Integration of transport & land-use

The case of the Leiden - Gouda area

Delft, Jasper Bras
Integration of transport and land-use: 
The case of the Leiden - Gouda area

Delft, 24th Januari 2013

Thesis plan
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Cover image:
Satellite image of landscape
Leiden to Gouda
(Google Earth, 2012)

In support of:
MSc3 Uranism
Thesis Plan (AR3U022)
Graduation Lab Urbanism (AR3U100)

University of Science
TU Delft
Faculty of Architecture

Chair
Spatial Planning and Strategy

Graduation studio
Complex cities & Regions in Transformation
This master thesis contains a comprehensive and multi-disciplinary research on the integration of transport infrastructure and land-use. The Rijn Gouwe Lijn (RGL), a rail project which connects the area between Leiden and Gouda is chosen as a case study. The research is comprehensive in the sense that studies are done according to three dimensions for ‘complex technological systems’ such as railway infrastructure: technical (space), institutions and process – derived from the conceptual ‘TIP-model’ of Koppenjan and Groenewegen (2005).

The research of this master thesis draws on some critical issues and major developments, which contribute to a changing practice of spatial planning in the Netherlands: the constraints around integration of infrastructure planning and spatial development, and the related issues of governance at regional level, between provincial and municipal administration – also known as the ‘regional gap’. Both issues come together with projects in regional transport infrastructure. Within this context two main research questions define the subject of research, the first for addressing the issues at the case study, the second for proposing (alternative) design recommendations:

- What are the issues of governance between local planning agencies, around the integration of sectoral policies on mobility and land-use and around the implementation of a transport infrastructure project such as the Rijn Gouwe Lijn at regional level?

- What planning mechanism can address issues of governance, facilitate integration of policies and support the implementation of such a project?

The research is inductive: it starts with an observation study on the spatial planning practice within the Netherlands, including the current issues and developments within this system that might influence large infrastructure projects (appendix A). This stage, the general field study, is followed by a literature study on concepts and models which support integrated transport planning, such as ‘Transit Oriented Development’ (TOD). Because of the multi-dimensional content this research, the theoretical framework shows the structure of the TIP-model (Koppenjan & Groenewegen, 2005), and follows this structure in finding specific concepts within the spatial, institutional and process dimension. This means that the research goes further than spatial development concepts as TOD; from the institutional perspective organizational models are investigated that support the spatial concepts and the integration of policies. In terms of process, strategic spatial planning approaches and funding mechanisms are explained. Subsequently, research criteria or indicators are derived from the theoretical concepts, which can be used for the empirical analysis of the case study area in order to find answers to the research questions. The case study is regarded as the specific field study.

The Rijn Gouwe Lijn (RGL) is used as a case study to address these issues. The east-part of this project is a railway line, running from Leiden to Gouda. This project is relevant because it crosses various municipal territories. Also the project is known of its difficulties around the decision-making process. The empirical research on this project (from the perspective of space, institutions and process) shows that there was no or little governance culture at involved public authorities for integration of policies on mobility and land-use. Also supporting integral concepts or visions on the project where missing. Thirdly, the study reveals the potentials of regional partnerships to fill the ‘regional gap’ between municipalities and provincial government.

Based on the results of the case study and with the knowledge of various theoretical concepts related to integrated transport planning, some recommendations have been done which ultimately have been translated to (alternative) spatial, institutional and process design proposals for the project and its region – the design of artifacts.

Fig. 0.1 Research methodology: inductive research

Fig. 0.2 Adapted satellite image of landscape between Leiden & Gouda
I would like to thank all the persons who contributed to the graduation project. Inquiries with experts, citizens, and other respondents - the interviewees from the province of Zuid-Holland, the municipality of Zoeterwoude, the regional partnership Holland Rijnland, the former alderman of the municipality of Leiden, the Chamber of Commerce (KvK) and ProRail. Also I would like to emphasize Procap for their willingness to get me the right information, the project organization of the Rijn Gouwe Lijn who kept me informed on the recent developments around the project and the association ‘Deltametropool’ who helped me with some of the empirical analysis.

My special thanks go out to my parents, who always have been there for me. They supported me in my studies since I started at the Intermediate Vocational Education (MBO). It is doubtful if I would have achieved this level without their mental support.

Last but not least, I would like to thank Vincent Nadin and Wil Zonneveld for their mentorship. They allowed me to study spatial planning issues that caught my personal interest, and supported me to involve studies on other disciplines such as public management.

Jasper Bras
Delft, November 2012

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Fig. 0.3 Traditionally a photograph of every graduation student within the studio Complex Cities is taken, in order to promote the subject of research.
If we think of large scale infrastructure projects in the Netherlands that have been developed recently we might come to the conclusion that the number of completed projects in terms of rail infrastructure is very limited. And if someone might ask to give a successful example of a railway line that has been developed last years it is hard to give a positive answer to this. We probably all know the ‘Betuvelijn’ or the recently completed ‘HSL (PYRA)’ (both connecting the Netherlands with its neighbouring countries), because of the issues around these projects; the extraordinary budget and their outranging costs in particular. It even might be argued that such projects have put large railway projects in a negative perspective. But also projects of smaller scale have been realized, at regional level: the ‘RandstadRail’ for example – a tramline that connects The Hague and Rotterdam. This project is probably more successful, partly because the line has been built together with its surroundings. Nevertheless, what these projects have in common is that they are defined by high complexity; for instance, they require participation of many different stakeholders and ask for integral planning approaches because these projects interact with their spatial and programmatic environment.

The research of this master thesis draws on these constraints regarding integration of infrastructure planning and spatial development, and addresses the related issues of governance at regional level, between provincial and municipal administration – the ‘regional gap’. Both issues come together with projects in regional transport infrastructure. In order to understand the context of this ‘arena’ the thesis contains a survey on the system of spatial planning in the Netherlands, including the latest practices related to integrated transport planning.

Secondly, in order to find potential and appropriate concepts that anticipate on these critical issues, various theories on integrated transport planning (e.g. nodal development or ‘transit oriented development’) and regional governance (e.g. institutional capacity building) are derived from literature research. As part of the empirical research, a regional transport infrastructure project has been taken as a case study: the ‘Rijn Gouwe Lijn’ (RGL) between Leiden and Gouda. In this case the critical issues regarding regional transport infrastructure are addressed and appropriate concepts from the theoretical study are applied.
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D Analysis SprintStad (Deltametropool)
E List of interviewees
F Reflection
Before the content of the thesis is part of subject it is helpful to get an idea of how this thesis is structured and how this thesis can be read. Therefore the Lay-out of the thesis and the Structure of the thesis are being explained first.

**Lay out**

The lay out of this thesis contains different page styles.

1. **Section page**
   - First there are pages which introduce a new chapter. These pages contain a brief summary and introduction of the elements that are discussed in the chapter, several keywords and an overview of the paragraphs which are part of the section.

2. **Paragraph page**
   - There are also pages that introduce a new paragraph. Each paragraph is introduced very shortly at the top of the page. This part is written in another font.

3. **Regular page**
   - Then there are the regular pages which contain only text, text supported with illustrations (always on the left side), or pages with only illustrations.

**Structure of thesis**

This thesis is divided into seven chapters.

1. **Section (1) Introduction**
   - The first section (1) Introduction is in fact the thesis plan where all further chapters will be introduced, it contains the proposal for the research.

2. **Theoretical framework**
   - In the second chapter (2) Theoretical framework, various theoretical models and concepts are explained which are relevant for the research.
   - This section is the framework for the empirical study. It provides supporting information for practice.

3. **Empirical assessment**
   - The third chapter (3) is the Empirical assessment.
   - This section contains the research around the case study area.

4. **Conclusion and recommendations**
   - The thesis will be ended with a section of Conclusion and recommendations (4), which also includes design alternatives for the case study area.

5. **Bibliography**
   - The Bibliography can be find in chapter (5), followed by the Appendix (6), which also contains a survey of the spatial planning context: the system and daily practice of spatial planning in the Netherlands. The norms, values, instruments and authorities regarding spatial planning are explained in this study.
In order to understand the discourse wherein this study is taking place it is important to understand the structure of the study and to know the philosophy of the graduation studio. This will be explained in this paragraph.

This graduation project is taking place within the studio of Complex Cities. This graduation studio is a specialization of the master track Urbanism within the master programme Architecture, Urbanism and Building Sciences of the Faculty of Architecture, at the TU Delft. The studio is organized by Spatial Planning and Strategy, a core chair of the faculty. Both the studio and the chair are led by Professor Vincent Nadin and assisted by practice professor Joost Schrijnen. Professor Wil Zonneveld holds a joint post with the OTB Research Institute with whom there is much collaboration.

The studio deals with the complexity of contemporary cities. The urban planners and designers who join the studio try to understand the urban processes and the network of cities within the global society, its economy and its high quality services. Despite the fact that the global network is increasingly determining the global city, each urban region characterized by its own climate, cultural background and ethnical background e.g. Urban planners and designers study on these relations of the contemporary global cities with an environmental, economic, social and political diversity, connected to both global and local networks. Within this network they try to propose design interventions which may increase the capacity of the urban regions and local places.

Fig. 3 Interdisciplinary field of this research
1

Introduction

The first section contains the thesis plan. This is the proposal for graduation which also pays attention to the outlines for the research: the arguments and motivation for this study, a problem definition and the aims for research. The section also introduces the research approach, the methodology and contains an introduction of the case study.

Keywords

Thesis plan - Rationale - Motivation - Problem statement - Methodology - Case study

Paragraphs

#1.1 Rationale for this study
#1.2 Problem analysis & motivation
#1.3 Problem statement
#1.4 Aims & research questions
#1.5 Research approach
#1.6 Introduction of the case study area
1.1 Rationale for this study

If we think of large scale infrastructure projects in the Netherlands that have been developed recently we might come to the conclusion that the number of completed projects in terms of rail infrastructure is very limited. And if someone might ask to give a successful example of a railway line that has been developed last years it is hard to give a positive answer to this. We probably all know the 'Betuwelijn' or the recently completed 'HSL' (FYRA) (both connecting the Netherlands with its neighbouring countries), because of the issues around these projects; the extraordinary budget and their outranging costs in particular. It even might be argued that such projects have put large railway projects in a negative perspective. But also projects of smaller scale have been realized, at regional level: the 'RandstadRail' for example – a tramline that connects The Hague and Rotterdam. This project is probably more successful compared to the Betuwelijn and the HSL, partly because the line has been built together with its surroundings.

