



The privatised road to quality

Environmental quality in infrastructure
projects with early private involvement

Picture on cover: "Foggy road" (Flickr, 2007)

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*Environmental quality in infrastructure projects
with early private involvement*

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Summary

Early private involvement is seen as the solution to the shortcomings of infrastructure planning. Examples of the shortcomings are cost overruns, exceeded timeframes and low quality infrastructure that does not fit the needs of society. Combining infrastructure planning with spatial development could stimulate the private involvement. However, it is unclear how early private involvement will affect the environmental quality of the projects. Therefore, the objective of this research is to explore the consequences for the environmental quality of road infrastructure projects, if different ways of setting-up the earlier stages of the planning process, by actively involving private parties and incorporating spatial development, are introduced. Accordingly, the following research question can be formulated:

What are the consequences for the environmental quality, if spatial development is added to, and private parties become actively involved in the earlier stages of road infrastructure projects?

To operationalise the research, four case studies are examined for their way of private involvement and the consequences for the environmental quality. By interviewing the actors involved, the way of private involvement, the chances and problems it creates and the preconditions for successful private involvement are investigated. The results were discussed in an expert meeting, which provided feedback and useful comments over the conclusions, and related to the relevant theories selected in a literature study.

The literature defined environmental quality as consisting of social, economical and ecological values, as, for example, defined in Elkington's (1999) Triple Bottom Line for sustainable development. By improving the environmental quality over the dimensions of space and time, sustainability can be achieved. In order to do so, the infrastructural world is in need of a paradigm change: from a hierarchical classical approach, with a closed character and hidden agendas; towards the future, adaptive approach, based on cooperation and formulation of a combined planning agenda. Power networks will have to be changed into adaptive networks in order for the long-term focus of sustainability to become reality.

The current Dutch infrastructure planning is focused at looking for chances to increase private involvement and searching for ways to combine infrastructure planning with spatial planning. This desire is operationalised by formulating different instruments: the market scan, the market consultation, the public-private comparator, intertwining of procedures and new ways of contracting. Furthermore, the long range programme for infrastructure and transport (MIT) is being reshaped into the long range programme for infrastructure, spatial planning and transport (MIRT).

Case studies were selected to see how private involvement can be shaped in practice and to formulate recommendations for the infrastructure planning policy. They were selected on the basis of their degree of private involvement, and their extent to which a combination between spatial and infrastructure planning was sought.

The project study Schiphol-Amsterdam-Almere is an example of a classic approach, aimed at the quick construction of infrastructure without concerning the possibilities of improving environmental quality by incorporating spatial development elements. This approach was chosen because of the political pressure that resulted in strict deadlines for the project and the unknown cost and revenues of the spatial development elements.

The case of the A9 Badhoevedorp illustrates how an integral private initiative can become separated in two tracks: infrastructure development and spatial development (real estate). This could be caused by the lack of experience and skills in turning a combined infrastructure and spatial development project, which has more possibilities to improve the environmental

quality, into reality. The case also showed that a private party can play a constructive role as a mediator, causing a stagnated planning process to make progress again.

The A2 Maastricht can be regarded as a project that succeeded in bringing innovativeness into reality and in stimulating private parties to optimise the environmental quality by developing the competitive dialogue approach. However, the high procedural costs and the lengthy decision-making process make the involved risks for the private parties high. This makes the approach as it is applied here, not suitable for extensive future use.

The Project Mainportcorridor Zuid can be considered as a laboratory aiming at creating new approaches to infrastructure planning. A disadvantage of the approach is that a public agreement on the problems and ambitions in the project area is hard to get, making it difficult for the private parties to formulate visions and effective solutions. Furthermore, the approach in the later phases of the planning process is unclear, which causes private parties to keep innovative ideas for themselves and use them in a later, competitive phase, or in a different project.

After evaluating the cases, it can be stated that several possibilities to improve the spatial quality are disregarded in planning practice. In this respect, it can be stated that integrality is the key term in stimulating private involvement. In order to keep private parties interested, the planning process needs to be integral over time. This means that the explorative and the competitive phases are not separated. In this way, innovative ideas can be brought in early in the planning process, because they are rewarded with a greater chance of being awarded the construction of the project. Integrality in the spatial dimension is also necessary. By combining infrastructure and spatial development, possibilities to improve the environmental quality can be created. Furthermore, combining the two tracks will result in more attractive projects for private parties to become involved in. However, it must be noted that integrality is under pressure by political influences and the complexity and manageability of a project and that the wish for integrality differs for each type of private party: contractor, developer or consultant.

The research also resulted in some recommendations. It is essential that for private involvement to work, public involvement has to become better arranged. It is essential for private parties to have a vision and ambitions to work with; this vision has to be formulated by the involved public parties. Another recommendation is that more adaptive approaches are necessary to cope with the extensive planning procedures. The last recommendation is that private involvement itself must never be a goal. Instead the aim of projects should be at realising the right balance between time, money and quality factors, and the right balance between the economical, ecological and social values that make up environmental quality.

Samenvatting

Vroege private betrokkenheid wordt beschouwd als de oplossing voor de tekortkomingen van infrastructuurplanning. Voorbeelden van die tekortkomingen zijn overschrijdingen van het budget, overschrijdingen van de tijdsplanning en lage kwaliteit van het product, de infrastructuur, die niet voldoet aan de wensen van de maatschappij. De private betrokkenheid zou kunnen worden gestimuleerd door infrastructuurplanning te combineren met ruimtelijke ontwikkelingen. Het is echter onduidelijk hoe zulke vroege private betrokkenheid de omgevingskwaliteit van de projecten zal beïnvloeden. Het doel van dit onderzoek is dan ook om te onderzoeken wat de gevolgen voor de omgevingskwaliteit van weginfrastructuurprojecten zijn, als verschillende manieren voor de inrichting van de vroege planfasen door het actief betrekken van private partijen en het combineren met ruimtelijke ontwikkelingen, worden ingevoerd. De volgende onderzoeksvraag ondersteunt deze doelstelling:

Wat zijn de gevolgen voor de omgevingskwaliteit als ruimtelijke ontwikkelingen worden toegevoegd aan, en private partijen actief worden betrokken in, de vroege planningsfasen van infrastructuurprojecten?

Om dit onderzoek verder te operationaliseren zijn vier casestudies onderzocht op hun wijze van private betrokkenheid en de gevolgen daarvan voor de omgevingskwaliteit. Door interviews af te nemen met de betrokken actoren moeten de wijze van private betrokkenheid, de kansen en problemen die dit oplevert en de randvoorwaarden voor succesvolle private betrokkenheid duidelijk worden. De resultaten van deze interviews zijn bediscussieerd in een ontmoeting van experts, die bruikbaar commentaar en terugkoppeling gaven over de conclusies van de interviews en gerelateerd aan de relevante theorieën uit de literatuurstudie.

Uit de literatuur bleek dat omgevingskwaliteit gedefinieerd kon worden als bestaande uit sociale, economische en ecologische waarden, zoals gevonden in de Triple Bottom Line voor duurzame ontwikkeling. Door het verbeteren van de omgevingskwaliteit over tijd en ruimte zal duurzaamheid bereikt kunnen worden. Om dit te realiseren zal er een paradigmaverandering moeten plaatsvinden in de wereld van de infrastructuurplanning: van de hiërarchische, klassieke aanpak met een gesloten karakter en verborgen belangen, naar de toekomstige, adaptieve aanpak, gebaseerd op samenwerking en gezamenlijke formulering van de belangen. De zogenaamde krachtnetwerken zullen moeten worden veranderd in adaptieve netwerken om de langetermijnvisie van duurzaamheid mogelijk te maken.

Het huidige Nederlandse beleid over infrastructuurplanning is gericht op het zoeken van kansen om de private betrokkenheid te vergroten en manieren te zoeken om infrastructuurplanning te combineren met ruimtelijke ontwikkelingen. Dit wordt ondersteund door verschillende instrumenten: de marktscan, de marktconsultatie, de publiekprivate comparator, de vervlechting van procedures en het vinden van nieuwe contractvormen. Verder wordt ook het meerjarenprogramma infrastructuur en transport (MIT) omgevormd in het meerjarenprogramma infrastructuur, ruimte en transport (MIRT).

De casestudies worden gebruikt om te kijken hoe private betrokkenheid in de praktijk wordt vormgegeven met als doel aanbevelingen te kunnen formuleren voor te voeren beleid. De cases zijn geselecteerd op basis van hun wijze van private betrokkenheid en de mate waarin ruimtelijke ontwikkelingen worden gecombineerd met infrastructuurplanning.

De planstudie Schiphol-Amsterdam-Almere is een voorbeeld van een project met een klassieke aanpak, dat gericht is op een snelle realisatie van infrastructuur zonder zorgen over het verbeteren van de omgevingskwaliteit door het zoeken van combinaties met

ruimtelijke ontwikkelingen. Deze aanpak is gekozen omdat het project onder grote politieke druk staat om snel tot resultaten te komen resulterend in strakke deadlines voor het project. Een ander factor in de keuze voor de klassieke aanpak is de onbekende kosten en opbrengsten van het combineren met ruimtelijke ontwikkelingen.

De case van de wegomlegging A9 Badhoevedorp laat zien hoe een integraal privaat initiatief kan worden opgedeeld in twee aparte sporen: de ontwikkeling van infrastructuur en de ontwikkeling van ruimtelijke initiatieven (bv. vastgoedontwikkeling). Dit kan worden veroorzaakt door het gebrek aan ervaring en vaardigheden in de aanpak van gecombineerde projecten, die mogelijkheden bieden voor het verbeteren van de omgevingskwaliteit. Verder laat deze case zien dat een private partij een cruciale rol kan spelen in het op gang trekken van vastgelopen projecten.

De passage A2 Maastricht kan gezien worden als een project, dat door het ontwikkelen van de concurrentiegerichte dialoog, succesvol innovativiteit weet te koppelen aan een stimulerende werking op private partijen om omgevingskwaliteit te optimaliseren. Echter, de hoge proceskosten en de lange duur van het besluitvormingsproces maken de risico's voor de deelnemende partijen groot. Dit maakt dat de aanpak, zoals deze hier is toegepast, nog niet geschikt is voor uitgebreide toekomstige toepassing.

Het project mainportcorridor zuid is te beschouwen als een laboratorium gericht op het ontwikkelen van nieuwe benaderingen in de infrastructuurplanning. Een nadeel van de aanpak in het project is dat de publieke overeenstemming over de problemen en de ambities in het projectgebied moeizaam te realiseren is. Dit maakt het moeilijk voor private partijen om visies te ontwikkelen en oplossingen te formuleren. Daarnaast is de aanpak voor de latere fasen van het project tot op heden onduidelijk, zodat partijen gestimuleerd worden om hun innovatieve ideeën voor zich te houden om deze in een eventuele competitiefase te kunnen gebruiken.

Na de evaluatie van de cases wordt duidelijk dat er in de cases verschillende mogelijkheden om de omgevingskwaliteit van de projecten te verbeteren worden genegeerd. Integraliteit kan worden beschouwd als het essentiële begrip in deze context. Om private betrokkenheid te stimuleren moet het planningsproces integraal over de tijd worden benaderd. Dit houdt in dat de voorbereiding en de competitiefase van een project niet moeten worden gescheiden. Hierdoor wordt innovativiteit beloond, omdat innovativiteit resulteert in een grotere kans op de gunning van de uitvoering van het project. Integraliteit over de ruimte is ook essentieel. Door infrastructuur en ruimtelijke ontwikkelingen te combineren ontstaan er kansen om de omgevingskwaliteit te verbeteren. Verder zal de combinatie van de twee sporen kunnen resulteren in meer attractieve projecten voor private partijen om bij betrokken te worden. Toch moet worden genoemd dat de wens voor integraliteit onder druk staat van politieke invloeden en van de complexiteit en uitvoerbaarheid van het project, en dat de wens voor integraliteit anders is voor elk type private partij: aannemer, projectontwikkelaar of adviseur.

Op basis van het onderzoek kunnen enkele aanbevelingen worden gedaan. Het is essentieel voor private betrokkenheid dat de publieke overeenstemming beter wordt geregeld, zodat private partijen visies en ambities hebben om mee te kunnen werken. Een andere aanbeveling is dat adaptievere aanpakken noodzakelijk zijn om met de uitgebreidere planningprocedures om te kunnen gaan. Tot slot is het aan te bevelen dat private betrokkenheid geen doel op zich moet worden. In plaats daarvan zou de focus moeten liggen op het vinden van de juiste balans tussen tijd, geld en kwaliteit en de juiste balans tussen de economische, ecologische en sociale waarden, die samen omgevingskwaliteit vormen.

Preface

This thesis is the final product of my study at Faculty of Spatial Sciences at the University of Groningen, where I completed the *Research Master: Regional Studies*. The first steps in this research were set in March 2007, and now, some eight months later, the end-result is here.

The thesis is written under supervision of Prof. Dr. Jos Arts. Special thanks go out to him for his enthusiasm and supporting guidance, which inspired me to find the energy to complete this research, and for giving me the opportunity for an internship at Rijkswaterstaat, which proved to be useful to provide for the practical side of this thesis. I was glad to make use of their expertise in infrastructure planning, and happy with the advice and guidance provided by the people working there. Specially, I want to thank Ir. Wim Leendertse, my direct supervisor at Rijkswaterstaat for his useful comments and constructive advice.

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List of abbreviations

	English	Dutch
ABVM	Different ways of paying for mobility	Anders betalen voor mobiliteit
CPB	Central planning agency	Centraal planbureau
CRAAG	Corridors Regions Amsterdam, Almere & the Gooi	Corridor regio's Amsterdam, Almere en 't Gooi
DB	Design and build	Ontwerp en aanleg
DBFM	Design, build, finance and maintenance	Ontwerp, aanleg, financiering en onderhoud
DC	Design and construct	Ontwerp en aanleg
EIA	Environmental impact assessment	Milieueffectrapportage
EIS	Environmental impact statement	Milieueffectrapport
MGR	Environment utilisation space	Milieugebruiksruimte
Ministry of EZ	Ministry of economic affairs	Ministerie van economische zaken
Ministry of LNV	Ministry of agriculture, nature and food quality	Ministerie van landbouw, natuurbeheer en voedselkwaliteit
Ministry of VROM	Ministry of housing, spatial planning and the environment	Ministerie van volkshuisvesting, ruimtelijke ordening en milieu
Ministry of VW	Ministry of public works, traffic and water management	Ministerie van verkeer en waterstaat
MIRT	Long-range programme for infrastructure, spatial planning and transport	Meerjarenprogramma infrastructuur, ruimte en transport
MIT	Long-range programme for infrastructure and transport	Meerjarenprogramma infrastructuur en transport
NIMBY	Not in my backyard	Niet in mijn achtertuin
NS	National railway company	Nederlandse spoorwegen
NVVP	National traffic and transport document	Nationaal verkeer- en vervoersplan
PMZ	Project mainportcorridor south	Project mainportcorridor zuid
PPC	Public private comparator	Publiekprivate comparator
PPP	Public private partnership	Publiekprivate samenwerking
PVVP	Provincial traffic and transport document	Provinciaal verkeer- en vervoersplan
RWS	Department of public works and water management	Rijkswaterstaat
SAA	Schiphol-Amsterdam-Almere	Schiphol-Amsterdam-Almere
TBL	Triple bottom line	Drievoudige basis
Triple P	People-planet-profit	Mensen-planeet-winst
VINEX	Fourth memorandum on spatial planning extra	Vierde nota ruimtelijke ordening extra
WRO	Spatial planning act	Wet op de ruimtelijke ordening
WRR	Scientific council for government policy	Wetenschappelijke raad voor het regeringsbeleid
ZSM	Visible, smart and measurable	Zichtbaar, slim en meetbaar

Introduction

Early private involvement: the solution?

1

1.1 Background

Roads are functioning as a means of transportation since ancient times. Nowadays, roads are in governmental control, but this was not always the case. “Bridges have been privately owned for centuries; the early turnpikes were privately provided and tolled” (Vickerman, 2005, p.18). But “in the course of the twentieth century governments in all countries have assumed responsibility for financing and operating transport infrastructure” (Nijkamp and Rienstra, 1995, p.221). This happened for ideological, military or security reasons, but most of the times for pure economic reasons. The private sector could not meet the rapidly changing demands; competition in infrastructure supply lacked. So governments stepped in through governmental regulations, approval and licensing, and took control of the infrastructure planning process. Once the government took control, private parties were no longer involved in the early stages of the road infrastructure planning process. Ever since, the government has been the leading and dominant actor in road infrastructure planning, but the 1980s marked a change as the shortcomings of a government-dominated infrastructure planning slowly became clear (Vickerman, 2005).

One of the shortcomings of a government-dominated infrastructure planning is the budgeting of road infrastructure projects. All around the world the costs of infrastructure projects are underestimated (Flyvbjerg et al., 2002). According to Flyvbjerg, this is caused by the involved stakes. To legal experts, constructors, landowners, and other stakeholders it can be profitable to underestimate costs to ensure that projects will be approved and subsequently implemented (Haan and Ten Hoove, 2004). The costs that are budgeted are often exceeded and these cost overruns generally have to be paid by the government, which normally provides most of the funding. The problems with the budgeting also account for the timeframes. One of the causes is the optimistic estimates of the construction period. “A preliminary review of [...] infrastructure projects shows that time overruns in construction have been seven months on average” (Flyvbjerg et al, 2002, p.95). As a consequence, road connections cannot be used resulting in extra costs for the longer contracts of the constructors, and missed income from the not operable infrastructure.

Another shortcoming of government-dominated infrastructure planning is the low usability and the low quality of new road infrastructure. There exists a barrier between the (government-oriented) planners, which are mainly involved in the earlier phases of infrastructure planning, and the private parties, which are involved in the construction and maintenance of the projects. This barrier causes the results of the planning process not to be evaluated properly, the same mistakes to be made over and over, and future projects not to be improved by taking mistakes of the past into account. “Organisations tend to follow organisational routines, or proven ways of conducting business, rather than consider each time all possible alternative courses of action” (Bertolini, 2005, p.6). These routines can lead to lock-ins, where routines are too inert to relate to the changed environment. Another cause for the low quality and usability of new road infrastructure is that the politicians, consultants and other parties involved in the plan-making often have a tunnel vision. “Politician may have a ‘monument complex’, engineers like to build things and local officials sometimes have the mentality of empire-builders” (Flyvbjerg, 2003b, p.46). They push the project in a way that it is forced to be accomplished, without looking at the needs of the society. This results in

redundant infrastructure, or infrastructure that could better be constructed in a different way. An example could be the Betuwe-railway in the Netherlands. This railway should provide a fast and reliable way to transport goods from the harbour of Rotterdam to the Ruhr-area in Germany. The costs of this railway connection were enormous - 4,7 billion euros instead of the projected 3,7 billion (Ministry of VW, 2006a) - and it was, according to the critics, not carefully investigated if this line was really necessary and could operate profitable. All in all, there was a lot of debate over the investments. Although this example concerns rail infrastructure, road and rail planning processes generally have to deal with the same problems. The example illustrates that the current infrastructure planning process is not fit for the dynamic society, because changes at the demand-side of infrastructure cannot be accounted for during the process.

The approach to the planning of infrastructure is developed for modelling policy problems during the era of governmental monopoly (Stichting Next Generation Infrastructure, 2004). This approach causes obsolete infrastructure to be completed late and over budget. As mentioned before, an institutional change could be needed to make infrastructure planning more relevant and the construction within manageable time and budget limits. This change should reflect the liberalisation in the field of infrastructure while aiming at improving the environmental quality of the projects; currently service is provided by multiple companies and agencies, making the infrastructure world complex. The way infrastructure is approached and exploited has changed and has become less manageable by the government. As Banister (2002, p. 141) states: "the complexity of the land development processes, travel decisions and the rapidly changing forms of industry, of population structure, of lifestyles, and of the use of time all contrive to make progress difficult, if not impossible". Seen in this light, it seems odd that the way policy problems are modelled has stayed the same over the last decades. The process of infrastructure planning is still linear and straightforward with the government as the dominant actor, while the market asks for a more subtle and diverse approach, and the public demands projects of sufficient environmental quality. Bertolini (2005, p. 851) acknowledges this, stating: "conventional methods do not adequately account for the growing, irreducible uncertainty of future developments".

The above illustrates that it is time for the infrastructure planning to make an institutional change. "In principle, infrastructure may be provided by the private sector, through which efficiency gains may be achieved. Therefore, the necessity for government financing is at stake in the current debate" (Nijkamp and Rienstra, 1995, p.221). Private parties could (again) play a greater role in the process of infrastructure, and especially in the earlier stages of the process. The earlier stages of Dutch infrastructure projects lack the input of private parties, which are more focused on keeping projects manageable and costs within limits. The risks for creating redundant infrastructure could also be reduced, because private parties will not invest in projects that are not profitable. At this moment, initiatives are undertaken to involve private parties actively: new forms of procurement are being implemented and new instruments aimed at involving private parties, like the market scan, the public private comparator and market consultation are applied. This way infrastructure projects can be realised which will be of use in current and future society.

A way of improving infrastructure projects and especially their environmental quality by involving private parties could be incorporating spatial development in infrastructure planning. Up until now, private parties are not that interested in joining simple straightforward infrastructure projects. "Infrastructure is expensive to provide, and [...] the lead-time in construction requires large advance funding" (Vickerman, 2005, in: Rietveld, 2005, p.19). An infrastructure project combined with the input of a spatial development element could provide interesting opportunities for private parties to join in. Such a combined project, a 'broad'

infrastructure project would attract private parties, because spatial development is a sector where profit can be made. The private parties would then get the opportunity to develop housing, commercial areas, and other urban areas (red), as well as natural areas (green) and water areas (blue). Recreational functions (e.g. theme parks) and out-of-town shopping areas (e.g. home product mega stores) could also provide interesting possibilities. As a result the government could use the knowledge and expertise of the private parties to make the road infrastructure planning process more relevant and the combined project of a better environmental quality. At this moment, this kind of integral area development is still in a developing phase, but the possibilities it could provide are interesting for this research.

However, it is not clear what the consequences of involving private parties in the early stages of such 'broad' infrastructure planning are. Private parties aim at making profit, while besides these economical values, ecological and social values also play an important role in the infrastructure projects. It could be argued that infrastructure, having major effects on the (built) environment, "cannot simply be provided by the private sector, because the interests of the private sector are different from those of the public sector" (Nijkamp and Rienstra, 1995, p.223). The effects of involvement of private parties in infrastructure projects on the environmental quality of infrastructure projects - the combined social, ecological and economical effects – are still unknown. It could be useful and relevant to map these effects since the government is looking to expand the Long-range Programme Infrastructure and Transport (In Dutch: *Meerjarenprogramma Infrastructuur en Transport*, MIT,) into a Long-range Programme Infrastructure, Spatial Planning and Transport (In Dutch: *Meerjarenprogramma Infrastructuur, Ruimte en Transport*, MIRT). Environmental quality in the broader sense, incorporating ecological, socio-economic and spatial-economic values, is one of the indicators that could play a role in this transition, since space and spatial quality are related to environmental quality.

1.2 Scope of the research

Problem definition

Introducing private parties to the plan-making phase of infrastructure projects and involving spatial development in the projects could prove to be the solution for the shortcomings of the current road infrastructure planning process, but it is unknown how the environmental quality of the infrastructure projects can be safeguarded or improved by applying this changed approach to infrastructure planning.

The objective of this research is to explore the consequences for the environmental quality of road infrastructure projects, if different ways of setting-up the earlier stages of the planning process, by actively involving private parties and incorporating spatial development, are introduced.

With regard to this objective, it must be noted that it is also possible to incorporate infrastructure planning in spatial development projects, and thereby approaching the relation from the opposite angle. However, in this research the focus will be on investigating the relation infrastructure-spatial development as described in the objective above.

Research questions

The objective, as stated above, leads to the following main research question:

What are the consequences for the environmental quality, if spatial development is added to, and private parties become actively involved in the earlier stages of road infrastructure projects?

To be able to answer the main research question, the following sub questions are formulated:

- 1 What is the position of public and private parties in current infrastructure planning?
- 2 What are the possibilities to involve stakeholders in the earlier stages of infrastructure projects?
- 3 What triggers private parties to get involved in the earlier stages of infrastructure planning?
- 4 What are the experiences of involving private parties in the earlier stages of infrastructure planning?
- 5 What are the problems & limitations and the chances & opportunities if private parties are introduced in the earlier stages of the planning process of infrastructure projects?
- 6 What solutions and recommendations for safeguarding the environmental quality in road infrastructure projects can be formulated?
- 7 What is the influence of early private involvement in infrastructure planning with regard to realising a good environmental quality in infrastructure projects?

1.3 Structure of the report

This report will continue with chapter two "*From hierarchy to flexibility*". This chapter will elaborate further on relevant (background) theories. After the theoretical framework is set, the study design is made clear in chapter three: "*Investigating infrastructure projects*". In this chapter the conceptual model is provided, relevant terms are operationalised and the hypothesis is given. Chapter four "*Dutch policy trends*" will discuss the current infrastructure planning and spatial planning in the Netherlands. It will give a general overview of these sectors, and explore the current policy trends. In chapter five "*Current practice in early private involvement*" case studies and other initiatives are examined for their possibilities to combine infrastructure and spatial planning, and involve private parties in an early stage. The evaluation will be given in chapter six "*How to involve private parties best*", where the findings of the case studies will be further worked out and related to each other. Chapter seven "*The privatised road to quality*" will provide the final conclusions and recommendations; the main question is answered in this chapter. The relations between the different chapters is visualised in figure 1.1.

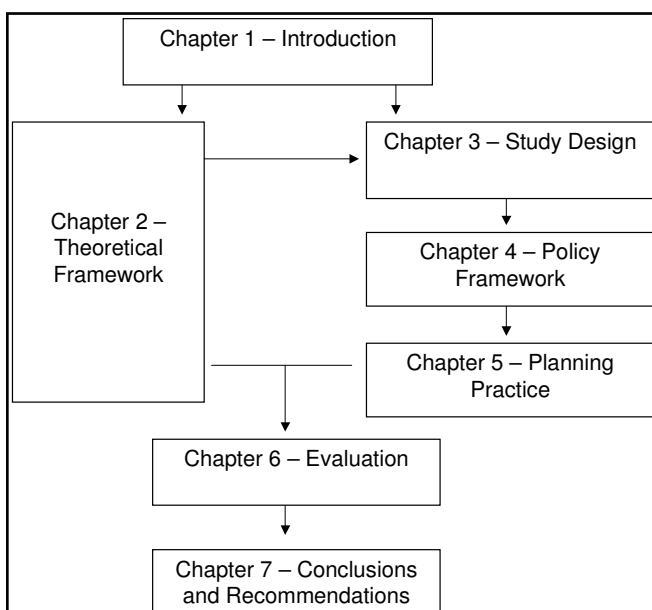


Figure 1.1 Relations between the chapters of the study

Theoretical framework

From hierarchy to flexibility

2

In this chapter, the theoretical framework will be presented. This framework illustrates the (background) theories, which are relevant to this research. The first paragraph will deal with sustainability, followed by an elaboration on environmental quality in the second paragraph. The third paragraph, in which paradigms and paradigm shifts will be examined, will provide the philosophical input to this research. Next the institutional and procedural change in infrastructure planning will be discussed. Paragraph five discusses two kinds of networks: power networks and adaptive networks, and the last paragraph will deal with partnerships and stakeholder participation.

2.1 Sustainability

In order to make the term environmental quality (see paragraph 2.2) clear, it is helpful to take a look at the concept of sustainability first. Sustainability has been described by a lot of different authors. The UN report *Our Common Future* (WCED, 1987) is considered to be one of the first contributions which defines sustainability adequately: '[Sustainable development is] development that meets the needs of the present without compromising the ability of future generations to meet their own needs' (WCED, 1987, in: Rosen and Dincer, 2001, p. 8). The concept should combine economic, social and environmental aspects of growth and development (De Roo and Porter, 2007). Another definition for sustainability is 'the wise use of resources through critical attention to policy, social, economic, technological, and ecological management of natural and human engineered capital so as to promote innovations that assure a higher degree of human needs fulfilment, or life support, across all regions of the world, while at the same time ensuring intergenerational equity' (EOLSS Publishers, 1998, in: Rosen and Dincer, 2001, p.8).

All authors agree on the fact that sustainability is a difficult term to operationalise. A translation of the concept of sustainable development into practice is still cumbersome. Two main reasons can be identified (De Roo and Porter, 2007):

- 1 Sustainability is not a thing that can be applied as such. It is a way of looking at policy-making and is – most of the time – included in the policy making process as a secondary objective, having a supportive role aimed at the long-term.
- 2 The concept of sustainability is interpreted in different ways. The difficulty lies in the "wide and confusing range of interpretations and its political and ethical character (O'Riordan and Voisey, 1998). "The OECD counted at least a hundred varying definitions of sustainability. Sustainability is cursed with fuzziness". (De Roo and Porter, 2007)

As Gibson (2005) states, sustainability and development are interdependent. One cannot make a world sustainable if poverty is prevailing, and by depleting resources and destroying ecology one cannot overcome poverty. This indicates that sustainable development is not an easy thing to realize since multiple interdependent problems must be solved. Furthermore, "sustainability must be pursued in a world of complexity and surprise, in which precautionary approaches are necessary" (Gibson, 2005, p.60). Nooteboom (2006) argues that no single person or organisation can 'manage' sustainable change autonomously. This indicates that sustainability should be a broad concern, and that actors should work together to make sustainability reality: "open democratic decision-making with participation is advocated as

being crucial to ecological modernisation and sustainable development (Gibbs, 2000)” (Wolsink, 2003, p.719). If sustainability is to be realised, multiple dimensions have to be accounted for; not only respect future generations (time dimensions) must be respected, but also the broader geographical scales at which environmental issues may arise (spatial dimensions) (De Roo and Miller, 2000). The main features of sustainability are presented in table 2.1. The concept of sustainability is in a way related to another concept, the concept of environmental quality, which will be discussed next.

Sustainability is:	
-	Interdependent with development
-	Something which cannot be realized autonomously
-	Realizable by respecting time (future generations) and space dimensions (geographical scales)

Table 2.1 Important aspects of sustainability.

2.2 Environmental Quality

This research will investigate the environmental quality, and does not explicitly regard the sustainability of infrastructure planning. The concepts differ in the way that contrary to sustainability, environmental quality does not incorporate the time dimension as a part of the concept. In general, environmental quality focuses more on the spatial dimensions.

Environmental quality could be defined as the 'overall' quality of the environment. This notion of environmental quality in a broader sense consists of an economical, a social, and an ecological component as defined by Elkington's Triple Bottom Line (TBL). Elkington (1999) formulated the concept of the TBL of sustainable development for business. This concept is not only applicable for business uses, and therefore has been adopted by governments too. According to Elkington there are three bottom lines: the social, the economic, and the environmental bottom line. The social bottom line depends on the economic bottom line, because society depends on the economy. Subsequently, the economic bottom line depends on the environmental bottom line, which represents the health of the global ecosystem.

