly a (political) decision. When the client and the stakeholders are not willing to invest sufficiently in spatial quality, it could be that potential spatial quality ambitions will not be realised in the end. No procedural arrangement will then be able to realise these potential ambitions.

All in all, these insights given by practitioners on these procedural arrangements highlight not only that with the current procedural arrangements it is still difficult to effectively work towards an integrated design for a project. It also highlights that reaching spatial quality ambitions do not only depend on these procedural arrangements. Spatial quality is also influenced by factors such as political decision-making and choices of clients and stakeholders. In terms of the current use and development of the discussed procedural arrangements, R4 summarised all the opinions neatly:

> 'I think we are doing a pretty good job already. However, I think we can do much better'.

4.3.3 Actors: performance of procedural arrangements

The aim of the interviews with the actors was to gain an in-depth understanding of the decision-making process regarding spatial quality and if and how a procedural arrangement might have influenced their decisions. This sub-section describes (1) who these actors are and what their role is in

the A6 Lelystad, and (2) if and how the procedural arrangements influenced their decisions on spatial quality.

It is important to know the function of the actors involved in order to understand who each respondent represents and for how long they have been involved. The actors involved in the decision-making process regarding spatial quality of the A6 Lelystad, their title function and time of involvement can viewed in table 4.1, below.

Table 4.1: Actors involved in the decision-making process regarding spatial quality of the A6 Lelystad, their title function, and time of involvement

Reference*	Title function	Involved since
R2	*Planstudiemanager* RWS	2019
R3	Stakeholdermanager RWS	2020
R4	Spatial Quality Advisor RWS	2020
R6	Technical manager RWS	2019
R7	Representative of the Municipality of Lelystad	2020
R9	Representative of the Province of Flevoland	2020

*R = Respondent

Four of these respondents are part of the project team of RWS, the other two are stakeholders regarding the A6 Lelystad. Also, most of the respondents have been involved in the project for almost two or three years, which is a significant amount of time. Furthermore, table 4.2 shows the role or duty each respondent has with regards to the decision-making processes.

Table 4.2: Respondents and their respective role/duty regarding decision-making processes in spatial quality

Reference*	Role or duty
R2	Chair design meetings with engineering firm and the landscape and design agency. Also, part of the project team in the official assembly.
R3	Part of the project team in the official assembly
R4	Makes sure the right information regarding spatial quality is delivered to the right person of the project team or the internal client of RWS
R6	Chair design meetings with engineering firm and the landscape and design agency
R7	Representative of the Municipality of Lelystad in the official assembly
R9	Representative of the Province of Flevoland in the official assembly

*R = Respondent

Two decision-making meetings are distinguished in this table: the official assembly, and the design meetings between the engineering firm and the landscape and design agency. Both of these will be reflected upon and what the influence is on spatial quality.

Acquaintance, consideration, and consent:
First, the official assembly is a meeting where the project team of RWS and its stakeholders meet in order to align their interests regarding the A6 Lelystad (R9). Both R7 and R9 indicated that they are not acquainted with any procedural arrangement to assists them in delivering policy measures regarding spatial quality. R7:

> 'No, Rijkswaterstaat has their own guidelines considering highways. […] They are not known to me.'

This also implies that the performance steps of consideration and consent are not reached. Both respondents mentioned that the project is owned by RWS, and therefore no procedural arrangements are known by the stakeholders during these official assemblies. RWS is responsible for the delivery of the integrated design of the A6 Lelystad that includes the road and the surrounding landscape. There are thus no procedural arrangements used to potentially support the stakeholders in this process of making decisions about that. Both respondents indicated that specialised employees from their respective institutions were involved in the creation of ambitions for the surrounding landscape of the A6 Lelystad. The official assembly is used to align the interests of the represented institutions. R9 then explained what his exact role was during these meetings:

> '(…) being a pivot between the project organisation and the internal organisation'.

This indicates that information that is exchanged during these meetings (for instance on spatial quality) will thus be passed on by each representative to their internal organisation. Attendees of these meetings have no formal opinion on the subjects being discussed in these meetings (R7, R9). As for R2 and R3 from RWS, they indicated they know the Framework for Spatial Quality and Design (D4) and the Framework for Road Design (D3) by name. However, they both indicated that RWS has specialised people in the internal organisation that are familiar with these procedural arrangements.

There is a potential explanation why the people involved in these meetings are not acquainted with these procedural arrangements. It is not necessary that these stakeholders know the procedural arrangements (R8). Explaining to stakeholders that their input is needed because of a procedural arrangements, might send the wrong message. RWS is genuinely interested in their input for the project, and not only because a procedural arrangement prescribes it. However having knowledge of these procedural arrangements is not necessary for their participation (R8).

Second, the design meetings between the engineering firm and the landscape and design agency is where the integrated designs are discussed based on the technical road design and the surrounding landscape design. Different integrated designs are proposed during these meetings, where R2 and R6 had to make a decision which variants were going to be presented to their internal client. Both respondents indicated they know the Framework for Spatial Quality (D4) and Design and the Framework for Road Design (D3) by name. However, they trusted their internal RWS advisors for the knowledge about these procedural arrangements and are not exactly familiar with their contents (R6). This implies that there are actors familiar with the procedural arrangements however, they do not influence the actors involved in these decision-making processes directly in making choices about spatial quality. This means that the first stage of performance effectiveness (acquaintance) was not completed during these design meetings. Thus, the following performance stages of consideration and consent were also not reached.

All in all, this sub-section dealt with the question if and how the procedural arrangements influenced the decisions on spatial quality by the people that were involved in these meetings. Most of them indicated that they did not have any direct knowledge about the contents of any procedural arrangements. More importantly, procedural arrangements were not used during these meetings. However, respondents from RWS did show they know the procedural arrangements by name, but not their content. The stakeholders indicated they were not acquainted with any procedural arrangements to assist them in attaining policy measures regarding spatial quality.

5. Discussion

This study sheds more light on how effective current procedural arrangements are in reaching spatial quality goals in the context of area-oriented road infrastructure projects. The discussion section is divided into four parts. First, the elements of policy design fit based on the results will be discussed in their relation to policy design effectiveness. Second, the findings of the results will be linked to the concepts of performance and conformance, and the link to effectiveness. Third, both theories will be discussed in relation to each other. Lastly, spatial quality in area-oriented approaches is discussed and how this could influence potential effectiveness.

5.1 Policy Design Fit – Effectiveness

The goal of this section is to answer the sub-question: *What is the policy design fit between policy goals and procedural arrangements in the attainment of spatial quality ambitions in area-oriented road infrastructure project in the Netherlands?*

Policy design revolves around how to effectively reach policy ambitions by fitting a mix of policy goals and policy instruments, in a way that both goals and instruments support and/or reinforce each other (van Geet et al., 2019a). One of the attributes that can potentially affect policy design effectiveness is the Policy Design Fit. The "fit" is then the "supportive relationship" between the policy goals and instruments. Goal coherency, instrument consistency, and the congruence between goals and instruments contribute to the desired effectiveness (Howlett & Mukherjee, 2018). Policy Design Fit comes thus down to matching goals and instruments in order to achieve policy design effectiveness.

Coherence, consistency, and congruence

First, the data suggests that the spatial quality goals and the overarching policy goals of the A6 Lelystad are coherent. The ambitions to widen the A6 and simultaneously keep the experiential value of the surrounding landscape the same as the current situation do not seem to be mutually exclusive. However, even though these ambitions seemed to interfere with each other, the measures taken to ensure the experiential value (described in the EIA and the *landschapsplan*) are expected to mitigate the impact of the widening on spatial quality.

Second, the data also suggests that the mix of procedural arrangements to achieve spatial quality ambitions is consistent. The procedural arrangements seem to reinforce each other in order to come to a complete integrated design of the A6 Lelystad. When it is established that spatial quality will be part of the project, the procedural arrangements reinforce each other in order to integrate spatial quality into the final integrated design. The mix of procedural arrangements puts emphasis on spatial quality during the project.

Lastly, the data also suggests congruence between the mix of spatial quality goals and the mix of procedural arrangements used to achieve them. The six core qualities that are ascribed to the A6 Lelystad are a description of the situation before the realization of the project takes place. The goal is to maintain these spatial qualities in the new aspired situation, thus taking measures in order to mitigate harm to the surrounding environment of the road. The mix of procedural arrangements seems to be necessary in order to come to an integrated design. It can then be inferred that this integration

of spatial quality ambitions into the A6 Lelystad would not have succeeded if it was not for this mix of procedural arrangements.