Nevertheless, what these projects have in common is that they are marked by high complexity. They are both very complex technological systems which require participation of many different stakeholders and ask for integration of policies to meet with the strong interaction between infrastructure and spatial development (Koppenjan & Groenewegen, 2005).

At present there seem to be two major developments going on within the Dutch system of spatial planning, which could influence these critical issues around complex technological systems such as railways:

- the devolution of powers from higher to lower levels of governance, and;
- the integration of sectoral policies to the support of infrastructure planning.

The devolution of powers is revealed in the reforms of national law on spatial planning, and subsequently in the changing ambitions and responsibilities of the Dutch planning agencies. The integration of policies can be seen in the attention of the planning agencies for integral approaches regarding mobility and land-use.

In the spring of 2011 the Dutch Ministry of Environment and Infrastructure (Infrastructuur en Milieu) presented the most recent planning vision document for the country: the concept structure vision infrastructure and space (Ontwerp Structuurvisie Infrastructuur en Ruimte: Nederland concurrerend, bereikbaar, leefbaar en veilig). The vision promotes a further decentralization of the spatial planning policy of the Netherlands (Ministerie van Infrastructuur en Milieu, 2011). In this document the national government has concentrated its interests by the designation of nine 'top sectors' that have international perspectives - such as life sciences, logistics and creative industries - distributed over several strategic economic locations of national priority, mainly in the Randstad - such as the mainports Schiphol and Rotterdam, brainports ‘Zuidoost Nederland’ and greenports Aalsmeer, Boskoop and the Bollenstreek (fig. 1.2). These clusters are or will be connected by a network of primary infrastructure, such as the freeway network and the high speed railway corridors (HSL), which are supported by multiple years investment programs for infrastructure, space and transport: the MRT policies (Meerjarenprogramma Ruimte, Infrastructuur en Transport).

In comparison to the former planological key documents: the PKB’s (Planologische Kernbeslissingen) – whereby national government policies covered all of the country equally (De Gier, 2011) – a stronger focus on specific locations becomes clear. Consequently this shift in focus requires lower authorities which are not appointed as key locations to develop concepts and policies for their own jurisdictions. They are enabled to do so by the devolution of powers. Earlier in 2008 the new law on spatial planning: Wro (Wet ruimtelijke ordening) replaced the former law on planning: the WRO (Wet op de Ruimtelijke Ordening). This reform on spatial planning law

![Fig. 1.2 Most recent publication of national planning vision document](image-url)
1.2 Problem analysis & motivation

has given lower authorities a wider range of legal instruments and responsibilities for the daily practice of spatial planning; (a) next to the national government the municipalities are now allowed to make structure vision plans (structuurvisies) more flexible and less restrictive than before, and (b) also the provinces are authorized to compose legal land use plans (inpassingsplannen) (De Gier, 2011).

Another shift can be seen in the integration of sectoral policies, with which the national government is trying to facilitate planning procedures. For instance the proposed law on environment (omgevingswet) that will replace and combine regulations related to planning (Rijksoverheid, 2012a), and the decision to integrate different ministries at national level (Rijksoverheid, 2012b). Thus the Ministry of Housing, Spatial Development and Environment: VROM (Ministerie van Volkshuisvesting, Ruimtelijke Ordening en Milieu) and the Ministry of Transport and Water Management: VenW (Ministerie van Verkeer en Waterstaat) became the Ministry of Infrastructuur en Milieu.

This change in policymaking aims for a more integral approach of mobility and land-use, and of infrastructure and spatial development; the national planning agency uses the structure vision document to promote integral developments around multimodal nodes, stressing the importance of network developing. On the regional scale lower agencies in the periphery are challenged to act accordingly.

In order to come to a clear problem definition for this research it is important to understand the underlying reasons for the institutional changes. The two reforms should answer (a) to issues regarding scale of public management (Mastop, 1991; Hajer, 2003; Salet, 2006), (b) to the changing principles and concepts on spatial planning (Hajer & Zonneveld, 2000; Zonneveld, 2012) and to changing governance attitudes to spatial planning (Lambrechts & Zonneveld, 2004). The research argues that social and economic changes have a crucial impact on space, such can be seen in the arising of socio-economic networks, which are reflected in the reaction of spatial patterns that have become more polycentric (Salet, 2006).

The socio-spatial interactions primarily take place at a regional scale, thus labelled as the new issues of regionalization (Salet, 2006). Key regions surpass nation states in economic importance and need to strengthen their positions by facilitating the ambitions of their regional actors (Boelens, 2009). Governments are expected to anticipate on these interactions by changing their institutional structure matching with the socio-economic and spatial conditions of the network society – the institutional capacity needs to fit with the new reality (Salet, 2006). The rescaling of territorial governance in order to find a ‘mutual fit’ for regional issues can be regarded as one of the reasons why national government is transferring powers and tasks to lower authorities, especially to the provincial planning agencies (fig. 1.3). Subsequently the provincial government is supposed to coordinate and facilitate developments regarding regional infrastructure and adjustment of spatial developments (Van Boxmeer & Vliegenberg, 2011) (fig. 1.4, 1.5, 1.6). The question is: are they able to do so, and how?

At this point it is interesting to consider the second development mentioned: the integration of policies. This is not only reflected in the joining of ministries on national level, but also in the ambition of planning agencies for integral development. In view of the increasing importance of infrastructural networks it makes sense to investigate the integration of policies on mobility and land-use, for it might be argued that network infrastructure and spatial development interact (Dieleman & Wegener, 2004; drawing on Hanson, 1959).

For better understanding a closer examination is desired at the underlying conditions that explain why the integration of policies on mobility and land-use is likely to happen. Within the perception of the network society the most direct consequence for planning is that connectivity has become more important than proximity in the network structure (Salet, 2006). In addition networks have become multimodal which result in integrating centers of multifarious interaction (Curtis & James, 2004; e.g. where train, tram, bus, and subway lines cross). Such nodes are more attractive for spatial development than ‘purely functional nodes’ along single mode networks (e.g. only one bus or tram line). Thus, development at transit nodes with great social and economic diversity requires place-based plans (Curtis & James, 2004), or new strategies that focus on adapted spaces (Salet, 2006; drawing on Lynch, 1980). In view of this it seems evident that planning policies should aim for integrated...
1.2 Problem analysis & motivation

approaches based on the strong relation between mobility and land-use in order to facilitate this type of development.

First attempts to such approaches have already been made in the Netherlands, with projects as Stedenbaan+, Zuidvleugel Atelier, or developments around HSL stations as Amsterdam CS, Rotterdam CS and Breda. However, lower authorities as the municipalities are not yet familiar with these concepts of spatial planning, or still have a far way to go (Tan & Bertolini, 2010). Also at regional level it is questionable how much knowledge and experience provincial agencies have to deal with the adjustment of spatial development in and around their network nodes. What do they need to coordinate and facilitate these processes? Do their new instruments suffice to work out reliable concepts and strategies?
For decades the three-tiered Dutch government structure (national, provincial, municipal) is giving difficulties for issues that play on regional level – ‘the regional gap’. This regional gap can be seen as an uncovered ‘institutional void’ between provinces (the formal regional government) and state, and between province and municipalities. At these administrative gaps at regional level (provincial government) most challenges take place in terms of governance and policy integration (Zonneveld et al., 2012).

Thus, it seems obvious that the two developments regarding the devolution of powers and the integration of policies described above play a role in this discussion; the legal and policy changes might be seen as a reaction of national government on these regional gaps. It might be argued that national government wants to give room for ‘integrative territorial strategies’ – the MIRT-policy addressed above for instance – and to facilitate new (cooperation) mechanisms for projects that ask for a regional approach.

The regional infrastructure networks – often MIRT-projects – that cross various municipal borders seem to be an interesting case for the research. In particular with railway lines both discourses regarding legal or institutional capacity and integration of policies are clearly represented. Especially with the increasing importance of socio-economic interactions it might be expected the mutual dependency between these multifarious transit nodes increases. Thus, projects of railway infrastructure often require strong cooperation mechanisms and ask for concepts that support adjustment of spatial development and for integrated policies as an answer to the clear interaction of mobility and land-use around transit nodes (Curtis & James, 2004).

With the national government paying less attention to (and having less clear policy for) areas that are not of their key concern the pressure of governance on lower authorities increases. Even more interesting seem to be the regional railway lines that do not fall under the MIRT-policy (or not anymore) and are located outside the areas of national priority – it is questionable if the lower authorities (especially provincial governments) have enough capacity and experience to coordinate such infrastructures (Van Boxmeer & Vliegenberg, 2011) (fig. 1.7). In how far do municipalities have the expertise in terms of concepts or strategic approaches that facilitate the integration of policies around railway lines? (Tan & Bertolini, 2010). And when it comes to the coordination or the institutional capacity which is needed for the implementation of railway lines and the adjustment of spatial developments around transit nodes, it might be questionable if the involved legal institutions (province and municipality) have the right instruments and capability to use these instruments – are the new legal planning instruments appropriate? Such issues might be expressions of the administrative regional gap between provincial and municipal administrations.

Fig. 1.7 The railway line with stations at the case study area, the region between Leiden and Gouda.
Aims & research questions

The aims of this research, translated into research questions.

This research has several purposes:

- Firstly, the purpose of this research is to address the weaknesses within this regional gap between provincial and municipal tiers of governance, through the perspective of regional infrastructure developments such as railway lines that cross various municipal borders; do the lower tiers of governance have sufficient institutional capacity to deal with projects of this scale (e.g. available legal planning instruments)?
- Secondly, the research should reveal in how far lower governments have (integrated) policies that facilitate such projects; what are their ambitions and do they use the right instruments to achieve these ambitions?
- Thirdly, the research should emphasize in how far provincial and municipal governments use concepts for integration of sectoral policies on mobility and land-use; and around the implementation of a transport infrastructure project such as the Rijn Gouwe Lijn at regional level?
- Fourthly, the research should – based on models from planning theory – (a) deliver spatial guidelines or recommendations in order to achieve regional adjustment in spatial development around infrastructure projects, (b) contribute to the proposal of an institutional model or conditions for organizing the spatial objectives, and (c) help to formulate a strategy which enhances the implementation of those spatial objectives.
- Fifthly, the research should address the current relations within the Dutch practice of spatial planning. During the research various related planning trends are described. An attempt will be made to illustrate these trends in a relational diagram of the Dutch planning practice in terms of integrated transport planning.