The TBL is widely accepted and applied, and used implicitly in many approaches and concepts. Kaiser et al. (1995) identified the same three categories when they listed the sets of values that play a role in planning: social use values, market values, and ecological values. According to Kaiser et al. (1995), social values represent the weight that people give to the environment as the place which influences the way they employ their activities, market values express the value which people give to the land as a commodity, and ecological values express the weight that people give to the existing nature. This rather anthropocentric definition can be caught in a figure together with the earlier discussed sustainable development, see figure 2.1. To reach the optimum mix of sets of values and subsequently the optimum environmental quality in a broader sense, all three categories must be represented in the land use management. A good plan or a good project seeks the balance between the different values. This right balance guarantees that all values are represented and all stakeholders are addressed, and sustainability is accounted for. If this balance cannot be found, the stool, as illustrated in figure 2.1, will fall.

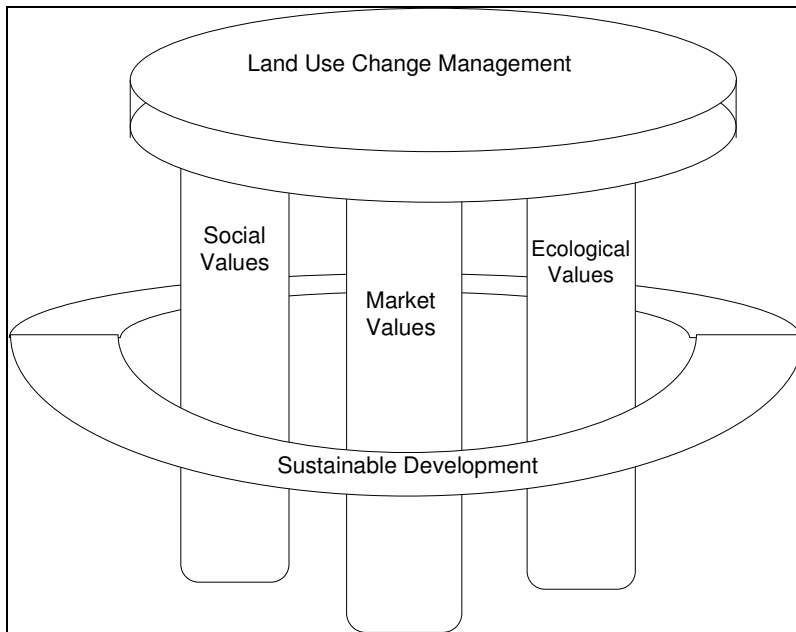


Figure 2.1 Land use change management as a three-legged stool. Source: Kaiser et al., 1995, p. 52.

The conceptualisation of environmental quality by Kaiser et al. (1995) gives a clear, rather USA-based view of some values that play a role in environmental quality, but some elements are missing. Spatial planning is one of those elements. Land use change management incorporates some elements of spatial planning, but spatial planning, and especially spatial planning in the Netherlands, is broader and more comprehensive than land use change management. It does also incorporate creating visions for planning and formulating strategies to achieve those visions. Another missing element in the figure is the justice leg. This leg consists of justice in the broader sense, incorporating laws, but also legal processes and procedures that aim at safeguarding and improving the environmental quality. The environmental quality, as defined by Kaiser et al. (1995) does not incorporate a time-dimension. It does incorporate an all-embracing sustainable development factor in environmental quality, but the exact content of this sustainability element, and its time dimension, is unclear. The missing elements make environmental quality as defined by Kaiser et al. (1995) limited and general.

Currently the Triple Bottom Line is also applied under a different name: 'People, Planet, Profit' (Vanclay, 2002). This concept stems from the private sector and is aimed at 'Socially Justified Entrepreneurship'; this is doing business in a sustainable way. The 'People' element involves the effects for people inside and outside the business. The element 'Planet' implies the consequences for the (living) environment. Profit is the production and the economic effects of goods and services (Ministry of LNV 2007). As said before, the People, Planet, Profit (Triple P) concept is a form of TBL and therefore it is not difficult to see the relation between the elements of the People, Planet, Profit concept and the values of the TBL. The 'People' corresponds to the social values and focuses on people inside and outside the business, 'Planet' corresponds to the ecological values, and market values are represented in the term 'profit'. The People-Planet-Profit approach is widely adopted and used to operationalise sustainable entrepreneurship. This involves "enhancing and balancing a company's financial results (Profit), its social (People) and environmental (Planet) effects. Sustainable entrepreneurship benefits both the business and society. It offers companies opportunities for cost reduction, market development and long-term continuity. At the same time, it opens avenues towards social development and environmental improvement"

(Adapppt, 2007). Triple P is becoming more widely adopted; even the current national policy is based on it (NSC, 2007). It has to be noted that profit is not part of the government's goals. Instead the Dutch government aims for prosperity; a term which could overlap with the people element (Tweede Kamer, 2007).

In this research the environmental quality will be defined based on the values of the TBL and the elements of the People, Planet, Profit concept, and incorporates an economical, a social and an ecological component. It must be noted that environmental quality is used in the broader sense of the word; as stated above it is the 'overall' quality of the environment. It does not explicitly incorporate a sustainability element, like the all-embracing sustainable development factor in the definition of Kaiser et al. (1995) (see figure 2.1). However, developing a project while keeping the Triple P-approach or the TBL in mind can stimulate sustainability. The broader interpretation of environmental quality makes that environment in environmental quality does not directly refer to the quality of the natural environment, environmental hygiene or health. These elements are represented in the ecological component of environmental quality. Table 2.2 displays the aspects, which must be kept in mind when investigating or analysing the case studies.

Environmental quality is:	
-	The 'overall' quality of the environment
-	Broader than just ecological quality
-	Economical values, Social values, and Ecological values

Table 2.2 Important aspects of environmental quality.

2.3 Paradigms and Change

Environmental quality is a difficult thing to conceptualize in relation to infrastructure planning and spatial developments. It could be useful to first explore the relation between infrastructure and spatial development, and the place of private parties in it, using the work of Kuhn. In his famous work *The Structure of Scientific Revolutions* he distinguishes two kinds of science: 'normal science' and 'scientific revolutions' (Kuhn, 1996).

Normal science is, according to Kuhn, the solving of scientific puzzles within a theoretical framework. Kuhn calls these theoretical frameworks paradigms. A paradigm consists of four elements (Van den Bersselaer, 2003, p.232):

- the compilation of terms, theories, hypotheses, and, especially in the exact sciences, laws. In the field of infrastructure planning the existing paradigm centres around the government as the dominant actor and the market as obeying.
- the metaphysics of an object; these are the assumptions which form the foundations of the object. The assumption behind the government as dominant actor is that the governmental control of infrastructure projects ensures the provision of infrastructure of good quality.
- the shared/communal values; examples are consistency, truthfulness, simplicity, and accurateness. Government-dominated infrastructure planning is founded on a fair distribution of infrastructure, human control over the environment and hierarchical steering.
- the experience with the current paradigm; basic knowledge and experiences in the form of tacit knowledge. The government is experienced in the planning process of infrastructure. It has made rules and set up organisations like the ministry of VW to control the process. In these organisations and institutions a lot of tacit knowledge circulates. The experience with the current approach to infrastructure is that the approach is not completely fit for fulfilling the needs of the current society.

Solving the puzzle within the framework would confirm its validity. If the puzzle cannot be solved, different methods are applied, different researchers give a try, and everything is done in order to maintain the theoretical framework.

Scientific revolutions are the second type of science distinguished by Kuhn. Through scientific revolutions the shortcomings of the existing paradigm are confirmed; new paradigms have to be set. Kuhn calls this a paradigm shift. In order to come to such a paradigm shift, one needs to look at the facts from a different perspective; a so-called Gestalt-switch is required (Van den Bersselaer, 2003). This Gestalt-switch is triggered by anomalies, the unsolvable puzzles, in the paradigm. In the case of the traditional infrastructure paradigm, as discussed above, the anomalies could be the time and cost overruns and the lack of quality in infrastructure planning. One or more actors involved in the infrastructure planning make a Gestalt-switch and realise themselves that infrastructure planning can be approached differently. This new approach or new paradigm could mean involving private parties in the infrastructure planning process and could look like this:

- the key terms will be the changed relation between private parties and the government, from public steering towards market functioning (see paragraph 2.4).
- the metaphysics of the object, the private parties, is that they are more actively involved in infrastructure planning.
- the relevant values are environmental quality, efficiency and project management.
- the experience at this moment is lacking; but the increase of knowledge when involving private parties and the business profit private parties can make when involved, could lead to infrastructure projects of a higher environmental quality and infrastructure projects that are kept better under control in terms of timeframe and budget.

The characteristics of a new paradigm, in relation to the old one, are that the anomalies, which could not be solved by the old paradigm, are explained by the new paradigm. Other characteristics include that anomalies cannot invalidate the old paradigm as long as the new paradigm is not formulated, and that the paradigms are incompatible; an actor can only support one paradigm at a time, because they exclude each other. This last characteristic has some interesting consequences if related to infrastructure. It means the government cannot be involving private parties in infrastructure planning (the new paradigm) without losing a certain amount of power and control (the old paradigm).

This last characteristic is disputed by Lakatos. He states that paradigms can exist next to each other because paradigms are not equal and, therefore not incomparable. His basic thought is that theories and paradigms are not falsified by anomalies, but are replaced when a new theory emerges, which has a greater reach and a greater explanatory power. This explains the fact that two theories can exist next to each other: it takes a while before the greater reach and explanatory power has been confirmed in the empery. This indicates that early private involvement in infrastructure planning cannot be realised overnight. The old paradigm of governmental control will still play a role for quite some time, until all involved actors are convinced of the new paradigm advantages (Lakatos and Musgrave, 1970).

The role of empirical confirmation in Lakatos' understanding of science is subject to discussion. According to the rather pragmatic vision of Latour (1988), confirmation is just a matter of power to convince. In short: if you convince others your theory is right, you are right. In the case of the government control of infrastructure versus private party control, it is difficult to convince others that e.g. involvement of private parties is crucial for the quality of infrastructure planning. One first needs to change the institutional structure, giving private

parties the chance to get involved, before the results can be used to prove changing the institutional structure was the right thing to do in terms of an improving the environmental quality of the infrastructure projects. This view corresponds with Rorty's account of the relation between natural science and the rest of culture. He regards knowledge not "as a matter of getting reality right, but rather as a matter of acquiring habits of action for coping with reality" (1991, p.1). Table 2.3 displays an overview of the interesting features of this paragraph, features that could deserve a further investigation in this study.

Paradigm	Traditional Infrastructure Planning	Proposed New Approach
Key terms:	<ul style="list-style-type: none"> - Government is dominant; market has to obey - Public steering 	<ul style="list-style-type: none"> - Government facilitates; room for market initiatives - Market functioning
Metaphysics of object:	<ul style="list-style-type: none"> - Governmental control 	<ul style="list-style-type: none"> - Actively involved private parties
Relevant values:	<ul style="list-style-type: none"> - Hierarchical steering - Fair Distribution 	<ul style="list-style-type: none"> - Environmental quality - Efficiency - Sound project management
Experience:	<ul style="list-style-type: none"> - Approach is not fit for current society 	<ul style="list-style-type: none"> - Lacking

Table 2.3 Important aspects of paradigms and change.

2.4 Institutional and procedural change

The question remains whether the concepts to provide a base for achieving a greater environmental quality – a better balance between the economical, social and ecological values – can be successful. Successful approaches are highly needed in current infrastructure planning, because current infrastructure projects experience many problems. Current approaches are "largely incapable of dealing with the decentred fragmented and discontinuous worlds of multiple space-times, of multiple connections and disconnection [...] within the contemporary urban world" (Graham and Marvin, 2001, p.215). According to Flyvbjerg, "many [infrastructure] projects have strikingly poor performance records in terms of economy, environment and public support" (Flyvbjerg, 2003b, p.3). However, more and more projects are being proposed throughout the world. This is what Flyvbjerg calls the 'Performance Paradox'. Although Flyvbjerg addressed the problems in the planning of mega projects, it can be justified that his identified problems play a role in 'regular' infrastructure projects as well. These problems occur at every level of the TBL; at all three bottom lines.

Regarding the economical bottom line, cost overruns and lower-than-predicted income make the infrastructure planning process become unstable. Furthermore, they can fuel a discussion whether governmental investments could be better made in other sectors. Infrastructure projects face problems regarding cost-estimation procedures and institutional arrangements control costs (Flyvbjerg, 2003b, p.21). Other economic effects include exaggerated economic growth claims. According to Flyvbjerg, there are good theoretical and empirical reasons for approaching such claims with caution" (ibid., p.65).

The effects for the social bottom line are a diminished role for civil society, a lack of transparency, avoidance of good governance and violated practices in political and administrative decision-making. This causes projects to become "draped in a politics of mistrust" (ibid., p.5).

Furthermore, Flyvbjerg (2003b, p.4) states: "environmental problems that are not taken into account during project preparation tend to surface during construction and operations; and such problems often destabilize habitats, communities and mega projects themselves, if not dealt with carefully. Moreover, positive regional development effects, typically much touted by project promoters to gain political acceptance for their projects, repeatedly turn out to be non-measurable, insignificant or even negative".

Considering the above, a change in paradigm from government control to market functioning and private involvement could prove to be a solution. However, if this claim is correct is unclear, and can only be proven by performing the institutional change. It could prove to be difficult to find the ideal compromise between the two (extreme) paradigms. Van der Heijden has (implicitly) described the paradigm shift as a shift from a classical approach to a future approach in infrastructure planning (Van der Heijden, 1996). The outcomes of his study give a clear view of what has to be changed in the infrastructure planning approach according to his findings. The table in table 2.4 gives an overview of his proposed changes.

	From: Classical approach	To: Future approach
Problem definition	<ul style="list-style-type: none"> • Technical criteria • Limiting and focusing • Project view 	<ul style="list-style-type: none"> • Societal needs and preferences • Outscoping • Systems view
Problem solving	<ul style="list-style-type: none"> • Optimising 	<ul style="list-style-type: none"> • Satisfying
Research	<ul style="list-style-type: none"> • Finding the best technical solution • Quantitative tools • Elimination of uncertainties • Meeting scientific standards 	<ul style="list-style-type: none"> • Finding a solution with maximum support • Qualitative tools • Make uncertainties explicit and manageable • Seek acceptance in process
Decision making	<ul style="list-style-type: none"> • Top-down • Hierarchical 	<ul style="list-style-type: none"> • Network interdependencies • Autonomous behaviour
Parties	<ul style="list-style-type: none"> • Loyalty at lower level 	<ul style="list-style-type: none"> • Co-makship
Process	<ul style="list-style-type: none"> • Transparent • Logical sequence • Fixed frame of reference 	<ul style="list-style-type: none"> • Non-transparent • Unpredictable progress • Changing frame of reference
Information	<ul style="list-style-type: none"> • Content-related information always functional • Accumulation of knowledge • Integral dissemination at any moment 	<ul style="list-style-type: none"> • Information is content and process related • Negotiated knowledge • Seeking policy windows for selective dissemination
Role of expert	<ul style="list-style-type: none"> • Technocratic advisor 	<ul style="list-style-type: none"> • Process manager

Table 2.4 Changing the approach to infrastructure planning. Source: Van der Heijden, 1996, p.23.

Van der Heijden's proposed changes are extensive, but mainly focus on the project-management side of infrastructure planning. His findings can be typicalised by a transition from 'hedging' as in the classical approach to 'flexing', the future approach (Collingridge, 1983). Hedging means setting clear boundaries, formulating strict rules and trying to eliminate all risks and uncertainties, whereas flexing has to do with creating flexibility, creating room to work in without strict rules and boundaries and coping with risks and uncertainties.

As said before, the work of Van der Heijden mainly focuses on project management, while in the transition to a new approach other elements also play a role. These elements are for example financial and budget aspects, timing, and quality. In the light of this study, especially this last aspect is interesting. Table 2.4 gives a clear outline of the desired change in planning, but it is still unclear how these changes could become reality. Especially in the first stages (the reconnaissance and plan-making phase of infrastructure projects) the change in the role of the involved parties should be further investigated. According to Teisman (2001a), the roles of the government and private parties in spatial (development) projects are one-sided. The government is the dominant party and the private sector carries the development out according to the strict rules of the government. If private parties would be more involved

in the planning of infrastructure projects (in combination with spatial development) these roles should change. Private parties should be playing a more active and initiating role, developing own concepts and product ideas. Teisman (2001a, p.7) states that such a procedural change can be achieved combining three kinds of processes:

- processes of public steering that determine how public parties place themselves with respect to spatial development.
- processes of market functioning that determine how private parties are situated with respect to spatial development. These processes determine for example the stage in the planning process in which private parties get involved.
- processes of spatial development itself, where the parties determine in an interactive way how the available space will be transformed.

If the processes are combined, that means the role of the public parties, the role of the private parties and the way in which spatial development is taking place is combined, the new set-up for infrastructure planning will emerge. This set-up can take different forms, the following concepts for organisational structures are recognized (Ike, 2000, p.277):

- market model: the policy area consists of independent actors, who form markets on the basis of doing business with each other.
- bottom-up model: steering occurs from the bottom through local actors. This approach has many similarities with the market model.
- top-down model: the government as an integral organisation stands on top of the model. Co-ordination is the common tool to achieve harmony between the different parts of the organisation.
- network model: a dynamic, varied set of actors. These actors are which are mutually dependable and relatively closed in their attitude towards each other (De Bruijn and Ten Heuvelhof, 1999). Private actors can also try to steer and influence the government towards a certain direction (De Bruijn and Ten Heuvelhof, 1991). In a network-model, the government is not the only actor who steers.

Especially the last model seems interesting to discuss further, since it involves a more flexible approach with possibilities for private parties to be actively involved, while actors are dependant on each other. The findings of this paragraph are schematically summarized in table 2.5.

Infrastructure planning is in need of a changed approach:	
-	Transition from 'hedging' to 'flexing', see table 2.4
-	Combining public steering, market functioning and spatial developments
-	Towards a more flexible network model

Table 2.5 Important aspects of a changed approach to infrastructure planning.

2.5 Networks

As said before, a network can be described as a dynamic, varied set of actors. These actors are mutually dependable and relatively closed in their attitude towards each other (De Bruijn and Ten Heuvelhof, 1999). The central assumption of the network approach is that actors, confronted with complex problems, depend on other actors to achieve their goals. The resources (money, power, expertise) from other parties are needed to make own goals reality. Because of these dependencies, networks will be created over time.

Different types of networks can be formed. Traditional Dutch infrastructure planning can be describes as, what Nootboom calls, a power network. A power network is the existing

hierarchical leadership that has power over the short-term use of resources, which includes making public statements about (un)desirable developments, creating new expectations of their own conduct and reward (Nooteboom, 2006, p.217). In case of the power network planning, the government determines the rules, guides the development of new projects, and provides the budget. All other involved actors have own agenda with own objectives. This makes it hard to involve other actors in the planning process and come to a combined, multi-actor infrastructure planning. Every actor has a fixed position and these fixed positions make the inter-organisational interaction fruitless. As a result, the planning of infrastructure is aimed at the short-term fulfilment of needs. This short-term vision causes problems in the later phases of infrastructure planning, the construction and maintenance. Such problems could be roads that are not functioning well, or are very expensive to maintain.

As mentioned in paragraph 1.1, the infrastructure world is in need of an institutional change. The emergence of the network society has made that the decision-making process, once dominated by the government, is more and more being performed in horizontal networks. These networks consist of private and public parties, and cross through territorial boundaries and are base on informal contacts. The emergence of the network society has caused a growing complexity in spatial issues (Teisman, 2001b).

This institutional change would involve that current infrastructure planning, which could be described as a power network, changed by incorporating private parties. From a power network, infrastructure planning would move more towards an adaptive network, as described by Nooteboom (2006). Adaptive networks are groups of policy makers having influence and knowledge in different parts of society, aiming for co-evolution of ideas. Adaptive networks aim at changing the policy agenda. In contrast to power networks, adaptive networks lack the ability and the power to set their own agendas and develop own policy. They can be seen as progressive groups consisting of members from different organisations, which aim at generating long-term, sustainable solutions. Power networks aim for solving problems short-term. This has to do with the fact that members of power networks are usually members of the government and for reasons of electoral success aim for the best solutions at the short-term.

Power networks and adaptive networks are in a close relation with each other. Adaptive networks depend on power networks for their power to enforce and implement the agenda. Power networks rely on adaptive networks for continuity. Without adaptive networks, the power networks could lose their grip on reality and lose power. Nooteboom has placed the two types of networks in a model, see figure 2.2. This model could provide the basis for understanding the needed institutional change in infrastructure planning.

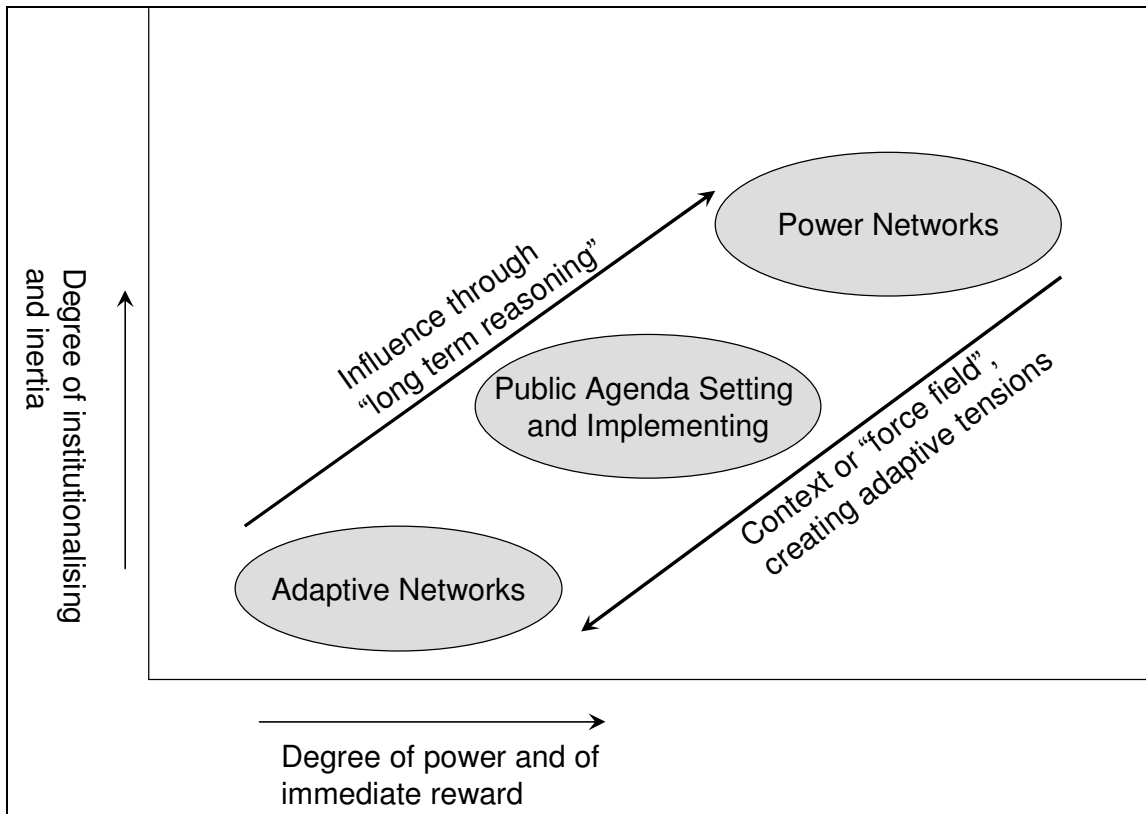


Figure 2.2 Adaptive networks and power networks. Source: Nooteboom, 2006, p.19.

Rules and procedures prevent the power network from approaching problems in a flexible way. But the context can force the power network to be more flexible, the arrow pointing down illustrates this. In the field of infrastructure planning this is occurring at this moment. The market asks for more subtle, flexible and diverse approaches to infrastructure planning. Adaptive networks can provide these approaches, because of their low degree of institutionalisation. It can create “better conditions for checks and balances than government-centred planning, with its authoritarian, hierarchical, and inflexible procedures. A process in which no coalition has the power to exclude actors who hold different beliefs may not always create consensus, but it is more likely to evoke creativity” (Wolsink, 2003, p.719). The arrow pointing upwards represents the time factor, where adaptive networks try to influence power networks through long-term reasoning, as explained above.

This figure illustrates the powerful and institutionalised position of power networks. The degree of institutionalisation relates with the degree of inertia. The two extremes of institutionalisation, total chaos (e.g. war) and total control (e.g. dictatorship) can be described as power networks. In between the two extremes adaptive networks can play a role, and adaptive approaches to planning can prove to be successful.

The change from power to adaptive management has some clear implications for the procedures in infrastructure planning. Traditionally the planning process is carried out in series. The procedures are carried out one-at-a-time. An institutional change into an adaptive network, involving the market in the earlier stages, would require procedures to be carried out parallel and intertwined (see figure 2.3). A more detailed description of the different phases in the Dutch infrastructure planning process can be found in chapter four, where also the process of intertwining the procedures is explained in more detail (see paragraph 4.4).

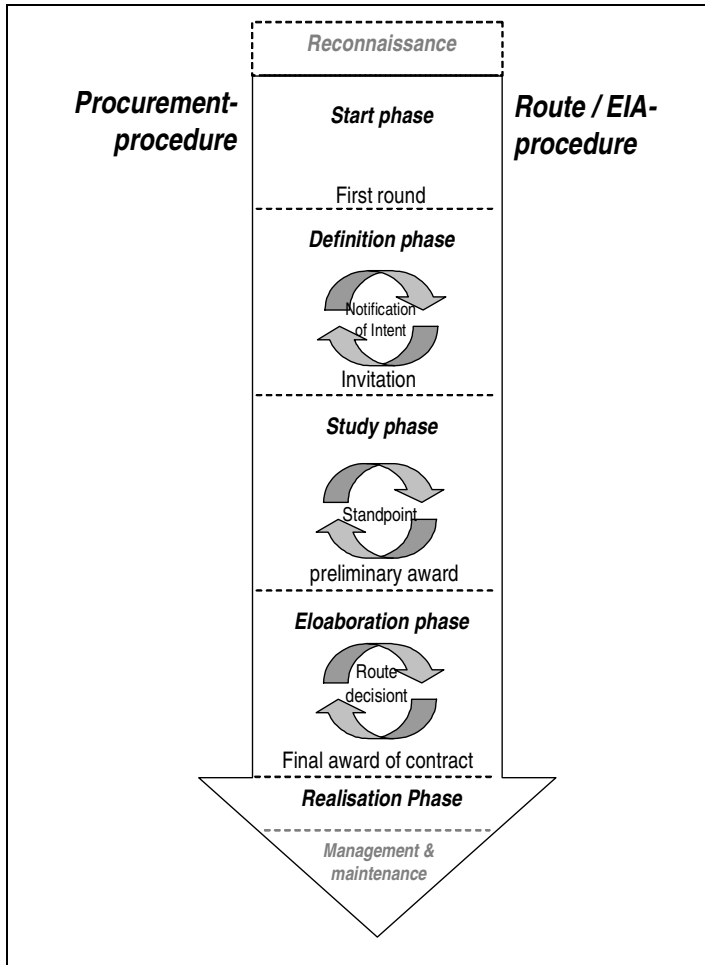


Figure 2.3 Process of intertwining procurement and route determination/EIA procedures. Source: Arts, Nijsten, and Sandee, 2006

It must be noted that the responsible government can also decide not to involve private parties in the first phases of infrastructure planning. A reasonable argument for doing this is that the government wants to control the planning process completely, because of its urgency to society. Other reasons could be that the project is not suitable for private involvement and that private parties are not interested to join-in. Table 2.6 summarizes the most important aspects discussed in this paragraph.

	Power Network	Adaptive Network
Aim	Short-term	Long-term
Cooperation	Own agendas	Combined agenda
Flexibility	'Caught' in institutional structure	Flexible

Table 2.6 Important aspects of networks.

2.6 Participation and Partnerships

The Netherlands has always had an image of a land of collaborative planning; the international well-known 'Polder model' illustrates this. However, "in practice that process is mainly limited to consensus building between governmental agencies and authorities on various levels. (...) The reduction of collaborative planning to mere communicative planning directed at consensus is characteristic of the Netherlands, and is structurally anchored in the

Dutch context (Voogd and Woltjer, 1999)” (Wolsink, 2003, p.719). It seems that this is about to change: current society is getting more and more active in the process of plan-making.

Governance is an example of such involvement and currently a popular term in spatial planning. Three forms of governance can be distinguished (Martens, 2007):

- Governance through co-ordination. The co-ordinative model has its foundations in rationality, bureaucracy and systems theory. In the model, the governing body is positioned above the governed and has the task to steer society for the good of the governed. The role of actors other than governmental bodies is limited. At worst, they are perceived as objects that have to be steered. At best, they are considered to be suppliers of information to the governing body and as loyal followers of rules and policies of the government.
- Governance through competition. This model is based on political theory, market economy and the pluralist model of democracy. Actors set goals and formulate policies independent from each other and try to achieve them through power struggles with competitors. The key mode that moves governance forward is the power resources of an actor: the ability to convince others of the benefits of its policies, the ability to pressure others to accept its intentions and the ability to overcome (nimby-ist) protests. Cooperation with other actors will only occur if it suits both sides.
- Governance through argumentation. The inspiration for this model stems from the large body of literature on communicative planning and deliberative forms of democracy. Its main thought is that governance should be a process of argumentation between all involved stakeholders. It is ‘inclusionary argumentation’: public reasoning, which accepts the contributions of all members of a political community and recognises the ways they have of knowing, valuing and giving meaning. The ideal process of governance is devoid of all plays of power and solely dominated by the force of the good argument. The existing political institutions and bureaucratic apparatus are incapable of defining the public interest. The public interest is not pre-given but can only be constructed through a process of argumentation between stakeholders, resulting in the reconstruction of private or partial interests into publicly defensible norms. The collective of stakeholders defines the public or shared interests, sets policies and programmes, and in principle even determines which role each of the stakeholders will fulfil in the implementation of the policies. The roles of various actors in governance processes are thus the result, rather than the starting point, of the argumentative debate.

The applied model of governance is related to the degree of citizen participation. This participation is visualised by Arnstein in her ‘ladder of participation’, see figure 2.4. Over the years, governance has evolved. From incorporating consultation rounds in spatial planning procedures (rung 4 in figure 2.4), the attention has shifted towards partnerships (rung 6 in figure 2.4). Popular partnerships are Public-Private Partnerships (PPP), involving a combination of a public and a private party. They do not necessarily increase the public participation, but are more aimed at involving private awareness, resulting in an increase of investments of private funds. In infrastructure planning, private party investments and private involvement are a hot topic. Ministry of Finance has created a taskforce in February 2005, which aims at increasing the number and the quality of PPP-projects (Ministry of VW, 2007j) (see paragraph 4.4), and installed a commission in September 2007 to look for private financing of infrastructure projects (Ministry of VW, 2007b).