Effectiveness of policy design
Overall, the data suggests the presence of goal coherence, instrument consistency, and goal and instrument congruence with regards to spatial quality ambitions of the A6 Lelystad. This means that there is a presence of Policy Design Fit as described by van Geet et al. (2019a). The axiomatic claim that Policy Design Fit infers policy design effectiveness, presumes that the goal and instrument mixes used in the A6 Lelystad are thus effective (van Geet et al., 2021) in reaching spatial quality ambitions in area-oriented road infrastructure projects. This implies that these procedural arrangements are successful at supporting and attaining the desired spatial quality outcomes.

In addition, van Geet et al. (2021) found that policy design effectiveness is more than matching goals and instruments. With the successful attainment of policy outcomes for the A6 Leystad, together with the presence of policy design fit, this thesis did not confirm this finding. This thesis did however confirm that the presence of policy design fit could lead to the successful attainments of policy outcomes, confirming that policy design fit is an important attribute of policy design effectiveness.

5.2 Conformance/Performance – Effectiveness

The goal of this section is to answer the sub-question: *What is the effectuality of procedural arrangements in supporting actors to understand and address problems with regard to reaching spatial quality ambitions in area-oriented road infrastructure projects in the Netherlands?*

Conformance is essentially assessing how much a plan deviates from predetermined goals or ambitions (Feitelson et al., 2017). Based on this, when the spatial quality ambitions have been reached, the procedural arrangement can be considered “effective”. Performance is then providing insight in how a procedural arrangement has been taken into account and whether it helped to clarify the choices during the process is pivotal (Faludi, 2000). Using the stages of performance effectiveness, and the three stages of conformance effectiveness (Herweijer et al., 1990, as cited by van Doren et al., 2013), the contribution of procedural arrangements in the planning process can thus be assessed.

Conformance
The data suggests conformance effectiveness since the spatial quality goals will be adopted in material reality and adverse effects on spatial quality have been mitigated due to the mix of procedural arrangements. First, based on the data and the analyses in sub-section 5.1, formal conformity has been reached because the procedural arrangements assist in putting emphasis on spatial quality. This also means that the mix of procedural arrangements has led to direct changes in the final plan, because spatial quality ambitions are integrated. Second, behavioural conformity was also reached. The core spatial qualities that were established by the project organisation and the stakeholders are maintained as was decided beforehand. These are thus successfully translated into the final integrated design of the project. Lastly, final conformity was also reached since the ambitions of spatial quality have been reached, and adverse effects on spatial quality have been mitigated due to the mix of procedural arrangements. The objectives of the A6 Lelystad will be adopted in material reality based on the baseline of this thesis.

This implies that all three stages of conformance effectiveness have been attained (cf. van Doren et al., 2013). The data thus suggests that the mix of procedural arrangements used to attain spatial quality ambitions are effective in terms that the final design does not deviate from the spatial quality ambitions that were set out.

Performance
The data suggests no performance effectiveness of the procedural arrangements was reached. The respondents who were present at the decision-making processes indicated that they were not acquainted with any procedural arrangement to assists them in delivering policy measures regarding spatial quality. The respondents from RWS did indicate they know some of these by name, but are not familiar with the contents. They trust their internal advisors and specialists from the internal organisation with the knowledge of these procedural arrangements, and ensure coordination between the parties.

This implies that no stage of performance effectiveness has been attained (cf. van Doren et al., 2013). The data thus suggests that the mix of procedural arrangements used to attain spatial quality did not help in clarifying choices about spatial quality during the decision-making processes.

Procedural arrangements in area-oriented approaches
The data collected from the experts suggests that it is still difficult to work towards a final integrated road design that incorporates all spatial quality ambitions. Even with the current mix of procedural arrangements. Especially in the design phases of a project, there is an imbalance between two procedural arrangements in reaching a finer level of detail. This causes an asynchronized design process. This implies there is an ambition to integrate the technical design and the surrounding landscape design with each other in order to come to an integrated design. However, it seems that the tuning between the procedural arrangements during the process needs to be further developed. The knowledge of practitioners in these design meetings about these procedural arrangements could be further improved, as indicated by the experts.

5.3 Effectiveness: Conformance/Performance vs. Policy Design Fit

The previous sub-sections indicated a presence of policy design fit, a presence of conformance effectiveness, but an absence of performance effectiveness. The mix of procedural arrangements used to attain spatial quality ambitions in area-oriented road infrastructure projects do seem to be effective, however they do not seem to clarify choices and decisions during the decision-making processes.

The outcomes of this study add to the literature of area-oriented approaches, policy design, and performance/conformance effectiveness. The data provides insight into the integration between land use, and infrastructure and transport procedural arrangements, and governments struggling to reach integrated ambitions (Heeres et al., 2012a, Heeres et al., 2012b, van Geet et al., 2019b). The context in which these policies operate is pivotal for its effectiveness (Peters, 2018). The presence of policy design fit implies policy design effectiveness, meaning that the external integration processes to facilitate area-oriented approaches in terms reaching spatial quality seem to be a success. This finding is important for the further development of area-oriented approaches. The presence of all three stages of conformance effectiveness also implies that the tailoring of these procedural arrangements to area-oriented approaches is seems to be effective. This thesis therefore adds to the contribution of Heeres

et al. (2012a) questioning whether this updating of procedural arrangements to these approaches is effective.

The data of this thesis suggests that the mix of procedural arrangements used in area-oriented road infrastructure planning seems to be effective in reaching spatial quality ambitions. As mentioned by Wu et al. (2017), area-oriented approaches consider local circumstances and various interests whilst simultaneously pursuing multiple goals. The absence of performance effectiveness implies that actors within the decision-making process do not necessarily need to be directly supported by these procedural arrangements in order to reach spatial quality ambitions. By looking at the step-wise model provided by van Doren et al. (2013), the theory suggests that performance effectiveness should be reached in order to achieve conformance effectiveness. However, the data suggests that performance effectiveness does not have to be reached in order to achieve conformance effectiveness.

According to Peters et al. (2018), the performance approach in the policy literature is not about achieving specific policy targets, but about creating a frame for action. The influence of the mix of procedural arrangements during the decision-making process is then the focal point. Procedural arrangements should support the actors involved in understanding the problems they are faced with and addressing them (van Geet et al., 2021). However, the data of this thesis thus suggests otherwise. It thus seems that the procedural arrangements are not integrated into the decision-making processes with all parties and actors.

This implies that there is some level of coordination between the parties and actors involved to ensure the decision-making process is aligned with the procedural arrangements. The procedural arrangements used to achieve spatial quality ambitions are not familiar to all the actors involved in the decision-making processes. However, the data suggests this integration does not seem to be necessary in order for these procedural arrangements to be effective in reaching policy outcomes. Coordination between the parties and actors seems to be sufficient. Meaning that it is possible for the mix of procedural arrangements to reach spatial quality ambitions without performance effectiveness.

5.4 Understanding spatial quality in area-oriented approaches

The goal of this sub-section is to answer the question: *What is spatial quality in area-oriented road-infrastructure approaches?*

The data suggests that spatial quality is depended on the context of a project and is multi-interpretative. This is in line with Hartman et al. (2016) stating that it will depend on the outcomes of the decision-making process what is regarded as spatial quality within the scope of the project. Also, Leendertse et al. (2016) states that spatial quality is an outcome of interaction processes that bring stakeholders together, consequently dismissing spatial quality as a pre-defined value.

Furthermore, area-oriented approaches imply a more coherent approach to the planning area and its spatial functions, spatial quality included. However, the data suggests there are still some steps that need to be taken in the integration of spatial functions.

First, although being one of the cornerstones of area-oriented planning (Heeres et al., 2012a), the data suggests that spatial quality is not often considered a top priority in projects in general. An

explanation for this could be the way it is conceptualised in the A6 Lelystad: an opportunity within the spatial-economic domain that does not necessarily directly contribute to the widening of the road (*meekoppelkans*). Spatial quality is then not considered as a top-priority, but as something extra, a side-issue. When the main objective of a project is to ensure traffic flow in the future, widening the road (adding extra lanes) becomes the top priority.