These purposes are incorporated in two main research questions, which represent the general aims for this research and include a problem addressing and a solution oriented section:

1. How does spatial planning work in the Netherlands?

This question should address what institutions and agencies are authorized to practice spatial planning, what (legal) instruments they have and what their attitude is towards spatial planning – the principles, concepts and policies that are used to steer spatial development. The answer to this question should conclude with the current trends on spatial planning – the trends that might influence the paradigm of infrastructure projects at regional level. This study can be found in the attachment (appendix A).

When having a clear understanding of the general planning structure in the Netherlands (together with the institutions, their roles, responsibilities, and policies) it is likely to investigate what models and concepts from theory might be relevant in terms of integrated transport planning:

2. What spatial, institutional and operational concepts or models are relevant when it comes to integrated transport development at regional level? What are the strengths and weaknesses of these models?

The question refers to three dimensions based on the integrated institutional approach of Koppenjan and Groenewegen (2005); technical/spatial, institutional and process (TIP). They state that a technical (or spatial) design needs to be supported with an institutional and a process design that facilitates the implementation of a project. In a literature review I will pay attention to this approach, and to concepts within all three dimensions (chapter 2). An important condition here is that (regarding the subject of this research) all concepts should contribute to integrated transport planning.

The following objective is to see if these theoretical concepts (or parts of it) are used in the daily planning practice, in terms of regional infrastructure projects. This approach can be seen in twofold – contains a problem addressing and a problem solving component: it gives the possibility (a) to test if the weaknesses as addressed in the problem statement are actually present in the daily practice of spatial planning, and (b) the models could function as a framework that support improvements within the current planning system; it helps with the formulation of recommendations for improvement.

3. How are these models from theory represented in the Dutch spatial planning practice, and what can they add to this?

The relevant theoretical models and theories are tested in a case study (chapter 3). The area which is chosen for the case study needs to represent the issues that need to be translated to a diagram that shows the relations within the daily practice of spatial planning in the Netherlands.

Also, the last question should strengthen the arguments for alternatives for the region and is supposed to help in the formulation of spatial, institutional and operational design recommendations for the area. In the end, the experiences and knowledge gained with the assessment of the case study area should be translated to a diagram that shows the relations within the daily practice of spatial planning in the Netherlands.
1.5 Research approach

In order to achieve the aims for this research the questions are supported with several studies. These studies are done according to various methods. This can be translated to a research strategy and methods used within the strategy. It is important to notice that more specific sub-questions and related studies for the assessment of the case study area will be mentioned at the end of the theoretical framework.

1.5.1 Research components

In headlines the research contains three main studies:

1. An exploration of the Dutch system of spatial planning (appendix A).
2. A theoretical framework that contains a literature review on theoretical models of integrated planning within three dimensions (space, institutions and process).
3. An empirical assessment of models from theory on one case study area in order to find answers to the research questions (by desk research, interviews and mapping).

The various studies of the research cover theory and practice (reflected in a theoretical framework and an empirical assessment) (fig. 1.8). Within this structure, the theoretical framework helps to organize the empirical research (projection). Subsequently the information derived from the empirical assessment on the case study area helps to adjust the theoretical framework (reflection). This interrelation between theory and practice should help to refine and adjust the available information during the research, in order to give answers to the questions as accurate as possible.

Next to the idea that the research should give answers to the research questions, it should provide crucial knowledge and expertise regarding the subject and location, which can be useful by creating an alternative ‘design’ or recommendations for the area of the case study and perhaps, as contribution to the current practice of spatial planning in the Netherlands (in the direction of integrated transport planning).

Thus, after the research has finished spatial, institutional and operational recommendations can be formulated – for the region and to the practice of integrated transport planning in the Netherlands. Possibly the multi-dimensional recommendations can be presented in a design within each dimension or combined, in some sort of a ‘relational diagram’ which represents the complex relations of a regional projects where different scales and dimensions come together. Because it is uncertain at this stage how such a design would look like, it might be useful to address some components that have to be part of a design – for every dimension.

These can be the design components:

1. Spatial design: type of development concept, type of policies, the ambitions behind the policies, amount of stations, type of stations, type of spatial development, regional traffic and public transport networks, regional public facilities, type of programmatic functions, mix of functions.
2. Institutional design: institutional arrangements, degree of policy adjustment, type of institutions, type and number of resources, type and number of legal instruments, actors involved, type of organization.
3. Process design: type of spatial planning strategy, dynamic framework for development, flexibility of arrangements, visioning, gathering/encouraging stakeholders, tools that support implementation, monitoring.
1.5 Research approach

1.5.2 Research methodology

The relations between the dimensions of space, institutions and process (TIP) described by Koppenjan and Groenewegen (2005) are reflected in the research and in the various studies that are part of the research (on theory and practice). As already said the idea behind these dimensions and relations between them will be described in the theoretical section. Nevertheless it might be argued here that this requires a ‘multi-dimensional approach’, to the extent of the research structure and the analysis but also for to the extent of an (alternative) design or design recommendations.

The problem here is that such an approach would give the research a relatively large amount of variables as it reflects a multitude of paradigms across multiple disciplines. This is why it is important to have strong indicators for research, to understand the relations of the research and to describe these relations, and – possibly even more important – to use a research method that accommodates these relations: a framework for triangulation across disciplines (Mackay & Fayard, 1997).

In general, triangulation refers to the idea that different research methods and studies should be used to verify results within one paradigm. But it is also possible to triangulate across scientific and design disciplines – which would be even more beneficial in disciplinary fields (Mackay & Fayard, 1997). The latter would be appropriate for this research regarding the multi-dimensional component (fig. 1.9). But then, how would such a research approach look like? What research model is needed for this?

As said above the research is built on several studies within theory and practice (reflecting the interrelation between the theoretical and the empirical- or ‘real world’). Drawing on the problem analysis and problem statement of this research it might have become clear that it starts with the observation of the ‘real world’ – current issues within the Dutch system of spatial planning (fig. 1.10). This stage can be typed as a general field study, which is further elaborated in a survey and exploration of spatial planning in the Netherlands (appendix A). However, the research starts in the empirical world and does not derive from theory; the research model is inductive (Mackay & Fayard, 1997).

According to the inductive model the second step of research takes place in the theoretical world in order to define a theoretical framework in order to place the world in perspective. This framework can be found in the following chapter (2) – it represents a literature review on various models and elements from the spatial, institutional and operational dimension. Subsequently, research criteria or indicators can be derived from the theoretical concepts, which can be used for the empirical analysis of the case study area in order to find answers to the research questions. The case study can be considered as the specific field study (the third phase regarding the model).

According to the original model the following (fourth) stage proposes beholds a return to the theoretical world to refine or modify the theoretical framework. Here an issue occurs because it is not the intention of this research to redefine the theoretical models but rather to find models and recommendations that would be appropriate within the Dutch planning practice of transport planning and for the case study area – the research does not only requires conditions for analysis but also asks for design (recommendations). According to Mackay and Fayard (1997) a design process is quite different from a scientific method. Thus, such design (recommendations) in the form of a concept or model behold somewhere between the theoretical and the ‘real world’.

In the other research models that Mackay and Fayard (1997) present, a world in between the theoretical and the ‘real world’ is indicated as ‘the design of artifacts’ or the ‘cognitive veil’, described in a somewhat similar model of Jesperson (2009). In classical science an artifact is seen as an error in research (for example, an undesired alternation in data). But in social and cultural terms (used in social sciences) an artefact can be seen as projects or products designed and used by humans in order to solve problems or accomplish certain aims. There are (a) primary artifacts used in production (e.g. telephone, spoon), (b) secondary artifacts which are representations of primary artifacts (e.g. user manual of a telephone) and (c) tertiary artifacts which are representations of
secondary artifacts (Wartofsky, 1979). Artifacts do not necessarily have a physical form; especially for designers (such as architects) virtual artifacts or interactive artifacts are important communicative instruments that reflect abstract patterns of thinking. Schmidt & Wagner (2002) illustrate the idea of an artefact with the multiplicity work of an architect. The architects use a large repertoire of artifacts such as sketches, scale models, images, renderings, CAD plans, samples 3D visualizations, but also calculation sheets and text documents. These instruments fulfil coordinative functions – they support internal and external communication with involved actors. The architectural practice represents a multiplicity of (co-ordinative) artifacts. The spatial planning practice contains similar interdisciplinary and communicative relationships. What can be argued now is that the system of spatial planning in the Netherlands, which is neither theory nor practice. It might be seen as artificially-created artifacts, rather than naturally-occurring phenomena. This approach where research takes place within and between different worlds of thinking (theoretical, empirical) with an in-between level of artifacts or a cognitive veil is called ‘critical realism’ (Jespersen, 2009).

One of the aims (or rather final aim) of this research is to come up with a (conceptual) model or design (recommendations) – or, a set of design implications/criteria – regarding integrated transport planning, at the level of the case study area and at the level of the spatial planning system in the Netherlands. In this respect it might be argued here that the end product – that should anticipate on the daily practice and theory of spatial planning – rather can be typed design of artefact rather than a then a theoretical or practical model.

The ‘Rijn Gouwe Lijn’ (RGL) and its region have been chosen as the case study for this research. But why is this project used as a case study? What are the characteristics of this project and what are the conditions for the empirical research? In this section a short introduction of the project is given together with its related policies (and with the current developments regarding the project).

The selection of the case study has been done according to some criteria – the chosen area needs to represent the issues that have been addressed in the problem statement regarding the administrative problems around institutions and governance, and related to the integration of policies on mobility and land-use. Therefore, the area should be a region where plans are made for rail infrastructure that cross various jurisdictions and which involves various governments of different tiers (preferably municipalities and provincial administration) (fig. 1.11). In this respect the ‘Rijn Gouwe Lijn’ (RGL) is chosen as the case study area for the empirical research.

This project is interesting because it always has been marked by uncertainty and with political, institutional, operational and spatial challenges. Institutionally and operationally, the project is known of its difficulties regarding the decision-making process, the political changes, the involved institutions, their interests and agreements that have been made for the project. In spatial terms the project was characterized by technical complexity and marked by questions regarding the integration and adjustment of sectoral policies on mobility and land-use. Recently it has been announced that the project is cancelled (in its intended form) – only some parts of the plans remained (Leidsch Dagblad, 2012). An underlying question for the case study area in that respect might be in how far it had come so far – the struggles around this project need to be figured out.