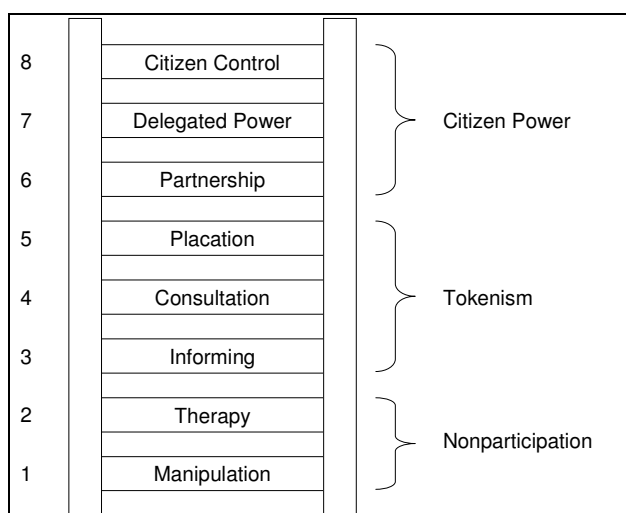


Figure 2.4 Eight rungs on the ladder of citizen participation. Source: Arnstein, 1969, p.217

Besides the initiatives of the government, the private sector is also searching for partnerships. In this respect, multiple usage of land (in Dutch: “meervoudig ruimtegebruik”) is popular. “Initiatives for multiple usage of land originate from the private sector” (Teisman, 2001a, introduction). The search for multiple usage of land by the private sector is triggered by the shortage of land available for urban development. This causes claims and tensions, which can also be found in the infrastructure planning process. These claims can lead to conflicts, because in infrastructure planning “conflicts and tensions between public and private goals clearly exist” (Marvin and Guy, 1997, p.2034). The national government has acknowledged the importance of multiple usage of land and is now looking for ways to make the concept reality. However, this topic is an example of an area of expertise in which “one may expect a powerful and creative role for the private parties” (Teisman, 2001a, introduction).

Dealing with multiple claims “requires the ability for private parties to form partnerships” (Teisman, 2001a, introduction). In infrastructure planning, these partnerships can be found within the own organisation, contractors are generally part of big consortia of companies, or between companies. When applying early private involvement, the parties have to form a process-wide consortium, which means that parties, specialised in different planning phases, are incorporated. The importance of the role of consortia is becoming greater because the national government is focussing more and more on her main tasks and is leaving other tasks to other parties, including the market. An examples of this is apparent in the railroad sector in the Netherlands: the privatisation of the national railway company Nederlandse Spoorwegen (NS) in 1992, responsible for the exploitation of the railroad network, and the assignment of the national railroad maintenance and control to ProRail (formerly: Railned, Railinfrabeheer and Railverkeersleiding) in 1995 (NS, 2007; ProRail, 2007).

The road infrastructure sector also experiences this step-back of the national government, which opens up opportunities for market parties. The executive branch of the ministry of VW, the Department of Public Works and Water Management (in Dutch: Rijkswaterstaat, RWS), aims at delegating tasks to the market, if the market can perform these tasks just as good, or better. This involves a tremendous change in the thinking of RWS and implies a changing role, from a dominating infrastructure provider, solely responsible for every step in the infrastructure process, to a professional ‘bidding’ party, which functions as a director, co-ordinator and buyer of products, knowledge and skills of the market (Rijkswaterstaat, 2007i). It marks a change of the attitude of the national government towards infrastructure, a change

from the role of infrastructure provider to the role of a dynamic traffic manager, aimed at bringing flexibility of use of the infrastructure.

A consequence of the changed policy is that the importance of the market parties in the provision of infrastructure is growing and new, more flexible, partnerships and networks can be formed (see paragraph 2.4 and 2.5). The network approach to planning could prove to be useful in this respect. In this approach, actors have to work together in order to come up with shared solutions. The relations necessary in this approach are not formed spontaneous; a certain degree of relation management is required (Klijn and Koppenjan, 2004). So if the national government wishes to delegate tasks and responsibilities to other parties (including the market), it should focus on relation management: improving the relations between actors. Table 2.7 summarizes this paragraph by providing its main elements.

Forms of (early) Governance:	
Co-ordination	Traditional approach to planning
Competition	Competition in plan-making
Argumentation	Communicative planning: relation management, public reasoning
The governance model influences the way the government – market relation is given shape.	

Table 2.7 Important aspects of participation and partnerships.

2.7 Conclusions

The research aims at providing new approaches to infrastructure planning. These new approaches are necessary to guarantee projects that have a good environmental quality and do address the need to guarantee a sustainable future. It must be noted that sustainability and environmental quality are terms difficult to operationalise. Sustainability is interdependent with development and cannot be realized autonomously. Environmental quality is the 'overall' quality of the environment, consisting of economical, social and ecological values. To be able to ensure a high environmental quality and keep the sustainability in mind, infrastructure projects should be approached differently. The new approach should incorporate a changed market-government relationship, since this is a key concept in a new planning paradigm.

In the new approach, the government should facilitate, leaving room for market initiatives. It should combine public steering, market functioning and spatial developments in a way that a transition from 'hedging' to 'flexing' can be made. The new approach could be modelled in the form of a network. To ensure flexibility and create the long-term vision required for realising sustainability and environmental quality, adaptive networks could prove to be the solution. This type of networks is based on engaging informal relations and managing these relations ('contacts before contracts'), in order to come to a shared problem definition and a subsequent approach. The element of spatial development could be crucial to the success of the new approach. This new approach could result in public-private partnerships that do not develop separate infrastructure projects, but develop the infrastructure as just one element of a plan for a whole area.

However, up until now it is unclear how the new approach to infrastructure planning could be made reality. It is unclear how the relation between the government and the market could be shaped effectively. Also, the right way of incorporating spatial development elements in infrastructure planning projects still has to be found. To explore these aspects this research is carried out; in the next chapter its methodology will be made clear.

Study design

Investigating infrastructure projects

3

In this chapter, the operationalisation of the research questions and the formulation of the hypotheses will be given. Following the hypothesis, conceptual models will be provided in order to classify infrastructure projects, to clarify the relation between infrastructure and spatial development and to make the role of the involved stakeholders clear. These models will be used to be able to answer the research questions. Afterwards, the relevant terms will be further defined. A description of the approach used in the case studies will conclude this chapter.

3.1 Operationalisation and Hypothesis

In this paragraph the (sub) research questions will be further operationalised by providing the methods, which will be used to answer the research question. In general, the research questions will be answered by investigating four case studies (see paragraph 3.6 and chapter 5) through interviews and an expert meeting. This paragraph will also provide hypotheses for the research questions.

Research Question 1 and 2:

- 1 What is the position of private and public parties in current infrastructure planning?
- 2 What are the possibilities to involve stakeholders in the earlier stages of infrastructure projects?

Question 1 and 2 will be investigated together, because the current position of actors in infrastructure planning is clearly related with the possibilities to change this position by involving stakeholders in an earlier stage. These questions will be answered by looking at the role of private parties in different projects. In order to make these roles clear, the models in figures 3.2 and 3.3 are used. Furthermore, the current Dutch policy for infrastructure planning will be given in chapter four. This enables the positioning of the public and private parties and the other stakeholders in Dutch infrastructure planning. The role and position of the private and public parties will be investigated in four case studies (see paragraph 3.6).

Research Questions 3, 4 and 5:

- 3 What triggers private parties to get involved in the earlier stages of infrastructure planning?
- 4 What are the experiences of involving private parties in plan-making?
- 5 What are the problems and limitations if private parties are introduced in an earlier stage of the planning process of infrastructure projects?

To be able to answer these questions, private parties are interviewed that are involved in the case study projects. Several companies from different categories should be interviewed to make the experiences clear; such companies could be: contractors, consortia, development agencies, and real estate companies. The governmental agencies and responsible project boards should not be overlooked and be interviewed as well. Aspects of the projects that are further investigated are the perspective, the adaptiveness, the governance, the integrality and the environmental quality.

Research Question 6 and 7:

- 6 What solutions and recommendations for safeguarding the environmental quality in road infrastructure projects can be formulated?
- 7 What is the influence of early private involvement in infrastructure planning with regard to realising a good environmental quality in infrastructure projects?

Question six will focus specifically at the role of the government and its task to safeguard the environmental quality. An important aspect regarding this question is the profit the government could make if private parties are involved. This question will investigate what triggers the government to involve private parties, and if they do, how this involvement should be shaped from the (environmental) quality point-of-view. A part of this is the judgment of the private involvement initiatives that are currently undertaken to stimulate private involvement. Question seven will be answered by looking at different ways of involving private parties, different ways of setting up the plan-making phase and formulate recommendations for successful private involvement while safeguarding environmental quality.

Main Research Question:

What are the consequences for the environmental quality, if spatial development is added to, and private parties become actively involved in the earlier stages of road infrastructure projects?

By investigating the research questions one to seven, as described above, the main research questions can be answered. For now, only a hypothesis can be given.

Early private involvement can be of extra value to infrastructure planning. A precondition for this involvement is the combination of infrastructure development with spatial development. Care should be taken that goals are clearly set in the reconnaissance phase, in cooperation with these private parties. Adaptive networks can provide the right opportunities to do so. The plan-making phase is more in need of a hierarchical approach in order to keep projects on track. Power networks can provide this co-ordination and enforcement. Environmental quality might be assured by incorporating adaptive concepts that provide enough flexibility to make use of spatial development possibilities, while keeping ecological and social impacts under control.

To make the research questions more concrete and to establish the connection between the questions and the empty, models can be used. The models conceptualise the terms provided in the research questions, and are discussed in paragraph 3.2 to 3.4.

3.2 Characterisation of projects and involved stakeholders

The role of the parties in the projects and the characterisation of the projects itself can be characterised using the model in figure 3.1. This figure focuses on the planning process and the involvement of different actors in the different phases.

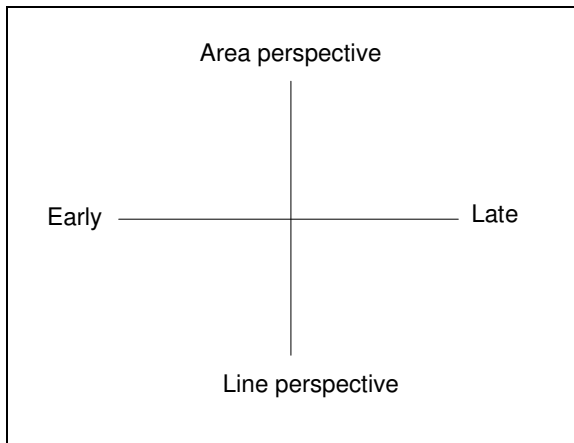


Figure 3.1 Conceptual model to classify projects and the role of stakeholders.

The x-axis displays a timeframe, corresponding with the planning process. The early planning phases include the first phases of the MIT planning process, the reconnaissance phase and the plan-making phase. The later planning phases include the activities in the realisation and maintenance phase (for a more detailed description of the MIT planning process, see paragraph 4.2). The x-axis could also be associated with (un)certainty and (in)flexibility. In the earlier phases of the decision-making process the certainty is low (left end of the axis); the stakeholders do not know exactly where the planning process will lead them. The flexibility at this stage is high; no possible solutions are excluded, all options are still open. In this stage it is possible to approach parties on a non-committing level. The exact parties involved in the planning process are not yet determined at this stage of the planning process. The adaptive approach could be more suitable for the early phases of planning, where all options are still open. In these phases the will-shaping process is important, in order to compare the individual goals and eventually formulate common goals and divide responsibilities. Market parties could be involved in this stage in order to create a clear basis before continuing the infrastructure planning process.

In the later stages of the planning process, at the right end of the axis, the certainty is high and the flexibility is low, because the project has taken shape and choices have been made. Considering this, it could be argued that hierarchical approaches, like procurement, to take place at the end of the x-axis, late in the planning process. It could be argued that procurement and tendering, often typicalised as market approaches, are not real market approaches in the sense that the market is only involved after the decisions have been made and the plans have been worked out. The market parties do not have the ability to control the process of tendering and procurement.

This research focuses on the early stages of the planning process, because in these stages there is more freedom to come up with new ideas, and therefore the possibilities to improve the environmental quality could be greater. However, the early stages in Dutch infrastructure planning are still caught in a hierarchical form or a power network, where adaptive planning approaches seem more relevant.

The y-axis represents a spectrum from a line perspective to an area perspective in planning. The line perspective can be associated with infrastructure planning, aimed at creating or maintaining a road. The area perspective is resembled in spatial planning, where the infrastructure and its surroundings make up the scope of the planned object. In the middle of the axis, the corridor perspective could be placed. A corridor is broader than a line, since it includes the area around the line, but narrower than a region, because only the area around entry and exit points is included (Rienstra et al., 1994).

3.3 Characterisation of the relation between infrastructure and spatial planning

The model in figure 3.2 visualises four stages of the integration of spatial planning and infrastructure planning.

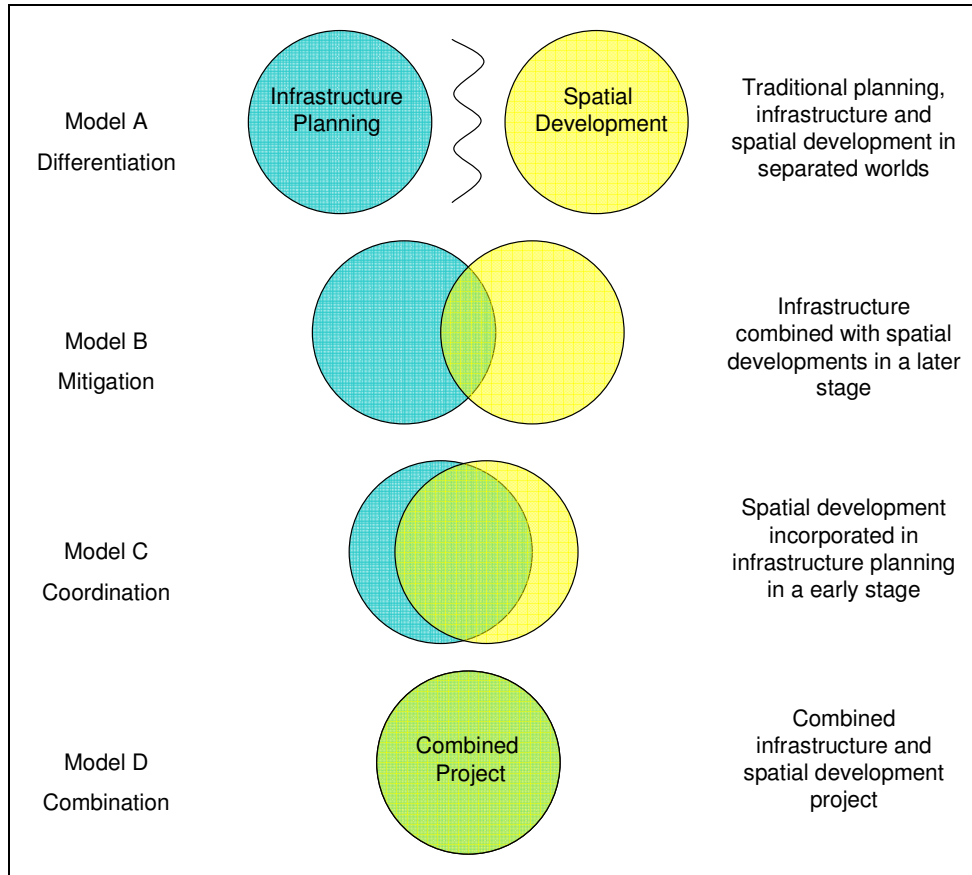


Figure 3.2 Visualising the relation between infrastructure and spatial planning. Based on a model by Leendertse.

Model A represents the traditional infrastructure planning in relation to spatial development. The two sectors live in separate worlds, and those worlds are strictly separated by rules and regulations. This model can also be classified as a thinking pattern; a remnant from the classic top-down planning approach used in the early twentieth century. Model B gives a second schematic view of the relation between infrastructure planning and spatial development. Here, infrastructure projects are developed without looking at the possibilities of spatial development, but in the last phase of the plan-making stage, the infrastructure is fitted into the direct environment. This fitting in is especially performed from an aesthetic (landscaping), ecological (environmental legislation) and social (health) point-of-view. An example of this fitting in could be the Routeontwerp-initiative. This initiative aims at introducing a set of basic rules for adjusting the roads to the area they cross. Model C is a further incorporation of spatial development in infrastructure planning. Spatial development is brought in the infrastructure project at an early stage. The consequences of such a spatial development element in infrastructure planning are discussed in chapter four. This involvement happens before the realisation phase, because the two worlds are connected to a certain extent. This model can also be classified as corridor development, as spatial initiatives are connected to the infrastructure project. Model D represents the ultimate

combination of infrastructure planning and spatial development, a combined project. In case of a model D project, infrastructure planning *an sich* is not being performed. The linear perspective of infrastructure planning is gone; the scope of the project is a whole area, including its infrastructure. Model D is in line with the area-perspective of the Long-range Program for Infrastructure, Spatial Planning and Transport (in Dutch: Meerjarenprogramma Infrastructuur, Ruimte en Transport, MIRT), which aims at formulating a planning agenda for an area as a whole.

Eventually, the degree to which spatial developments are involved in infrastructure planning determines the choice of model. A project can, for example, start out investigating the possibilities to become a Model C-project, but later turn out to be a Model A-project. So over time a project can change its appearance. This has to do with the availability of the possibilities for incorporating spatial development. Therefore, one of the goals of this research is to investigate what the key variables are for choosing a certain approach.

3.4 Characterisation of private involvement

The objective of this research is to explore the consequences for the environmental quality if private parties are involved. This study will not investigate legal consequences or legal possibilities. Instead, the focus will be on the role of public and private parties in a more flexible and broadened infrastructure planning. First, the different roles private parties can play are examined in closer detail. An overview of the different roles market parties can possible play, and the timing of their involvement, is given in figure 3.3. The models displayed in this figure correspond with the models displayed figure 3.2.

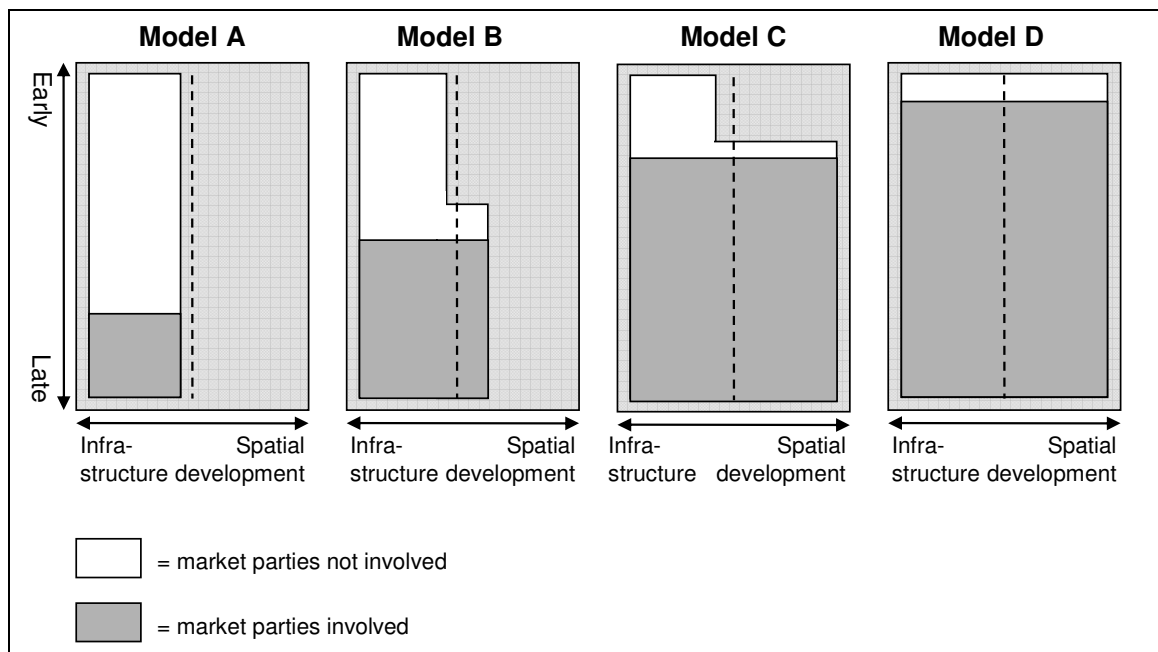


Figure 3.3 Possible roles of market parties in different types of projects.

Model A displays the classical approach to infrastructure planning. The private parties only play a role in the later stages of the infrastructure planning process, and are limited to a role in construction or maintenance. To make the infrastructure projects more feasible and relevant, private parties could be involved in an earlier stage of the planning process. This earlier stage consists of the reconnaissance and plan-making phases. Private parties would then be involved in infrastructure plan-making and implementation. The other three options

for involvement of private parties involve a spatial development element. In order for private parties to make profit, spatial development could be introduced to infrastructure project. In Model B private parties are only involved in the later stages of both the infrastructure and the projected (urban) developments. In these stages the mitigation takes place. However, market parties become earlier involved than in model A. Model C displays an infrastructure project in which spatial development possibilities are taken into account at a later stage. Private involvement in this model is not limited as regard the spatial development. However, market parties are not involved from the beginning. The government still performs the reconnaissance phase by itself. The last model in figure 3.3, model D displays a combined project. Private parties are involved from the first phase. The project combines infrastructure development with spatial development and both elements are part of the scope from the beginning.

3.5 Definition of terms

To make the study design of this research more clear, some terms should be further operationalised. These terms are infrastructure projects, the phases in the infrastructure planning process, spatial development, and combined projects. In order to complete the operationalisation, environmental quality should also be defined in more detail.

Infrastructure projects

The infrastructure projects, which will be examined, do all incorporate new forms of tendering in the earlier phases of the planning. Because the results need to be applicable in present-day society, only infrastructure projects that are currently in the process of being planned are selected. The projects all involve the construction of new road infrastructure, or the upgrading/expansion of existing road infrastructure. To limit the scope considerably, only big projects will be regarded. In this context, big means an interlocal road connection. In the Netherlands, these connections are the national highways (A-roads). The projects will preferably be a part of the Long Range Programme for Infrastructure and Transport (MIT). These programs consist of a selection of infrastructure projects, which will have a great, national impact, and are therefore considered to be important for the Dutch economy.

Spatial Development

Spatial development is a broad term. In this research spatial development includes the development of an area, which is crossed by an infrastructure project as defined above. The development could include all kind of functions. Residences combined with nature development and offices in combination with recreational areas; several combinations could be attractive for a private party to develop.

The chosen cases (see paragraph 3.6) have different spatial settings. Urban projects, like the Schiphol-Amsterdam-Almere case, could have different possibilities for spatial development. Especially urban expansion sites and business districts can provide possibilities here. A more rural project, like the PMZ case, provides some clear opportunities to combine an infrastructure project with nature development and water initiatives. The urban-rural contrast will be addressed in this study, although it is not its main focus.

Phases in the infrastructure planning process

Infrastructure planning can be divided into different phases. Such divisions can be made in different ways, but in this research the division as used in MIT-projects is used. In MIT-projects, the phases are formulated as follows:

- 1 reconnaissance phase (in Dutch: verkenningfase)

2 plan-making phase (in Dutch: planstudiefase)

3 construction phase (in Dutch: realisatiefase)

For a more extensive overview of the planning process of infrastructure projects, see chapter four (paragraph 4.2). This research focuses on the earlier phases; in practice this will mean the reconnaissance and the plan-making phase. In case a project is not shaped in the MIT-form, a resembling phase will be taken as the focus.

Environmental quality

Exploring the possibilities for safeguarding or enhancing the environmental quality of infrastructure projects is the goal of this research. In this research environmental quality is regarded in the broader sense of the word. It is the quality of the environment, which means the spatial quality and the ecological quality combined. It combines the social, economical and ecological values as described in the TBL (see paragraph 2.2).

The Route Design Support Base (In Dutch: Steunpunt Routeontwerp) has taken the environmental quality for roads as its central cause of action. It states that the general quality aspects of environmental quality are applicable for the roads as well. The capacity of the road, the relation with the road network, the contrast with the surroundings, the view, and the economical feasibility of the investments in the road and its surroundings could be part of a definition of the environmental quality of the roads (Steunpunt Routeontwerp, 2005, p.17). This definition, and its application by the Route Design Support Base, is mainly directed at landscaping and subsequently incorporates only the mitigation aspects. It falls short in terms of economical values.

Spatial quality is another aspect that could form a part of a definition of environmental quality. It is difficult to define and operationalise. This difficulty can be caused by the overlap of spatial quality with the social, environmental and economical values who were discussed before. Because of this overlap spatial quality is not explicitly incorporated in the definition of environmental quality. An operationalisation of environmental quality can be given by looking at overall project quality for its impact on the environmental quality. This 'overall' project quality can be classified in three quality categories: content quality, process quality and procedural quality.

- The content quality directly relates to the environmental quality, and can therefore be defined as the quality of the ecological, economical and social factors. This quality regards the way in which the different stakes of the involved parties are translated into concrete plans.
- The process quality is all about the management of the project. It deals with relations and interactions, and the networks that are formed (power networks or adaptive networks, see paragraph 2.5). Dealing with process quality means determining which parties are to be involved in the process and why. Other factors in process quality are the assigning the responsibility over the parties involved, and distributing the risks.
- Procedural quality regards the time and budget aspect of infrastructure projects. This is control of the finances and budget (e.g. preventing cost overruns) and control over the usefulness and relevance of the project (e.g. avoiding redundant infrastructure) and the procedures to be followed. It involves the time it takes to complete the procedures, the freedom to make choices and the legal status of documents. For example, by intertwining procedures as explained in the *MIT-regulations* (in Dutch: MIT spelregels) (Ministry of VW, 2004), the planning process can be shortened and gain procedural quality.

This is just one way of subdividing the environmental quality in project quality. Other classification, like in the *Nota Ruimte*, where environmental quality is divided into usability value, experience value and future value (Ministries of VROM, LNV, VW and EZ, 2006, p.28) are also possible. The classification given above provides a clear grasp at a complex term like (environmental) quality and especially the role of the concept in infrastructure projects. It cannot however, be found literally in the evaluation of the cases, but plays a role in the background, since environmental quality is more than project quality and spatial quality. For the evaluation of environmental quality in this research, the definition of the TBL (and Triple P) is used (see paragraph 2.2).

3.6 Case studies

In this study, four case studies are selected to investigate the questions as described above. The chosen case studies are the Schiphol-Amsterdam-Almere corridor (consisting of the A6 and A9 highways), the diversion A9 Badhoevedorp, the passage A2 Maastricht, and the project main corridor South (PMZ; project mainportcorridor zuid) and are displayed in figures 3.4 to 3.7. These cases are selected because they resemble the models in figures 3.2 and 3.3 (at first sight); each resembles one model in their relation between infrastructure and spatial development. Model A is being examined by investigating the project study Schiphol-Amsterdam-Almere corridor; Model B by investigating the diversion A9 Badhoevedorp; Model C by the A2 Maastricht; and Model D by the PMZ. These case studies differ in the extent to which infrastructure is seen from an area perspective and integrated with spatial developments; the degree to which one can speak of a combined project. It must be noted that the case studies are classified under a model beforehand. This could mean that afterwards it has to be concluded that a case study does not fit in under a certain model anymore. For example, A9 Badhoevedorp is placed under the Model B at first sight, but it can later be found that the project better fits the description of a Model C project. The cases will be investigated by performing a literature study, conducting interviews and discussing the results in an expert group meeting. The literature study focuses on comparing the findings in the cases with other (infrastructure) projects, if possible.

These interviews will be conducted with the project direction and involved market parties. The questionnaire (see appendix A) contains three main categories: the form of the private involvement, the chances and problems this involvement generates and the preconditions required for successful private involvement. The first two research questions (see paragraph 1.2 and 3.1) are represented in the questionnaire by the first questionnaire category, which concerns the way that private parties are involved (see question one, two and three of the questionnaire in Appendix A). The chances and problems are represented by question 4 and 5 in the questionnaire and correspond with research question four and five. In this category, the respondent is asked for the chances and problems that arise or disappear if private parties are involved in an early stage of the infrastructure planning process. The preconditions for successful private involvement correspond to research question six and seven, and are represented in the questionnaire by questions six, seven and eight. The interviews will be concluded by discussing the strong and weak points, and the opportunities and threats of the projects, and asking for the respondents' view of the future of infrastructure planning.

An expert meeting will conclude the research. This meeting will be held in order to generate the solutions and recommendations of research question six and to address the influence of research question seven. Participants in the meeting will be experts in the field of infrastructure planning, who can relate the findings of the interviews to their own experience.

The case studies will be discussed in chapter five. First, it is useful to give a short outline of the Dutch planning context in general, and more specifically the infrastructure planning context. This outline will be given in the next chapter, 'policy framework'.



Figure 3.4 Schiphol-Amsterdam-Almere corridor.
Source: Ministry of VW, 2007g



Figure 3.5 Diversion A9 Badhoevedorp.
Source: Ministry of VW, 2007e



Figure 3.6 Passage A2 Maastricht.
Source: Ministry of VW, 2007f

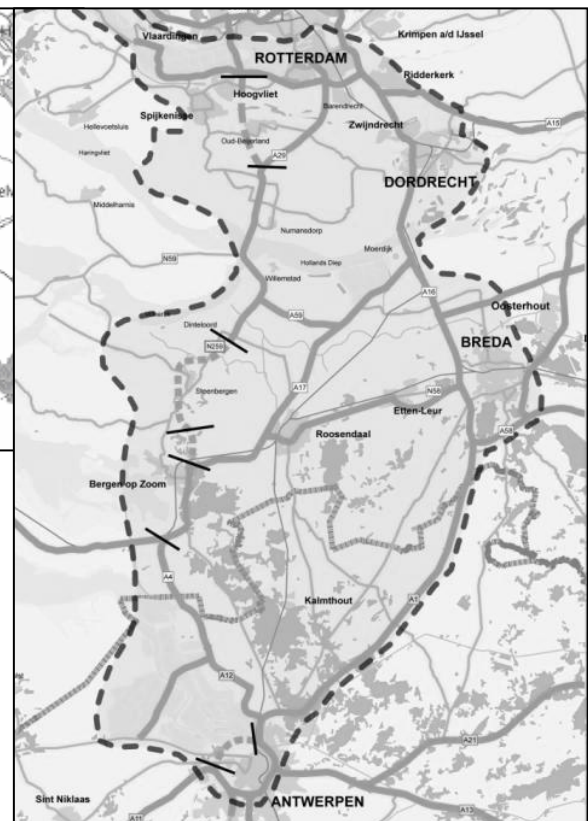


Figure 3.7 Project main corridor south.
Source: Rijkswaterstaat, 2007g

Policy framework

4

Dutch policy trends

In this chapter, the context of Dutch planning will be discussed. This context consists of the current policy in infrastructure and spatial planning. First, the Dutch (spatial) planning culture will be addressed. In the next paragraph, the focus will be on infrastructure planning; special attention will be given to the long-range program for infrastructure and transport. The third paragraph will discuss the relation between spatial planning and infrastructure planning. Probable connections and similarities will be investigated and sustainability and environmental quality will be addressed in particular. The next paragraph will deal with current initiatives to involve market parties in an early stage. It will focus on the reasons for private involvement, and the instruments that are applied to stimulate early private involvement. This chapter will end with some conclusions, which are provided in the last paragraph.