Second, the data suggests that the attainment of spatial quality ambitions in area-oriented road infrastructure projects does not necessarily depend on the mix of procedural arrangements used. Which is also interesting regarding the effectiveness of these procedural arrangements. According to Heeres et al. (2016) the core of area-oriented approaches is to recognize in the early phases of a project (and onwards) that different land uses are part of a greater and shared spatial system. Being proactive in the beginning can thus prevent problems at later stages. Although the mix of procedural arrangements provides the tools to emphasise spatial quality in the early stages of a project (and later on), the data suggests that the willingness to work on spatial quality and a willingness to pay for spatial quality by actors involved in a project, will influence the extent to which spatial quality is emphasised. Meaning that the effectiveness of procedural arrangements regarding the attainment of spatial quality ambitions is dependent on (political) decision-making that is not influenced by the mix of procedural arrangements.

Both of these points could be explained from the perspective that; in area-oriented planning, with the increasing functional and institutional scope, there is a risk of running into time and cost overruns (Elverding, 2008, Flyvbjerg et al., 2003, Lenferink et al., 2014). Road infrastructure projects are notorious for being expensive, so objectives that are considered as extra, will not always be implemented. In conversations that R4 had with the Ministry of Infrastructure and Water Managements, the “side-issue” approach to spatial quality in infrastructure projects was also indicated:

‘But the Ministry [of Infrastructure and Water Management], (…), said: yes, but that [spatial quality] is not a primary concern for us.’

This implies that there still sometimes is a sectoral approach to infrastructural projects, even in the highest levels of government institutions concerning spatial planning. Increasing the scope of area-oriented road infrastructure projects is costly, but there has to be a willingness to invest in order for these approaches to succeed. This relates back to one of the reasons why area-oriented approaches were called upon in the first place: to aptly deal with the fragmentation of spatial functions (Arts, 2007, Heeres et al., 2012a, Struiksma et al., 2008).

6. Conclusion

6.1 Effectiveness of procedural arrangements

In conclusion, the aim of this thesis was to gain insight into how effective current procedural arrangements are in reaching spatial quality ambitions in area-oriented road infrastructure projects in the Netherlands from a policy design fit, and a conformance and performance perspective. Based on the data collected, this thesis showed that:

- There is a presence of policy design fit, and thus policy design effectiveness
- There is a presence of conformance effectiveness
- There is an absence of performance effectiveness

In the following sub-sections each of the empirical sub questions will be answered.

6.1.1 Coordination over integration

What is the effectuality of procedural arrangements in supporting actors to understand and address problems with regard to reaching spatial quality ambitions in area-oriented road infrastructure projects in the Netherlands?

Procedural arrangements did not directly support actors in understanding and addressing problems regarding spatial quality. No performance stages according to the framework of van Doren et al. (2013) were accomplished. Meaning an absence of performance effectiveness. Actors indicated they trusted their internal advisors being knowledgeable about these procedural arrangements.

However, conformance effectiveness was reached, meaning spatial quality ambitions were attained. More importantly, contrary to the framework of van Doren et al. (2013), performance effectiveness does not have to be reached in order to achieve conformance effectiveness. This implies that there is some level of coordination between the parties and actors involved to ensure the decision-making processes are aligned with the procedural arrangements. The integration of procedural arrangements into the decision-making processes does not seem to be necessary in order for them to be effective in reaching policy outcomes. Coordination between the parties and actors seems to be sufficient for reaching spatial quality ambitions.

6.1.2 A fit that further develops area-oriented approaches

What is the policy design fit between policy goals and procedural arrangements in the attainment of spatial quality ambitions in area-oriented road infrastructure project in the Netherlands?

The presence of goal coherence, instruments consistency, and goal and instrument congruence, implies the presence of policy design fit. The presence of policy design fit implies policy design effectiveness. This thus means that the mix of procedural arrangements used to attain spatial quality ambitions in area-oriented road infrastructure projects is effective from a policy design perspective. This implies that the external integration processes to facilitate area-oriented approaches in terms reaching spatial quality seem to be a success (Heeres et al., 2012a). This finding is important for the further development of area-oriented approaches. This thesis confirms that the presence of policy

design fit could lead to the successful attainments of policy outcomes, confirming that policy design fit is an important attribute of policy design effectiveness (van Geet et al., 2019a).

6.1.3 Willingness to invest in spatial quality

What is spatial quality in area-oriented road-infrastructure approaches?

Spatial quality is depended on the context of a project and is multi-interpretative. Area-oriented approaches imply a more coherent approach to the planning area and its spatial functions, spatial quality included. However, the data suggests there are still some steps that need to be taken in the integration of spatial functions. Spatial quality is often considered as something extra, a side-issue. Consequently, there has to be a willingness to work on spatial quality and a willingness to pay for spatial quality by actors involved in a project. With the increasing functional and institutional scope of area-oriented road infrastructure projects, there is a risk of running into time and cost overruns (Elverding, 2008, Flyvbjerg et al., 2003, Lenferink et al., 2014). This can influence the willingness to work on, and the willingness to pay for spatial quality in these projects. In order to aptly deal with the fragmentation of spatial functions, an area-oriented approach is needed (Arts, 2007, Heeres et al., 2012a, Struiksma et al., 2008). However, it seems that there sometimes still sometimes is a sectoral way of thinking about infrastructural projects within government institutions concerning spatial planning.

Furthermore, these findings also imply that the effectiveness of procedural arrangements regarding the attainment of spatial quality ambitions is dependent on (political) decision-making that is not influenced by the mix of procedural arrangements. These decisions can then also influence the extent to which spatial quality is eventually implemented and worked out within projects. So, even though governments struggle to come up with effective ways to reach ad support their integrated ambitions (van Geet et al., 2019a), there first has to be a willingness invest in spatial quality.

6.2 Future research and recommendations

Suggestion for future research can be based on the findings or limitations of this thesis.

First, it is suggested to further investigate the institutional side of the effectiveness of procedural arrangements within area-oriented planning. Using institutional analysis, the institutional setting in which these procedural arrangements are used can be investigated. This can provide insight into the decisions that actors make, and what the influence of these procedural arrangements exactly is.

Second, it is suggested to conduct a comparative case study with multiple area-oriented projects. Comparing cases that have mixed results in achieving spatial quality ambitions, but use the same mix of procedural arrangements, could give a more comprehensive insight into their influence on achieving spatial quality ambitions.

Lastly, this thesis found that performance effectiveness is not needed in order to achieve conformance effective (cf. van Doren et al., 2013) in the context of area-oriented road infrastructure project. It is suggested to further investigate how it is possible to attain predetermined goals, without actors being directly influenced by the instruments that need to ensure that these goals are attained. The division between integration and coordination needs to be further investigated.

Suggestions for policy recommendations are meant for specifically for practitioners of spatial planning and are based on the results of this thesis.
First, there is an opportunity to integrate stakeholders earlier into RWS projects. Stakeholders are not always aware of the procedural arrangements used by RWS, and the current strategy is to coordinate between these parties and organisations. However, with the upcoming Environmental and Planning Act (in Dutch: Omgevingswet) in the Netherlands in mind, it could be beneficial to already implement this within future projects. Also, there is an opportunity to include Engineering firms in this process in order to efficiently implement this.

Second, it is highly recommended to increase the awareness of the need for area-oriented approaches. There sometimes still is a sectoral mind set to infrastructural projects. Especially in the Netherlands, a country with a scarce amount of space, the call to choose for area-oriented approaches becomes more apparent in order to aptly deal with the fragmentation of spatial functions (Cramer et al., 2021). The role of spatial planning practitioners in the Netherlands is critical in this process, by implementing this in their daily planning practice. Informing government institutions, clients, and other stakeholders of the need of an integrated approach will help to develop these approaches even further, and ultimately increase the quality of our living environment.

Lastly, it is suggested to synchronise the perceived imbalance between the Framework for Spatial Quality and Design and the Framework for Road Design of RWS. Respondents of this research indicated that it is difficult to come to an integrated design when the technical design process is at finer a level of detail in much less time. This could be achieved by already including both design elements in the early phases of the MIRT Exploration.

7. Reflection

7.1 Limitations

Several remarks can be made regarding the limitations of this thesis.