But in order to find an answer to this a better understanding of the case is needed (input for research is needed). Therefore, some expressions of the (decision-making) environment and the critical issues around the project are explained below.

1.6.1 Policies on infrastructure development

What infrastructure policies can have an influence on the project? One of the policies that may have an influence is the so called MIRT-policy, which is explained below.

MIRT projects

The national government presents a MIRT project book every year, which are multiple years investment programs for infrastructure, space and transport (Meerjarenprogramma Ruimte, Infrastructuur en Transport) (fig. 1.12). MIRT-projects are the main infrastructural developments. The national government supplies subsidies for the development of these projects (Rijksoverheid, 2011).

MIRT-projects are national interventions that cross all governmental layers (fig. 1.13). Provincial and mainly municipal governments have little to say about these projects. They have to deal with it. This makes regions where MIRT-projects will be planned or realized interesting locations for the empirical part of the research.

1.6.2 Geographical conditions

What is the Rijn Gouwe Lijn (RGL), what are the facts and characteristics around the project and its region? How can this region be defined? In order to understand the geographical scale and technical challenges of the project some characteristics, facts and figures regarding the infrastructure project and its spatial and programmatic surroundings (the area wherein the project is positioned) are given.
1.6 Introduction of the case study area

Infrastructure
Two MIRT projects play an important role in the area between Leiden and Gouda (Fig. 1.14). They are related to each other and are currently point of discussion. One of them was the ‘Rijn Gouwe Lijn’ (RGL): the aim of this project was to develop a light rail connection from Noordwijk Boulevard via Leiden to Gouda central station. In the same area there is another MIRT project planned: the so called RijnlandRoute (RR): the provincial road near Leiden will be widened and extended. Despite the possible effects both projects will have on each other (an interesting case in itself), this graduation project focuses on the RGL because this project crosses several municipal borders and represents therefore an interesting case within the discourse of the devolution process of spatial planning policies. Another argument is that it would be simply too much work in relation to the time available to involve both projects into this graduation project. Because the RGL project was divided in an east and a west side, the research will focus on one part of the project, the RGL-East from Leiden to Gouda, which is already complex enough on itself.

The RGL is divided in a western and an eastern part (namely the RGL-West and RGL-East). In its original form the RGL could be seen as a project where ‘hybrid’ transport vehicles would run as a light rail through the western part of the region (from the west coast to Leiden – whereby the line should cross the city centre of Leiden), and would run on an already existing railway track on the east side running from Leiden via Alphen aan den Rijn to Gouda. On that east side the light rail vehicles were supposed to move in between frequencies of regular trains (which were also scheduled on the same track).

During the research provincial government has decided to cancel the project in its original form (Leidsch Dagblad, 2012). At the moment this hybrid construction is not part of concern anymore – vehicles will not run through the city centre of Leiden. The project now draws on plans that have been presented a year before (Vervoersplanologie, 2011) wherefrom becomes clear that the RGL-West is running from Leiden to Noordwijk Boulevard, as a so called ‘guided-bus track’. The RGL-East will connect Leiden and Gouda and several towns and villages in between with higher frequencies. On the website Vervoersplanologie (2011) is also announce that the vehicles will be using the regular railway connection – the railway track is already there but the amount of stops will be increased (but less compared to the original plan agreed in 2005 with the general project contract) and the frequency will be raised. Thus, where in the original plans the vehicles were supposed to run on different type of tracks from the west coast all the way to Gouda (East) and through the city centre of Leiden (without any transit), the project is now more following the current situation, whereby several transits between different modes of transport are needed when making a trip from the west coast to Gouda – on the western part of Leiden there will be a ‘guided-bus-track’ (shuttle buses) and from Leiden central station to the east frequencies of current existing railway lines will be increased (but with transit on different railway lines in Alphen a/d Rijn when travelling to Gouda (eastern part). Again it might be questioned here how it came this far; the projects seems to be ‘eraciated’, regarding the original ambitions and plan departures – what can be learned from this project?

Spatial development
Both infrastructure projects in the area connect several towns and villages. As explained in the model earlier infrastructure brings on activity and mobility which lead to new forms of spatial development. It is interesting to look back in history and to see what infrastructure has meant for the area in terms of spatial development and on what locations this has taken place. From brief observation it becomes clear that the area between Leiden and Gouda – both classical Dutch cities with city rights (Cox, 2005) – have been car dependent during the last decennia. This is well represented in the type of industry – located around car roads – which is mainly oriented towards transport and distributional activities.

The densities of population are quite low compared to other urbanized areas in the Randstad (Fig. 1.15, 1.16, 1.17). Except for Leiden and Gouda, these cities are already highly connected to the main infrastructural network in the Randstad.
1.6 Introduction of the case study area

Municipality | Population | Surface area km² | Density pop/km²
--- | --- | --- | ---
Leiden | 117,914 | 23.16 | 5.372
Zoeterwoude | 8,118 | 21.91 | 383
Rijnwoude | 18,511 | 57.85 | 327
Alphen aan den Rijn | 72,729 | 57.68 | 1,321
Boskoop | 15,065 | 16.96 | 1,014
Waddinxveen | 25,282 | 29.39 | 905
Gouda | 71,096 | 18.1 | 4,207
Total | 328,715 | 225.05 | 1,461

Fig. 1.14 Overview of the case study area

1.6.3 Territories

Spatially, the region has been defined according to the infrastructure and spatial descriptions above. Institutionally, the region can be defined by the involved territories. Because the infrastructure development is cross-border; several territories (jurisdictions) are involved in the regional project. In the empirical part of the research these territories with their specific jurisdictions and policies need to be taken into consideration. The following municipalities which are located along the axis of the infrastructural project (the East part of the RGL from Leiden to Gouda) will be included into the research:

- Leiden;
- Zoeterwoude;
- Rijnwoude;
- Alphen aan den Rijn;
- Boskoop;
- Waddinxveen;
- Gouda.

The provincial government which will be included in the research is Zuid-Holland.

1.6.4 Use of data for empirical research

Most difficulties around the project which have been introduced above will be analysed in the empirical research (chapter 3). The critical issues around the project will also be addressed more in detail at the beginning of that section – a theoretical framework needs to be formulated first (around the subjects represented by the problem statement) in order to assess the issues of the case study. The gained knowledge by researches on theory and on the daily practice of planning give room to strengthen the framework (including indicators) for empirical assessment of the case study area, which means that more specific questions to the case are formulated in a further stage.

Because plan departures, involved actors, attitudes, decisions and agreements on the project have changed over time, it is important to use a starting point on which the analysis of the case study area will be measured. The analysis will take into account the original plans that where formally agreed in the general project agreement of the RGL-East at July 2005. With the recommendations (for design) that follow after the analytical research on the area, the new situation will be taken into account.
The main question of this research is oriented towards the delivery of a possible planning mechanism that could help in addressing the issues of regional governance and of integration of policies around transport planning. In study on Dutch spatial planning the context of these issues has been explained (appendix A). But in order to assess such issues at the case study area a theoretical framework is needed. A framework that provides theoretical understanding of models and concepts, which makes it possible to take a look at the case from a critical point of view. Secondly, such theoretical models can support the main research question in finding an (alternative) planning mechanism for the case (and possibly, for similar projects of integrated transport planning within Dutch practice).

The section contains several theoretical dimensions related to the subject of research and relevant for the case study area. The first theme contains spatial development concepts regarding integrated transport planning (space), the second is about the institutional capacity building which is needed for the support of the spatial concepts to integrated transport planning (institutions) and to address the issues of the ‘regional gap’. These concepts are followed by spatial planning strategies and funding mechanisms for integrated transport planning concepts (process).

The section concludes with the formation of the assessment of the case study area, based on the theories of discussed in this chapter.
In the introduction of this thesis it has been mentioned that the subject is researched according to a multi-dimensional TIP-model of Koppenjan and Groenewegen (2005) (fig. 2.2). This model allows incorporation of dimension-specific concepts (space, institutions and process) and anticipates on the multi-dimensional content of the issues around regional governance and integrated transport planning. But why is this model relevant? How do both issues relate to the dimensions of space, institutions and process?

Hartman et al. (2011) explain a certain case as a ‘situation’ (for example, a study on the potentials for a railway line with spatial developments around stations). The situation can be analysed through scales and by different angles or dimensions. The scales can be divided in macro level (long term expectations and trends, or the context of the issues), meso level (the issues represented at regional level – the manifest and the core of the issue is considered at this level) and micro level (where local consequences of changes at higher levels become apparent).

The exploration of the system of spatial planning in the Netherlands (appendix A) can be regarded as the observations at macro level, where trends and institutional environment have been studied (which form the context of this study). The subject and supporting questions of this study are intended to address the issues at regional scale; the meso level. It is expected that the case study area (the RGL-railway project and its region) represents those issues; therefore it is considered as the core of the study. The stations and their transit zones along the railway line can be considered as the micro level – agreements made at higher authorities around adjustment of spatial development around stations (or absence of those agreements) may have consequences for the development at these locations.

Because this research particularly takes place at regional level, it makes sense to take the other variables of this model into consideration; the ‘material’, ‘organizational’ and ‘institutional’ dimension. According to Hartman et al. (2011) the material dimension is about the physical and morphological elements and their mutual relation. The organizational dimension is about actors and their organizations and the institutional dimensional dimension comprises rules, cultures, customs, values and norms that structure the world view of planners. The distinction between these dimensions is recognized with the TIP-model (technical, institutional, process) of Koppenjan and Groenewegen (2005). To a large extent, this approach corresponds with the dimensions addressed by Hartman et al.: Koppenjan and Groenewegen propose a format for an (institutional) design for ‘complex technological systems’ such as transport infrastructure, which incorporate a ‘technical’, ‘institutional’ and ‘process’ design in order to steer developments within each of these particular dimensions. Although the definitions are not the same, the need for a technical design seem to correspond with the ‘material’ dimension of Hartman et al., because Koppenjan and Groenewegen also consider transport systems (rail, road, water tube) as technological systems (next to non-physical systems as information system, e.g. internet). In terms of the case study however, the RGL transport project which is a railway line, can be considered as the spatial or technical dimension that needs a design to become realized or adjusted.