4.1 Dutch planning culture

“The Netherlands is one of the most densely populated countries in the world. Infrastructure, industry, housing, agriculture, nature, and recreational spaces have to be located carefully and attuned to one another” (Woltjer, 2000, p.74). The population density of the Netherlands was 391 persons per square kilometre in 2003. This is considerably higher than the average for Europe (33 persons per square kilometre) or even Western Europe (167 persons per square kilometre) (United Nations Statistics Division, 2007). Considering this, it is no wonder that spatial planning has taken in an important place in the Dutch society. “The Dutch see active spatial planning as the only way to creating the towns, cities and countryside that they want” (Needham, 2007, p.31).

Woltjer (2000) recognises different causes for the specific Dutch spatial planning approach, next to the earlier mentioned density of population. An abundance of low lands and high water levels make the threat of flooding high. The nation has a history in ‘fighting the water’. Another cause for the active nature of Dutch spatial planning is the physical difficulties presented by peat and clay in the soil. De Vries and Van den Broek (1997) also mention these “adverse soil conditions”, which make constructing buildings difficult. The struggle against the water and the adverse soil conditions make that “the nature of the Dutch planning process is a response to the need to provide enough land suitable for building” (Faludi, 1991). “The Dutch have worked to alter the country’s geography by draining marshlands and reclaiming land from the sea. Such major public undertakings required a considerable consensus on goals within the society” (Woltjer, 2000, p.75).

“Dutch [spatial] planning has attempted to address economic and social and environmental questions” (Woltjer, 2000, p.74). The Dutch “do not think that they should have to accept a physical environment that is shaped predominantly by market forces” (Needham, 2007, p.31). They believe that governmental interference is necessary to be able to perform spatial planning. In order to do so, “national, provincial and municipal governments each have their own powers for spatial planning” (Woltjer, 2000, p.74), and specific water boards also take an active role in planning. Every aspect of the (built) environment is planned, e.g. water, nature, infrastructure and residential areas. The degree to which the aspects are integrated differs per level of government.

At the national level, the national policy is laid down in so-called 'national policy documents on spatial planning'. These documents contain the vision of the national government on the spatial development of the Netherlands and the most important accompanying objectives. At the national level, the different aspects of the (built) environment are integrated in one plan. The most recent national policy document on spatial planning is the *National Spatial Strategy Plan* (in Dutch: *Nota Ruimte*, Ministries of VROM, LNV, VW and EZ, 2006). In short, this document relegates power from the national to the lower levels of government, giving regions more room to develop their own development strategies. The national spatial strategy incorporates all aspects, all the different tracks of spatial strategy, except for the infrastructure, which is laid down in the *Mobility Policy Document* (in Dutch: *Nota Mobiliteit*, Ministry of VW, 2004a).

At the municipal level, the municipality tries to develop the towns and cities using a land use plans (in Dutch: *bestemmingsplan*), a legally binding document which gives a detailed view of which functions are allowed and disallowed at which place. The land use plans give the municipality a considerable amount of power. This power is necessary, since the land use plans have a direct local influence. This influence often evokes protests, in the form of Nimby behaviour.

At the provincial level, planners try to co-ordinate the relation between the national policy documents and the land use plans. This co-ordination is highly needed because the national government and municipalities tend to clash. "In this clash of planning interests [...] the province can decide the outcome. Some provinces do not have very pronounced planning policies and try to find compromises which keep everybody happy" (Needham, 2007, p.59). Other provinces do have an active role the provincial environmental plans (in Dutch: *provinciaal omgevingsplan*) to co-ordinate the different plans for the physical environment and come to an overall planning for the environment (De Roo en Voogd, 2004).

It must be noted that the procedures for spatial planning are about to change. The *Spatial Planning Act* (in Dutch: *Wet op de Ruimtelijke Ordening, Wro*), which is the law that regulates the legal side of the Dutch spatial planning process, is being renewed in 2008. Every level of government (national, provincial and municipal) will have to make a structure vision, resembling the provincial environmental plans in the old spatial planning act. Furthermore, the municipalities will be forced to update their local land use plans more often. The procedure for land use plans will be shortened, from approximately 58 weeks to 22 to 24 weeks (Ministry of VROM, 2007b). The renewed Spatial Planning Act will clearly structure and co-ordinate the visions of Dutch planning. However, it is unclear how this vision will be translated into concrete projects.

Considering the above, it can be state that the Dutch planning culture is "characterised by a considerable long-range and comprehensive view and consensus building within the society" (Woltjer, 2000, p.75). The Dutch believe in communicative planning, based on establishing a social basis (in Dutch: *draagvlak*) and ultimately reaching consensus. This believe however, is not being applied to the fullest in spatial planning. "In the Netherlands, the formal institutions only support participation at the level of informing and consultation (see the ladder of participation (Arnstein, 1969) in figure 2.10), and the practices emerging from these institutions have merely become 'ritual dances' and 'window-dressing participation', without affecting policy or decisions" (Wolsink, 2003, p.718). Everybody is heard, but "an 'underconsideration' of local parties and their interests exists" (Needham, 2007, p.77). Furthermore, the broad consultation phase accounts for a lengthy decision-making process.

4.2 Infrastructure Planning in the Netherlands

“Line infrastructure - national roads, railways, canals and other waterways – is the responsibility of the national government” (Needham, 2007, p.136). The Ministry of Public works, Transport and Water management (in Dutch: Verkeer en Waterstaat, VW) is “responsible for mobility policy in the Netherlands and for protection against floods or falling water tables” (Ministry of VW, 2007n). Its executive branch, the Department of Public Works and Water Management (in Dutch: Rijkswaterstaat, RWS) is “responsible for the national network of highways; the regional and local road network is the responsibility of the provinces, water boards and municipalities” (Arts et al., 2006, p.1) and has the task “to construct, manage and develop the national infrastructural networks in the Netherlands” (Rijkswaterstaat, 2007a, p.6). Rijkswaterstaat is “the manager of the national trunk road network (3260 kilometre), the national waterway network (1686 kilometre) and the national water system (65,250 square kilometre)” (ibid., p.6).

The *Infrastructure Planning Act* (in Dutch: *Tracéwet*) is the Dutch regulation that is applied to big infrastructure projects: roads, canals, and railways. A project has to involve multiple municipalities in order to be subject to this act. The act co-ordinates the decision-making process of the spatial planning sector and the traffic and water management sector. The different procedures are adjusted to each other in order to accelerate the decision-making process. According to the act, the minister of VW will, together with the minister of VROM, make the decision of a preferred route. Subsequently, this route has to be made a part of the provincial and municipal plans. The Minister can oblige the lower governments to change their plans to fit the initiative. The lower governments do have the possibility to appeal the preferred route, if they do not agree (Overheid.nl, 2007; Ministry of VW, 2007a; Milieuhulp, 2007).

The Dutch transport policy is laid down in two plan documents: the National Traffic and Transport Document (in Dutch: Nationaal Verkeers- en Vervoersplan, NVVP) and the Provincial Traffic and Transport Document (in Dutch: Provinciaal Verkeers- en Vervoersplan, PVVP). The NVVP displays most important parts of the Dutch national traffic and transport policy. It contains:

- the essential elements of this policy;
- the proposed actions and activities of the national government, the provinces and the municipalities;
- a synchronisation with the adjacent fields of policy, like economy and ecology;
- phasing, prioritisation and indication of the costs of the construction;
- the term in which the provincial plans have to be revised.

The NVVP lays out some basic elements that have to be made concrete in the PVVPs. A PVVP contains:

- the concretisation of the essential elements of the NVVP;
- a synchronisation with the adjacent fields of policy, like spatial planning, economy and ecology;
- phasing, prioritisation and indication of the costs of the construction and the available means for the municipalities;
- the term for which the PVVP is valid;
- the term in which the municipal plans have to be revised in order to comply with the PVVP.

In order to regulate the mobility, the ministry of VW has formulated policy documents, the most recent one is the *Mobility Policy document* (in Dutch: *Nota Mobiliteit*) in 2005. This

policy document forms an extension of the *National Spatial Strategy Plan* (see paragraph 4.1) and elaborates on the policy-element of the NVVP and PVVP. It has been created in co-operation with the lower governments and advice from societal parties has been included. Its core points are: paying for mobility in a different way, public transport, accessibility by road, network analysis, living environment and air quality, goods transport, traffic safety and mobility management (Ministry of VW, 2007e). In the light of this study, especially the alternative ways of paying for mobility deserves a further elaboration.

This work programme (in Dutch: '*Anders betalen voor mobiliteit*', ABVM) intends to change the pricing of the costs of the use of cars and infrastructure and is given form by a specially installed platform. Its aim is to let the people pay for the use of a car, instead of the possession of it. This will require the road tax (in Dutch: '*Motorrijtuigenbelasting*') and the sales tax (in Dutch: '*Belasting Personenauto's en Motoren*') to be gradually phased out. Instead, people pay per kilometre driven. Additionally, the policy aims at charging polluting cars extra, so that they will become more expensive than cleaner cars. The raised money will be put in the Infrastructure fund (in Dutch: '*Infrastructuurfonds*') for the construction, the administration and maintenance of the road network (Ministry of VW, 2007k). The research performed in the work programme provided input for the discussions between the Minister and the regions on the 2007 Long Range Programme for Infrastructure and Transport (MIT).

Long Range Program for Infrastructure and Transport

The Long Range programme for Infrastructure and Transport (in Dutch: '*Meerjarenprogramma Infrastructuur en Transport*', MIT) displays an overview of the infrastructure projects - road, water and rail - that are planned or under construction and that involve the ministry of VW. It can be characterised as the work programme of the NVVP, listing infrastructure projects to be constructed. Every year the MIT is renewed (a new MIT project book is written) and the order in which projects are carried out can change due to limited political relevance or budget reasons. This renewal involves prioritising the projects, which can cause projects to be sped up, delayed, or even cancelled.

Now the MIT-process will be shortly explained. It must be noted that this description involves the traditional MIT-process; changes in the process are made often. The MIT process consists of three stages of decision-making: reconnaissance, project study and realisation (see figure 4.1).

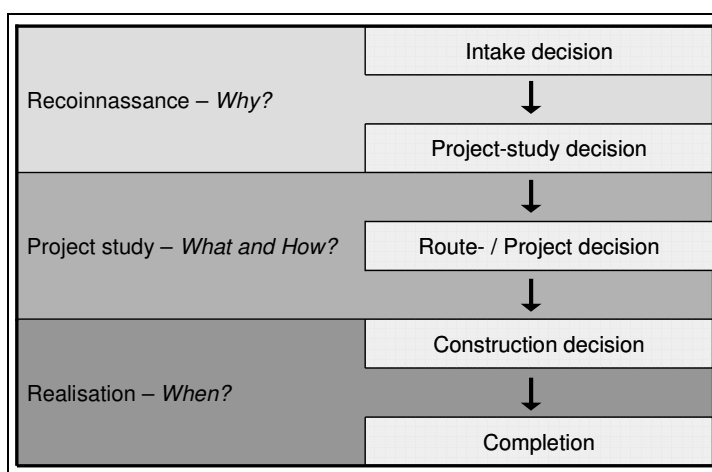


Figure 4.1 The MIT-process. Source: Ministry of VW, 2004b, p.7.

The goal of the reconnaissance phase is to provide the ministry of VW the right information to make a sound decision. It starts with an *intake decision*; this is a declaration by the ministry of

VW that a certain traffic problem exists. After this intake decision, an explorative study starts, in which the problem is worked out in more detail, the relevant directions in which solutions can be found are investigated, the necessity to make infrastructural solutions is made clear and an indication is given of the finances that are involved. The ministry of VW can work together with other parties like other ministries, lower levels of government, and other public parties. The reconnaissance phase is primarily aimed at orientation and should take no longer than a year to accomplish by taking a project-study decision. If the problem is found to be urgent and the infrastructural solutions are considered to be necessary, the Minister of VW can order a project study to commence, in which the infrastructure project is considered in closer detail.

In the project study phase the process of route determination and environmental impact assessment is started. They are fully integrated, as required by the Infrastructure Planning Act. First, "Rijkswaterstaat – which acts as the proponent and developer – draws up a *Notification of Intent*, which broadly outlines the proposed road development project. [...] The Notification of Intent is made public and a first round of consultation, advice and public reviews is undertaken to determine the scope of the Route Plan" (Arts, Nijsten & Sandee, 2006). Using the reactions of the public, a *Route Plan/EIS* is prepared. In this plan, various alternatives are considered and problems in the route are addressed together with possible solutions. Together with traffic issues, the Route Plan also includes social and ecological issues. A second round of consultation is started and after that Rijkswaterstaat makes a Draft Route Decision. After a third consultation round, the Minister of VW makes the *Route Decision*. "After this final Route Decision, the relevant provincial and municipal authorities are required to include the route in their regional plans and land-use plans respectively. Furthermore, the permits necessary to carry out the project are granted by the authorities involved" (Arts, Nijsten and Sandee, 2006).

Once this has happened the final stage of the process can start, the realisation phase. The construction of the road can begin. Later EIA follow up monitoring and ex-post evaluation can be performed. "If the budget so allows, the last stage can start as soon as a work order is issued with a specified schedule of payments. Once this procedure has been completed and all bottlenecks have been identified, it is not unusual to find that the amount of investment actually needed turns out to be much higher than [...] agreed" (Priemus, 1999. p.102). The whole MIT preparation phases – reconnaissance and project study – can take up to 12 years, with the reconnaissance at a maximum of five years and project study at an average of seven years (Priemus, 1999).

4.3 Relation between Spatial and Infrastructure planning

As illustrated in paragraph 4.1, the Netherlands is a densely populated country. Since people have the desire to be mobile, it is no wonder that spatial planning and infrastructure planning show a lot of connections. Furthermore, "the relationship between investment and growth is interdependent [...] planning infrastructure investments [can be used] to advance interregional development goals"(Guild, 2000, p.274).

According to Martens (2000), the dominant role of mobility in current society causes a further increase of the relation between spatial planning and infrastructure policy is not unthinkable in the near future. The co-ordination of spatial planning and infrastructure projects is difficult: many actors are involved which have different stakes. For example, "if the national government wants to build, say, a motorway and if the municipality through which the motorway will run does not want it, if also the existing land use plan does not include that motorway, the municipality can refuse to grant the necessary permit. It is in a very strong position. For the municipality can say, quite correctly: 'the law does not permit me to issue a permit for works, which do not conform to the existing land use plan'" (Needham, 2007, p.136).

To stimulate the co-ordination between the infrastructure planning (performed by the ministry of VW) and spatial planning (performed by the ministry of VROM), and speed up the planning process, the *Infrastructure Planning Act* is made. The Infrastructure Planning Act provides an opportunity to prevent this, and gives the national government power to enforce co-operation in realising the trajectory. The law aims at large infrastructure projects: national roads, waterways and railways. The Minister of VW determines in consultation with the Minister of VROM the preferred route of the infrastructure project. The provinces and municipalities then have to adjust their plans to the proposed route. If they are not willing, the Minister can assign a place where the project is to be built. Other parties can object and start a court procedure if they are not happy with the decision. In general the Infrastructure Planning Act speeds up the process of infrastructure planning. It makes the integration of the two worlds better and the realisation of integral development easier.

Integral development (in Dutch: geïntegreerde gebiedsontwikkeling) is realising spatial cohesion by developing an area integrally. The idea of integral development is more than adjusting the infrastructure to the (built) environment. A “whole area should be developed as if it were one large project. This is applied to urban neighbourhoods, to town centres, even to a rural area of several tens of hectares” (Needham, 2007, p.50-1). In the past, this integral development was mainly aimed at combining the worlds of spatial planning and housing. The former spatial policy could be typified as a “framework for ongoing and massive investment in housing” (Faludi & Van der Valk, 1994, 229). Now, opportunities are there to combine spatial planning with infrastructure planning (Martens, 2000). The Scientific Council for Government Policy (in Dutch: Wetenschappelijke Raad voor het Regeringsbeleid, WRR) also has noticed these opportunities and states that by developing infrastructure, the national government has an enormous spatial structuring power (WRR, 1998). In addition to this, a combination of infrastructure planning and spatial planning is found to be fruitful because of the financial power of the ministry of VW (responsible for the infrastructure) and the accompanying big repertoire of planning tools.

As illustrated above, there seem to be connections and relations, which suggest a further integration of spatial planning and infrastructure planning. However, both approaches to planning (still) differ. This is illustrated by the comparison of the two approaches in table 4.1.

	Spatial planning	Infrastructure approach
Organisational principles	plan-based; area-oriented; prioritisation of claims; communication-oriented	project-based; infrastructure-oriented; fitting-in facilities (adapting areas); investment-oriented
Organisational structure	comprehensiveness as aim; decentralised orientation	sectoral goals; economical dominance; central orientation
Core programme/ paradigm	substantive orientation; spatial quality as a goal	strengthening economic structure; spatial quality as establishment factor
Policy legitimacy	balanced procedures; involvement by participation; carefulness takes time	instrumental; duration decision; involvement aimed at creating support; process 'not dynamic'
Policy effectiveness	primarily persuasion and negotiation; communication and concept formulation	primarily by distribution of resources; financial instruments; project-based intervention

Table 4.1 Spatial planning and the infrastructure approach. Source: Hajer and Zonneveld, 2000, p.346.

In order to come from the 'classical' infrastructure approach to the future integral approach Van der Heijden formulated some recommendations after investigating the planning process of the Betuwe-railway project in the Netherlands. The most interesting for this study are:

- Seek cooperation between parties, and give space for negotiation.
- Make a broad descriptive analysis in an early stage of the process. This analysis should comprise of the context, the way the system operates, developments, issues and players. The analysis should be helpful to find bases for cooperation.
- Do not focus on a specific solution in an early stage; keep the planning process open (and at least keep the image of objectivity).
- Use an interdisciplinary approach (involving engineers and social scientists: Eberhard and Bernstein (1984,p 260) said: "The growing inadequacy of existing infrastructure systems calls for a shift from emphasis exclusively on the physical aspects of infrastructure to emphasis on the comprehensive infrastructure system, including its institutional, social and conceptual aspects; from emphasis on repairing or replacing physical structures to emphasis on rethinking the purposes we wish to accomplish with our physical systems") (Van der Heijden, 1996, p.24).

Currently the worlds of spatial planning and infrastructure planning are separated, making it necessary for Van der Heijden to recommend an interdisciplinary approach (see the last point in the list above). The current differentiated planning world can be illustrated by the existence of both a *National Spatial Strategy Plan* and a *Mobility Policy Document*. The separation of the two worlds causes the long-term vision of the (built) environment to be unclear. This makes it difficult to make concepts like sustainability reality and guarantee the environmental quality of the proposed projects.

The current government intends to change this by integrating spatial planning into the MIT-process and thereby making a new program. A first step in this process is transforming the *Long Range Programme for Infrastructure and Transport* (MIT) into a *Long Range Programme for Infrastructure, Spatial Planning and Transport* (in Dutch: *Meerjarenprogramma Infrastructuur, Ruimte en Transport*, MIRT). In order to realise this, national analyses are made, which can result in minor changes in the phasing and prioritising of infrastructure projects. Next, the ministry of VW, together with the ministry of economic affairs (in Dutch: ministerie van economische zaken, EZ), the ministry of Housing, Spatial Planning and the Environment (in Dutch: ministerie van volkshuisvesting, ruimtelijke ordening en milieu, VROM), and the ministry of Agriculture, Nature and Food Quality (in Dutch: ministerie van landbouw, natuurbeheer en voedselkwaliteit, LNV), makes a MIRT project book. This project book, in the same style as the MIT project book (see paragraph 4.2), will display a programme of government projects in road infrastructure, waterways, spatial planning, economy and ecology and presented in September 2007. Subsequently, the MIRT process will be further specified by formulating game rules for the planning process in the total spatial-economic domain, in order to come to a fully integrated MIRT (Ministry of VW, 2007h and 2007i).

To make the integration of spatial planning and infrastructure planning a success, it could prove to be necessary to change the relation between government parties and market parties; the next paragraph will deal with this subject.

4.4 Private involvement Initiatives

Besides integration of infrastructure planning with spatial planning, infrastructure planning is subject to another change. This change is the involvement of market parties in an earlier stage of the planning process. Private involvement is considered to be effective because

better use can be made of the innovative (operational) knowledge of market parties. This knowledge can later be taken into account into the formal consent decision. Using the knowledge and expertise of market parties, a better price to quality ratio can be delivered for infrastructure projects, which means that infrastructure can be build more efficient. The final consent decision can be based a bid from the market (party), which constructs and maintains the infrastructure.

The fact that market parties can become more committed to a project is another positive influence of early private involvement. This aspect is necessary in current infrastructure planning. The national government is no longer establishing itself as the dominant actor, but as a facilitator, less governmental money is involved. Less money means less power to coordinate and steer a project. 'Developmental' power and 'obstructional' power will therefore become more important. Developmental power is the ability of a party to plan, finance, construct, and maintain a project. It could also be called operative power and is currently getting delegated from the national government to market parties. Obstructional power is the ability to prevent a project from becoming reality. It consists of the ability to appeal, protest and influence decision-making and is mostly associated with environmental protest groups and neighbourhood committees. To be able to deal with both obstructional and developmental powers, commitment of parties to a project is essential. Early private involvement can improve this.

Another positive influence of early private involvement and generating commitment are the opportunities for more integrated planning including construction and maintenance that emerge if early private involvement is being applied. Infrastructure projects are easier to be accepted by the public if a whole area or corridor of the infrastructure is being improved by upgrading the environmental quality of a project. The ministry of VW and RWS may not have the expertise to be able to effectively combine the worlds of spatial planning and infrastructure planning. Market parties could be able to establish an effective mix with the better of two worlds, and thereby generate extra support for the project.

Closely related to this last aspect is another possible role of market parties in the planning of a project. This is the role of mediator and catalyst of a project. Nowadays, infrastructure projects have to deal with a lot of different actors, which all have different interests. The clash of these interest can cause a project to proceed slowly or even come to a halt. Because market parties have more freedom in dealing with actors than governmental parties have, they could be able to boost a stagnated planning process.

It must be noted that early private involvement also has some downsides that can be formulated. They include (Arts, Nijsten and Sandee, 2006):

- "Lengthy time period (duration) of procurement when compared to regular procurement procedures (higher transaction costs for market parties);
- Process risk that the result of the procurement procedure will deviate from the result of the route determination/EIA procedure (e.g. because of public comments or advice or political views) because of which the procurement procedure has to be cancelled (end of intertwining process);
- More complex process than traditional procurement; requiring more from both government and market parties".

The national government has acknowledged the possible advantages of early private involvement and formed a taskforce for public private partnerships (PPP, in Dutch: publieke private samenwerking). This Taskforce PPP aims at identifying the obstacles for public private partnerships and formulating solutions to deal with these obstacles. These solutions

include new approaches in infrastructure planning, consisting of new ways of contracting and the intertwining of procedures (Ministry of VW, 2007j).

New ways of contracting

To make the private involvement reality, new forms of contracting are applied. Such contracts can combine design (D), build (B), finance (F), maintain (M) and operate (O) elements. In practice, a range of contracts is possible, but the following two are currently the most used ones:

- A DB-contract, also called a DC-contract (design and construct), is used if the long-term lifecycle component is not present. In this contract, the private party is just asked to design and build the project within a certain time span realising a certain quality.
- A more complete contract is a DBFM-contract. This contract combines all elements of infrastructure planning and is a long-term agreement (usually 15-30 years) with a lifecycle component. The government gives a private party the right to design, build and maintain an infrastructure project, and also forces the private party to finance (a part of) the project. This financial component is necessary to be able to stimulate the private party's commitment on the long-term and assure a reasonable performance. (Ministry of Finance, 2002, p.26).

In some cases, the O-component (operate) is added to the contract. Incorporating such an element can give a boost to the quality of the project (Leendertse, 2005).

Intertwining Procedures

To stimulate the involvement of market parties in infrastructure projects, the concept of intertwinement is created. This concept involves executing the planning procedures and the procurement parallel. The intertwinement is formulated to combine the European tendering procedure, which is required for large projects, with the Dutch planning rules, especially the Route Law. The procedures are still separate, but using the method for intertwinement, they are better synchronized.

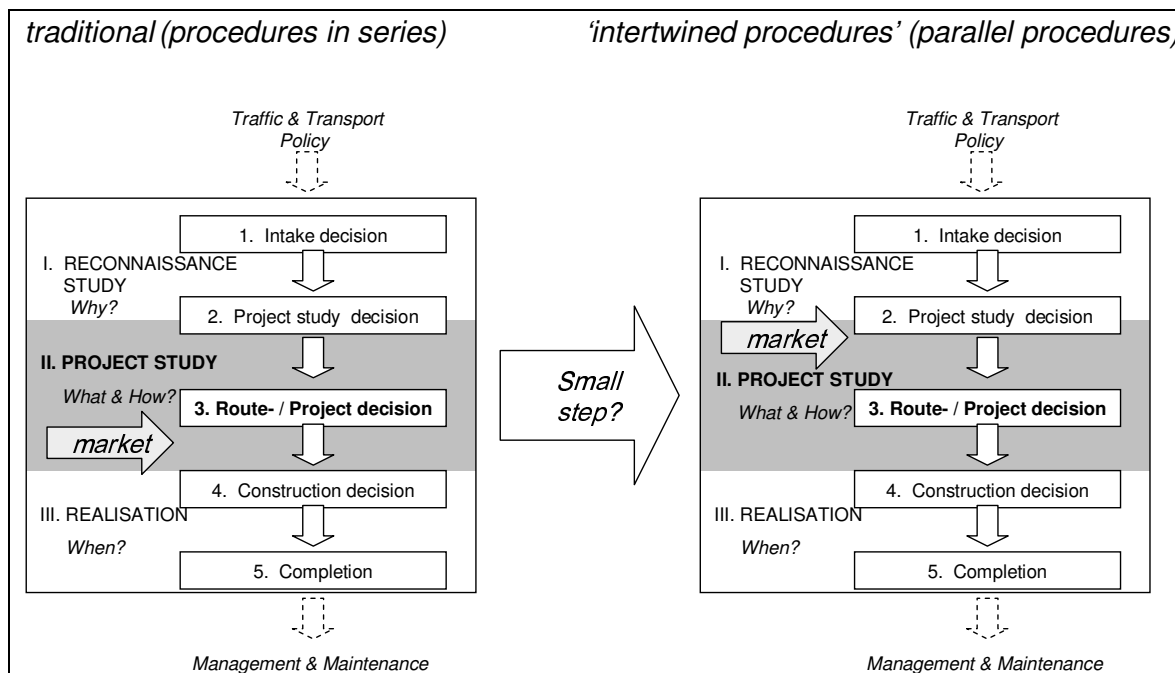


Figure 4.2: Private involvement in infrastructure procedures. Source: Arts, Nijsten, and Sandee, 2006.

“The core idea of very early contracting by ‘intertwining’ (parallel) procurement procedures and route determination/Environmental Impact Assessment (EIA) is that the market party, to whom the construction is contracted out, is also involved before the formal consent decision, i.e. in preparing the Environmental Impact Statement (EIS). Currently, market parties are asked to generate solutions for (just) construction after the EIS has been prepared and the minister has taken the Route Decision” (Arts, Nijsten and Sandee, 2006). The traditional and the intertwined infrastructure planning process are displayed in figure 4.2.

In addition to the new ways of contracting and the intertwined procedures concept, several tools are developed to stimulate the search for private involvement in infrastructure projects. These tools include the market scan, the market consultation and the public private comparator.

Market Scan

The goal of the market scan is to explore the possibilities of involving public parties and private (market) parties in infrastructure projects. This involvement has to lead to a surplus value for the project. A surplus value can be reached by upgrading the quality of the product, lowering the costs for society, or speeding up the planning process (Rijkswaterstaat, 2007b and 2007c). It should lead to more room for integral, multi-disciplinary, creative and innovative solutions from market parties. The market scan takes place in the reconnaissance phase, or in an early stage of the project study phase.

Market Consultation

The market consultation takes place before the procurement procedure starts. The consultation is not binding and fully transparent. In the market consultation, the private parties are asked if the proposed scope by the government is feasible and workable. Furthermore, the proposed alternatives are checked for their process and content quality and an indication is given of the private parties interests in further involvement in development and realisation of the alternatives. It should be stressed that the market consultation is not linked to the procurement procedure. Private parties cannot gain an advantage by co-operating in the market consultation (Rijkswaterstaat, 2006c).

Public Private Comparator

The public private comparator (PPC) is a first financial comparison between different forms of procurement expressed in time and money, before the actually project procurement starts. The goal is to identify the most profitable way of procurement by looking at the whole length of the project and considering all costs, revenues and risks. The PPC does not regard the usefulness, the necessity or the scope of the projects; these should be clear in advance. The PPC compares the public procurement alternative (usually a DB-contract) with a private procurement alternative (usually a DBFM-contract). The PPC is required for all infrastructure investments of 112.5 million euros or more (Rijkswaterstaat, 2007d).

The tools described above all play a role in the infrastructure planning process, but they are relevant in different phases. To illustrate the position of the new initiatives and tools, figure 4.3 situates them in MIT-process context.

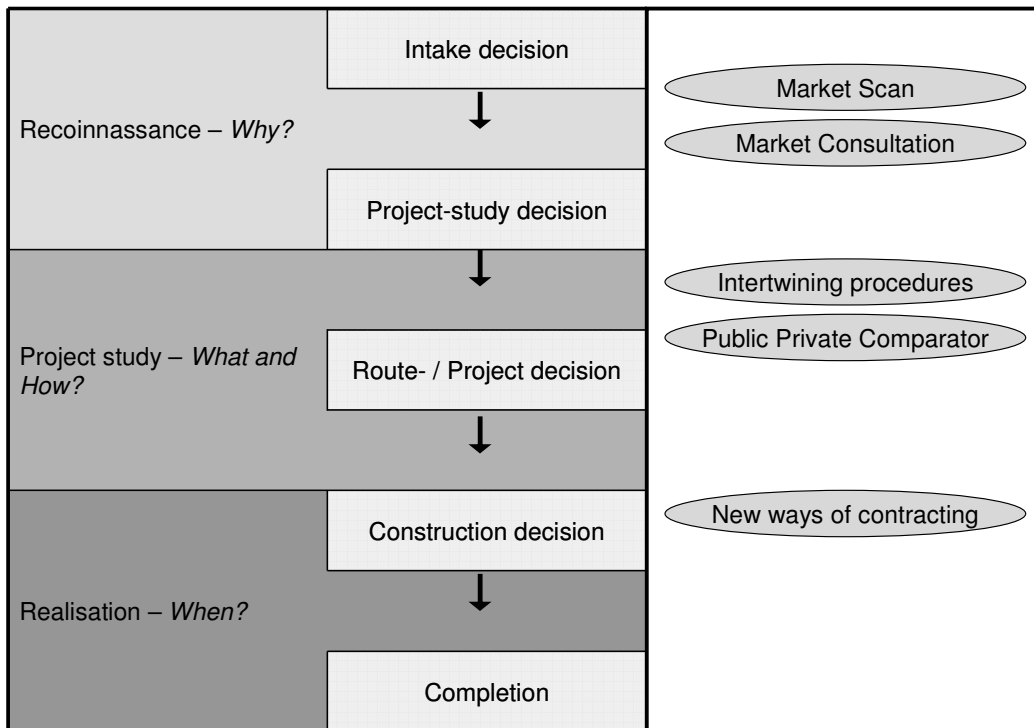


Figure 4.3 The place of new market initiatives in the MIT planning process.