First, given the time and resources the researcher had, it was not possible employ a comparative case study. Therefore, the choice was made to employ a single in-depth case study for this thesis. However, it was therefore not possible to compare two case studies based on their spatial quality outcome. In this way it would have been possible conduct a more comprehensive study of the influence of these procedural arrangements on the attainment of spatial quality ambitions. I is believed that this could have impacted the results of this study. This had however no implication for the theoretical approach of this research, however it is believed it had implications for the generalisability of the results. Using a comparative case study would have resulted in more information on the usage of the procedural arrangements in practice.

Second, the choice was made to conceptualise effectiveness with the concepts of conformance, performance, and effectiveness. Only with the concept of performance the researcher was able to provide an insight into the process of decision-making around spatial quality. An institutional analysis and development (IAD) framework could have helped to conduct a more rich analysis of the interactions between actors during these decision-making processes around spatial quality. However, due to limited time and resources, it was not possible to include this into this research.

Thirdly, the choice was made to define spatial quality in this thesis based on the contextual circumstances of the project (i.e. spatial quality is what the project defines as spatial quality). However, this has some implications for the generalizability of the statements regarding spatial quality in this thesis. This means that statements regarding spatial quality could not be applicable to other situations, since spatial quality is specifically defined for the A6 Lelystad.

Lastly, the A6 Lelystad was chosen as a case study, whilst not having an official OTB yet. This also means that the OTB that was used as a baseline to measure spatial quality outcomes is still prone to changes. This also means that the outcomes of this thesis may not apply when the A6 Lelystad has a Project Decision. Especially since the exploration of the project ‘A6 Zon’ has finished, meaning that energy landscapes (areas with solar panels) need to be incorporated within the planning area of the A6 Lelystad. This could potentially have significant implications for the spatial quality ambitions of the A6 Lelystad.

7.2 Methods

In order to reflect on the methods used in this research, quality criteria for qualitative research will be employed. The elements of credibility, transferability, dependability, confirmability, and saturation will be reflected upon.

Credibility entails the congruence between the results of this research and reality (Shenton, 2004). The concepts of policy design fit and performance/conformance effectiveness are theoretical in nature, which makes it difficult to operationalise them. Aligning the scientific literature, the definitions that followed from the theoretical framework, and comparing these to the operationalisation that was used to construct the interview guide and set up the document analysis, the proper data collection and analysis followed.

Transferability sheds light on the question whether the findings of this thesis can be used to make inferences about other groups or cases (Shenton, 2004). The concept of area-oriented approaches and the context of the A6 Lelystad are explained to such an extent that the possibility is created to transfer the findings to other cases. The procedural arrangements and respondents used are specific to this research. However, the general description of the respondents and the nature of the procedural arrangements can be applied to other contexts. It is therefore believed that transferability was achieved.

Dependability entails the reproducibility of this research (Shenton, 2004). The context, methods, and analysis are clearly outlined in how they were applied and were sufficiently transparent. The use of a semi-structured interview guide allowed for a different line of questioning for each respondent. However, the same questions were asked to every respondent, meaning that all relevant information that had to be collected for this thesis, were covered during the interviews. For the document analysis it was made clear what information was needed from each document. For the overall results, no implications on dependability are expected and it was thus achieved.

Confirmability entails whether the findings are independent of the preferences and characteristics of the researcher, and are thus based on objective observations (Shenton, 2004). Data source triangulation was used for this research by conducting interviews and a document analysis in order to reduce the effects of investigator bias. Weekly-stands with the supervisor from W+B allowed for regular and objective feedback during the research process. Therefore, confirmability was achieved.

Lastly, data for this research was collected up to saturation level. Documents that were investigated but not included gave no new information regarding procedural arrangement aims or spatial quality ambitions. Also, respondents gave almost no new information after other respondents were already interviewed.

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Appendices

Appendix A; Case study criteria

Potentiële Casussen:	Kenmerken			Criteria			
	Opdrachtgever	Type project	Project is reeds gerealiseerd	Casus is een gebiedsgericht weg-infrastructuur project (Uitgangspunt is de weg: vanuit daar kijken naar omliggende omgeving).	Zowel de verkenningsfase als de planuitwerkingsfase zijn doorlopen. (In geval dat een OTB is vastgesteld = (X))	Ruimtelijke kwaliteit ambities zijn vastgesteld / overgenomen in TB (In een uitzonderlijk geval volstaat OTB ook).	Ruimtelijke kwaliteit ambities zijn **niet** vastgesteld / overgenomen in TB (In uitzonderlijk geval volstaat OTB ook).
MIRT Planuitwerking A6	Rijkswaterstaat	Weg infrastructuur	X	✓	(X)	X	✓
Haak om Leeuwarden (Programma Vrij Baan)	Provincie Friesland	Weg infrastructuur	✓	✓	✓	✓	X
De Centrale As N356	Provincie Friesland	Weg infrastructuur	✓	✓	✓	✓	X
MIRT Verkenning Friese bruggen	Rijkswaterstaat	Kunstwerken / Infrastructuur	X	X	X	X	X
MIRT Planuitwerking A7/A8	Rijkswaterstaat	Weg infrastructuur	X	✓	X	X	X
Verkenning Dijkversterking Kaehool - Louwersmeer	Wetterskip Fryslân	Dijkversterking	X	X	X	X	X
Verbreding en verdieping A9 BAHO	Rijkswaterstaat	Weg infrastructuur	X	✓	✓	✓	X
RvR Maasvallei	Waterschap Limburg	Dijkversterking	X	✓	✓	✓	X
MIRT Verkenning A2 Deil - Vught	Rijkswaterstaat	Weg infrastructuur	X	✓	X	X	✓
MIRT Planuitwerking InnovA58	Rijkswaterstaat	Weg infrastructuur	X	✓	(X)	X	✓
Contractvoorbereiding A27/ A12 Ring Utrecht, contract Zuid	Rijkswaterstaat	Weg infrastructuur	X	✓	✓	✓	X

Legenda:
✓ = Voldoet aan criterium (antwoord is ja)
X = Voldoet NIET aan criterium (antwoord is nee)

Appendix B; Document overview

ADD ALL THE DOCUMENTS CORRECTLY TO REFERENCELIST			
ID	Procedural arrangement	General description and aim	Aims and descriptions on spatial quality and how they are applied in delivering policy measures regarding spatial quality.
D1	2016 MIRT Rules	Describes the process, procedure, roles, and tasks of all parties involved in accordance to policy, and the decision-making requirements by the State in order to reach a decision about a financial contribution of the State. The rules focus on the process the MIRT-assignment goes through from Exploration, to Elaboration, to Realization including the conforming decision-making moments. The goal is to make clear what information is needed at what phase, explain how a decision came about, and what the decision is and what the next step is in the process.	Broad view: Solving accessibility issues by taking into account other spatial development sectors. Measures taken within this broad perspective could contribute to goals in liveability, sustainability, and international economic position. Then, measures become available that could contribute to spatial quality, such as: integration, sustainability, liveability, and safety. The State, decentral government agencies, societal organizations and companies work together to strengthen and develop the competitive position, accessibility and liveability of the Netherlands in a sustainable manner. Parties involved responsibly invest in sustainable, ecological and societal goals, where Climate Change is being kept in mind. Furthermore, a focus is where spatial-economic, water- and mobility-assignments are at a cross-road and can strengthen each other in a sustainable manner.
D2	2019 Handreiking MIRT/m.e.r.	Guide for executing the exploration and elaboration phases of the MIRT process at Rijkswaterstaat. Gives an overview of the coherency of all the activities, where the emphasis lies on the EIA procedure and the MIRT.	1. The initiation phase of the exploration: The MIRT Rules obligate it to integrate sustainability and look at *'meekoppelkansen'* in the surrounding area. During exploration, the creation of an Ambitionweb can help to determine project-specific sustainability and

what the influence of 12 themes (one of which spatial quality) can be on sustainability.
Checklist for determining the spatial quality, landscape, cultural historic, and archaeology of the area:

- What are the core qualities of the area?
- Spatial analysis on how the area functions
- Balance the opportunities of creating new qualities or potentially losing some.
- Create a hierarchy of potential solutions to the extent to which these could contribute to the functioning of the area and more spatial quality.

2. Analytical phase of the exploration:
Using design as a research method to find an effective synthesis between goals and spatial functions in the area. Trying to find the ideal synthesis between user value, future value, and experiential value (thus, spatial quality).

3. Initiation phase of the elaboration
During this phase attention is focussed on how the infrastructure will fit into the landscape. To create an assessment framework for spatial quality thus depends on the context. The criteria to assess spatial quality will mainly focus on spatial coherence of the road and the current landscape, and the new tasks for the area.