Koppenjan and Groenewegen argue that such technical systems also ‘pre-supposes coordination of the behavior of parties necessary to make the system function (…) which is organized through institutional arrangements that regulate the positions and relations between parties. In addition to a technological design, an institutional design is also needed.’ (pp. 242). They further argue that an institutional design is not separate from technological design nor it is determined by it. Considering the railway project at the case study, this would mean that also an institutional design is needed to support the technical and spatial intentions of the project – actors, such as governments of various tiers and (semi-)
2.2 Spatial concepts of integrated transport planning

This paragraph draws on the spatial part of the main research question; what are the issues around the integration of policies on infrastructure and land-use and what planning concepts can facilitate the integration such policies? The purpose is to find appropriate concepts in terms of integrated transport planning and to place the spatial assessment of the case study in perspective. This also means that before the bridge can be made to such spatial concepts, the spatial conditions that require such concepts need to be addressed. The understanding of spatial relations from a theoretical point of view and how these could be expressed in the case study area. The issues within the spatial dimension should address the necessity for alternative spatial concepts around integrated transport planning.

The spatial dimension (or material dimension) can be decomposed in two spatial categories; the physical and the morphological elements (Hartman et al., 2011). Subsequently, the undesired outcomes of such spatial interactions or existing spatial policies are explained. Finally leads to the spatial policies (from a theoretical point of view and not as in study on the Dutch planning context – appendix A) and concepts of spatial development which are able to address the spatial issues around integrated transport planning.

2.2.1 Physical elements: infrastructure & land-use

Because the subject of research is mainly about ‘integrated transport planning’ and involves integration of policies on infrastructure and land-use, it can be questioned why it is needed to integrate such policies. What are the underlying spatial conditions for integration of transport and spatial development policies?

Not surprisingly, one of the underlying spatial conditions can be found in the relation between infrastructure and land-use (urban growth or spatial development). In order to understand this relation it might be helpful to explain a model of this interaction. For the location it is important to understand theory which explains how (urban) spatial development takes place. Dieleman and Wegener (2004) address theories of urban sprawl. In their paradigm of urban development they say that technical conditions determine the internal organization of cities:

- The compactness of the medieval city resulted from the need for fortifications and from the fact that most trips had to be made on foot. When these two constraints disappeared in the nineteenth century, urban development, following this paradigm, largely became a function of transport technology (Dieleman & Wegener, 2004:310). As an example of these developments in the nineteenth century they mention one of the first studies on the spatial development of cities (Hansen, 1959). This research shows the inter-relationship between transport (and thereby infrastructure) and spatial development of cities: locations with good accessibility had a higher chance of being developed and at a higher density, than remote locations.' (Dieleman & Wegener, 2004:310). Hansen explained this in a model called ‘land-use transport feedback cycle’ which works as follow:

- The distribution of land uses, such as residential, industrial or commercial, over the urban area determines the locations of human activities such as living, working, shopping, education or leisure.
- The distribution of human activities in space requires spatial interactions or trips in the transport system to overcome the distance between the locations of activities.
- The distribution of infrastructure in the transport system creates opportunities for spatial interactions and can be measured as accessibility.
- The distribution of accessibility in space co-determines location decisions and so results in changes of the land use system (Dieleman & Wegener, 2004:310), drawing on Hansen (1959).

Within the comprehensive approach of the Netherlands government land policies for both infrastructure and land-use (appendix A). The way in which this interaction between infrastructure and land-use takes place is therefore also determined by government policies and not only by spatial interactions. For the case study area, which concerns a railway line together with station and agreed numbers of spatial developments between involved participants, it would be interesting to see how these elements of transport and land-use influence each other, what (sectoral) policies have been used and in how far these have been adjusted for steering this interactions.

2.2.2 Morphological elements: types of development

The appearance of spatial interaction as explained above goes accompanied with rural-urban land conversions (Waslewski & Krukowski, 2003) or land allocations (Fleischer & Tsur, 2009), which are processes whereby open land is being transformed into urban built up areas – the so called greenfields. Such processes lead to different type of spatial development patterns: it can be argued for instance, that when more greenfields are used for spatial development, this creates another type of spatial morphology compared to spatial developments on existing locations. But what are the spatial development options in terms of spatial morphology? And what patterns are considered as ‘undesired’? This might be useful to know, in order to understand the spatial ‘characteristics’ of the region, connected by the RGL-project (the case study).

Types of spatial development and their impact on other factors

In his book Needham (2007) mentions several types of spatial development which can take place singly or in combination:

- expansion
- corridor development
- ribbon development
- sprawl or dispersed development (fig. 2.3)

Corridor and ribbon development both might be seen as linear development types. He further explains that the type of spatial development (its form) could have an influence on traffic and mobility, wildlife, biodiversity, financial costs of infrastructure, the viability of existing services and facilities, the composition of the population and might lead to undesirable segregation.

These questions indicate the influences of spatial development on other closely related dimensions such as environmental quality (biodiversity), mobility, social welfare, economic growth and spatial coherency. If spatial development stays controlled (up to a certain extend), its consequences for other aspects will not be totally unforeseen and may be reduced, or might even be improved. This can be achieved with ‘integrated development’ approaches (where sectoral policies are being integrated). With a lack of control within spatial development, or in the case of spatial policies being misused, this may damage the other aspects. This poor appearance of spatial development, often as unforeseen outcomes of policies or non-policies can be headed as ‘urban sprawl’ (Squires, 2002).

Undesired outcomes of spatial development

Although the undesired outcomes of spatial development do not form the main topic of this research they do need a short explanation because it is important understand the negative outcomes of spatial interaction – the urban growth process addressed above – in order to show what is ‘supposed to be avoided’. This does not mean that the process of urban growth is only negative; it also has benefits (urban and economic growth often goes hand in hand).

Undesired outcomes of spatial development can be subdivided in two dimensions which are of concern in the Netherlands:

- urban sprawl (spatial morphological expression, related to form, insufficient
2.2 Spatial concepts of integrated transport planning

policies, lack of authority);

- oversupply of allocated land and property (programmatic expression, misuse of policies, competing interests, insufficient spatial planning policies, and with a lack of authority. Oversupply might be seen more as an artificial undesired outcome and a product of competing interests, competing policies or a misuse of spatial policies and a lack of coordination between public authorities (horizontal and vertical – multilevel governance). To continue, urban sprawl may be seen as a pure negative spatial expression, as a product of spatial interactions without spatial control. And although oversupply of allocated land and property is also a physical problem it might be interpreted as a negative programmatic expression (often characterized with monofunctional development) of undesired market outcomes (Krabben & Van Dinteren, 2010) and territorial governance in particular. This also might be seen as one of the reasons that in the Netherlands the term urban sprawl is a little unconventional, but why oversupply of allocated land and property is one of the most urgent problems within the field of spatial planning (indicated as one of the trends in appendix A); at least 15 per cent of all municipalities in the Netherlands suffer from oversupply of allocated land or property (ANP, 2012) – oversupply is partly the result of the rural-urban land conversions as property investment.

Despite that urban sprawl does not seem to be as dramatic compared to countries with very little spatial planning policies, it might be useful to take a closer look at the expressions of urban sprawl, and its causes – possibly such patterns can be found at the case study area. According to Squires (2002) urban sprawl can be defined as: ‘...a pattern of urban and metropolitan growth that reflects low-density, automobile-dependent, exclusionary new development on the fringe of settled areas often surrounding a deteriorating city.’ (pp. 2). Urban sprawl contains several dimensions: sprawl, density, continuity, concentration, clustering, centrality, ‘nuclearity’, mixed uses and proximity (Galster et al., 2001). Others (Ewing et al., 2002) mention low development density, segregated land used, lack of significant centres and poor street accessibility.

In fact urban sprawl can be simply explained according to a brief simulation of urban growth process addressed above: an area has been urbanized by the process of spatial interaction between infrastructure and land-use, but the authority of that area has insufficient spatial policies to control urban growth or has insufficient capacity to respond to external influences such as economic or mutual competition (Janssen-Jansen, 2010). The urbanized area has an attractive business climate and has a growing population. In this situation the urban area needs to extend according to its demand, but does this in its cheapest possible way (also because of pressure of the competitive market). In this form spatial development can lead to endless suburban areas – which can be seen as urban sprawl, characterized by low densities, no diversity (single use), ‘strip and leapfrog developments’, segregated land used, lack of significant centres and poor street accessibility (causing excessive travel time and costs) (Dieleman & Wegener, 2004).

According to Dieleman & Wegener (2004) urban sprawl has the following causes:

1. General causes relating to the general drift of change in developed societies;
2. Insufficient government policy, spatial planning related.

The first reason is mainly present in Western society, where under the network society socio-economic interactions changed rapidly, and where territorial planning agencies have not been able to respond to these changes immediately (Dieleman & Wegener, 2004; Salet, 2006). In third world cities which have been affected by globalization the absence of spatial policies plays a more important role. Historical and technological factors such as car use also have been mentioned in literature (Dieleman & Wegener, 2004) as one of the major contributors to urban sprawl, because the reaching distance by car is almost unlimited and it makes the driver less dependent on other ways of transport – it gives the driver individual freedom. They state that: ‘urban sprawl is the combined effect of growing affluence, changing lifestyles and the vast advance in personal mobility made possible by the private automobile.’ (pp. 309). With car use connectivity becomes more important than proximity. Considering the spatial development patterns of Needham (2007) and its consequences again, a link can be made between linear and dispersed developments along car roads, more difficult and more expensive to connect by public transport because of their widespread distances. This is a development which is not desired from the perspective of integrated transport planning which aims for connectivity and compact developments around transit nodes (VTPI, 2011).

As the simulation explained above already illustrated, another important factor which goes accompanied with poor spatial development can be found in the negative expression of ‘externalities’ – it can be considered an underlying component for spatial issues of urban sprawl and oversupply. The understanding of externalities might address the importance for regional governance.

Several expressions of externalities have been described: political externalities (Zywicki, 1998; Depoorter, 2006), environmental externalities (Zywicki, 1998), economic externalities (Aidt, 1998), agglomeration externalities (Meijers & Burger, 2009, De Vor & De Groot, 2010), positive and negative externalities (Netessine & Zhang, 2005; Jou & Lee, 2008), regional and urbanization externalities (Meijers & Burger, 2009), to mention some.