It is unclear if the developed tools and initiatives in this paragraph are effective in involving market parties in the early phases of planning. It could well be that chances for improving infrastructure projects are still neglected or not regarded because of the chosen approach, or that the approach causes new problems regarding the quality of the project. Therefore, in the next chapter, four cases are investigated for their way of involving the market. The cases will concentrate on the advantages and disadvantages of their way of involving the market and the preconditions to achieve a successful early private involvement that can be derived.

4.5 Conclusions

It can be stated that the infrastructure planning process is undergoing a lot of changes. In order to stimulate private involvement in the planning process, different tools are being developed. The sheer amount of tools illustrates that there is a lot of attention for the position of private involvement in infrastructure planning. It could also indicate that the former institutional structure did not fit the needs of the current society; i.e. private involvement was not possible in the former structure.

Arts, Nijsten and Sandee (2006) stress that the developments result in “a fundamentally different approach to the planning of infrastructure and a change in the relative roles of government, market and other parties”. The national government moves to a role in the background as a facilitator and private parties have to step up and take initiative. “Market parties have more freedom but have to accept that political dynamics becomes part of their entrepreneurial risk. A market party that enters a process of very early contracting cannot hide behind government; as was the traditional situation. Third parties, residents, environmental organisations and other stakeholders hold their legal rights and security because of public law and procedures” (Arts, Nijsten and Sandee, 2006).

In general, the tools are aimed at searching possibilities involving the private parties. This is considered to be useful, because the projects would gain from an innovative input from the market. Furthermore, the planning phases would be better linked, the project itself more

aimed at reaching long-term goals, and the decision-making process profit from the choice between different (private) alternatives (not developed by one single actor). Finally, the approach to the planning of infrastructure projects could become more businesslike: agreements are respected and time and budget kept under control better, if private parties are properly involved.

However, the usefulness of the developed tools has not been proven. Most of them are established in the last years and therefore the results of the changed approach are not visible (yet). Therefore, the next chapter will investigate some infrastructure projects for their way of involving the market, while at the same time improve the environmental quality of the projects.

Planning practice

Current practice in early private involvement

5

In this chapter, the current practice in early private involvement will be further investigated. To serve that purpose, four case studies have been selected. In this chapter the context (consisting of the history and the scope), the private involvement and planning process and the environmental quality are discussed for the case studies. The selected case studies in this study are the Project study Schiphol-Amsterdam-Almere, the A9 Badhoevedorp, the Passage A2 Maastricht and the Project Mainportcorridor Zuid. These cases are selected because at first sight they all seem to involve private parties and combine infrastructure and spatial planning, however in a different way and to a different extent.

5.1 Project study Schiphol-Amsterdam-Almere

The Project study Schiphol-Amsterdam-Almere is a road infrastructure project in the province of Noord-Holland and (for a small part) in the province of Flevoland. The features of the project are displayed in table 5.1. Next, the planning context is explained in more detail, after which the private involvement and planning process, and the environmental quality are described.

Object	A6 - (A1, A2, A10) - A9; Schiphol-Amsterdam-Almere
Objective	Expanding the capacity of the highways
Budget	4,5 billion euros: 2,5 billion for the period 2011-2014 and 2 billion for the period 2015-2020; funds provided by the national government.
Route- / Project Decision	2009
Start Construction	2011
Finish Construction	2017
Initiator	Rijkswaterstaat Noord-Holland
Current phase	Decision of best alternative by minister of VW

Table 5.1 Overview of SAA's project features. Source: Ministry of VW, 2007l, and Ministry of VW, 2007c.

5.1.1 Context

History

The context of the case study of the Project study Schiphol-Amsterdam-Almere (SAA) consists of a description of the scope. But first, the history of the project will be discussed shortly. In 1994, the first step to solve the traffic problems in the Schiphol-Amsterdam-Almere Corridor was taken by starting the CRAAG-project (Corridors Regions Amsterdam, Almere & the Gooi). The CRAAG-project aimed at "facilitating as much traffic as possible using the current room for traffic on the A9, A1, and A6 while keeping the traffic safety and the environmental quality in mind" (Rijkswaterstaat Noord-Holland and Rijkswaterstaat IJsselmeergebied, 2001). The study was carried out, but after that the project moved a bit to the background, as it was incorporated in the ZSM-program (Programme Visible, Smart and Measurable, in Dutch: Zichtbaar, Slim, Meetbaar) of Rijkswaterstaat in separate parts (Jurgens and Spaargaren, 2007).

The problems between Haarlemmermeer and Schiphol led to another explorative study *Verkenning Haarlemmermeer-Almere* (Ministry of VW, 2006). This study concluded that the problems in the corridor have to be solved by taking measurements. Initially, it was combined

with a study for nature and landscapes in the region, called 'de Groene Uitweg' (in English: the green way out). The two initiatives together were a kind of package deal, infrastructure and nature. But when one preferred alternative was chosen in the Groene Uitweg, the two initiatives were disconnected. This was done because the SAA study had to investigate all relevant alternatives, because this is part of the standard environmental impact assessment (EIA) (in Dutch: milieueffectrapportage, MER) procedure, and not only the preferred one. The Project study SAA investigates the corridor as displayed in figure 5.1. The *National Spatial Strategy Plan* of 2004 formed another incentive to start (again) with a project for the whole corridor between Schiphol and Almere. The Project study SAA was part of the North Wing Program of the Implementation Agenda for the National Spatial Strategy (Ministry of VW, 2004c), which is now reformulated into the Urgency Planning Programme for the Randstad (in Dutch: Urgentieprogramma Randstad).

Scope

The region between Schiphol and Almere suffers from accessibility problems, or will suffer from these problems in the near future. Without applying infrastructural improvements to this corridor, the accessibility will get worse and this will affect the economy of the Northern part of the Randstad. The corridor of the SAA-project consists of the following infrastructure (Rijkswaterstaat, 2007h):

- the highway A1, between the intersections Muiderberg and Watergraafsmeer
- the highway A2, between the intersections Holendrecht and Amstel
- the highway A6, between the intersections Muiderberg and the connection Almere-Buiten-Oost
- the highway A9, between the intersections Diemen, Holendrecht and Badhoevedorp
- the highway A10-east, between the intersections Amstel and Watergraafsmeer.



Figure 5.1 The Schiphol-Amsterdam-Almere Corridor. Source: Ministry of VW, 2006b, p.6.

A new connection (highway A6/A9) between the intersections of Muiderberg and Holendrecht was initially also incorporated in the infrastructural scope of the SAA-project. The effects on the IJmeerconnection (IJmeerverbinding in figure 5.1) are part of the evaluation of the alternatives, but a new IJmeerconnection is not part of the Project study SAA. This connection is investigated in the Zuiderzeeline studies (investigating a new high-speed rail connection between Amsterdam and Groningen through the former Zuiderzee).

The central planning agency (CPB, Centraal Plan Bureau) expects the housing and employment to rise in the upcoming years. Amsterdam has to deal with new houses being built, and Almere is also growing with an average of 60 thousand houses in the period 2010 – 2030 (Tweede Kamer, 2006; Ministry of VW, 2007c).

Furthermore, it has been decided to let Schiphol airport grow at its current location, where the airport-related businesses also have to stay situated. All these new and extended functions have traffic generating effects. Additionally, they consume space, which cannot be used for infrastructural purposes. Another new function in the corridor, taking up space, is the room for the containment of water, which also has to be found at different locations in the SAA-corridor.

The recognised alternatives are, next to the so-called 'zeroplus alternative' (charging a varied toll in the corridor), the Streamline-alternative, the Location-Specific-alternative and the Connection-alternative. The national government has decided on October 13, 2006 to choose to upgrade the current road network and thereby rejected the connection-alternative. This marks an important reduction of the scope. The main reason for this is that the connection-alternative did not receive enough support, neither from the public nor from the government. In October 2007, the minister of VW has chosen in favour of the streamline-alternative, thereby rejecting the location-specific alternative (Rijkswaterstaat, 2007e). Although a choice for an alternative has been made, and the connection and location-specific alternative can now be disregarded, it seems to be useful to discuss this alternative shortly, because the choices that are made in the process so far do influence the end result.

Connection-alternative:

The connection-alternative involves a new connection with two to three lanes in each direction between the intersection of Muiderberg and Holendrecht without further connections along the way. The capacity of the other highways in the project will be determined by the capacity of the new A6/A9 connection. There are two main variations for the connection. The first option is building a closed tunnel or a deepened road. The underground option is considered because of the significance of the area in terms of nature, landscape and recreation (the area is currently in the process of being included in the Natura2000 program as a protected area (Ministry of LNV, 2006)), but it is expensive. Because of this, solutions partly above and partly under the ground level can also be considered. The other option is an extension on the ground level and, possibly, partly on poles. This option will have significant influence on the, earlier mentioned, natural and recreational qualities of the area, but it is much cheaper than the tunnel-alternative (Ministry of VW, 2006c).

Streamline- and Location-Specific alternative:

The Streamline and Location-Specific alternatives involve upgrading the capacity of the infrastructure using existing connections. To be more concrete, they involve:

- upgrading of a minimum of two to a maximum of three lanes in the direction of the peak hour traffic, and an upgrade of a minimum of one to a maximum of two in the opposite direction between the intersections of Diemen and Muiderberg along the A1
- extending the Gaasperdammerweg (A9)
- extending the other links and connections in the project area
- extending the intersections Muiderberg, Diemen and Holendrecht, possible by constructing bypasses.

The location-specific alternative was developed in the additional investigation in order to improve the relation between costs and benefit. It involves the broadening of the A6, A1 and

A10-east highways. The exact configuration of the alternative is displayed in figure 5.2 in the top half. The streamline alternative differs from the location-specific-alternative in its configuration of the number of lanes per direction. Whereas the location-specific alternative plans for the A9 for three lanes in each direction, the streamline alternative plans for four lanes in each direction to be constructed, and an additional exchange lane between the intersections of Diemen and Holendrecht on the A9 (Ministry of VW, 2006c; Rijkswaterstaat, 2007).

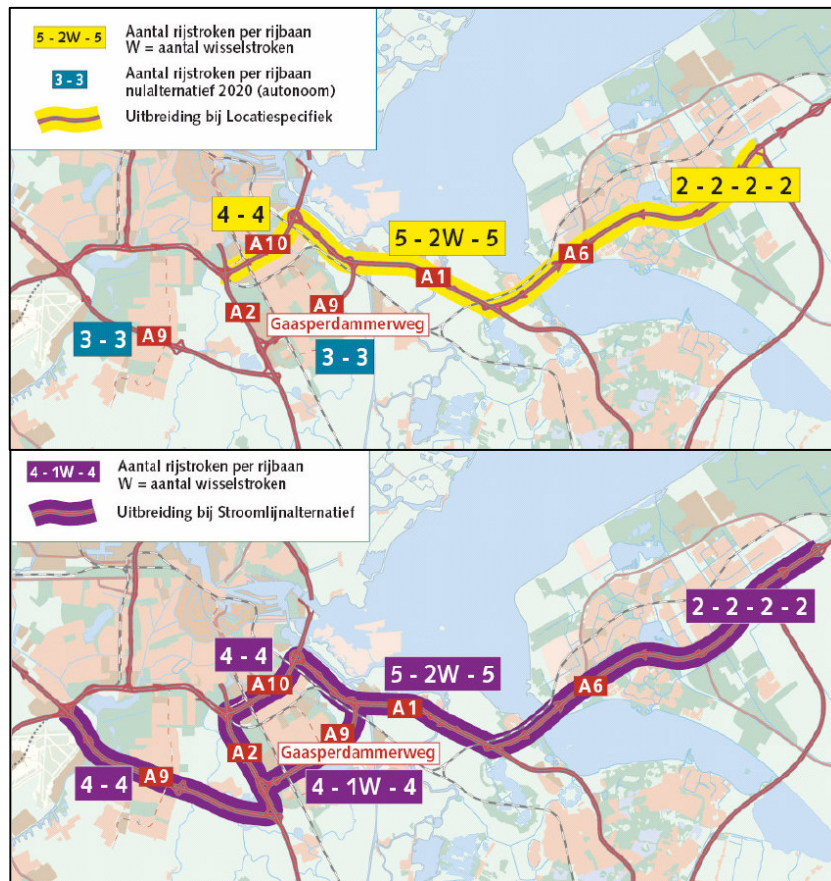


Figure 5.2 Configuration of Location-Specific alternative (top) and Streamline-alternative (bottom). Source: Rijkswaterstaat, 2007j, p.2.

5.1.2 Private involvement and Planning Process

The planning process was carried out according to the MIT-procedure. The explorative study started in 2004 incorporating the streamline alternative, the connection alternative, the zero-alternative and the alternative most friendly to the environment. These alternatives were further investigated in an alternatives and options document (January 2006) and a supplement to that document (June 2006). The supplemental information was gathered by Grontmij Netherlands in January 2007. This is an engineering consultant delivering technical expertise. The supplemental information was considered necessary because extra information was needed on (Rijkswaterstaat, 2006b):

- the problem-solving capabilities of expanding and fitting in the A9;
- the design of the A6; implementing the option with main and parallel lanes or upgrading the current two lanes; and
- the number of lanes on the A6, A1, A10-East and A9.

After that, in October 2006, the national government decided to exclude the connection alternative from the planning process. The other alternatives are further worked out in the

Route Determination/EIA procedure, which is scheduled to be ready in 2008. Currently, the minister of VW is putting pressure on the House of Parliament to make a quick decision on the exact route of the project (NOS, 2007). The construction of the project has to wait until a decision is made and is predicted to begin around 2010. Some specific parts of the project can be constructed earlier. Examples are the A10 highway and the aqueduct at Muiden. An overview of the planning process is given in table 5.2, the parts in italics have not been completed yet.

Phase	Activity	Period
Reconnaissance	Explorative Study	February 2004 - January 2005
Plan study	Notification of intent	January 2005
	Intake Decision	January 2005
	Consultation Round	January 2005
	Alternatives and options investigation	2004 - August 2006
	Guidelines for Routeplan/EIA	December 2005
	Consultation Rounds	January 2006 -February 2006
	Decision government	October 2006
	Supplemental investigation	October 2006 – February 2007
	<i>Routeplan/EIS</i>	<i>Beginning of 2008</i>
	<i>Consultation Round</i>	<i>2008</i>
	<i>Draft Route Decision</i>	<i>2008</i>
	<i>Consultation Round</i>	<i>2008 - 2009</i>
Realisation	<i>Route Decision</i>	<i>2009</i>
	<i>Possibility to appeal</i>	<i>2010</i>
	<i>Construction</i>	<i>2011 – 2017</i>

Table 5.2 Overview of the planning process of SAA. Source: Rijkswaterstaat, 2007f.

The private involvement in the SAA study is limited to five moments in the process: the development competition in the period January–March 2006, the market consultation in January-February 2006, the delegation of the Route Plan/EIS to a private party in 2007-2008, the procurement of the construction around 2010, and the market scan in 2007. These moments will now be discussed.

The development and design competition has been initiated by RWS to spark creativity and ask for market expertise for solutions, which are better in prize and/or quality than the alternatives that were included in the plan study phase at that time. Four parts of the project area were selected:

- the A9 passage through Amstelveen,
- the A9 Gaasperdammerweg between the intersections Muiderberg and Holendrecht,
- the A6-A9 connection between the intersections Muiderberg and Holendrecht, and
- the highway A1 crossing of the Vecht at Muiden .

The winner of the competition was not ensured of a contract in a later phase of the project, but did receive a sum of money. The first three prizes were fifty, forty and thirty thousand euros. This sum was meant to compensate for the costs made. It is questionable whether the financial compensation would cover the costs made and compensated the risk of cherry picking. The plans from the competitions were used to formulate some alternatives, which then could be discussed (Rijkswaterstaat, 2006a).

A public consultation was performed afterwards as part of the formal procedure in which residents and road users, public organisations, consultants and politics were asked for their opinion. The market was not asked for their thoughts in this stage; no market consultation

was being performed after the alternatives were formulated. However, companies that were based in the project area were asked for their opinion as part of the investigation of the project area context.

The delegation of the Route Plan/EIS to a private party forms the next instance of private involvement. By delegating this responsibility, RWS has chosen not to manage this project on a very detailed level, but to assign the responsibility for making a good document to a private party. The consulting and engineering company Arcadis was appointed as delegated planning agency. This happened through a procurement procedure in which different companies applied for this job. Arcadis was considered the best contender, especially in terms of risk management and will now carry out the study in one and a half year in co-operation with Goudappel Coffeng and TNO (Arcadis, 2007). The actual involvement and commitment of the market party to the project will not change that drastically. Arcadis merely executes the procedure, which otherwise are executed by RWS, so no real innovative private involvement is here being applied.

The procurement of the construction will happen after a route decision has been made. Different options are still open for the remaining part of the planning process. The exact shape of the steps in the process, which have to be followed, is yet unclear. Much depends on the Route Decision to be made by the national government.

Another planning tool, which is applied in the SAA-case, is the market scan. The market scan involves the selection of fifty options, which can have a surplus value for the project, and distribute them to an actor responsible for making the options more clear. Afterwards, the most promising options are selected by the project direction to be incorporated in the project scope. In September 2007, the market scan is supposed to be finished. It is still questionable if the initiatives can really be linked to the project, because it is not proven yet if they will generate money and can be synchronized in time to be incorporated in the project. The scope of the private involvement initiatives in this case are displayed in figure 5.3.

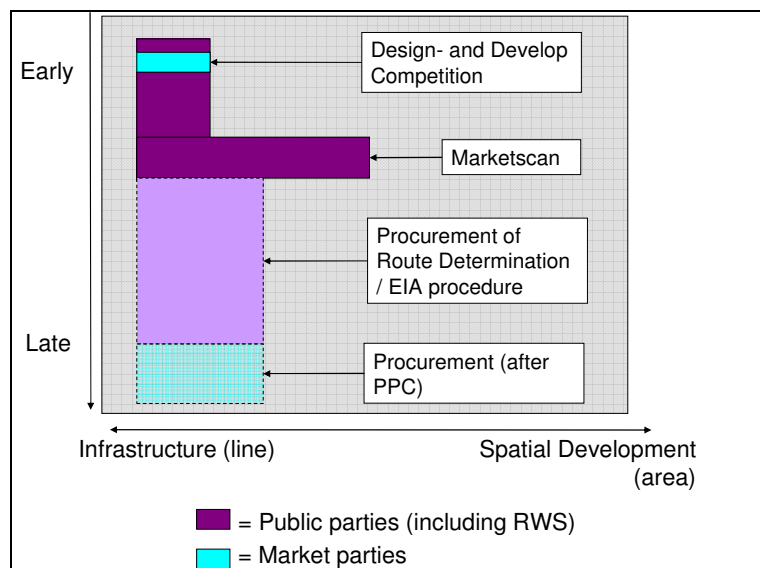


Figure 5.3 Scope of private involvement in SAA over time.

The roles of the different actors in the project could be typified as 'classical', and according to the description of a power network (see paragraph 2.5). RWS does have the power to steer the project, and uses this power. There is sufficient political commitment to the project to strengthen the powerful position of RWS. The budget for the project, which is provided by the national government, can be regarded as the acknowledgement of the commitment.

Furthermore, the power network approach is illustrated by the short-term goals of the project. The current accessibility is the focus of the project. If this project had used a more adaptive network approach, the long-term goals would be formulated; goals that often have an element of sustainability.

However, there are doubts if the classical approach can cope with the enormous scope of the project. A solution to increase the control could be the division of the project in smaller pieces. This will ensure a construction within time and budget limits. It will also mean that the procurement can be started for different small projects, which makes this process easier and better fit to the capabilities of the market parties.

But there are downsides to a division as well. The integral view of the area could be lost, which could mean that the overall environmental quality of the area would decrease. Furthermore, dividing the project in different pieces will create legal difficulties. If this project is divided, multiple Route Decisions will be made, based on one Routeplan/EIA. This could mean that if one of these decisions is being successfully appealed, the process of the other projects could also be obstructed. By considering the whole project, it is easier to co-ordinate these legal processes.

5.1.3 Environmental quality

So far, the context, the involvement of private parties and the planning process has been discussed. However, the implications for environmental quality have not been examined yet. This paragraph will deal with the factors that influence the environmental quality in this project.

An element of the project, which influences the environmental quality but does not necessarily involve private parties, is the “landscape vision” (in Dutch: landschapsvisie). This is part of the delegated Route Plan/EIS and therefore made by Arcadis. It specifically aims at displaying the adjustment of the alternatives and options in order to correspond to the direct environment. Visual-spatial elements and culture-historical values will play a role in this vision, which will be worked out in closer detail in a landscape plan in a later stage of the planning process (Ministry of VW, 2004c). The landscape vision will enhance the link between the infrastructure and its environment, in a way that resembles the Routeontwerp initiative (see paragraph 3.3 and 3.5).

Further stimulation of the environmental quality is not a big issue in this project; accessibility is the main drive for the project. Two elements can be distinguished that could be causing this approach: the pressure of time limits and the unknown revenues from the incorporation of spatial elements in the infrastructure project.

The pressure of time limits is clearly present in this case study. The covenant, which indicated the start of the project, provided some clear deadlines for the project, e.g. the construction is planned to start in 2011. These deadlines put pressure on the process. If deadlines are not met, funding could be extracted from the project. This causes the planning process to be tight. There is no room to pay attention to elements that do not directly concern the main focus of the project: the road. Also, the responsible (local) government does not submit their spatial initiatives in time, causing possibilities for enhancing the environmental quality to be lost. This is due to the strict deadlines mentioned before, but an explanation can also be found in the planning culture of infrastructure projects. The local level of government is not used to be actively involved in regional or national infrastructure projects. They have a passive attitude towards those projects, expecting to become involved if the project is already made concrete. An integration of spatial initiatives into infrastructure projects is therefore only possible if this attitude changes.

Another aspect, which could hinder the environmental quality of this project to be optimised, is the unknown costs and revenues of spatial elements that could be included in the project. If it would be clear that the inclusion of spatial elements could generate extra money or create more support for the project as a whole, more attention would be given to these elements. Currently, the project is just aiming at reducing the impacts on environmental quality, while there are opportunities to integrally stimulate this quality.

5.2 A9 Badhoevedorp

The A9 Badhoevedorp is a road infrastructure project in the province of Noord-Holland. The features of the project are displayed in table 5.3. Next, the planning context is explained in more detail, after which the planning object and the planning process are described.

Object	A9 (from intersection Badhoevedorp to the connection with the A5)
Objective	Making a detour around the village of Badhoevedorp to improve accessibility on A9 and liveability in Badhoevedorp
Budget	300 million euros (national government 153 million euros)
Route- / Project decision	2010
Start Construction	2012
Finish Construction	2015
Initiators	Ministry of VW, the municipality of Haarlemmermeer, the municipality of Amsterdam, the regional entity of Amsterdam, the Schiphol-company, the province of Noord-Holland and Bohemen
Current phase	Determining guidelines for route study and EIA

Table 5.3 Overview of A9 Badhoevedorp project features. Source: Rijkswaterstaat, 2007e, Ministry of VW, 2007c.

5.2.1 Context

History

The highway A9 was constructed in 1967 and connected the towns of Diemen and Alkmaar, via Amstelveen and Badhoevedorp. The highway initially passed Badhoevedorp south of the village. Because of the urban extension of Badhoevedorp in a southward direction, the highway became a dividing force and a barrier, with parts of Badhoevedorp on either side of the highway. It causes low air quality and excessive noise in the adjacent neighbourhoods and the inhabitants of Badhoevedorp were exposed to the risks of the transport of hazardous material. In the 1980s, a plan was made to divert the highway around the village, but after the MIT-projects were re-prioritized by Minister Netelenbos in the MIT of 1999 (Ministry of VW, 2007d) no budget was available.

The national government acknowledged the accessibility problems on the A9 and decided to quickly improve the A9 by incorporating the road in the ZSM-program. This stimulated the municipality of Haarlemmermeer to seek for different solutions with regard to financing the project, and they contacted the private project developer Bohemen. Together, they came up with new plan for a southern detour, combined with real estate development along the original route in 2001. This plan was considered not to be financially feasible (ministry of VW, 2007m), because the project could not get a status in the MIT-program that would guarantee sufficient funding.

In 2005, the required funding became available and the ministry of VW, the municipality of Haarlemmermeer, the municipality of Amsterdam, the regional entity of Amsterdam, the Schiphol-company and the province of Noord-Holland signed a covenant. This agreement gave an outline for the project and divided the responsibilities and roles in the rest of the process

Scope

The highway A9 is an important link between Haarlem and Amsterdam, and connects to the airport Schiphol. Currently, the road consists of two lanes in each direction. In the morning, there is a daily traffic jam in the direction of Amsterdam, which threatens the economic position of Haarlem and Amsterdam. The Badhoevedorp-part of the A9-highway functions as a bottleneck where the six-lane highway (three lanes in each direction) changes into a four-lane highway (two lanes in each direction), and causes traffic blocks. Upgrading the road to a six-lane highway is not an option because there is no space available along the route since the road crosses the village and houses are built alongside of it.

The proposed solution is to divert the A9 between the intersection of Raasdorp and the connection Aalsmeer to a route south of Badhoevedorp. By doing this, the ongoing traffic will be removed from the village of Badhoevedorp. The intersection of Badhoevedorp will stay intact, but some adjustments will have to be made. The exact adjustments depend on the alternative; they will be discussed later on. The 'old' A9 highway through the village will be downgraded to a local road. The new A9 will consist of a six-lane highway and can function as an alternative to the A10 highway and the A4 and A5 highways. Furthermore, the new diversion can easily be extended to make more lanes for traffic. See figure 5.4 for an overview of the area.



Figure 5.4: Overview of the study area of A9 Badhoevedorp. Source: Google Earth, 2007

Diverting the traffic over a newly build A9 has some serious implications for spatial development. First, the old highway will be removed and room will be available in Badhoevedorp. This room can be used for real estate development. Bohemen is closely involved in this component of the plan; it has signed a deal with the municipality of Haarlemmermeer in an early stage in order to be able to develop these new locations. The southern diversion of the highway will also remove a barrier, and make Badhoevedorp whole again. It will deal with the negative visual and environmental effects of the road and improve the social environment and traffic safety in the area. This will have serious consequences for the southern part of Badhoevedorp; because of the improved connection with the rest of the village, the land prices and the quality of the living environment will probably rise.

Another aspect regarding the spatial development is the proposed urban expansion sites between the southern edge of Badhoevedorp and the new A9 and in the triangle A4, A5 and A9 (south of the new A9). Schiphol Airport is looking for expansion sites for the airport-related businesses. This project will provide Schiphol with opportunities to combine the road construction with the development of the area.

Separate from this project, other initiatives are started on the A9 Badhoevedorp-Velsen. As part of the ZSM-programme, this route will be expanded with an extra lane. This is not part of the project as discussed here. The alternatives that are still regarded in this project are the preferred alternative and the so-called 'Bogenalternatief' (in English: Arches-alternative). These two alternatives both include a Southern diversion of the A9; alternatives that included optimisation of the current highway were disregarded in an earlier stage.

The preferred alternative incorporates the southern diversion with the following features (from west to east, see figure 5.5):

- a new secondary road with four lanes from the exit Schipholweg via the T106 to the A4, where the T106 will be connected at one side,
- a crossing of the A4 by the new A9 at the intersection of Badhoevedorp,
- a connection of the A9 and the new diversion between the intersection of Badhoevedorp and the exit Aalsmeer.

The public parties prefer this alternative, since it meets the requirements and fits in the budget.

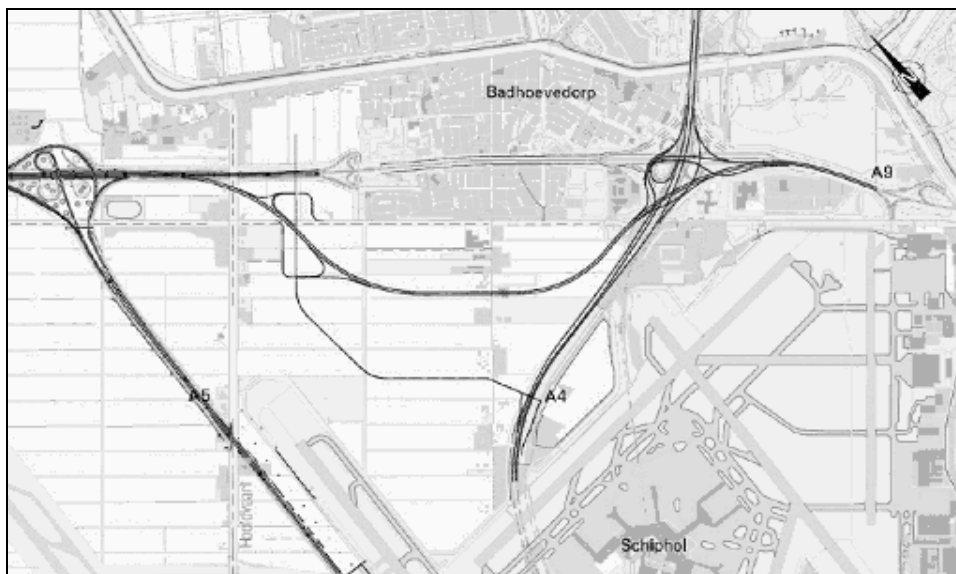


Figure 5.5 The preferred alternative. Source: Stuurgroep Omlegging A9 Badhoevedorp, 2006, p.22.

The arches-alternative differs from the preferred alternative in the aspect that the connection between A4 and A9 will not be made by extending the T106 from the exit Schipholweg to the A4. Instead, the A9 will be directly connected through connecting arches, just south of intersection Badhoevedorp (see figure 5.7). The advantage of this alternative is the possibility to guide all the traffic over highways. The secondary road network will not experience as much pressure as in the preferred alternative. However, the costs of this alternative are high; they exceed the budget. Therefore, a variation to this alternative has been made. This variation is called "Binnenring A4 A5 A9" (in English: "Inner ring A4 A5 A9"). Instead of two arches from the A9 to A4 and vice versa, the variation incorporates just one arch from A9 to A4. Another arch is build from A4 to A5 at intersection De Hoek (displayed at the left side of figure 5.6).