Depending on the project's location, multiple extra aspects should evaluated during the plan elaboration. Examples are effects on agriculture, recreation, and social aspects.

D3	2019 Kader Wegontwerpproces	Creating an unambiguous road design process which leads to a carefully considered road design. Road design is the starting point for many other impact studies, and has a large impact on other spatial sectors. The use of this instrument is obligatory in projects where road design is a part of. In this procedural arrangement the technical necessities regarding road-design products are being described. The process is established on a clear cut documentation of choices in order to make sure well defined choices and a widely supported road design are on the table.	During the road design process it is important a bottleneck analysis is conducted. This an important moment for various disciplines (such as spatial quality) to come into the picture. This because during this bottleneck analysis every spatial bottleneck that is identified various solution pathways are being analysed. This is this an important moment for spatial quality to come in. The aim is to deliver a road design that includes the results of all the impact studies, including spatial quality. This is in order to minimize harm to the surrounding environment. Spatial bottlenecks include but are not limited to: buildings, other infrastructure, protected areas, subsoil, and traffic safety. Next to that, wishes of the client, testresults, other disciplines (such as spatial quality), and decision-making processes could all result in potential bottlenecks. The eventual goal is to create a design that adds the most value to societal wishes.
D4	2019 Kader Ruimtelijke Kwaliteit en Vormgeving	The goal of the policy is to guarantee spatial quality and design in the working processes of projects and programs for the construction, maintenance, replacement and renovation by Rijkswaterstaat. In order to achieve this, there is the presumption that successful projects have the following 7 properties: 1. End quality is an explicit goal of the project 2. Quality is connected with strong interests 3. Quality is elaborated in a normative and inspiring framework	Fitting in to the landscape: create the best possible outcome by weighing developmental, spatial, cultural, and environmental landscape qualities. Spatial quality is there to find the perfect balance between: 1. User value: Concerns the properties of functionality and function and balance between these two. 2. Experiential value: the perception and experience of

4. Quality always has an owner with authority and decision-making power
5. The design process is the cornerstone of the project
6. There is financial coverage for quality
7. Quality is always on the agenda

the physical environment. When the diversity, identity and beauty increase, the experiential value increases.

3. Future value: refers to the robustness, durability and flexibility of the physical environment and its function in time. The value is measured by the sustainability, flexibility and controllability.

Sustainable development: this connects to wishes and needs of today without hurting future generations in their own wishes and needs.

Guarantee spatial quality during all phases of a project. This can be achieved by following this procedural arrangement. This is done by taking over the MIRT planning phases:

1. Research
Investigating the assignments, making the development path concrete, or make an area-oriented development ready for execution. The eventual outcome of the research phase can lead to refining the Regional Development Agendas or the start of the exploration phase for specific assignments. This is done by the State, Ministry of Infrastructure and Water Management, and regional authorities.

2. Exploration
The goal of this phase is to come up with smart, sustainable and climate-proof solutions by broadly investigating an assignment, make the goals and

problem analysis concrete and carefully weigh various alternatives. *Meekoppelkansen*, sustainability aspects, information about the landscape, the (sub-) soil, cultural heritage, and State property will be integrated into this phase. This is done by an IPM team that as appointed by the Ministry of Infrastructure and Water Management. Eventually this has to lead to a Preferred Alternative. It is advised to use particular instruments from this procedural arrangement as early as possible, since they all provide necessary input for the further MIRT process.

3. Plan elaboration
In this phase the decision that has enabled the realization of the intended projects within a legal and financial framework. This phase will eventually lead to a Project Decision, or in this case a Route Decision. This phase is crucial since the assignment will be carried over from the Ministry to RWS. Spatial quality has to be integrated into the project scope. Logically, Simplicity, Specific capture the essence of spatial quality. RK&V is a connecting factor between various disciplines.

4. Realisation
The goal of this phase is to build the solution that was shaped over the previous phases. A preliminary Design, Definitive Design, and Executive Design need to be made by the contractor. All of these need to be tested to the guidelines of spatial quality.

5. Maintenance

			This phase need to guarantee the functionality of the end product and conform to the demands of functionality, experiential value and future value.
D5	Aanpak Duurzaam GWW	Instrument of Ruimtelijke Kwaliteit & Vormgeving, it is a way of working. Gives the possibility to integrate sustainability into the project in the processes of analysis, weighing, designing, and specifying. Create a better balance of People, Planet, Profit.	There are 12 Themes in which can be considered important within the larger theme of sustainability. Spatial quality is one of these themes. The process of integrating sustainability through Duurzaam GWW consists of 6 steps. These 6 steps can be found in Appendix G. Starting with the analysis of the assignment and the ambitions, challenges and opportunities will be brought to light using the Omgevingswijzer. Through this, several *meekoppelkansen* including spatial quality will be become clear in sessions together with stakeholders. Eventually translating these ambitions to concrete project goals. The ambitions (based on the 12 themes) and their importance regarding the project of the A6 Lelystad, can be found in Appendix H.
	A6 Lelystad policy document	General aim	'On-the-ground measures that are formulated regarding spatial quality in order to address policy problems or mitigate harm to the surrounding environment'
D6	2016 Startbeslissing A6	Most important goal of the project is to guarantee the accessibility of Lelystad Airport by widening the A6. The aim of the exploration study was to look for solutions to ensure the traffic flow on the A6 where there is specific emphasis on sustainability, nature, environment, and landscape, and there is room for future innovation.	Fitting into the landscape is important and keeping track of surrounding developments. The characteristic polder landscape needs to be ensured and fits well within the current characteristics of the A6. The A6 has a large middle berm which fits into this view. Spatial berms, large span length of viaducts, and no noise barriers that can block the view. Furthermore there is an explicit wish

			to do something generating sustainable energy along this highway in terms of solar panels or windturbines. This can be done on State area or on area of other parties in the form of co-creation. Energy that is being generated alongside the A6 could be used by the business districts of LABP, Laserpoort, and the neighbourhood Warande.
D7	2020 Ontwerpnota IIO	This report represents the accountability of the integrated design process of the Plan elaboration of this project and describes the results of the plan design that will be further elaborated from the Preferred Alternative to the Design Route Decision. The IIO is the design in which the mitigating and compensating measures are processed, making sure there a spatial fit between the design and its environment. Following: technical design of the road in line with the Kader wegontwerpproces. Fitting the A6 into the landscape in line with the vision of Van Paridon x De Groot. Go through the 'duurzaam+ spoor' programme with stakeholders. 1. Lay out the guidelines to a legally robust Route Decision. 2. Validate the way to a feasible, makeable, and financial viable Route Decision. 3. Offer a solid basis for unambiguous environmental communication (stakeholder communication).	Trade-off matrices (TOM) were made in order to weigh the different aspects in the design. Spatial quality: keep an open and green character: which is positive when is stays as is, or increases. Negative if it decreases. Spatial quality: anticipate on, or connect new developments: for instance creating a new National Park. Multiple variants are tested based on these spatial quality goals.
D8	2020 Milieueffectrapportage	The widening of the A6 can have potential negative effects to its environment. A widened road needs more space and the increase of traffic can also lead to an increased pressure on the environment. This report entail the results of the investigation of the impact of the project to its environment. This is needed in order to make a complete Route Decision.	4 components are important for the current situation of the A6 regarding spatial quality: 1. Character: A6 is the *Zuiderzeeroute:* fitting character of Polder landscape: large arc radius and wide middle berm, which fits the large landscape of Flevoland Green areas around the highway at Almere and Lelystad.

Between Almere and Lelystad is mostly agricultural land and nature.

2. Experiential value: the road fits into the landscape with a large arc radius for the road, wide berms and little road furniture. Experiential value is also increased because the highway is higher than the surrounding landscape, meaning the surrounding area is very visible from the road.

3. User value: multiple business districts and neighbourhoods lay near the highway. Furthermore, *Oostvaardersplassen* as a nature area with various recreational biking and hiking routes. There are possibilities for recreation at the service areas along the highway.

4. Future value: alongside the highway sustainable energy is being generated, which can be used for maintenance and lighting. Furthermore, future value is increased by enabling co-use for nature. For example, the development of the national park *Nieuw Land*.

All works of art need the same profile from a spatial quality point of view.