Originally, the term ‘externalities’ comes from economic literature. In the end externalities can always be expressed in financial costs or benefits. Sankar (2006) does an attempt to explain the definition:

‘Externalities arise when certain actions of producers or consumers have unintended external (indirect) effects on other producers or/ and consumers. Externalities may be positive or negative, and it occurs when an action by an individual or a group confers benefits to others. A technological spillover is a positive externality and it occurs when a firm’s invention not only benefits the firm but also enters into the society’s pool of technological knowledge and benefits the society as a whole. Negative externalities arise when an action by an individual or group produces harmful effects...’
Thus, externalities can be interpreted as extra costs which have been brought forward by decisions; decisions which might have been positive for the initiators, but unforeseen and negative for others. In terms of space, externalities can be interpreted as the situation whereby an authority takes (spatial planning) decisions for its own territory, which have an influence on the social, spatial or economic conditions in another jurisdiction. In the Netherlands, this can be expressed in competing (specific) public facilities such as swimming pools, theatres and shopping malls within one region, but also in the quantitative sum of spatial program such as housing stock, industrial estates and office parks. In such situations the region can get out of balance: too much mutual competition, too less diversification, too less specialization – according to the variables of externalities addressed by De Vor and De Groot (2010).

It often might be matter of competition, where the one authority wants to distinct itself from the others. This can be associated with authorities having high ambitions to support labour activity, economic growth, attractiveness or liveability within their territories. Without sufficient communication or coordination between public authorities this may lead to poor spatial development outcomes such as urban sprawl or oversupply in a region. In theory also can be found that both oversupply (De Vor & De Groot, 2010) and urban sprawl (Meijers & Burger, 2009) can be a result of externalities.

Clear communication and coordination between authorities in one region (Janssen-Jansen, 2010), and clear spatial visions and concepts for that region (Hartman et al., 2011) should avoid undesired spatial planning outcomes and incorporate ‘free riders’. Now it is reasonable to make the bridge again to morphologies of spatial patterns. Meijers & Burger (2009) talk about consequences of externalities on the spatial structure and relate this to the urban form (fig. 2.4). They explain this according to a diagram with two axes: (1) between centralized and dispersed development, and (2) monocentric and polycentric development. In fact this diagram brings together the spatial options which have been mentioned throughout this section. The diagram of urban forms can be projected on the case study area, which may help to find and support an appropriate spatial concept or approach for the area.

Regarding the interactive relation between the development of mobility and land-use, and its possibility for producing ‘undesired development outcomes’ expressed by sprawl and mono-supply or oversupply, it can be questioned what spatial planning concept can address such negative externalities of spatial development – one that recognizes and anticipates on this mutual dependent relation of mobility and land-use. It might be argued that with the approaches to integrated transport planning answers can be found. If it comes to spatial planning of regional infrastructure planning, different transport approaches can be distinguished according to Curtis and James (2004) (fig. 2.5):

1. Single modes;
2. Multi-modes;
3. Accessibility modes (which can also be interpreted as Transit Oriented Development – TDO).

The single mode transport approach is characterized with the development of specific mode network plans which can be about roads or public transport. Within this approach each mode-specific agency has its own interest and is (not always) concerned with the nodes along the specific transport line. This can be a public transport company providing bus transfers; in its planning the company does not take into account other public transport modes and stops along the bus line are not well connected to stations of other public transport modes such as subway or train. The multi-modal approach goes a step further and comprises integrated transport plans. This approach concerns a broader transport perspective where different modes of transport are better integrated and adjusted on each other. The nodes along the transport lines are well connected or integrated and different interests are shared between the public transport agencies. In this situation, the bus stop at the front of a train station and planning of transport modes is adapted to each other. In such situations, land use patterns often follow the conditions of the integrated transport plan. Thus land use is treated passively. With the accessibility approach land use and integrated transport planning is better integrated and makes better and more intensive use of the geographical aspects of the specific site. This approach is applied through the use of place-based plans where land use planning, transport planning and urban design are brought together. The geographical aspects
2.2 Spatial concepts of integrated transport planning

especially refer to the quality of the space around a transport node, where the following components can play a role (Curtis & James, 2004: 286):

- Spatial land use patterns (e.g. mixed use);
- Form of the physical environment at a sub-regional and local level (e.g. the interface between the transport network and adjacent land uses);
- Potential of economic and social drivers (e.g. retail shopping and employment).

In this situation, the different modes of transport such as bus and train are well integrated, and the integrated multifarious nodes are positioned in a lively spatial surrounding with public facilities such as a town hall, a library, commercial centres, but also social housing. In this way, the spatial environment supports an active multiple transportation network (high frequencies) and vice versa.

For the case study it can be questioned to what extent or degree integrated transport planning took place around the project – did the approach of the RGL-project correspond with the single mode, multi-mode or accessibility mode of transport planning? Because for the RGL-project a financial link between spatial development and the railway line can be found, it is expected that the degree to which integrated transport planning took place corresponds most with the accessibility mode.

The latter approach of Curtis and James is often associated with the spatial planning concept of ‘transit oriented development’ (TOD). According to the Victoria Transport Policy Institute (VTPI, 2011) TOD promotes: “…residential and commercial districts located around a transit station or corridor with high quality service, with good walkability, parking management and other design features that facilitate transit use and maximize overall accessibility.” (website).

But a further understanding is needed in order to assess the case study project according to the requirements of TOD and in order to make this concept applicable at the case study area (in the last stage of this research, when (alternative design) recommendations or proposals are done): What characterizes the concept or mechanism of TOD? What are the design principles that facilitate implementation?

Specific (spatial) guidelines and conditions for TOD can be found in the online database of the Victoria Transport Policy Institute according to the best practices in TOD (VTPL 2013) the following points of attention should be considered when it comes to the implementation of the concept:

- Create a vision for an attractive community.
- Integrate transit and land use planning.
- Provide high quality pedestrian and cycling facilities around transit stations, based on universal design.
- Manage parking to minimize the amount of land devoted to vehicle parking around stations.
- Encourage car sharing to reduce the need to own automobiles.
- Create compact, mixed-used communities.
- Create complete communities, with shops, schools and other services within convenient walking distances within the TOD neighborhoods.
- Structure property taxes, development fees and utility rates to reflect the lower public service costs of clustered, infill development.
- Understand and expand the market for Transit Oriented Development.
- Identify the types of households and businesses that are most amenable to TODs. Educate public officials, planners, developers, residents and business managers concerning the potential benefits of locating in a Transit Oriented Development.
- Encourage commercial development around transit stations.

From this list, visioning an attractive community might be one of the most important aspects with regard to the case study area. It needs to be said that TOD may not be successful without sufficient cooperation of the community. The community is extremely important if it comes to the liveliness and activity of a neighbourhood. This means that with regional visioning around TOD, collaboration with the community must be taken into account and should be seen one of the measurements for the implementation of TOD (Curtis et al, 2009). Additionally, it is not hard to understand that planning approaches as TOD are often complex and require intensive cooperation among wide and multiple ranges of stakeholders and those who are affected by the policies (Bertolini et al., 2005). The organizational and institutional perspective on TOD will be addressed under the next heading of institutional capacity building.

Despite the spatial theories on TOD tend to be very technical, they sometimes focus on spatial qualities also. As said above, regarding the scope of this research (the case study) the focus will be on the latter – technical details of TOD will not be used in the assessment of the case study. With having the case study in mind, also these spatial qualitative aspects of the concept need attention because (A) first observations of the case study show a variety in spatial environment around stations of the RGL-project (rural follows urban landscape etc.). Secondly (B), it can be investigated in how far the project corresponds with the spatial ambitions for the region as a whole and in how far it corresponds to the spatial characteristics, addressed above – (the spatial) embedding of the project.

A. Spatial differentiation by distinction of station typologies

When thinking of qualitative approaches of TOD also the stations can be considered, because transit oriented developments take place around nodes (e.g. nodal development). But this does not mean the nodes are generic and similar to each other – a single node (A) in a poor populated rural area is not the same as a transit node (B) in a high populated city centre. Earlier in this section the distinction has been made between purely functional or single nodes and ‘integrating centres of multifarious interaction’. These typologies depend on the combination of transport modes or infrastructural networks. Anyhow, the emphasis should be on a more refined distinction between the nodes based on qualitative factors (environmental characteristics such as functional program, cultural diversity, openness of space etc.) because nodes should be approached as places with potential qualities – which is called place-making orientation (VTPL 2011). Every type of node needs another adjusted approach. Based on the experiences of the project ‘Stedenbaan’ in the South Wing of the Randstad in the Netherlands, Balz and Schrijnen (2009) have distinguished nine degrees in potential developments, based on qualitative spatial dimensions:

1. Rural Areas: spaces in the middle of the landscape for housing development in the countryside and recreational use.
2. Small Towns: new housing sites close to small towns that can expand into autonomous, compact, lively, multifaceted communities set in the countryside.
3. Outskirts of Cities: restructuring areas on the quiet, spacious and green edges of the cities; these qualities can be consolidated, enhanced and used.
4. Cities of the Future: easily accessible areas, but highly accessible by road and local public transport; excellent places for experimental new employment and mixed use areas.
5. Business Sites: extensively used areas, but highly accessible by road and local public transport; excellent places for experimental new employment and mixed use areas.
6. Regional Crossroads: areas linked to one of the major motorways intersections in the South Wing; highly suitable for developing services with a supra-regional function.
7. Randstad Hubs: not intensively used areas, but highly accessible by road and local public transport; excellent places for experimental new employment and mixed use areas.
8. Creative Cities: urban centres accessible by every mode of transport well suited to new urban-type dwellings and creative workplaces.
9. City Centres: key sites, well served by every mode of public transport but less accessible by car; will have to be better designed for users of public transport.
This set of nodal typologies and station characteristics can be useful to assess the RGL project in the case study area on differentiation in spatial developments along the line, because this area is characterized with a similar diverse landscape as project Stedenbaan. Secondly, this approach might be helpful for the application of a ‘refined’ TOD concept for the RGL project, as a possible alternative to the current practice of policy adjustment on mobility and land-use. This refined approach of TOD regarded as integrated transport planning that recognizes different types of stations in the area and which proposes tailored development concepts for each station according to their characteristics.