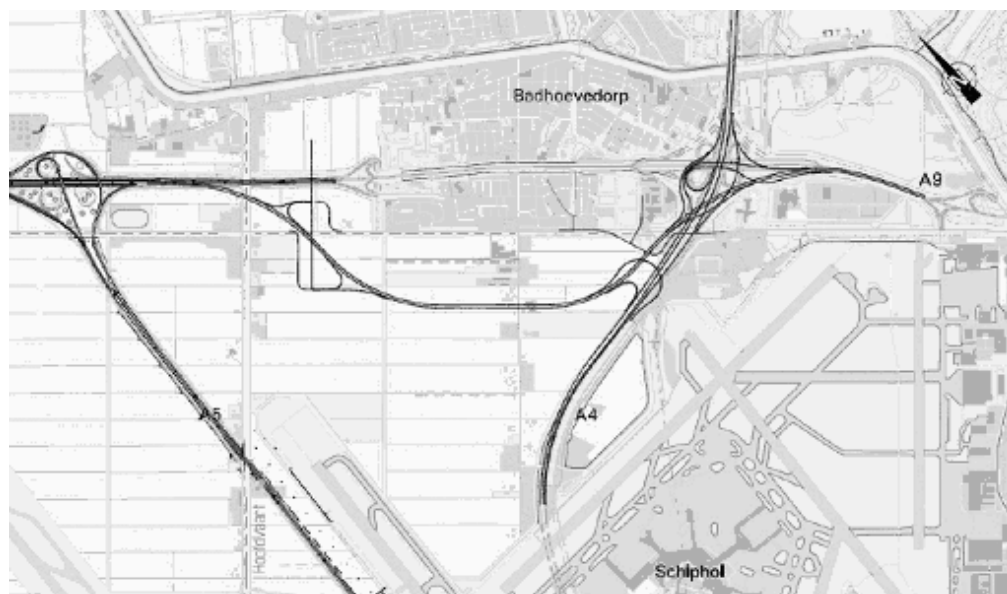


Figure 5.6 The arches-alternative. Source: Stuurgroep Omlegging A9 bij Badhoevedorp, 2006, p.24.

5.2.2 Private involvement and planning process

The formal planning process of the A9 Badhoevedorp project started with the covenant of 2005. In this agreement, the outline of the planning process was given and deadlines were provided. For example the time for making a preferred alternative was set to a seven months maximum. This preferred alternative was ready in April 2006 and subsequently the explorative study started. In this study, the arches-alternative was also incorporated. At this moment the Routeplan/EIS is in the making and scheduled to be ready in 2008. Table 5.4 displays the outline of the process. Now, the private involvement and spatial development component are discussed briefly. The part in italics is not completed yet.

Phase	Activity	Period
Reconnaissance	Convenant	October 2005
	Market Scan	June 2006
	Explorative Study	January 2007
Plan study	Intake Decision	January 2007
	Consultation Round	January 2007 – May 2007
	Guidelines for Routeplan/EIS	May 2007
	<i>Routeplan/EIS</i>	<i>2008</i>
	<i>Consultation Round</i>	<i>2009</i>
	<i>Draft Route Decision</i>	<i>2009</i>
	<i>Consultation Round</i>	<i>2010</i>
<i>Route Decision</i>	<i>2010</i>	
Realisation	<i>Construction Decision</i>	<i>2011</i>
	<i>Possibility to appeal</i>	<i>2011</i>
	<i>Construction</i>	<i>2011 – 2015</i>

Table 5.4: Overview of planning process project A9 Badhoevedorp.

Private involvement played a role in two occasions of this project: the initiative of Bohemen and the performed market scan. Bohemen took the initiative in the Badhoevedorp project. The company was involved in the project by the municipality of Haarlemmermeer, after playing a successful role in the Sijtwende project. In the case of the A9 Badhoevedorp,

Bohemen was, more or less, requested to make an unsolicited proposal, how strange this might sound. According to its plan, made together with Grontmij, the A9 was to be diverted southwards, leaving the intersection of Badhoevedorp intact. This resulted in three hundred million euros saved compared to the previous plans (Roestenberg and Van Berkel, 2007). The initiative of Bohemen was rejected for funding reasons, but inspired other parties and fuelled the progress of the project. Currently, Bohemen is involved in the real estate development in the village of Badhoevedorp; here it has taken up the role of process manager and real estate developer. It is not involved in the road construction; this task is left to RWS.

The market scan was performed before the explorative study was finished (see figure 5.8). In this scan, the opportunities for combining spatial development with private involvement are investigated. The scan concluded that intertwining spatial development and infrastructure procedures does not have surplus value, before the reconnaissance phase is concluded. However, intertwining the spatial development and infrastructure procedures and the involvement of market parties is being prepared in an early stage. In practice this preparation means that the chances for surplus values, which were recognized in the scan, are being implicitly considered in the reconnaissance phase, and actions are undertaken to shape the procedures in order to make use of the opportunities to create a surplus value in the plan study phase. The Public-Private Comparator (PPC) will be used to work out the findings of the market scan for the later phases of the planning process.

The form of the intertwinement was chosen, after the market scan was performed. The deadline of the route decision played an important role in this choice. It proved to be impossible to involve market parties (and spatial development elements) before the Route Plan/EIS was drafted, because of the strict deadline of the Route Decision in the covenant. Intertwinement is supposed to save time when regarding the whole planning process. However, it requires more time for preparation. In this case, there was no room for a thoroughly preparation of the intertwinement. Therefore, the intertwinement of the planning and the procurement process will start when the making of the Route Plan/EIS is on its way. Market parties will check the feasibility of the proposed solutions made by RWS in the draft Route Plan/EIS. Initially, the market parties will have a testing role. After the draft Route Plan is made, the market parties are allowed to make a bid. This set-up of the relation market-government ensures creativity by testing the Route Decision for its feasibility and guarantees financial security before the Route Plan is final. The time of preparation is less than when the market parties are involved earlier and have to be involved in the reconnaissance phase. Furthermore, the market parties are selected in a staged process, resulting in less pressure on the transaction costs. Naturally, there are also downsides to this approach. There is a risk of failure of the intertwinement involved, which would cause a delay in the planning process and there is no competition after the Route Decision is made.

Another interesting point of this case is the separated procedure for the old and the new route. After the initiative of Bohemen and the covenant in 2005, the two elements were separated. The municipality of Haarlemmermeer and Bohemen have taken care of the real estate development in the city of Badhoevedorp, while RWS and Schiphol NV are involved in the development of the diversion and its direct environment. The generated income from the real estate development in the city of Badhoevedorp is compensated by a 90.9 million contribution from the municipality of Haarlemmermeer to the construction of the diversion (Rijkswaterstaat, 2005). This way, the actors involved could focus on what they do best, without having to consider the whole project.

A factor, which played a role in the break-up of the process in two parts, is the difference in complexity. The interests of the real estate development in Badhoevedorp are much easier

to deal with, than the interests involved in the construction of the new route. Because these differences in complexity, the project could be better of separated.

However, the earlier mentioned compensation paid by the municipality should be given a critical look. It seems that the revenues from the real estate development are quite stable, in the sense that not much risk is involved. This cannot be argued for the planning process for the new route, which is under much pressure from land speculation and the influence of the national airport Schiphol. The initial plan considered both in combination, while in the current process they are separated. This means that the possibility to compensate the risks of the planning process of the new route by the (guaranteed) revenues from the development of the old route is not brought into practice. The approach to the project, as well as the private involvement initiatives are displayed in figure 5.7.

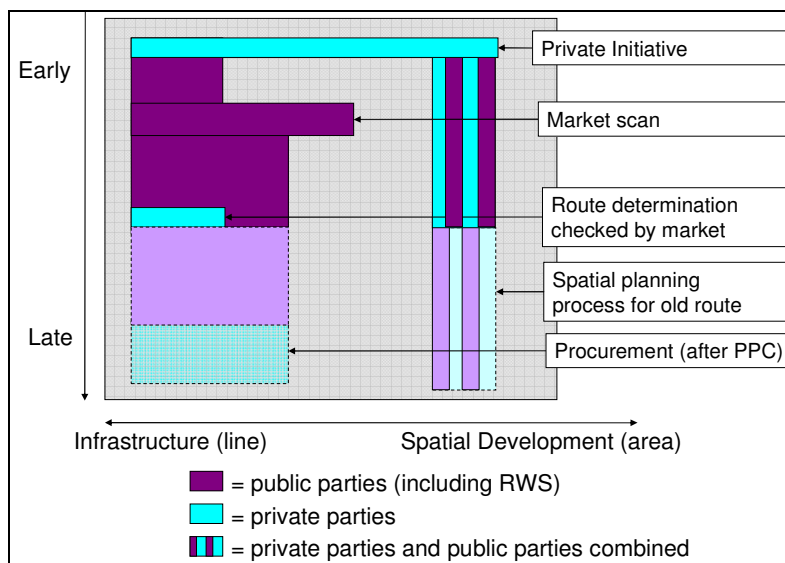


Figure 5.7 Scope of private involvement in A9 Badhoevedorp over time.

5.2.3 Environmental quality

By making the distinction between the two routes, the integral view of the project is lost. This could have consequences for the environmental quality of the area as a whole.

The complexity of the planning arena makes it difficult to define a clear vision for the project area. Powerful actors have gained possession of the land to be developed. This speculation makes it difficult to come to a combined formulation of the goals of the planning process. This fact causes the difficulty to incorporate 'green' components in the development of the new route, since landowners want to make money by developing areas for business. Schiphol is not fond of business areas north of the planned route; it wants to keep the business areas concentrated closer to the airport.

Another fact, which plays a role in the complexity with regard to green elements, is the tension between the inhabitants of Badhoevedorp and Schiphol airport. The municipality has to balance the economic interests of the employment opportunities at Schiphol airport and the ecological values like liveability with regard to noise hinder from plains that fly over. In this respect the Mainport Groen project also plays a role. In the past, the construction of the fifth runway of Schiphol airport was supposed to be compensated with nature development. So far, this is not being put into practice; this puts pressure on the case of the diversion of the A9. Another point of pressure is the fact that the connection of the national ecological network (in Dutch: Ecologische Hoofdstructuur) between Amstelland and Noordzeekanaal crosses the area between Badhoevedorp and Schiphol. This, in combination with the fact

that the inhabitants of Badhoevedorp-zuid do not want to lose their open view over the grasslands, boosts the search for green elements in the plans.

5.3 Passage A2 Maastricht

The project Passage A2 Maastricht is a road infrastructure project in the province of Limburg. The features of the project are displayed in table 5.5. Next, the planning context is explained in more detail, after which the planning object and the planning process are described.

Object	A2 Maastricht, between intersections A2/A79 (Kruisdonk) and exit Geusselt
Objective	Expanding the capacity the highway A2; improving the liveability in Maastricht
Budget	634,2 million euros (502 million from the national government)
Route-/Project Decision	2010
Start Construction	2010
Finish Construction	2016
Initiators	Ministry of VW, Municipality of Meerssen, Municipality of Maastricht, Province of Limburg
Current phase	Narrowing down market parties from 5 to 3 based on the input after the first dialogue phase

Table 5.5 Overview of A2 Maastricht project features. Source: Ministry of VW (2007c)

5.3.1 Context

History

The history of the Passage A2 Maastricht is a very lengthy one. 25 years ago the project was started. Back then, in the 1980s, the liveability of the inner city of Maastricht already caused a problem. The A2, the highway from Amsterdam through Utrecht and Eindhoven towards Belgium, crosses the city. At the place where the A2 crosses the city centre, the road is not in the form of a highway, but takes the shape of a traditional secondary road, accompanied by numerous traffic lights (see figure 5.8 for an impression of the current situation). All the through-traffic has to be guided past the traffic lights, together with the traffic that has its origin or destination in the city centre of Maastricht. This results in noise and smell complaints. Furthermore, the road forms a barrier between the neighbourhoods Wittevrouwenveld and Wyckerpoort. All in all, it was decided in the 1980s that something should be done to improve the A2 and thereby improve the liveability of the area surrounding it.

However, it proved to be impossible to collect the necessary funds for realising this project. RWS could not find enough funds to guarantee the design or construction of a solution itself. The accessibility of the city of Maastricht was not considered to be a national problem, so funding from the national government was out of reach. The categorisation of the A2 Maastricht project in the third category (of four) in the 1999 MIT classification illustrates this. Funding was not to be expected from the national government. Another factor, which hindered the initial phases of the project, was the absence of a good solution to the liveability and accessibility problem. The part of the A2 that functions as a secondary road is a vital part of the infrastructure network in the city, although it is a busy road connection, and often jammed. Simply replacing this part by a highway would negatively affect the internal road network of Maastricht.



Figure 5.8 Current situation at A2 passage Maastricht. Source: Projectorganisatie A2 Maastricht, 2004, p22.

Scope

After muddling through for a couple of years, the municipality of Maastricht and the province of Limburg decided to assign a private party to investigate the A2 passage in Maastricht and come up with a plan for the area. This resulted in the document “Maastricht raakt de weg kwijt” (“Maastricht loses the road”). This document recommended five measurements:

- constructing a tunnel for the A2 passage
- constructing a city boulevard on the ground level
- combining the A2 with the A79
- creating a new connection to the industrial area of Beatrixhaven
- constructing the intersections Viaductweg and Meerssenerweg on different levels (e.g. using fly-overs)

Furthermore, the document foresaw the combination possibilities with real estate development in the planning area. The “Maastricht loses the road”-document formed a basis to reach a covenant, which in turn marked the start of the planning process as displayed in table 5.6. In the initial phases of the project, different alternatives were proposed, see figure 5.9. An optimisation of the current road (red), constructing a tunnel along that route (also red), making a Western detour (pink) and making an Eastern detour (yellow) were the most important ones. These alternatives will now be discussed shortly.

The optimisation of the current route involves the realisation of two intersections, Geusselt and Schamerweg, on different levels. The environmental goals (limiting air and noise aspects, reduction of barrier forming and meeting the traffic safety standards) and the goals for the traffic regulation cannot be met when applying this alternative. This has caused the project group to disregard this alternative in an early stage.

Another alternative is the Western detour in which the route of the new road will be constructed west of the city, partly on Belgian soil. The new route will start from the intersection A2-A79 until the exit Gronsveld, and will involve crossings of the Meuse River North and South of the city, tunnels through the Cannerberg and the St. Pietersberg, and a bridge over the Jeker valley. This alternative is also disregarded in an early stage of the project, because of the environmental and traffic regulation goals, which could not be met. Furthermore, this new route would damage the precious and protected natural area of the

Cannerberg, St. Pietersberg and Jeker valley and could be difficult to realise because it is partly on Belgian Soil.

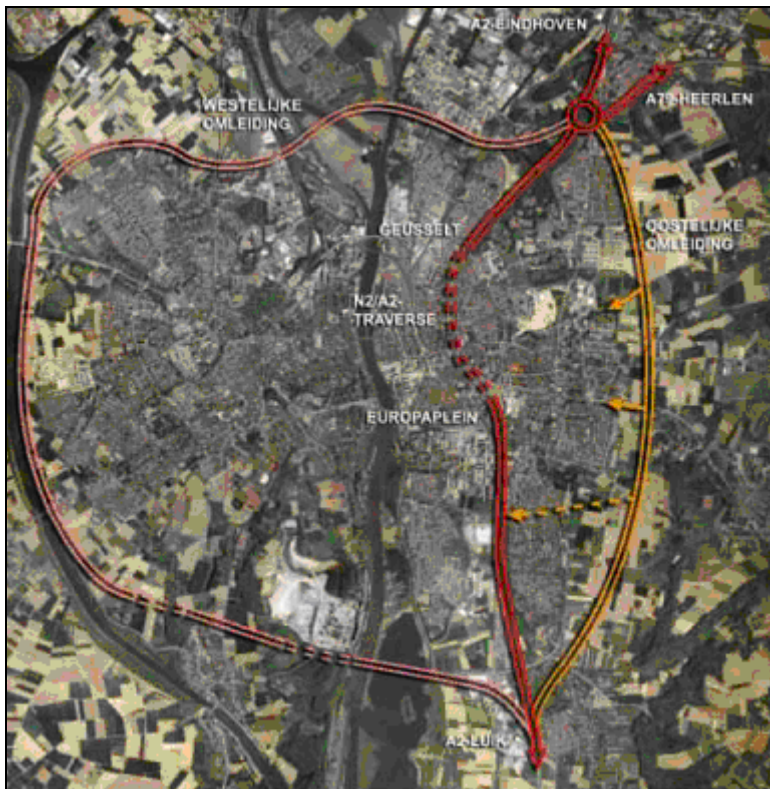


Figure 5.9 Overview of the planning area of the A2 Maastricht Project. Source: Projectbureau A2 Maastricht, 2006, p.14.

The third alternative was an Eastern detour around the city of Maastricht, from the intersection of the A2-A79 to the exit Gronsveld through the area of Terraspark. This road could partly be built underground. The Eastern detour has been disregarded because its problem-solving capabilities are limited. Accessibility and liveability problems are expected on the roads between the new route of the A2 and the city centre. Furthermore, the existing natural qualities east of Maastricht will be affected. It is chosen to use the eastern detour alternative as a backup when no other alternative is available. For now, a better alternative seems to be at hand, in the form of a tunnel (Commissie voor de Milieueffectrapportage, 2004 and 2006).

The tunnel-alternative includes a tunnel under the current route between the intersections Geusselt and Europaplein. The length, shape, the connections and the building techniques of the tunnel can vary. The tunnel fits in the compact-city concept of Maastricht because it enables multiple use of space. The tunnel solution will have the smallest influence on the existing natural qualities of the planning area. That, combined with the problem-solving qualities and the possibility to combine the alternative with urban (re)development makes the tunnel-alternative the best alternative investigated. Now, the planning process of the tunnel-alternative is being explained in closer detail.

5.3.2 Private involvement and Planning Process

Special about the A2 Maastricht project is the combined procurement procedures, land use planning and route determination procedures. Therefore, unlike in the previous case studies, the planning process of the A2 cannot be caught in a MIT-process structure as shown in

figure 4.1. This project uses a new approach, the “competitive dialogue” in order to come to the best solutions possible. The approach involves establishing a descriptive document by the bidder, which formulates the desired end result but no concrete solutions to reach this end result. In this case, the desired outcome is formulated in the “terms of reference” and a “document of ambitions” by the project bureau A2 Maastricht, which also defines the budget available. Different market parties are then selected to come up with solutions. The A2 Maastricht project divides this phase up into different rounds of dialogue, after which the best solutions/parties are selected to proceed in the process. The A2 Maastricht started with five selected market parties, and will be brought down to three by a selection of the project bureau, which acts as the agency responsible for the tendering. These three parties will have time to work out the solutions in more detail using public consultation, after which the final solution will be chosen by the civilian population of Maastricht (see table 5.6 for an overview of the planning process, the parts in italics are not completed yet).

Activity	Period
Explorative Study	2002-2006
First selection Routes	June 2006
Convenant	June 2006
Start of European tendering procedure	End of 2006
<i>Voluntary consultation of market ideas</i>	<i>2nd half of 2008</i>
<i>Choice of best plan</i>	<i>2nd half of 2009</i>
<i>Start of preparation for construction</i>	<i>2nd half of 2009</i>
<i>Draft Routeplan/EIS and land use plan</i>	<i>1st half of 2010</i>
<i>Consultation Round</i>	<i>1st half of 2010</i>
<i>Route Decision and start construction</i>	<i>2nd half of 2010</i>
<i>Infrastructure construction finished</i>	<i>2016</i>
<i>Real estate construction finished</i>	<i>2025</i>

Table 5.6 Overview of planning process project A2 Maastricht

The combined goal of the project, improving liveability and accessibility, also provided an opportunity for private parties to get involved in an early stage of the process. On the basis of the “Maastricht loses the road”-plan, four parties decided to initiate a competitive dialogue. These four parties are the municipality of Maastricht, the municipality of Meerssen (to the north of Maastricht), the province of Limburg and the ministry of VW, represented by the RWS; they made this official by undersigning the first governmental covenant on January 15, 2003. The four parties erected the *project bureau A2 Maastricht* acting as the project-managing agency, which defines the terms of reference, formulates an ambition document and co-ordinates the procurement procedure.

The competitive dialogue aims at creating optimised, integral plans, and in this case it consists of four rounds. In round one, getting acquainted with the project area and formulating goals is the main focus. The competitors present themselves and their goals in a project vision and a project management plan will make clear if the competitors are able to realise the project within the time and budget limits. The project vision and project management plan will be used to narrow the number of competitors down to three. At this moment, this phase has just been concluded. The three consortia that are allowed to continue in the competition are:

- Avenue2 (Strukton Concrete Construction, Strukton Construction & Real Estate, Ballast Nedam Infra, Ballast Nedam Development Company, ARCADIS Netherlands, Concire, West 8 and DGMR),
- BA2M (BAM Civil & BAM Roads, AM, BAM Real Estate and Haskoning Nederland),

- Unie van Maastricht (Volkerwessels, Heijmans, Rijnbout Van der Vossen Rijnbout, KCAP Architects & Planners, DHV, Witteveen + Bos, Lodewijk Baljon landscape architects and Zwarts & Jansma architects)

The second round of dialogue will lead to drafts for the integral plans. In this round, a discussion over the terms of reference and the scope is to be held in order to remove barriers for optimisation and surplus value of the integral plans. This round will be concluded by the end of 2007.

In 2008, dialogue round three will be held; a round that aims at realising different concepts for the integral plans. These plans have to be worked out in a way that all requested data is available to make it possible to judge the plan based on the terms of reference and criterion for granting. The effects of the integral plans have to be made clear in the form of a Routeplan/EIS. The result of this round will be made public and will be subject to discussion. The reactions of the public and other involved actors will be bundled and based on this consultation document, the plans will have to be adjusted. Public relations are important for the market parties in this phase, since the public opinion can influence the decision-making process. The involvement of the public will increase the support for the project, but it can be questioned if the public is able to form an objective view of the plans.

Round four of the dialogue will lead to the definitive integral plans, which will be checked for their price (can the plan be realised within the budget limits?), and their compliance to the terms of reference and criterion for granting. If this is found to be all right, the plans will be judged for their surplus value and the Granting commission will give an advice to the project bureau A2 Maastricht and the relevant authorities, after which the definitive choice is made. Figure 5.10 gives an overview of the planning process with the private involvement initiatives.

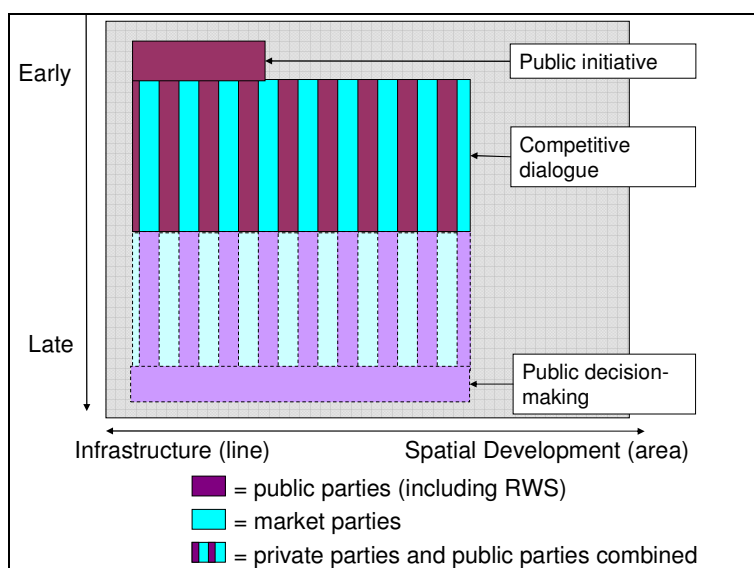


Figure 5.10 Scope of the private involvement in A2 Maastricht over time.

5.3.3 Environmental quality

The A2 Maastricht is one of the first projects in the Netherlands where private parties are actually involved in the early phases. The fact that the national government did not intend to spend money on the A2-project fuelled a search for alternative financing options; the lack of funds created a so-called “creative scarcity”. Because the project had such a strong liveability component, the link between infrastructure planning and spatial development could be made. Solving the infrastructural problem would mean that room for real-estate

development could be created. The surrounding neighbourhoods, and especially the areas of Nazareth, Limmel, Wittevrouwenveld and Wyckerpoort, can profit from a solution to the infrastructural problem, which will increase the environmental quality in the areas. Therefore it is interesting that the areas together are being designated as one of the fourty 'problem' neighbourhoods of the Netherlands under the name of 'Maastricht Noordoost' (Ministry of VROM, 2007a). The consequence of the link between the infrastructure and spatial development was the need for an integral plan, in order to deal with both the infrastructural and the social problems

In the terms of reference and the ambition document, a basic scope of the project is specified, the requirements for the solution are given and the ambitions with regard to the surplus value of the solution are made clear. The terms of reference are of a technical nature. If a solution does not meet certain technical requirements, the bidding party will be omitted from the competition. An example of a requirement is the budget of the project. Another aspect is the technical requirements of the tunnel. Seen in the light of this study, the ambition document is more interesting. It gives the surplus values: aspects, which are not required in the solution, but are desired by the bidding parties. These surplus values are extra qualities, which can be crucial in the final judgement of the solutions by Maastricht's citizens. This judgement does not entirely follow the usual economically most favourable bid (in Dutch: economisch meest voordelige inschrijving) approach, in which the price/quality ratio is the deciding factor. The decision in the A2 project will purely be on grounds of quality, more specifically the surplus value of the proposed solution, since the budget is determined beforehand. Figure 5.11 illustrates the position of the ambition document and the terms of reference in relation to the quality aspects of the project.

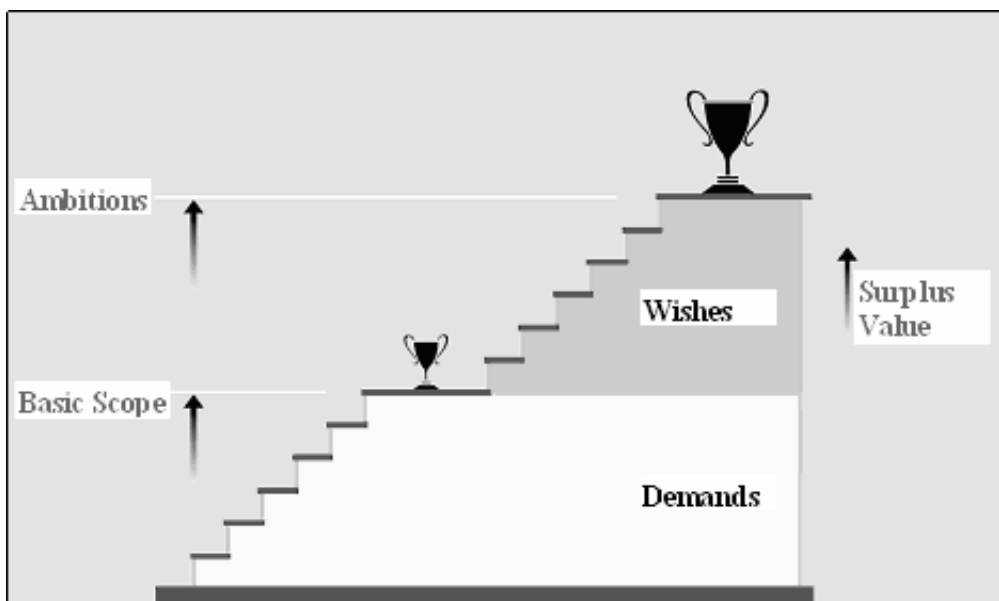


Figure 5.11 Demands and Ambitions. Source: Projectbureau A2 Maastricht, 2007, p.11

The competitive dialogue, as it is operationalised in this case, is a new approach. Although the process is far from being finished, it can be concluded that the approach certainly sparks creativity and is innovative in its combined dealing with land use planning and infrastructure planning procedures. With regard to environmental quality some points are worth mentioning.

The predetermined budget enables a judgement based on quality. However, it also limits the room for innovations. Another limiting factor on the degree of innovation is the predetermined 'solution'. In an earlier stage of the planning process, the decision was made

to regard the tunnel alternative as the alternative with the best prospects. This choice was made by the public parties and is being questioned by the market parties. They would have liked to have the opportunity to become involved in that decision as well, since it did influence the project in a crucial way.

Another point is that the approach, as it is being applied here, is expensive. Five parties work out solutions for the case, which means that the procedural costs could be five times as high than if a classic approach is being used. This money has to come from somewhere and it will affect the environmental quality of some project. If it is not in this project, the government or the market parties will cut down expenses in another project, thereby negatively affecting the environmental quality. It could be argued in this case to let only three parties start with the competition and bring this number back to one, instead of five parties that are brought back to three.

Furthermore, the approach is too extensive in the opinion of the market parties. Because the approach is new and the processes involved are complex, the public parties decided to work out the process extensively. Numerous steps are involved and every step is being controlled by the project bureau and the involved governmental parties. The extensivity of the process, aimed at controlling the risks, makes the approach lengthy, and subsequently increases the risks for the private parties.

5.4 Project Mainportcorridor Zuid

The Project Mainportcorridor Zuid (PMZ) is a road infrastructure project in the south of the Netherlands, between the cities of Rotterdam and Antwerp (Belgium). It involves the provinces of Zuid-Holland, Noord-Brabant and Zeeland. Table 5.7 displays the most important features of the PMZ.

Object	Corridor Rotterdam-Antwerp (A4 and A16, A17, A29, A49)
Subject	Improving accessibility and quality of life in the corridor
Budget	None (privately financed, budget not determined yet)
Start Construction	?
Finish Construction	?
Initiator	Rijkswaterstaat (and Ministries of LNV, VROM and VW)
Current phase	Private and Public reconnaissance study

Table 5.7 Overview of the PMZ project features

5.4.1 Context

History

The national government is aiming for public-private partnerships in infrastructure planning (Ministry of VW, 2007j). In 2005, these partnerships could use stimulation, so the government assigned 12 example projects. Among those projects are the A2 Maastricht Passage and the Schiphol-Amsterdam-Almere Corridor, but also the Project Mainportcorridor Zuid (PMZ, in English: Project Mainport Corridor South). This project is the odd one out in the selection of twelve, because the project was not made concrete at that time. It was (and still is) not a part of the MIT program, since it is supposed to be privately financed, but it is a part of the Randstad High Priority Programme (in Dutch: Urgentieprogramma Randstad). This programme “aims to accelerate the decision-making process to make the Randstad a sustainable and competitive regional leader in Europe, while taking into account the social, cultural and ecological needs of current and future residents” (Ministry of VROM, 2007c).