6 Core qualities regarding spatial quality were identified in document D10. These complete core qualities can be found in Appendix D.

D9	2020 Deel rapport Landschap en ruimtelijke kwaliteit	The sub-report on Landscape and Spatial Quality is part of the Environmental Impact Assessment which describes the experiential value, users value, and future value of this project. This sub-report is an integrated part of the MER and OTB. What is important to consider is that in this report the comparison is being to the situation of reference: when the A6 will not be widened. So, spatial quality is then an optimising or mitigating measure.	Vision on fitting the road into the landscape (what defines this road and its environment?): see Appendix D (core qualities regarding spatial quality) For the widening of the A6, multiple characteristic shrubs, a decline in spacious berms, and an increase in road furniture decrease the experiential value of the landscape. This does interfere with the identity and diversity of the current landscape. However, even with the widening of the road, the cross-section still is a typical part of the *'Zuiderzeeroute'*. Furthermore, the opportunities that arise with regards to the generation of sustainable energy along the A6, is a positive effect for the future value of the road. Due to the relative large distance between the road and the user values of living, working, and recreation, effects on user value are not expected. Except the effect on increased liveability, which is coherent with the overall project goal.
D10	2020 Landschapsplan	Describes how the widening of the road fits into the landscape and is coherent with its surroundings. The aim is to guarantee the characteristics of the current landscape and if possible add new spatial qualities. 1. Deliver solid argumentation when deciding upon the spatial requirements. 2. Deliver solid argumentation for various measures that need to be taken in order to create a proper fit between the road and the landscape.	6 core qualities have been defined (which can be viewed fully in appendix D) and can be summarised as: 1. Scenery of the surrounding landscape: changing landscape of a green city scape and open landscape views. 2. Fluent, gradual changing longitudinal profile of with spatial arcs: this is the way the road "runs" through the landscape.

3. Deliver a vision and a spatial guideline when creating the *Esthetisch Programma van Eisen.*
4. Give input when calculating cost estimates.

3. Generous cross-section with wide middle berms: no obstacles in the berms on the side of the road and very wide middle berms (which is unique for the A6). Road is heightened compared to the surrounding landscape< which strengthens the open view from the road.
4. Open road view without road furniture: this strengthens the experience of the open polder landscape.
5. Plants strengthen the coherence with the surrounding landscape.
6. Panoramic artwork with generous spans.

The entire scope of the project was divided into three main “scenes” in which the current landscape structure is somewhat coherent:
1. Overpass Parkway Almere
2. Showcase National Park Nieuwland
3. City Allee Lelystad

Concrete measures that need to be taken:

- An open, natural arrangement of the berms in the connection with the open polder of National Park Nieuw Land (cut trees that block the view and create rough reed vegetation). The characteristic scene (open polder landscape) will be strengthened by naturally arranging the berms.
- Plant more trees in the berms that are connected with the wood development of National Park Nieuw Land, but keep the view to the Knardijk open.

D11	2020 Design Route Decision	The Design Route Decision is the document in which stakeholders can submit their views (within 6 weeks of release). After all the responses and comments have been processed, the Minister of Infrastructure and Water Management will make a decision on a final Route Decision.	Create robust shrubs and bushes along the road of the business district of Lelystad (between junction 9 and 10), a double row of trees in the middle berm and one row of trees in the berms on the side of the road. But, keep an open view on the companies in the area (on the side of the road). The shrubs and bushes should connect to the *Groene Boog* around Lelystad. Infrastructural measures for each part of the project starting at Almere, to Lelystad: 1. Junction 8 Almere Oostvaarders – Viaduct Praamweg: - The *Vaartviaducten* are not widened due to sustainability considerations. - There will be a change from 4x2 to 2x4, this is so the *Vaartviaducten* do not have to be widened. - Road will be widened on the inside 2. Viaduct Praamweg – Knardijk - Road will be widened on the outside. - Bridges from the Lepelaarstoch will be widened on the outside so the space between the two bridges will still be the same, which allows light to shine on the cross connection (eco-connection) below the bridges. 3. Knardijk – Junction 9 - Road will be widened on the outside. - In order to emphasize the water protection function of the Knardijk it will be widened on the outside of the A6, and the middle and outside berms will heightened. 4. Junction 9 – Junction 10 - Road will be widened on the outside until 71,40

- From 71,40 the road will be widened on the inside.

5. Junction 10
    - Widening will end at junction 10. Junction 10a will only be modified up until the art work over the Larserweg in order realise the modifications for the A6.

Appendix C; Interview Guide

Introductie

- Wie ben ik? Introductie en doel onderzoek. Waarom dit interview?
- Toestemmingsformulier begrepen? Rechten betrekking interview duidelijk?
- Participant: wat kunt u vertellen over uzelf?
- Alles duidelijk? Vragen?

Het project (A6) (U = Expert-specifiek)

- Gebiedsgericht: Wat houdt het in? Verschil "gewoon" infra project? Klopt belang van RK in deze context?
- Wat houdt ruimtelijke kwaliteit volgens u in, in de context van gebiedsgerichte weg-infrastructuur projecten?
- Uw rol in het project?
- Het project met betrekking tot ruimtelijke kwaliteit?
- Vooraf gestelde doelstellingen van het project? Ruimtelijke kwaliteitsdoelen?
  Verhouding tot elkaar? Zijn er ook bepaalde criteria belangrijker gevonden in het proces?
- Hoe zag de besluitvorming ruimtelijke kwaliteit eruit? Was u bekend met deze processen?
- Zijn sommige aspecten van ruimtelijk kwaliteit ook belangrijker dan andere aspecten?
  Zo ja, waar hangt dit dan vanaf?
  Zo nee, waarom niet?
- Zijn er ook documenten/instrumenten gebruikt om u te ondersteunen tijdens het besluitvormingsproces (en wat er wel en niet mogelijk is in het ontwerp) rondom ruimtelijke kwaliteit?
  Zo ja: welke? Zo nee, was dit misschien nuttig geweest?

Indien van toepassing: bij meerdere beleidsinstrumenten zal ik elk instrument apart af moeten gaan

Bekendheid met de beleidsinstrumenten/kader/richtlijn

- Was u destijds bekend met de kaders en richtlijnen? Bent u er bekend mee geworden?
- Welke informatie ruimtelijke kwaliteit uit deze richtlijnen en kaders?
  Zo ja, wat dan? Zo nee, hoe komt dat dan?

Beleidsinstrument als referentiekader voor besluitvorming

- Heeft u ook geleerd van het beleidsinstrument? (Geleerd m.b.t. ruimtelijke kwaliteit)
- Hoe heeft het kader/richtlijn u ondersteunt tijdens het besluitvormings- en planproces? Is het ook gebruikt om eventuele alternatieven van het plan te bespreken?
- Heeft het kader/richtlijn ook verdere besluitvorming beïnvloedt volgens u?
  Zo ja, hoe dan? Zo nee, waarom denkt u dat dit niet is gebeurd?
  Ook gezorgd voor directe veranderingen in het plan?

Beïnvloeding van beleidsinstrument op besluitvorming

- Beleidsinstrument invloed gehad op uw visie van ruimtelijke kwaliteit?
  Zo ja, hoe? Zo nee, waarom niet?
- Belangrijkste bijdrage van het kader/richtlijn tijdens het besluitvormings- en planproces?

- Mist u nog handvaten of instrumenten in de huidige gereedschap box?
  Heeft u hiervoor ideeën?
- Vind u het een goed kader om ruimtelijke kwaliteit te bevorderen? Effectief genoeg?
- Gebruikswaarde, belevingswaarde en toekomstwaarde, bereikt

Beleidsinstrumenten: om beleidsdoelen vast te realiseren

- Welke kaders/richtlijnen hebben we in Nederland om actoren te ondersteunen om ruimtelijke kwaliteit ambities te realiseren in gebiedsgerichte weg-infrastructuur projecten?
- Wat is precies het verschil/is er een verschil tussen deze beleidsinstrumenten?
  Ervaringen met deze kaders/richtlijnen?
- Zijn deze huidige kaders/richtlijnen naar uw mening effectief genoeg om over het algemeen de vooraf gestelde ruimtelijke kwaliteitsdoelen te bereiken?
  Waarom wel of waarom niet?