B. Spatial embedding of the project in its region
At the case study area the ‘embeddedness’ of the project in relation to the region can be researched according to the following question: In how far does the concept behind the RGL project meet with the development concept for the region – if there is any concept or vision for both? This can be ‘measured’ by linking those concepts together. The importance of an (adaptive) regional concept is addressed by Hartman et al. (2011) and Zandbelt (2011). With a regional concept they aim for a more flexible approach that responds to the changing dynamics in the region (adaptive planning). Address the need for acknowledging the spatial qualities within the region (qualitative embedding: what characterizes the region?) and address the importance of defining the key interventions/projects in the region that support the ambitions for the region. Especially the latter argument can be important for addressing the link between the RGL-project and the vision for the region. In how far does the RGL support the regional vision? Is the project seen as the instrument to realize the regional ambitions or was the project an ambition on its own?

1. To define or apply an integral transport planning concept it can be questioned to what extent or degree integrated transport planning took place around the project – did the approach of the RGL-project correspond with the single mode, multi-mode or accessibility mode of transport planning?
2. To define the spatial differentiation of the transit zones along the line or for the proposal of a ‘tailored’ TOD concept as an alternative for the current practice, the project can be analysed through the distinction of station typologies. What are the spatial and programmatic implications of the RGL? What type of station environments can be found along the line? How are the nodes connected to other public transport nodes (multifarious nodes of interaction)? What type of developments can be found around the nodes? What building heights do these buildings have?
3. At the case study area the ‘embeddedness’ of the project in relation to the region can be researched according to the following question: In how far does the concept behind the RGL project meet with the development concept for the region – if there is any concept or vision for both? In how far does the RGL support the regional vision? Is the project seen as the instrument to realize the regional ambitions or was the project an ambition on its own?
2.3 Integrative concepts for the institutional environment

There are also theoretical approaches to institutional structures with a particularly horizontal orientation.

Institutional layers
Koppenjan and Groenewegen (2005) make a distinction between different institutional environments according to a ‘four-layer model’. The model represents four types of institutions and their environment with a vertical relation (fig. 2.6):

- Layer 1: Actors and games
- Layer 2: Formal and informal institutional arrangements
- Layer 3: Formal institutional environment
- Layer 4: Informal institutional environment

The model starts with the fourth level of the ‘informal institutional environment’ (characterized by culture, norms, values, orientation and codes). This informal institutional environment can be seen as the most flexible layer, close to society and quickly responding to social and economic interactions, in contrast with the relatively slow responding formal institutional environment, formed by ‘nested territorial institutions’ (Salet, 2006) operating in a political climate ‘that has little tolerance for intertwining of public and private interests and where self-enrichment and waste of government money is relevant.’ (Koppenjan & Groenewegen, 2005: 248 – table 1). Secondly the model shows the important influence of the fourth layer of the informal institutional environment on other levels – the influence on the mindset of agents in networks at the first level: ‘this level influences the perceptions of agents with respect to the problems they identify and the solutions they consider feasible. It determines what kind of incentive structures are acceptable and what would be effective.’ (Koppenjan & Groenewegen, 2005: 246)). From this point of view it might be argued that the other layers of institutions are partly or should be based on the informal institutional environment in order to legitimate decisions.

Nested territorial institutions & strategies of flexible response
From another perspective, a distinction can be made between the ‘nested territorial institutions’ and the ‘constitution of strategies of flexible response’ (Salet, 2006). As the name already says, the ‘nested territorial institutions’ are often characterized with a long tradition of existence and are supported by formal rules, laws, regulations and constitutions. Within the four-layer model of institutional layers by Koppenjan and Groenewegen, the nested territorial institutions can be positioned in the ‘formal institutional environment’ (layer 3). These institutions can be public administrations with their own jurisdictions such as provincial or municipal governments, but also water boards. The jurisdictions often overlap – the Dutch network of governmental agencies is characterized with an ‘institutional density’ (Hajer & Zonneveld, 2000).

In addition, due of the changing conditions pushed forward by the network society, the nested territorial institutions do not always have sufficient institutional capacity; when their jurisdictions do not cover projects or relations which are cross-border, and with the absence of direct financial resources, specific knowledge or legal power. Such uncovered ‘institutional
2.3 Integrative concepts for the institutional environment

voids’ in the Netherlands often take place at the regional level (Zonneveld et al., 2012). As mentioned in the introduction of the thesis (chapter 2) and regional ‘gaps’ can be seen as an uncovered ‘institutional void’ between provinces (the formal regional government) and state, and between province and municipalities. At these administrative gaps at regional level (provincial government) most challenges take place in terms of governance and policy integration. In particular, this is the case with regional infrastructure projects, which cross multiple jurisdictions.

According to Allmendinger & Haughton (2009) such projects can be placed in the perspective of ‘soft spaces’, where hard spaces are considered as the legal jurisdictions, the soft spaces can be cross-border and have ‘fuzzy boundaries’. They further argue that with a ‘spatial focus of strategy’ the types of spaces can be interpreted. These spaces need appropriate forms of governance, where hard spaces are characterized by ‘government bodies’, soft-spaces may be governed by ‘non-governmental bodies’ in such cases the nested territorial institutions often miss the institutional capacity and are in need of flexible, (temporary) strategic institutional frameworks which can respond quickly to social, economic and spatial changes, and have legal powers for the governance of cross-border issues. Such structures are called ‘the constitution of strategies of flexible response’ (Salet, 2006).

For the case study area, it will be interesting to investigate whether an institutional void exists. Especialley at regional level this could be relevant, where conflicts between municipal and provincial governments might take place around projects that cross the ‘fuzzy boundaries’ of various jurisdictions. Therefore, a further elaboration is needed of possible concepts and agencies that have the potential to anticipate on the institutional complexities and which have the capacity to overcome the regional gaps.

Strategies of flexible response do not need to be confused with the ‘informal institutional environment’ (layer 4) in the four-layer model of Koppenjan and Groenewegen; the strategies of flexible response do not only take place around cultures nor values and norms, but represent the horizontal organizational structure of institutions and agreements. Strategies of flexible response commonly take place according to rules and laws, which make them formal institutional structures. The relation between the nested territorial institutions and strategies of flexible response can also be compared with the two types of governance, briefly described in an article by Zonneveld (2010), drawing on Hooghe and Marks (2003):

- **Type I** based on official public authority boundaries and the hierarchical relationships between tiers of government. It reflects the world of formal spatial planning which is usually legitimized through the conventional methods of political decision-making.
- **Type II** based on specific planning tasks. The spatial boundaries and the cast of players are both open. Often, Type II governance is ad hoc, project bound, and therefore flexible.

Looking at the characteristics, Governance Type I is comparable with the tasks of nested territorial institutions. Governance Type II takes place around the constitution of strategies of flexible response. Also Albrechts (2006) and Allmendinger and Haughton (2009) acknowledge this relation in their articles by saying that strategic spatial planning often is accompanied with new forms of institutional structures with a high presence of flexibility. In addition, it is important to understand that either governance types, or institutional structures, are present at the same time; they are interdependent. Governance Type II will not even work without Type I nested territorial institutions are needed that ‘constitute a constitution of strategies of flexible response’.

Within the context of regional infrastructure projects which are often cross-border, the relation between both the two institutional structures seems inevitable. The ‘Steigendekrom Project’ (Baltz & Schrijper, 2009) – and possibly, the RGL-project in the case study area – might be considered as ‘hybrid projects’ that involve governance Type II, but not independent from governance Type I. However, next to this horizontal relation these projects also have in common the vertical orientation, involving multiple institutional layers. The scaling and repositioning of the institutional structures around such projects is characterized with both vertical and horizontal agreements, which require a lot of coordination and integration. This will be explained below.

2.3.2 Institutional arrangements: ‘the mutual fit’

Institutional arrangements can have a vertical and a horizontal dimension. Arrangements have a (multilateral) vertical dimension if they have been made between different layers of institutions. In a horizontal dimension arrangements are made between institutions on the same layer. The latter needs further explanation.

Institutional arrangements between public institutions know a long tradition in the Dutch culture of spatial planning (in the study on Dutch planning (appendix A) explained as the process of negotiation). In the current planning system, (local) planning agencies have access to instruments such as ‘indicative plans’ and ‘planning documents’ (e.g. structure visions – appendix A) which in general form the key for inner-governmental agreements (Hajer & Zonneveld, 2000). Regarding the institutional frameworks addressed above, it might be concluded that these inner-governmental agreements are made within the nested territorial institutions, characterized by governance Type I. As said before, due to the changing conditions pushed forward under the network society, these inner-governmental agreements are not always sufficient; to overcome cross-boundary issues, the Dutch spatial planning system is in need of ‘inter-governmental agreements’ between public agencies, private actors (e.g. real estate companies, enterprises), societal actors (e.g. NGO’s) of similar and different levels of scale. These arrangements are being made within the constitution of strategies of flexible response, characterized by governance Type II.

It has been mentioned that strategies of flexible response can hardly be formed without the presence of the nested territorial institutions, or in other words, that governance Type II will not work without Type I (Hooghe & Marks, 2003). Type II governance (temporary from character) is needed to fill the gaps between the nested territorial institutions. Therefore inter-governmental arrangements are being made. Such processes are also called the ‘spatiotemporal fit’ (Allmendinger & Haughton, 2009) or ‘mutual fit’ (Salet, 2006).

With the recent chosen path of the national government of devolution of planning tasks – which are not only of national important – to agencies at a lower administrative level (both provincial and municipal), the discourse of horizontal institutional agreements have become even more important. This exploration of can be positioned in the context of the institutional layers mentioned above: the discussion on ‘horizontal’ and intra-governmental arrangements takes place in a horizontal organizational structure of institutions and agreements (layer 2).

2.3.3 Adjustment of policies: integration, coordination, cooperation

The institutional environments and structures have been explained, together with anticipating agreements and strategies that deal with the institutional complexity. But how can such agreements been made? What is needed to achieve inter-governmental agreements? An answer for this might be found in the adjustment of policies. From the perspective of policy making (Van der Meijers, 2004) regard policy integration ‘…as the management of cross-cutting issues in policy-making that transcend the boundaries of established policy fields, and which often do not correspond to the institutional responsibilities of individual departments.’ (2004, 03). This seems relevant for the case study because (drawing on the theory of Koppenjan and Groenewegen, 2005) the RGL-project can be seen as complex system that requires participations of various institutions or actors which often have their own policies – it might be argued that most institutions make policies, for their own benefits
2.3 Integrative concepts for the institutional environment

Fig. 2.7 Schematic diagrams of degrees of policy adjustment (Stead & Meijers, 2004)

2. Integrative concepts from theory

Stead and Meijers (2004) describe several degrees of policy adjustment from the perspective of ‘policy-making’ (Fig. 2.7):

- **Cooperation**: implies dialogue and information (more efficient sectoral policies).
- **Coordination**: implies policy coherence and policy consistency (adjusted + more efficient sectoral policies).
- **Integration**: includes dialogue and information, policy coherence and policy consistency, joint working, create synergy and same goals (joint new policy).