The PMZ project focuses on the corridors of the A4 and A16 in the Southwest of the Netherlands. The area along the A4 and A16 highways lies between two important

mainports: Rotterdam and Antwerp. The expectation is that the corridors position will cause the potential of the area as a business location to grow. A good accessibility of this area could strengthen this potential. The infrastructural context of the project is a special one, in the sense that there does not exist an urgent accessibility problem (another reason why MIT-funding is not available) in the corridor. Problems that do occur in the corridor, and which fuelled the search for alternatives, are the environmental issues (dust particles and noise issues) where the A16 crosses the city of Dordrecht and the “visual degradation” (in Dutch: “verrommeling”) of the areas next to highways at the A4/A29 in the West of the province of Noord-Brabant. To make the A16 cause less problems, and to prevent the verrommeling of the A4, the project Mainportcorridor Zuid is started.

Scope

The project aims at improving the quality of life and spatial quality of the corridor Rotterdam – Antwerp by planning, constructing, and maintaining the infrastructure in a different way. This different way should include an increase of support for the project, a quicker decision-making process, a more innovative project and creating surplus value for both public and private parties (PMZ, 2007a).

The goals of the project are realised by using a new approach to come to construction of the A4 route, which can be seen as the central element in the PMZ-study. The A4 contains different elements (for an overview of the elements of the A4, see figure 5.12):

1. The proposed connection intersection Hoogvliet to the intersection Klaaswaal (A29)
2. The existing A4/A29 Klaaswaal - Willemstad
3. The existing connection Willemstad – Dinteloord (A4/A29)
4. The A4 project Dinteloord –Steenbergen (start construction in 2008, currently Route decision/EIA)
5. The Steenbergen – intersection Zoomland (A58/A4) connection (ready in 2007)
6. Existing route from intersection Zoomland to the Belgian Border along the A4

As indicated, five of the six elements are built, or under construction. So, the construction in PMZ focuses on the first element, the connection between the intersection Hoogvliet and the proposed intersection of Klaaswaal on the A29, also called the A4 Hoeksche Waard.

However, another aspect, which makes this project special, is that the A16 and other highways are also part of the scope. These existing elements can be incorporated into the project to be able to guide the traffic in the corridor more effectively through dynamic traffic management (in Dutch: dynamisch verkeersmanagement), which is another goal of the project. This guidance is to be provided by charging a toll on the highway A4, but the other highways in the region (A16, A17, A29, and A59) and the secondary road network can also be brought into the project. This possibility is included because it is thought to be impossible to guide the traffic effectively using just one highway connection, because parts of the secondary road network could affect the free flow of traffic in the corridor.

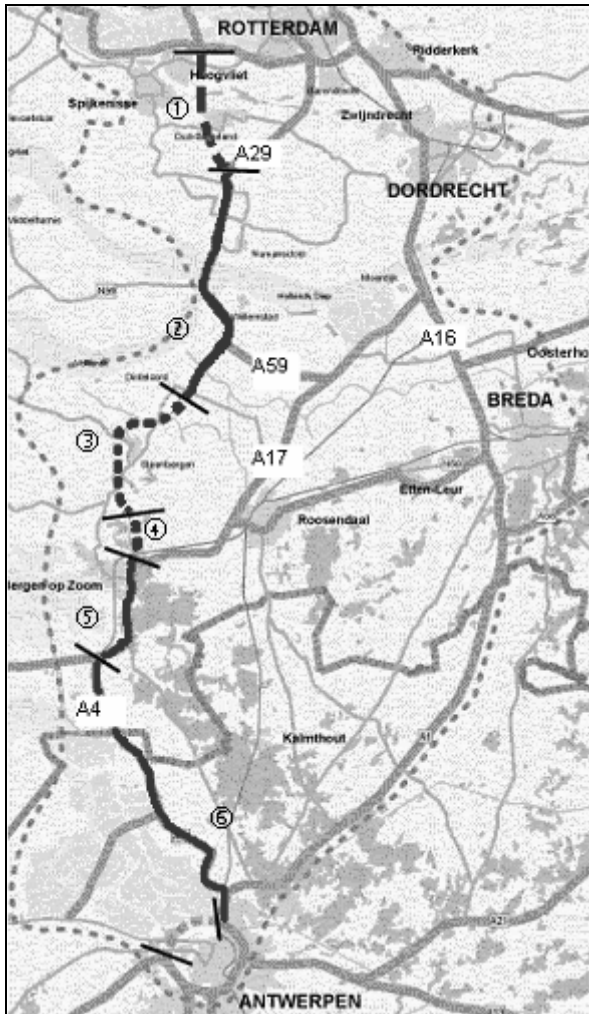


Figure 5.12 Overview of the elements of the A4

5.4.2 Private involvement and planning process

The approach used in this project is started by performing a public and a private market consultation. In this research, only the private market consultation will be examined. It consists of three phases: the exploratory phase (May 2005 – March 2006), the funnel phase (March 2006 – September 2006) and the detail development phase (September 2006 – September 2007).

The exploratory phase officially started in May 2005, when the Minister of VW invited market parties and other governmental parties to give their vision on the development and the bottlenecks in the area between Rotterdam and Antwerp. These visions are used to determine the scope of the project. The first phase of the planning process is concluded by a draft decision, which is “aimed at continuing the project as envisaged in the Starting Document and the process that has already been adhered to up to that point. A description of the scope, as it stood at the start, is included [in the decision]” (PMZ, 2007c).

The second phase is the funnel phase, in which a discussion is held over public-private partnerships and the definitive decision is made by the Minister of VW over the project. The decision states that:

- the central theme of the project is the development of the A4 as a free-flow route, with the accent on freight traffic,
- the construction of the missing link of the A4 through the Hoeksche Waard (the A4 South) enjoys the backing of the Minister, providing it is financed by private capital,

- for the development of the A4 corridor, the Minister is striving for an innovative form of public-private partnership.
- the purpose of the PMZ market consultation is to arrive at an optimum scope for a feasible business case and a workable type of contract for the A4 corridor, in order to prepare a future performance specification.

The seven selected parties to participate in this part of the project are:

- ARCADIS-concern
- Delta Greenway (AM Grondbedrijf, BAM, Haskoning en Siemens)
- Delta Netwerk (Brisa, Movenience, Vialis)
- First STEP Partnership (Strukton, TNO en Egis Projects)
- OVG Infrastructure Development
- TRAffic Partners (ABL2, Ballast Nedam Concessies)
- Vinci Concessions

In the detail development phase, this decision was taken as the basis to start the market consultation. It was officially started in February 2007 and will be concluded in September 2007. The key question in this consultation was: "From a private point of view, what is the optimum scope of a feasible business case and of a type of contract for the development of the A4 corridor?". The outcome is expected to include "a wide range of possible solution packages to be able to make a definitive performance specification" (PMZ, 2007d).

The public consultation involves local and regional governments (municipalities, provinces, Water Boards, regional associations). The public parties have been asked to come up with projects and suggestions to stimulate the input of substantial and realistic green, blue, and red projects that could add an extra dimension to the scope of the basic variant and their visions and point of view with regard to a form of public private partnership in the A4 corridor.

The outcomes of the private market consultation (discussed above) will be combined with the outcomes of the public consultation, to be able to set the definitive planning process, including the scope and ambitions with regard to quality of life and accessibility. This will enable the start of the tendering procedure at the end of 2008, after which the PPP can start around 2010. The exact form of the PPP is unclear; it could for example be concession-based or a joint venture. The planning process is displayed in table 5.8; the parts in italics have not been completed yet.

Activity	Period
Start of Exploratory Phase	May 2005
Start of Funnel Phase	March 2006
Start of Detail Development Phase	September 2006
Market Consultation (Public and Private)	February 2007 – September 2007
<i>Formulation of future market performance specification</i>	<i>End of 2007</i>
<i>Outline decision & covenant including scope and ambitions</i>	<i>First half of 2008</i>
<i>Decision to issue request for Tender</i>	<i>End of 2008</i>
<i>Decision to award contract for the operation of the A4, including the A4 South</i>	<i>End of 2009</i>
<i>Start of the PPP in the form of a concession or joint venture</i>	<i>2010</i>

Table 5.8 Overview of planning process project PMZ.

The planning process of PMZ is different than all other infrastructure projects in the Netherlands. Noticeable is the significance which is given to establishing a long-term vision of the project area. By giving the vision more attention, the result of the planning process, the proposed solution, will better relate to the desired outcome, the vision. In other infrastructure processes, this vision is subject to the influence of time pressure and often not formulated hastily, or not at all. This makes the approach more adaptive. The roles of the different actors in this case are also adaptive. The focus lies on reason and not on power. This makes that this case resembles the adaptive network model from paragraph 2.5.

Another noticeable difference is the approach towards public and private parties. The approach puts the initiative and the responsibility at the public and private market parties. The advantage of this approach is that it creates more commitment and could spark more creativity from those parties. However, the market parties are not used to such an approach. The unfamiliarity creates uncertainty and this could negatively affect the outcome of the process. For example the spatial development initiatives that are supposed to form the input by the public parties; the public parties are too slow to bring in these initiatives, since they are not used to such an active role. This causes the project to disregard opportunities to raise the environmental and integral quality and/or a delay of the planning process.

Another difference is the fact that the exact shape of the planning process has not been decided yet. This has the advantage that all options are still open, but the disadvantage that the uncertainty scares the market parties away. In this respect, it must be noted that the first phases of the planning process, up until the start of the Tender, are separated from the last phases. This enables market parties to be excluded in the vision building and joint-fact-finding, and be involved from the Tender onwards. This can cause the private parties to be reluctant to become included in the first phases, since it costs money and time to develop ideas. Subsequently, this causes the innovation-level of the project to go down; the private parties treasure their good ideas until the tendering phase.

Furthermore, the private parties are supposed to be looking at the whole area, but, in practice, the focus lies on the A4 highway. The solutions that are given in this project mainly aim at accessibility; the quality of life does not play a prominent role. This focus is displayed in figure 5.13 by the shifting of the figure over time from spatial development with an area perspective towards infrastructure planning with a line perspective.

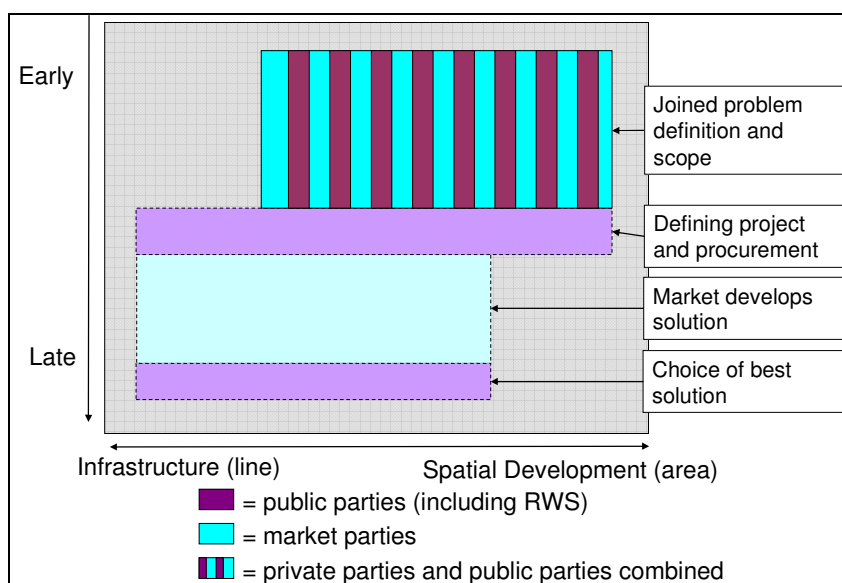


Figure 5.13 Scope of the private involvement in PMZ over time.

An aspect that could hinder the success of the approach is the lack of commitment by the national government. This lack of commitment can be seen in the reluctance of the national government to provide any funding. Of course, this project is aimed at looking for other ways to finance an infrastructure project, but providing some kind of financial support would indicate that the national government supports the project and takes its intentions seriously. Another factor, related to the one mentioned here, is the political decisions, which determine the future of the project. PMZ depends on the decision with regard to ABVM (see paragraph 4.2) and toll. This decision is crucial, since without the income of ABVM and/or toll, it could prove to be impossible to make a profitable business case for the A4-corridor. The scope of the private involvement over time is displayed in figure 5.13.

5.4.3 Environmental quality

The project includes a novelty in dealing with environmental quality. This novelty is the environmental utilisation space (in Dutch: milieugebruiksruimte, MGR). "In order to attain one of the PMZ objectives, to improve the quality of life, one of the things the Minister of VW has decided upon is to use the environmental utilisation space instrument. This involves public authorities reaching agreement with the operator about the maximum extent of the burden on the environment while the operator is running the A4 corridor" (PMZ, 2007b). The main point of the MGR is that the focus should shift from environmental legislation for the construction of infrastructure and other spatial developments towards agreements on covering environmental aspects during the use of the infrastructure. This exact operationalisation of the term is unclear yet.

With regard to environmental quality, it can be stated that this project is looking for opportunities to include substantial and realistic green, blue, and red projects. These projects are supposed to be part of the input by the public parties. Here lies one of the weaknesses of the project as a whole. The public parties are supposed to give up own ambitions 'for the greater good', since it is impossible for every municipality to, for example, develop a business area next to the highway. A selection of the projects and ambitions has to be made. To be able to give that degree of co-ordination of the ambitions, a public vision of the corridor is essential, and this proves to be very difficult to formulate (Haverkamp and Zijlmans, 2007).

This, combined with the fact that public parties are late in providing their input for the process and the reluctance of the private parties to share their ideas in the early phases, can threaten the environmental quality of this project. However, the new approach makes that the project can be characterized as a laboratory for infrastructure and land use planning approaches.

5.5 Conclusions

In this chapter, four cases were investigated for their approach to private involvement and the consequences for environmental quality.

The planning approach in the case of the Schiphol-Amsterdam-Almere corridor can be classified as a classic approach. However, initiatives are undertaken in this case to increase the private involvement. These initiatives are not successful because of the strict deadlines, the size of the project and the lack of knowledge about the spatial initiatives that could be included. Therefore, 'real' private involvement is not present in this case. The environmental quality could be greater, since the project uses a line perspective and spatial initiatives are only regarded for their ability to create support, as some form of compensation.

The case of the diversion of the A9 at Badhoevedorp started out as an integral plan. However, during the process two tracks were formed: one for the old route and one for the

new route. This causes a loss of integrality in the sense that opportunities to enhance environmental quality are neglected. A cause for this separation could be the complexity, since the new route is much harder to plan, than it is to develop at the old route. This could be the explanation for the fact that the private involvement is higher in the 'easy' redevelopment of the old route, and that Rijkswaterstaat has chosen a classical approach to tackle the more complex situation at the new route.

The third case was the project of the passage of the A2 at Maastricht. This project used a new approach, the competitive dialogue. This approach was worked out extensively and detailed, making the process lengthy and costly. However, the approach is successful in involving market parties and stimulating innovation to enhance environmental quality.

The last case discussed in this chapter was the Project Maincorridor South. The approach in this project is new and adaptive; the project functions as a laboratory for new private involvement approaches. The reconnaissance phase is extensive and the creation of a vision before generating solutions could prove to be worthwhile. However, the current set-up of the project has a separated plan-making and tender phase. This enables market parties to save their innovative ideas for later, causing the project to miss possibilities to enhance the environmental quality. Another disadvantage is that the later phases in the approach are still unclear. This might cause uncertainty, resulting in the loss of the integral view, causing the project to shift more towards a line perspective.

In the next chapter, the cases discussed in this chapter, will be analyzed further. A comparison between the cases will be made in order to be able to formulate conclusions about private involvement and environmental quality.

Evaluation

How to involve private parties best

6

In this chapter, the case studies, discussed in the previous chapter, will be analysed. The findings will be related to other initiatives in the field of infrastructure and land use planning. The projects will be analysed for general aspects, approach and planning process, private involvement and environmental quality.

6.1 General aspects

General aspects that play a role in the success of a project are the budget of a project, the size and character of the project area and the political significance of the project. For the case studies, the aspects are displayed in table 6.1.

Naturally, the public budget of a project plays an important role. Often, projects are not being executed because the necessary governmental funding is not available. However, the budget only plays a crucial role in a certain phase of the project. If that phase is completed and the decision is made to put the project into practice, the realisation is almost ensured, no matter the costs. This can be illustrated by the Betuwe-railway project, which has cost more than expected, but cancelling the project would have meant an even greater loss of money, so the project was continued. Another issue in the provision of budget is apparent in the Zuiderzeeline project: in that case the money was provided, but the project did not seem to be effective enough to become reality. However, the national government has to compensate for the promises that were already made and invest in the project area of the Zuiderzeeline.

The budget is important for the success and the quality of the end result of the project, since it sets the limits for a project. However, the budget is not always a limiting factor. The Project Maincorridor Zuid (PMZ) does not have a public budget available. This creates uncertainty, which can fuel a search for different ways of funding; for example by letting parties pay per surplus value. This means that public parties can decide to make money available if the choice is made to construct the variant of their preference, e.g. extra money being provided by the municipality for constructing a tunnel under a neighbourhood, instead of a highway on ground level. By not providing any national governmental budget, 'creative scarcity' can stimulate the innovativeness.

Another factor that could play a role is the size and character of the project area. If a project area has an urban character more actors are involved, which have higher stakes. An example of such a project is the project study Schiphol-Amsterdam-Almere (SAA). The Project Maincorridor Zuid is of a more rural character. This makes it easier to make deals, since there is less pressure on the available land. However, in the case of the Project Maincorridor Zuid, the sheer size of the project area influences the success greatly. The whole corridor between Rotterdam and Antwerp is being considered. As a consequence, a lot of public parties are involved, all with own agendas. This makes it more difficult to complete a planning process successfully.

The last general aspect, which can influence the success of a project, is the political significance, which is being given to a project. This aspect is closely related to the budget, since significance is mostly operationalised by providing a budget. However, political significance is also operationalised by formulating policy, thereby facilitating the project. In the SAA-case, there is a strong political commitment, which speeds up the planning process. However, political commitment can easily become political pressure, resulting in projects,

Wessels Real Estate, decided to make an integral plan for the area, involving a 'tunnel on ground level' combined with public transport facilities (Buunk and Linssen, 2007). Typical for the project is that the consortium acted as the delegated planning agency, responsible for the co-ordination between the parties, the communication with the involved stakeholders and the distribution of the necessary permits and licenses for the construction. Especially for Rijkswaterstaat, this meant a change in their approach: from a classical supervisor focused on the road, to an observer on the background, keeping an eye on the road and its environment and their relations (Edelenbos and Demoet, 2004).

The attitude towards problem solving is closely related with the role of research and the use of information in a project. If a project is aimed at optimisation, quantitative data will play an important role. This information is then used to set goals, and formulate standards to be achieved. In current infrastructure planning, these standards and guidelines make it difficult to successfully plan a project. Several projects have stranded in court, for example because one of the numerous goals was not addressed in a solution, or a factor was not fully or adequately investigated. An example is the A4, between Burgerveen and Leiden. In this case, the highway was proposed to be broadened from two lanes in each direction to three lanes in each direction. But, environmental groups successfully appealed against the Route Decision, stating that the effects on air quality were not sufficiently investigated (Ministry of VW, 2007c). This illustrates that if the responsible authorities aim at quantitative data and use information as facts, it can cause problems during the planning process. Instead, the planning process of the case of the A4 Burgerveen-Leiden could be improved by involving the environmental groups actively in the planning process.

The character of the decision-making process and the role of the involved parties are also related. The first ranges from hierarchical to adaptive and resembles the power networks and adaptive networks as defined by Nootboom (2006) and discussed in paragraph 2.5. Power network approaches are based on one powerful actor who steers the decision-making process. The role of the other involved parties is to follow the instruction of the dominant actor. The SAA-case is an example of a case with such a hierarchical decision-making process and an approach that can be typicalised as 'hedging'. The hierarchical approach can also be characterised by the fact that each party has its own 'hidden agenda' (see paragraph 2.5); the planning process has a closed character. The fact that some of the traditional tasks in the case of SAA, like drawing up the Routeplan/EIS, are delegated to market parties does not affect the character of the project as a classic, hierarchical project.

An adaptive decision-making process is open and less structured than the hierarchical process. Whereas the hierarchical process is aimed at fitting the project into the process, the adaptive approach is fitting the process to the needs of the project and can be characterised as 'flexing' (see paragraph 2.4). All the involved actors have an active role in the decision-making process, and could even get decisive power in the decision-making process. Public private partnerships and other forms of governance are examples of adaptive approaches, where actors, other than the government, are actively involved in formulating a combined planning agenda.

The role of expert as defined by Van der Heijden, could in this study also be seen as the role of Rijkswaterstaat. Rijkswaterstaat is currently undergoing a change from the technocratic expert, towards a role as process manager. However, this does not account for all the projects Rijkswaterstaat is involved in. The SAA-case and the A9 Badhoevedorp are examples of cases where Rijkswaterstaat plays the role of technocratic expert, possessing all the knowledge and skills to execute a project on her own (or at least pretending to possess them). The case of PMZ illustrates how Rijkswaterstaat can play a different role, the role of process manager. This role involves co-ordinating the interests of the different parties

finished yet, there is not much room for incorporating spatial elements, since strict deadlines are formulated. The linear approach was not beneficial to the private involvement. Consulting agencies, landscape architects and process managers, which specialise in bringing creativity into more integral approaches, are being disregarded to be able to put the building companies to work as quickly as possible.

The A9 Badhoevedorp case started out as a project with an integral view. In the plan by Bohemen, the old and the new route were both considered, and advantages and solutions were found for the area as a whole. The project got split up on the way, and now the private involvement can only be found in the real estate development in the area of the old route. The initial integral perspective has become lost over time. However, chances are still there to make this project have more of an area perspective.

The A2 Maastricht initially started out as a regular project, but when budget was extracted from the project, a perspective more aimed at integrality proved to be the solution. Incorporating real estate development into the project generated private involvement. The exact results of the project are up until now unknown, but for sure did this project gain quality and creativity through the private involvement.

Project Maincorridor Zuid is the first project that aims at incorporating private parties integrally from the beginning. This means that private parties are involved in the problem definition and all the later phases. The project has an area perspective, but it must be noted that it seems that it will get an infrastructural focus. How much this shifts the approach and solutions to a line perspective is still unknown. Figure 6.1 displays the perspectives of the projects over time.

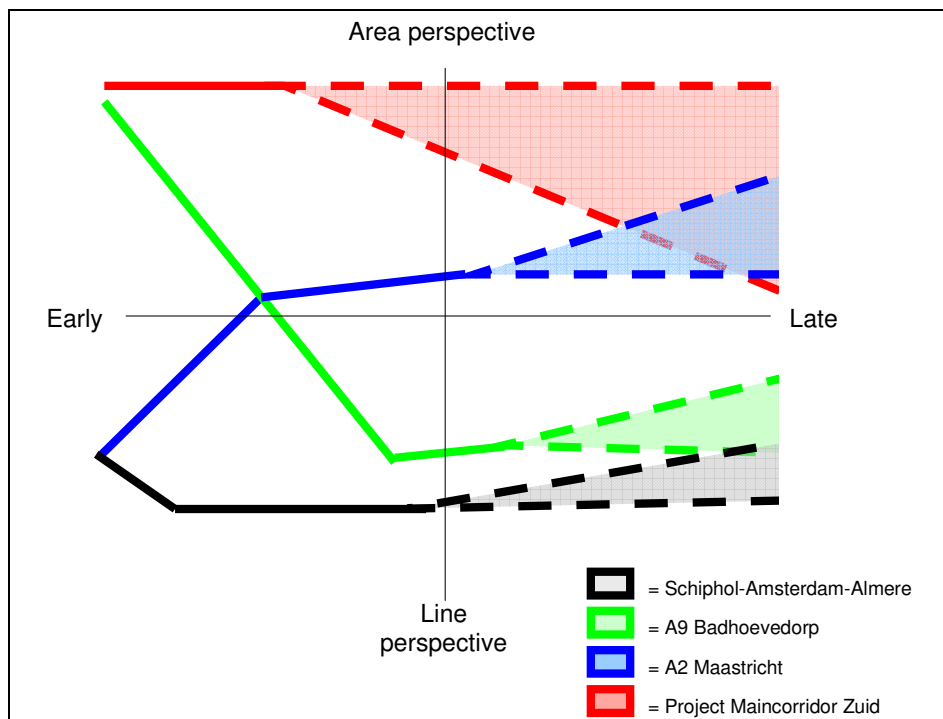


Figure 6.1 Classification of the perspective over time

Another important factor in the success of private involvement is the way in which the link between the different phases in the infrastructure process (reconnaissance, plan-making and construction) is established. This link has consequences for the willingness of the private parties to actively participate in a project and depends on the role and character of the

private parties. In general, three types of private parties can be distinguished: the consulting companies, the contractors and the developing agencies.

The consulting companies provide the (technical) expertise in the planning process that is not provided by governmental agencies. These companies want to be involved in the planning process, but do not have a direct interest in the construction of a project as long as they are paid for their contribution. These companies earn their money in participating in the planning process and do not necessarily seek integration of the plan-making and realisation phase. If a project succeeds is not directly relevant to them, as long as they get compensated or paid for their input. Early involvement in the planning process is beneficial to them since it could result in new business opportunities, for instance by acting as a delegated planning agency (as illustrated by the designation of the Routeplan/EIS in the SAA-case, see paragraph 5.1), but is not of vital importance.

The contractors have different stakes in the planning process, compared to the consulting companies. In the Netherlands, examples of contractors are Heijmans and Van Hattum and Blankevoort. Most contractors have no direct interest in getting involved early in the plan-making process, unless it improves their chances of being involved in the construction. Contractors aim at keeping their machines and equipment running, providing enough work for their employees, and thereby maximising their turnover. The contractors are mainly involved in the construction of the infrastructure and its special components, e.g. fly-overs and tunnels. A coupled plan-making and realisation process with early private involvement will not have their preference, since it involves a different approach and attitude, and will make the role of the contractor more demanding. They only want to be involved in the (reconnaissance and) plan-making phase if their role in the construction can be guaranteed. If not, they want to be compensated. This compensation is more than the sum, which is paid to the consulting companies, since in the plan-making phase contractors (unconsciously) put effort in the preparation of the realisation phase. This makes that the costs involved are higher.

The developers consist of the companies that really wish to be involved in the planning process as soon as possible. They aim at eliminating the other competitors as soon as possible and establish a one-to-one relationship with the responsible authority to ensure a maximised profit. This profit can only be realised if some risk is involved. By seizing the opportunities generated by the planning process, a developer can manage to attract businesses and gain profit. In the eyes of the developer, linking the plan-making and the realisation phase will create more opportunities and is therefore attractive. The developers are not directly interested in the infrastructure, but mainly in the spatial development, and more specifically, the real estate development. From the cases described in the previous chapter, Bohemen is the party that fits the description of a developer best. The scope of the private involvement is displayed in figure 6.2.

It must be noted that the division of the private parties into three categories could be considered a bold one. Of course, there are grey areas between the types of companies, and some companies do not fit a category at all. However, this division makes the different involved stakes clear and does correspond to the general image that can be attached to the market parties involved in infrastructure planning.

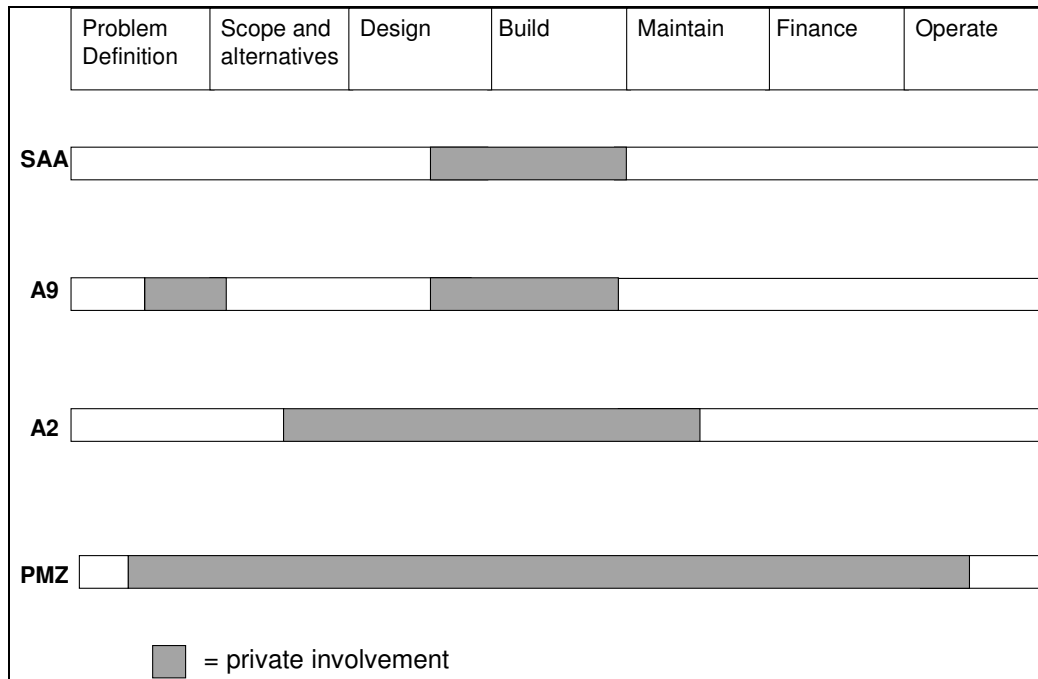


Figure 6.2 Scope of the private involvement in the case studies over time.

Comparing the three parties, it could be stated that the developers are most interested in early private involvement. They recognise opportunities and risks before governmental parties do, and can play an essential role in finding the financially optimised solution. They can give an impulse to stagnated planning processes and fuel the search for alternative solutions. The other parties are also necessary for the project to become a success, although their usefulness is limited to a certain phase of the project. Consulting companies are useful for the factfinding in the reconnaissance and plan-making phase and contractors are primarily useful for the construction in the realisation phase. Since different sorts of private parties are involved in different phases of the planning process, private involvement in the form of some sort of competition (e.g. competitive dialogue) causes consortia to be created. Not all the private parties are happy acting in these consortia. The consulting companies are indifferent whether competitive approaches with consortia are used or not, as long as they get compensated for their labour. The contractors are not happy, because the early involvement means more risks, and no guaranteed assignment of the construction. Happy are the developers, they can use the expertise and the roles of the other private parties to strengthen their position in the planning process, and thereby improve their chances to become involved in the lucrative businesses that are included in the project. These businesses can become very tricky, especially in the case of an unstable planning process. Private parties can be tempted to intentionally blow-up the planning process and quickly make exclusive deals with the separate parties to make a bigger profit. The real estate world is more accessible for such deals than the infrastructural world, because municipalities have more influence and freedom in their real estate policy, and therefore they can become a victim of sly entrepreneurs (e.g. in land speculation) more easily.

The private involvement can be characterised by the type of governance involved (see paragraph 2.6). The distinguished forms are co-ordination, competition and argumentation. The planning process as it has now been given shape incorporates the three forms. The co-ordination takes place in the reconnaissance phase, where the responsible authorities set out the problem and scope. An exception is the PMZ-case in which responsibility for the formulation of the problem and the approach is given to the private parties. The

argumentation model of governance is mainly applied in the plan-making phase, in which reasoning plays a big role. The competition is limited to the construction phase, and differs in the degree of private involvement. The SAA-case considers alternatives formulated by the government, whereas the A2 Maastricht case considers different bids from private parties. The ways to involve private parties and the openness of the project can be displayed for the different phases of the cases like in table 6.3.