Besluitvorming en planprocessen met betrekking tot ruimtelijke kwaliteit

- Wat is precies de rol van deze beleidsinstrumenten tijdens de besluitvorming en het planproces tijdens weg infrastructuurprojecten? Verschil per instrument?
- Ondersteunen deze kaders/richtlijnen ook voldoende in de besluitvormings- en planprocessen (om de beoogde ruimtelijke kwaliteit te bereiken) volgens u?
  Waarom wel of waarom niet?

Beleidsontwerp en effectiviteit (van belang?)

- Werken deze beleidsinstrumenten over het algemeen goed samen, of werken ze elkaar ook wel eens tegen?
  Waarom is dit het geval? Heeft u concrete voorbeelden?

Concluderend

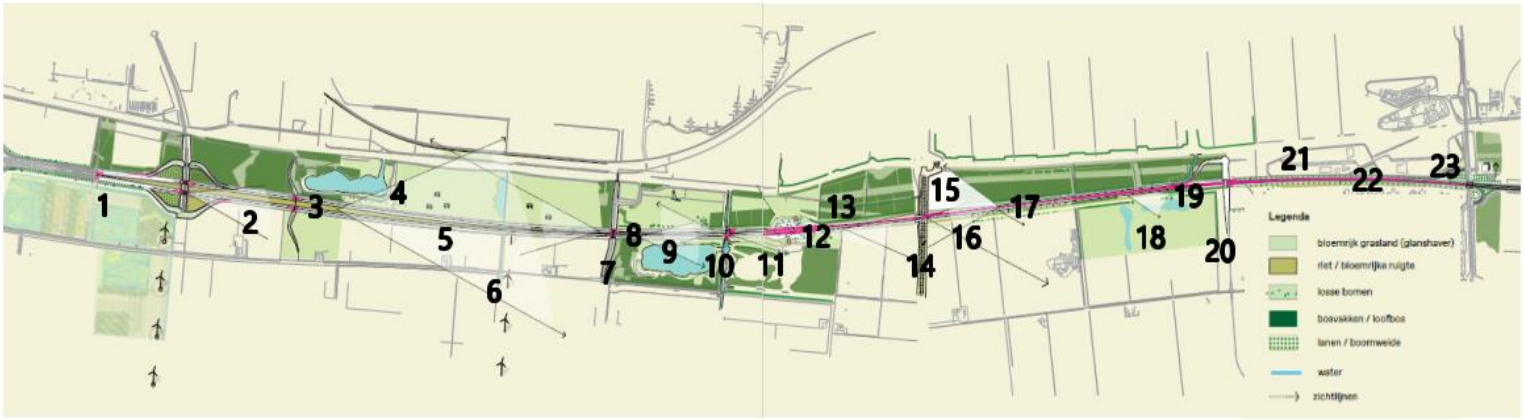
- Waar staan we op dit moment in het project? Wat was uw ervaring met het project?
- Terugkoppeling op het gesprek en controleren bevindingen
- Toevoegingen interview? Opmerkingen, aanmerkingen, kritiek? Bedanken.
- Controleren bevindingen. Resultaten? Hoe?

Appendix D; Six Core Qualities Regarding Spatial Quality

Theme	Content
Landschappelijke, geënsceneerde Snelweg	- Snelweg met eigen identiteit als Zuiderzeeroute, de snelweg van het nieuwe land - Landschappelijke weg / snelweg en landschap als een 'Gesamtkunstwerk' - Landschapsvensters openen grote vergezichten op het aangrenzende landschap van de polder en de Oostvaardersplassen - Steden liggen op afstand, gemarkeerd door bos en populierenweides - Markante punten vertellen het verhaal van de polder, zoals de Knardijk en de Lage Knarsluis
Continu, geleidelijk veranderend lengtetracé met ruime boogstralen	- Het lengtetracé bestaat uit 2 ruime, flauwe boogstralen, die rond de Knardijk in elkaar overgaan - Zicht op de bermen en landschap - Hoogteverschillen in het lengtetracé markeren de kruisingen met belangrijke landschappelijke structuren als de Knardijk en de Larservaart
Royaal dwarsprofiel, met over grote lengte een zeer brede middenberm	- Royale obstakelvrije bermen - Brede middenberm - Aardenbaan (hogere ligging)
Open wegbeeld / minimum aan wegmeubilair	- Kwaliteit is het open wegbeeld met een minimum aan wegmeubilair - Geen geluidswerende voorzieningen
Beplantingen versterken samenhang met omliggend landschap	- Beplantingen versterken de scenes - Afwisselend wegbeeld door beplantingen - Het type beplantingen sluit aan op de omgeving
Panoramische kunstwerken, viaducten met ruime overspanningen	- Kenmerkend zijn de ruime overspanningen, met schuine taluds - Kunstwerken zijn zorgvuldig, als een familie, vormgegeven - Kenmerkend is de ingetogen, utilitaire vormgeving / fris witte bakens langs de weg - Vanzelfsprekende onderdoorgangen met lichtvides

Appendix E; Complete overview of the *Landschapsplan* (in Dutch).

Elaboration on the numbers can be found in the table below (from: D8, Appendix B)



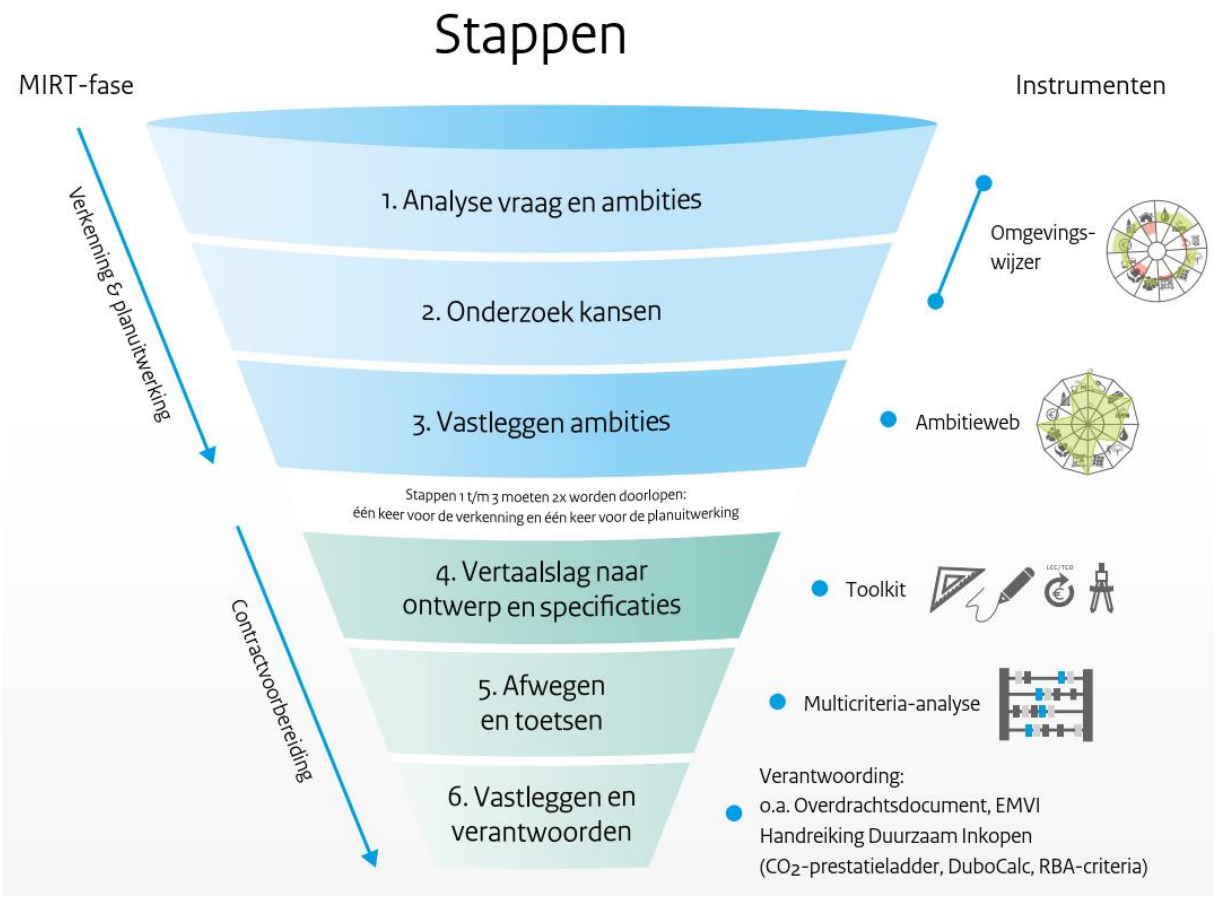
1. populieren als markering van de stad > introductie Nationaal Park Nieuwland met rietland in de middenberm	13. versterken bosrand / natuurlijke boservaring
2. beleving van de grote open ruimte versterken	14. Knardijk > opschonen ruimte > dijk markeren > onderdoorgang ecologisch en recreatief
3. riet(ruigte) in de laagte van de middenberm	15. zichthoek op Lage Knarsluis open houden
4. meer zicht op Vaartplas en oostvaardersplassen > verbinding met open ruimte van het paardenveld (verbindend kwaliteitsbeeld)	16. zichthoek knardijk open maken > doorzichten in ecologische verbinding naar de polder
5. bloemrijke, biodiverse bermen over de hele aardenbaan	17. verspreide bomen op de overgang naar het bos > doorzicht naar de polder
6. Roerdompstocht versterken (eco-passage)	18. doorzicht op Burchtkamp
7. Praamwegviaduct > behouden en versterken als markant kunstwerk	19. Bosweg > bosbeleving intensiveren
8. riet(ruigte) in de laagte van de middenberm continueren tot aan de verzorgingsplaats	20. Aansluiting 9 Poort naar de natuur
9. meer zicht naar kiekendiefveld en Reigersplas (verbindend kwaliteitsbeeld)	21.Groene boog langs bedrijventerrrein > groene middenberm > 4 bomenrijen > zicht op de bedrijven
10. Lepelaarstocht onderdoorgang verbeteren (recreatief / ecologisch)	22. Rietoever langs de Hollandse tocht
11. verzorgingsplaats als rustpunt in de natuur > op schakelpunt van 'moeras' naar 'bos' (verbindend kwaliteitsbeeld)	23. Aansluiting 10 > meer samenhang en openheid in de populierenstructuur
12. verspreide bomen in de bermen	

Appendix F; Description of the current situation of spatial quality in the EIA

Component:	**Description:**
Character*	The A6 is the *Zuiderzeeroute*, which makes that the A6 has the character of a polder landscape: large arc radius of the road and a wide middle berm, which fits the vast landscape of the Province of Flevoland. Green areas are typical around the A6 at the cities of Almere and Lelystad. Between Almere and Lelystad is mostly agricultural land and nature.
Experiential value	The road needs to fit into the surrounding landscape. A large arc radius of the road, wide berms (middle and side) and little road furniture. What is unique is that there are some locations on the A6 where it is not possible to see the roadway with oncoming traffic. Experiential value is also increased because the road is slightly lifted above the surrounding landscape, meaning the surrounding area is clearly visible from the road.
User value	Is distinguished in three different land use functions that interact with the A6: living, working, and recreation. Multiple business parks and neighbourhoods are situated near the A6. Furthermore, the *Oostvaardersplassen* can be found nearby with various recreational biking and hiking routes. Lastly, there are possibilities for recreation at the service areas along the A6.
Future value	Alongside the A6 sustainable energy is being generated, which can be used for maintenance of the road and lighting. Furthermore, future value is increased by enabling co-use for nature. For example, the development of the national park *Nieuw Land*.

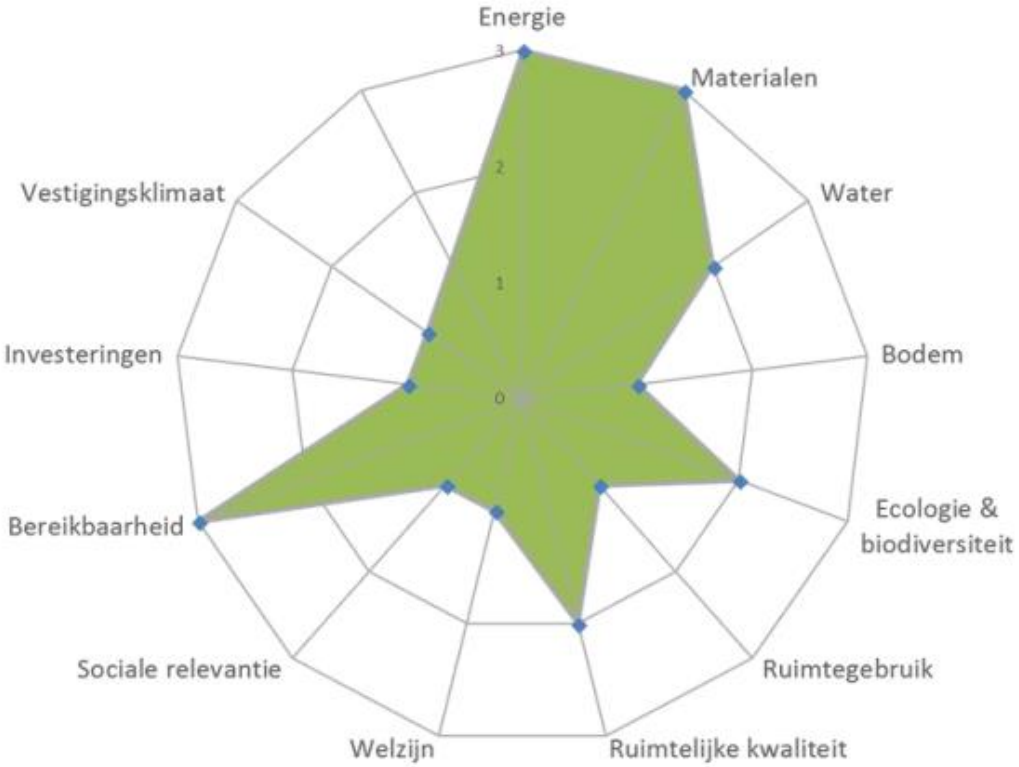
*Character refers to the distinctive “nature” of the road and its surrounding environment.

Appendix G; Stepwise Approach of the Aanpak Duurzaam GWW



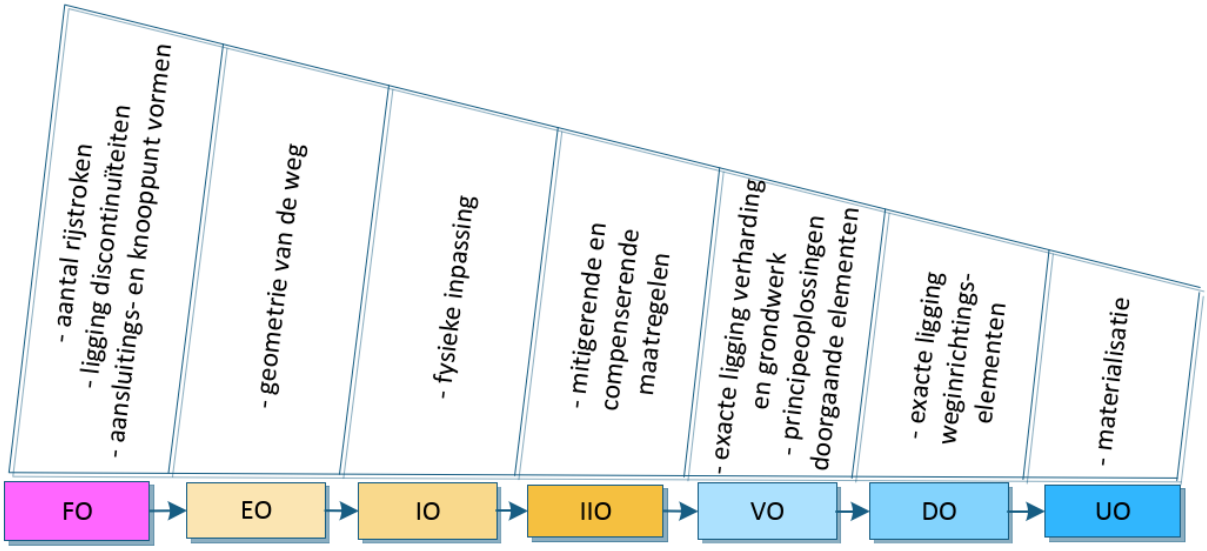
Source: Document D5 (Appendix B).

Appendix H; Ambitionweb A6 Lelystad



Source: D8 (Appendix B)

Appendix I: Framework for Road Design steps for a definitive road design



Source: Framework for Road Design (D3)