	Reconnaissance	Plan-making	Construction	Maintenance	Exploitation
SAA	Public and informing (rung 3)	Public and informing (rung 3)	Private	Public	Public
A9 Bad-hoevedorp	Private and partnership (rung 6)	Public and informing (rung 3)	Private	Public	Public
A2 Maastricht	Public and informing (rung 3)	Private and placation (rung 5)	Private	Public/ Private	Public
PMZ	Public/private and partnership (rung 6)	Private and partnership (rung 6)	Private	Private	Public/ Private

Table 6.3 Characterisation of participation in the case studies.

6.4 Private involvement initiatives and tools

In chapter four, some current market initiatives were discussed. If the cases as discussed in chapter five are regarded, some remarks have to be made regarding these initiatives.

The first remark has to do with the usability and aim of the initiatives. The market scan and the market consultation are used to investigate the possibilities for private involvement. But these initiatives are limited in their effectiveness. The government is the 'asking' party: it determines the rules and guidelines of the scan. Market parties limit themselves to responding to the questions of the government. Here lies a weakness of the initiative: the government is unable to place itself in the position of the market party and get the maximum output from the market. Instead, market parties keep the ideas to themselves in order to use them in a competition. Bringing in ideas can be profitable for a project as a whole and thereby serve the needs of the government, but a market party has different goals. Using the ideas in a later stage could improve their chances of getting awarded with the construction of the project.

Secondly, private parties are not that interested in getting involved early if the planning process is cut in two. Often, the early private involvement is concluded with the formulation of a scope and alternatives, after which a separate bidding process is started. In this bidding, all parties can join, whether or not they were involved in an earlier phase; so private parties have to be rewarded to become actively involved. This could be done by a financial compensation, but generally the private parties are more interested in construction and compensation is not good enough for them.

Thirdly, the private involvement initiatives are not supported by public involvement initiatives. In order to make private involvement a success, the public side of the planning process has to be arranged better. This is a problem, since it proves to be difficult to reach public agreements for a whole project area. Municipalities have their own, conflicting agendas, and the co-ordinative role of the province is not as strong as it could be. So private involvement initiatives are useless, if they are not combined with public party cooperation initiatives.

The fourth remark that could be placed with private involvement initiatives is that a forced search for private involvement could prove to be ineffective. If a project is profitable, in the

sense that a proper business case can be made, market parties will automatically be interested in a project and the government can play a co-ordinating role. If not, the government has to make a choice whether to keep the approach to the project intact and personally account for the risks of time and budgets overruns, or expand or reduce the scope and perspective of the project in order to make it profitable for market parties to join in. Both have disadvantages, and therefore the 'forced' character of the private involvement initiatives should be carefully reconsidered.

Another remark has to do with the differences between spatial development and infrastructure investments. In general, infrastructure investments in the projects are much higher in the projects than the investments in spatial development. Curiously, most of the profit can be made in the spatial development sector. This shows that there are tensions involved between the elements; tensions which could result in unbalanced outcomes of the planning competitions if the focus lies too much on one element. The difference between spatial development and infrastructure is also reflected in the pace of the different planning processes. For example, local governments are often too late to bring in spatial development initiatives in the infrastructure projects. The pace of the infrastructure planning process is higher, caused by strong deadlines and the structured approach.

A last remark can be made considering the co-ordination of the alternatives. Currently, a lot of new instruments are developed and experiments are undertaken in combining infrastructure and spatial planning. It could be argued that there is a lack of co-ordination in the initiatives (Van Reeuwijk, 2007). This makes it difficult for the involved parties to get a grasp of the available instruments, which could result in chaotic, non-transparent planning processes. In that case, the power to convince, as defined by Latour (see paragraph 2.3), will become important. The most powerful actor can then make use of the circumstances and force an approach to be adopted, although its effectiveness has not been proven.

6.5 Quality and Sustainability

An aspect of private involvement that creates a tension with the governmental agencies is the aim of the bids that result from the involvement. The bid of the private companies, often in the form of consortia, "for the right to build and operate the road pushes the bidders towards a profit-maximising design, which will typically be quite different from a surplus-maximising road" (Verhoef, 2005), which could relate better to the wishes of the society as a whole. This relation between the profit-maximising private parties and the need for surplus-maximising the projects in order to improve the environmental quality will be discussed in this paragraph.

It is difficult to describe the relation between private parties and environmental quality. This difficulty is caused by the short history of private involvement as it is now arranged in the infrastructure planning of the Netherlands. For example, the projects discussed in the previous chapter are still in the plan-making phase and therefore do not have concrete results (highways) to evaluate. Additionally, the initiatives, discussed in chapter four, have only just been developed and are not yet evaluated. This makes it difficult to predict the long-term influence of the private involvement at this moment. However, by describing the adaptiveness, the flexibility and the integrality of the projects, the long-term influence could be analysed and thereby a judgment of the environmental quality of the projects could be given. In this paragraph, the projects are also characterised for their way of combining spatial planning and infrastructure planning. Figure 3.2 will be used to reflect on this.

The SAA-case is dominated by deadlines and political pressure. This makes it difficult to combine the infrastructure with the opportunities for spatial development. Furthermore, the deadlines could cause little problems that occur to become big ones, because no time is

available to adapt the process and the project to the changing context that causes these problems. So, by given the process such a deadline-driven orientation, flexibility is lost. The political significance also causes the project to be approached very traditionally; it is dominated by the national government in the form of the ministry of VW. This means that the creativity is low; there is no room for innovative input from other parties. This has consequences for the environmental quality of the project, as, like stated above, there is no room for spatial initiatives in this project. This makes that this project perfectly fits the description 'differentiation' of the model A-project (in figure 3.2). The projects focus lies at the infrastructure; incorporating spatial development could only delay the progress of the project.

The A9 Badhoevedorp case illustrates how a flexible approach can be captured in the strong and strict guidelines of traditional planning. It also illustrates how an integral view and area-based perspective can be lost during the planning process of a project. This has consequences in the sense that combination opportunities are lost. Chances to create support for the project among the inhabitants of the project area by combining the infrastructure planning while enhancing the environmental quality are neglected. Of course, this approach has its advantages. The separation of the infrastructure and the spatial development tracks can be assigned to the complex character of the context of the project. Different stakes conflict with each other, for example the economic value of expanding the Schiphol airport conflicts with the liveability issues of the inhabitants of Badhoevedorp, who experience hinder from airplanes from the airport. However, the complexity could also be an argument to maintain the area-based perspective, since it is impossible to build a road without given attention to its surroundings. Considering the above, the project started out as a model D project (see figure 3.2) in which spatial development and infrastructure planning were combined. Over time the project became more differentiated, and can now be characterised as 'mitigation', a model B project.

The A2 Maastricht case illustrates how a difficult liveability-driven problem can be tackled using an area-based approach. The projects integral view is admirable. It succeeds in bringing spatial initiatives that can improve the environmental quality of the project area into the infrastructure project. However, the approach also has some important downsides. There is room for innovation, but not for the whole project. The predetermined tunnel solution limited the innovativeness, and limited the creativity in improving the environmental quality of the project. Furthermore, the approach chosen in this project is costly, which increases the risks involved. Private parties are in doubt if they want to be involved in another project using this approach, since it demands a lot of effort from the parties over a considerable amount of time, and no guarantees for the assignment of the project to the private party can be made beforehand. In this project, the infrastructure and spatial planning are combined, but from a later stage. In the early stage of the project, only the infrastructural side of the project existed. The project can therefore be characterised as a model C 'co-ordination' project (see figure 3.2).

The PMZ-case is the most extreme case in its approach to the private parties. The private parties are involved from the beginning, resulting in creative and feasible solutions. However, the vision of the project area is not made clear by the public parties, causing insecurity among the private competitors. It is unsure how this insecurity will affect the creativity and the integrality of the proposed solutions. It could result in 'creative scarcity' (scarcity stimulates the creativity of the solutions so that they make optimal use of the available resources), but it could also result in 'safe solutions'. In that case, the parties decide to compensate the insecure conditions by using classical solutions; solutions which have already proven themselves in practice. Overall, the project uses an integral area perspective, which could prove to be too difficult to operationalise. However, the lack of a clear public

vision and the insecurity it causes, makes that the project could shift more towards the line perspective. This would improve control over the project, but the loss of integrality also means a loss of creativity; chances to improve the environmental quality are missed. So the project can currently be characterised as a model D 'combination' project (see figure 3.2), but chances are that the project approach could change into a model C 'co-ordination' or even a model B 'mitigation' project.

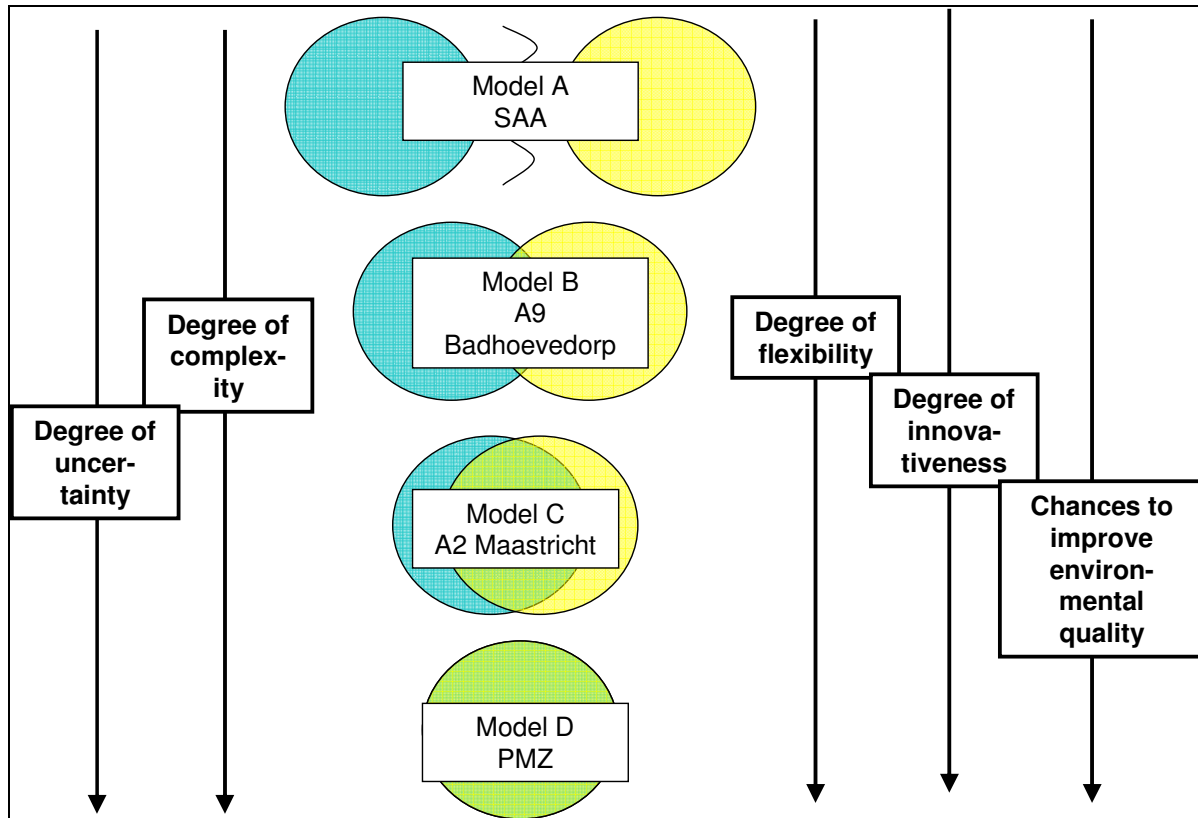


Figure 6.3 Positive and negative aspects of integrality.

As stated before, environmental quality is not easy to define, and certainly not easy to operationalise and fit into a project. However, by aiming at sustainable, long-term solutions, environmental quality could be addressed, albeit in an indirect way. It must be noted that all the investigated projects take environmental quality into account, but not always as obvious or explicit. In general, other factors like time and budget play a more important role in the choice of the approach. The choice whether or not to include spatial development elements in the approach is determined by those factors. Combining spatial development and infrastructure planning (using an integral approach) can lead to possibilities to improve environmental quality. However, uncertainty at both the public and the private parties makes it difficult to operate an integral approach from the beginning. The involved risks, caused by lengthy procedures and legal instability, can scare the private parties away. A solution to this problem could be to institutionalize the planning process by more clearly defining the starting conditions. This will reduce the uncertainty and cause a project to move more towards Model A. The institutionalisation in its turn will affect the degree of innovativeness. The more an approach is institutionalized, the less room for innovation exists (see figure 6.3).

6.6 Conclusions

Private involvement can play an important role in the infrastructure planning of the future. It remains a question how to operationalise this involvement. Every project is different in for example its budget, size of the project area or political significance and therefore requires a different approach. The aim of the government should always be to maintain or improve the environmental quality and balance ecological, social and environmental values, the values that are a part of the TBL-approach in paragraph 2.2. Private parties do not share this aim, but primarily consider the profit, speed and effectiveness of a project to be important. So, if private parties are solely responsible for the planning (of infrastructure), the three legs of the three-legged stool (Kaiser et al., paragraph 2.2) will not be balanced, and the stool will fall.

The perspective of the projects is an important aspect that determines the shape of the private involvement. It determines whether a project will be mainly attractive for contractors or for developers. In general, contractors are more interested in classical infrastructure planning with a line-perspective and a focus on the construction of infrastructure, and developers are more interested in projects with an area-perspective, generating opportunities for spatial development. Because different types of private parties exist, which all have their fields of expertise, integral approaches cause consortia to be formed.

Different remarks can be made about the current initiatives to involve private parties. Integrating the planning process by combining the explorative phase and the competitive phase is not considered to be favourable by most of the private parties. They are not properly rewarded for their innovative input, so the results of the explorative instruments like the market scan and the market consultation turn out to be meagre. Another remark can be made about the totally different standpoints of the public and the private parties. This makes it difficult to imagine the others' position, and makes it difficult to get the optimal result out of the dialogues. A third remark is the fact that public involvement initiatives are lacking. It proves that private involvement is very difficult if the public parties have not set a common basis for negotiation. This basis consists of a vision for the project area and recognition of the problems and ambitions.

With regard to the quality and sustainability of the infrastructure projects, the adaptiveness, the integrality and the innovativeness are important. Adaptive approaches have a low degree of institutionalisation and a high degree of uncertainty. This uncertainty can for example be created by a lack of funding, resulting in creative scarcity. However, a project is difficult to start up if there is too much uncertainty. Some basic conditions have to be provided for a project to become a success. An example of such a condition could be a proper problem definition. Integral approaches, over space (area-perspective) and time (intertwining the plan-making and construction phases), can prove to be beneficial for their opportunities to improve the environmental quality through innovative approaches. However, they are also difficult to bring into practice, and could turn out to be too risky for private parties to get involved in.

Conclusions and recommendations 7

The privatised road to quality

In this chapter, the (sub) research questions, as formulated in chapter one, will be answered. In the second paragraph, recommendations will be given to improve the planning process. After that, some reflections over the research are given.

7.1 Research conclusions

In current infrastructure planning, both public and private parties have no clear defined positions. The public parties consist of the responsible authorities and the other involved public parties. The responsible authorities are involving the private parties into the reconnaissance and plan-making phases of infrastructure projects. This means that the government must have the ability to think as a private party, in order to make such cooperation a success. Private parties, on the other hand, are faced with a government that is becoming less dominant in its approach to infrastructure projects. This opens up opportunities for private parties to use their expertise to gain a position earlier in the planning process. Looking at the relations between the government and the private parties, it is essential not to forget the role that other public parties can play. Public support for a project is essential and can only be realised if the stakes all the parties involved are regarded.

There are different opportunities to involve stakeholders in the early stages of infrastructure projects. First, a planning process can only be started if there is a public agreement or public covenant on the goals of the planning process. Without this agreement, it is very difficult to involve market parties in the earlier stages of planning, since market parties cannot make a successful bid until the governmental parties have decided on the desired end-state and accompanying criteria for judgment. In the formulation of the project scope and the definition of the alternatives, stakeholders can either have an active role as one of the defining parties, or be involved as part of a feasibility check. In this check, the stakeholders have to value the defined problem, scope and alternatives for their feasibility and completeness, and can give advice on how to improve the planning process. Either way, by involving the stakeholders in the earlier stages of the planning process, they become emotionally involved, creating a positive atmosphere that stimulates the support for the project. This positive atmosphere can be fully utilised by the stakeholders, since they could have more freedom in negotiating with the other involved stakeholders than the governmental parties do. The reason for this is that the government is very scared of making promises, because promises are interpreted as commitment and these have to be accompanied by funding. A downside of involving stakeholders is that the eventual outcome could lose its effectiveness, because the compromises that are made during the planning process weaken the focus of a project.

Private parties have several reasons to become involved in the earlier stages. First and foremost, they see opportunities to make a profit in the infrastructure planning. However, these opportunities are different for each company and largely depend on the character of the company. Consulting companies see early involvement as a way to expand the scope of their business to the early stages. Contractors are not that so much interested in early involvement, since they regard the early stages as complex and rather carry out the results of a classic planning process. But, the fear of being left out in the eventual project stimulates their willingness to participate early. They are afraid of missing a chance to increase their

turnover, so if joining increases their chance of being awarded with the project, they are happily to co-operate. In addition to this, the fear of being left out of a big project and the consequences that this might have for their reputation as a “big builder” forms another factor to join-in the process early. Developing companies are interested in joining the early stages of infrastructure planning; they see it as a chance to eliminate the competition early. As a consequence, the developers are keen on making arrangements early in the process, to guarantee their later involvement as early as possible. It must be stated that the developers are mainly aimed at the spatial developments that are coupled to the infrastructure project. They see that the business opportunities occur in the spatial development sector, and mainly in the development of real estate.

Category	Attitude towards early involvement	Incentive for early involvement	Deterrent for early involvement
Consulting companies	- Positive	- Chance to increase business and deploy their employees	- No capacity to construct individually
Contractors	- Not interested	- Fear of being left out in the bidding process and miss chance to increase turnover - No participation in bidding process will damage their reputation as 'big builder'	- Early stages of the planning process are too complex
Developers	- Positive	- Chance to eliminate competition early - Incorporating spatial development elements that are profitable	- Too complex planning processes can prove to be too risky

Table 7.1 Incentives and deterrents for early private involvement for the different categories of private parties.

The planning practice shows that early private involvement is one of the solutions for the shortcomings of the current infrastructure process. By involving private parties, the project could gain more support. This is due to the fact that the public parties first have to agree on the path to be followed. So by involving private parties, the public parties are stimulated to become more actively involved in the formulation of the vision and the goals for the project area. The private parties cannot perform this, since they cannot represent the ecological and social values objectively. So, involving private parties in a proper way certainly does not mean that the responsible government party can put less effort in the preparation of a project.

Another aspect in the private involvement is the insecurity over the set-up of the planning process. Currently, a lot of planning processes clearly separate the explorative phase (determining the vision, scope and alternatives) from the competitive phase (making solutions, formulating bids and starting construction). By setting a strict boundary between those two phases, the private parties involved in the preparation are not stimulated to come up with their best ideas. They will keep their innovative ideas to themselves to avoid cherry picking and use them in the competitive phase.

The differences between the spatial development elements and the infrastructural elements are also an important aspect in the evaluation of the planning process. The speed of the infrastructure planning process often causes spatial development initiatives to be brought in too late, resulting in missed opportunities to enhance environmental quality. Spatial development initiatives and infrastructure also differ in their size. Generally, the infrastructural investments in a project are much higher than the spatial development investments, while the profit can be made at the spatial development-side. These differences have to be acknowledged in the planning process, in order to prevent unbalanced bids. The

integral approaches to planning also involve the combination of different procedures. These different procedures can lead to a planning process that takes too much time for the private parties. The risks involved in such lengthy planning processes can prove to be an obstacle for the private parties. These risks are especially visible in the A2 Maastricht case. Despite the large procedural costs, the competitive dialogue approach used in this case, can be regarded as most effective in stimulating innovativeness and safeguarding environmental quality.

Eventually, there are several factors that determine the shape of the planning process and the degree of private involvement. First, a budget can provide certainty and thereby stimulate the interest of the private parties, but also limits the innovativeness, because there is no challenge to find new planning approaches and ideas. The political significance is related to this budget, since political commitment is generally translated into funding. Political significance also has influence on the factor time. Strict deadlines and political pressure can decrease the possibilities for combining spatial development and infrastructure planning and thereby decrease the chances for private involvement. However, private parties do not want planning processes to take too long because of the involved risks, so some political pressure is essential.

This leads to the conclusion that in order to cause private parties to stimulate the environmental quality of projects, it is essential to find a balance in the factors budget and time, and push the right buttons to stimulate the search of private parties for innovativity. The current instruments to raise private involvement could prove to be useful, but a critical reflection is difficult, since they have not been applied over a longer time. By using an integral approach to infrastructure planning, both in time and space, chances to improve the environmental quality occur and private parties can prove to be very useful in turning these changes into reality. This approach has to combine public steering, which determines the place of the public party in relation to the planned object; market functioning, which determines the place of the private parties in relation to the planned object; and the process of spatial development itself, in which the involved parties together in an active way determine the transformation of the (built) environment.

Table 7.2 gives an overview of the most important conclusions from a general, project, public party and private party perspective. The conclusions are arranged according to the character of the project, which are: active early private involvement in an integrated planning process (an integral project over time, without a boundary between the explorative and the competition phases), passive early private involvement in a staged planning process (a project with separated explorative and competitive phases, or projects with private parties performing a feasibility check) and no early private involvement.

Perspective	Element	Advantage	Disadvantage
General	Early private involvement	- Urgency of need for change in infrastructure planning is present	- No clear definition of position of public and private parties - Unbalanced relation infrastructure investments – spatial development investments
Project	Active: private party involvement in integrated planning process	- More innovation - Effective in enhancing environmental quality	- Loss of effectiveness due to compromises
	Passive: private party involvement in staged planning process	- Formulated solutions are feasible	- No creativity from private parties, because no trigger

	No early private involvement	- Planning process can be completed faster	- No creativity from private parties - Missed opportunities to enhance environmental quality
Public party	Active: private party involvement in integrated planning process	- Public parties forced to come to agreement - Essential public support can be generated - Commitment of private party to project	- Government scared of early commitment to plan and private party, because this will mean investment - Private party cannot represent social and ecological values
	Passive: private party involvement in staged planning process	- Public party in control - Budget and time can be better managed	- Possibilities to enhance environmental quality brought in too late
	No early private involvement	- Planning process can be completed faster	- Shortcomings in time, budget and quality management
Private party	Active: private party involvement in integrated planning process	- Possibilities to make a profit in spatial development	- Long planning processes cause financial risks - No experience with this approach at the public party
	Passive: private party involvement in staged planning process	- No costs of being actively involved - Chance to bring in own ideas	- Danger of cherry-picking - No guarantee of later involvement in bidding
	No early private involvement	- Private party can focus on construction - No responsibilities in complex early stages	- No possibilities to make profit or increase turnover

Table 7.2 Advantages and disadvantages of early private involvement summarized.

7.2 Recommendations

In the light of the conclusions provided above, some recommendations can be made.

- To take care of the differences between spatial development and infrastructure planning, the two tracks could be separated over space. In the projects, the infrastructure and the spatial development elements differ greatly in terms of involved investments. By separating the two tracks and making contractors build the infrastructure and developers manage the spatial developments, the control over the project could increase, resulting in a more balanced outcome. However, this would also mean a loss of integrality; opportunities that arise through the integral approach could become neglected. This could have negative consequences for the overall environmental quality.
- Integrate the planning process over time could prove to be a solution. Often, in current projects, a line is drawn between the explorative phases and the competitive phase. Private parties are paid a sum of money for their involvement in the explorative phases, after which the competition is started using a level-playing field. Because innovativity in the explorative phase is not rewarded by an improved chance to make the winning bid in the competitive phase, private parties are not stimulated to bring in innovative ideas in the early phases of the planning process. As a consequence, fewer chances to improve or maintain the environmental quality in the competitive phase will be recognised. Removing the dividing line would make the

explorative and competitive phase to be connected result in a trigger for innovativity for the private parties, since early innovativity can result in a winning bid.

- In order to make the combination of infrastructure planning and spatial development work, while involving private parties, less extensive approaches are necessary. At this moment, the intertwining of spatial planning and infrastructure planning can lead to extensive approaches, making the processes lengthily and costly. Private parties are scared by the involved risks and the public does not accept the slow planning processes. Therefore, more adaptive approaches are needed to make the processes better surveyable. Recommendable could be to make the selection of the private parties in an earlier stage. This prevents process costs in the sense that all the private parties have to work out their ideas in detail, and creates more certainty and clarity over the rest of the planning process. It is also recommended to make the planning process more flexible in a legal way. This means that if a decision is successfully appealed against, the necessary adjustments and additions can be made more quickly, without having to start the planning process all over again. In this case, early stakeholder involvement is essential, since it can prevent appeals by seriously taking the wishes of the involved stakeholders into account. The legal problems and the extensiveness of the planning processes can also be ascribed to a lack of knowledge in the governmental parties.
- In order to make private involvement a success, the public involvement must have reached a clear agreement about the problems and ambitions for a project area. In this agreement, the public parties (municipalities, provinces and ministries) have to set out a common vision for the project area. This can be used to formulate the basic conditions of a project, to ensure the basic quality of a project, and to formulate ambitions, to stimulate the search for better quality in the project. Without public agreement, there is too much uncertainty for the private parties to develop their ideas and alternatives. At this moment, such tools and instruments to come to such a public agreement are lacking.
- The last recommendation is that private involvement can have its advantages, but should not become a goal on itself. Private involvement is just a way to improve the infrastructure projects in time, money and/or quality. It should be kept in mind that not every project is fit for private involvement and private involvement is not the solution to every problem in planning. The governmental parties should therefore consider the surplus value of private involvement for the project, and the surplus value of involvement in the project to the private parties. It is difficult for the parties to make this clear, since it is difficult to place oneself in the others position. However, it is clear that the market is not interested in every project. A project should provide good chances to make profit, and therefore involve some risks, but not be too complex, and be too risky to get involved in. It is a matter of finding the right balance between certainty and risks, and between the social, ecological and environmental values that play a role in environmental quality.

It must be noted that the recommendations above, like the importance of public agreement in successful private involvement, are elements that Rijkswaterstaat has to keep in mind. In addition, more specific recommendations for the role of Rijkswaterstaat within the infrastructure planning process can be made.

- It is recommendable to clarify the institutional relations between infrastructure planning and spatial planning. At this moment, the relations between spatial planning and infrastructure planning are unclear. A reason for this is that in spatial planning

executive institutions with financial power, like Rijkswaterstaat in infrastructure planning, are missing. As a consequence, Rijkswaterstaat is often forced to take up the executive tasks in spatial planning as well, resulting in projects getting a more infrastructure focused line-perspective. Another factor in the unclear relation between infrastructure planning and spatial planning is the lack of co-ordination at the regional level. Provinces are not (yet) acting as the co-ordinative actor at the local level and do not have the power to enforce the policy set at the provincial level. This makes it difficult to reach an agreement over the ambitions in spatial planning in the project areas, since no actor can put pressure on the municipalities to make concession in order to come to an agreement. However, it seems that things are about to change with the new infrastructure planning act (see paragraph 4.2).

- The ambitions of the national government should be more focused in order to make the position of projects clear. Rijkswaterstaat should focus on some key projects, and assign the responsibility of the other projects to local or regional authorities. At this moment, every local authority is keen on realising 'its' project, as it is the most important one for them. The national government however, has numerous projects and should take care that they do not make any promises to the local authorities, and select only the most important ones to become actively involved in. Because, if promises are made and intentions are outspoken by the national government, national investments are required to support them. At that moment, opposing parties are stimulated to take a stand and the project will be more difficult to realise. Additional money is necessary to compensate the opposition and create enough support for the plans, or money has to be provided if the plans do not become reality, like illustrated by the Zuiderzeeline. So, by leaving the project in the hands of the local and provincial authorities, first an agreement on that level can be made. In this agreement, all stakeholders can be involved in a form of governance, resulting in more support for the project. This will ensure that the opposition has a weaker negotiative position in the project, resulting in lower compensation costs.
- The newly formulated MIRT can be characterised as one of the first steps towards a better relation between infrastructure development (ministry of VW) and spatial development (ministry of VROM). By combining spatial initiatives with infrastructure development initiatives, a more balanced approach to planning can be generated. However, it must be noted that the current MIRT is no more than some separated spatial planning and infrastructure planning initiatives. Ideally, the initiatives would become combined into one planning agenda, aimed at providing a structured and integral outline of the most important initiatives in Dutch planning.
- The government in general, and more specifically Rijkswaterstaat, should be aware that successful private involvement and successful project management is only possible if the responsible authorities have the knowledge and the capability to co-ordinate the planning process in the right way. The co-ordinative role can be established by forming adaptive networks that can stimulate the right use of the available knowledge, make this knowledge transparent and available to all parties and take care that further research is focussed on the hiatus in knowledge. It is for example often unknown what the costs and revenues of incorporating spatial development initiatives in infrastructure projects are as illustrated by the SAA-case. The co-ordinative role of the government is essential, since the more private involvement will result in new and changed relations and a different distribution of power. Knowledge can be the key to co-ordinate the processes and relations successfully.

7.3 Reflections

The subject of early private involvement and environmental quality proved to be very interesting. It provided lots of different aspects worthy of investigating. This made this research difficult to carry out. During the process, there was the danger of losing the focus of the research. This is caused by the scope of the research, which was perhaps a bit too ambitious. It is clear to me now that private involvement in itself is a hot topic and provides enough opportunities material to investigate. Combining it with environmental quality proved to be difficult. An important factor in this difficulty was the definition of the concepts, which are used differently in the world of planning. A stimulant to proceed with the combination of private involvement and environmental quality is that this relation is not researched often. As a consequence, the explorative character made it difficult to find specific literature, but also made the subject interesting to investigate.

Because private involvement is such a hot topic, it is difficult to get a grasp of all the initiatives, literature and instruments that surround it. The specification into the four case studies proved to be essential in making the research more concrete. It should be noted that four cases are not representative for all the infrastructure projects in the Netherlands, because there is lot more going on in this world. Involving more cases could therefore have strengthened the research.

Using interviews proved to be helpful in order to get the case studies clear. People were happy to cooperate and seriously interested in the subject. The expert meeting proved to be difficult to arrange and stimulated me personally to develop more managing skills. The meeting itself resulted in a useful discussion of the subjects and the diversity of the participants led to some interesting insights, and therefore was a success.

However, after finishing this research, I cannot prevent myself from thinking that I merely skipped the surface of private involvement. In order to make all the relations in this field of expertise clear and to come up with some new approach to make infrastructure planning more sustainable, it seems obvious that more research is needed.

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