According to this model the modes or degrees of policy adjustment can be placed in a hierarchical order: from cooperation to integration. The degree of operation is determined by interaction, interdependence, formality, recourses needed, loss of autonomy, comprehensiveness, accessibility and compatibility (between actors). Where ‘cooperation’ implies dialogue and information between policies, ‘coordination’ goes a step further – in this form policy making has to be more transparent and coherent, whereby conflicts need to be avoided. ‘Integration’ or ‘integrated policy making’ recognizes the same characteristics as cooperation and coordination but as the word refers to, in this form policies are integrated into one policy. Therefore joint working, the use of same goals and creating synergy is needed. This model shows that integration of policies is the opposite idea of ‘cooperation’, where institutional responsibilities of different departments, organizations or stakeholders stay strongly remained and separated.

Stead and Meijers further argue that integration can take place in different ways: horizontal sectoral integration (between different departments and professions in public authorities), vertical inter-governmental integration (between different tiers of government) and according to combinations of both. Also combinations of integration and coordination are possible. Curtis and James (2004) address that different modes of policy adjustment are often combined and adhere somewhere between the degree of coordination and integration. This is represented situations where a distinct is made between central organizations and others, the central organization gets a ‘steering’ (managing) role of the whole process, while other organizations are hold responsible for ‘rowing’ (implementation). In such model, it is usual that the central organization is formed by others, and that the organizational structure of the coordinating body is supported by the representatives of all the organizations; all organizations are connected, directly and indirectly.

For the case study area, such combined forms can perhaps be seen in the central project organization, which is set up around the RGL-project. This organization is formed by various representatives of the involved participants (public authorities (province, municipalities) and (semi-)public (ProRail, water board) or private bodies (Chamber of Commerce – KVK). It is also expected that the organization has a portfolio of varying tasks: for example the adjustment of policies on transport infrastructure and land-use. This shows that adjustment of policies is often expressed in different ways. From this perspective it might be asked if there are different policy types or categories of policies which can be adjusted.

In the literature review of ESPON (2013) drawing on Brassous (2004) three categories of ‘policy integration’ (integration might be interchangeable for the other modes of operation) are defined:

- **Sectoral integration** (cross-sectoral integration and inter-agency or stakeholder integration);
- **Territorial integration** (vertical and horizontal integration);
- **Organizational integration** (strategic integration and operational integration).
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Sectoral integration ‘...is about the ‘joining up’ of different public policy domains and their associated actors within a given territorial area.’ (ESPON, 2013: 8) quoting (De Boe et al., 1999: 15). It might be argued that in general this process falls under the discipline of law- and policy-making (Mastop, 1991) – management laws, such as AMVb – Algemene Maatregelen van Bestuur). Integration and coordination of (public) sectoral policy domains take place to make them more efficient, to address competing and contradictory objectives, and to align with complex interactions between multiple arenas of public policy interests, in order to achieve a predominant goal. In spatial planning this form of integration plays an important role, especially when it comes to complex projects which cross multifarious environmental facets and which may have a considerable environmental impact. Sectoral integration can be distinguished in two dimensions: ‘Cross-sectoral integration’, covering different policy arenas which operate at multiple scales and ‘inter-agency’ or ‘stakeholder integration’, which refers to integration between public, private, civil sector agencies.

Territorial integration ‘...is about the integration of public policy domains between territories.’ (ESPON, 2013: 8) quoting (De Boe et al., 1999: 15). The aim of territorial integration is to achieve and legitimize efficiency in facets as governance, globalization and sustainability. Especially in terms of large (regional infrastructural) projects which cross borders of multifarious territories or jurisdictions, this is a relevant option. This action is also advocated to address positive and negative externality effects (externalities) of such projects. From the perspective of a regional cross-border project, integration of territories seem to be a drastic mode of operation (as governments have other responsibilities that fall under their jurisdictions besides such a project, e.g. education, healthcare); therefore coordination seem to be a more appropriate measure. Territorial integration recognizes two dimensions: if policy coherence takes place across spatial scales this is called ‘vertical integration’, and when policy coherence takes place between neighbouring authorities (nations, provinces, municipalities etc.) and areas with some shared interest this is called ‘horizontal integration’. Organizational integration can be seen as the ‘cooperation between parties.’ (ESPON, 2013: 8) quoting (De Boe et al., 1999: 15). This form of integration is required to achieve both sectoral and territorial integration. According to the article of ESPON (2013) supporting arguments of Kidd (2007), the organizational integration emphasizes the actor perspective and might even frustrate attempts for sectoral and territorial integration, when applied altogether. Also organizational integration can be categorized, in: ‘strategic integration’ which is about the alignment of linked strategies, programmes and initiatives (e.g. strategic visions or structure vision documents), and ‘operational integration’ concerns the alignment of related delivery mechanisms (e.g. funding mechanisms or legal land-use plans). In other words, from the perspective of organizational integration we have a coupling between (strategic) spatial visions, objectives and spatial concepts at the one hand, and operational decision making at the other hand. It can be argued that both dimensions relate to each other when the following to questions are raised:

- What needs to be integrated (or coordinated or cooperated) – sectors/territories/organizations
- To what extend or degree do sectors, territories or organizations need to be integrated? – integration/coordination/ cooperation

This dialogue or approach might be useful for the assessment of the case study, where policy adjustment possibly can be applied in different dimensions. This can be explained by some examples, according to the different types of policy adjustment:

Policy adjustment for institutional reform (territories)

The repositioning and rescaling activities around the relations described above, brings forward the discussion whether the transformation of institutional structures should take place according to the degree of integration, coordination or cooperation. Note that the descriptions above mainly concern coordination activities, or a combination of coordination and integration, and not integration alone. How could territorial policy adjustment take place at the case study?

Imagine the situation of a regional infrastructure project, crossing multiple jurisdictions. The local governments or planning agencies (municipalities) do not have sufficient capacity for the realization of the project. Here there are several ways possible; integration, coordination or cooperation can take place, in a vertical or horizontal axis. The municipalities can work to together (horizontal coordination), but they can also join-up and function public administration (horizontal integration). In the same way the institutional structure can be reformed in a vertical context: the municipalities can work together with higher levels of governance – provincial and national agencies (vertical coordination), or they operate in one within one public body (vertical integration). In terms of institutional reform the latter example is not likely; in the case of a regional infrastructure project, often institutional structures with coordination between multiple layers of governance are present. Also, for the horizontal axis counts that coordination or cooperation is more likely than integration (in terms of institutional reform – and not in terms of laws and policies, for which integration is more common). It would not make sense if municipalities with their own jurisdictions (including their constraints – concerned with more issues than spatial planning only) integrate, because a regional infrastructure project is not indefinitively; they are based on (strategic) spatial planning objectives instead, which are selective and temporary in most cases (Albrechts, 2004).

Therefore coordination and cooperation activities, or a combination of coordination and integration activities, in both horizontal and vertical ways, are more likely than integration only (in terms of regional infrastructure projects). The degrees of policy adjustments in terms of institutional reform have the potential to facilitate the development of institutional structures and relations such as the ‘strategies of flexible response’ (in relation to the ‘nested territorial institutions’) earlier addressed. This means that in the case illustrated above the public administrations (national, provincial and municipal government) need to consider the nested territorial institutions. In order to address the cross-border issues with regional infrastructure, the public administrations for temporary project organizations (constitution of strategies of flexible response), with its own legal powers, with specific tasks, agreements (intra-governmental agreements) and which can respond quickly to social, economic and spatial changes (governance Type II). Hereby, the project organizations are often accompanied by representatives of the public administrations. These repositioning and rescaling activities around institutions can be considered as ‘territorial coordination’.

Policy adjustment related to regional transport infrastructure (sectors)

Some of the organizational relations between institutions have now been described (also appendix A), which can be considered and interpreted more in general and in different ways. From the perspective of the project in the case study area it makes sense to look closer, to the role governance has in projects of regional infrastructure; hence adjustment of policies can be placed in the context of integrated transport planning. Thus, it might be questioned what configuration might be appropriate in terms of integrated transport planning?

From this perspective Curtis and James (2004) have formulated how the degrees of policy adjustment should organize the different components around integrated transport planning; where organizations, laws and policies meet each other – stating that integrated transport planning has a much broader context than just land use and transport integration only. Drawing on a document of the Department of Environment, Transport and the Regions [DETR] (1998), they identify three areas of integration:

- Integration of modes
- Integration of transport and land use [sectoral integration]

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- Integration with ‘whole of government’ policies [territorial integration]
  The ‘integration of modes’ can be seen as a transport policy, and refers to the integration of different transport modes at specific locations, in order to improve the efficiency of public transfers and to reduce travel time.
  The ‘integration of transport and land use’ can be simply explained by the idea that this form of integration aims sustainable spatial development, by using the ‘modes of multifarious interaction’ (supported with transport policies) as the framework for fostering compact spatial development with high densities around transport nodes – which is in fact the concept of TOD. As explained above this works vice versa: these policies stimulate the capacity and frequency of public transport, which creates a higher demand for spatial provision (especially around these transport nodes). Finally, the new spatial development leads to a bigger pressure on public transport and asks for larger capacity and higher frequency. The integration of both policies should bring forward that this process gets covered and stays in balance (both transport and land use are regulated) and negative externalities (as urban sprawl, together with its costs) are reduced. Because transport and land-use policies are often aimed by authorities at the same level – whether public (cross-sectoral between different departments) or private (inter-agency between different authorities) – this can be regarded as a form of ‘sectoral integration’.

- Policy adjustment of strategies and instruments (organizations)
  As explained above the adjustment of policies in terms of organizations is regarded as the alignment of linked strategies or of related delivery mechanisms. It can be argued that this is more an instrumental expression of policy adjustment that facilitates the process of implementation of ideas. From the perspective of integrated transport planning, this can be explained according to adjustment of instruments and actions which are needed to make the project realized. This raises the question of how organizational integration could be translated in the RGL-project, which is a regional transport corridor.
  As said above, organizational integration can be divided into strategic integration and operational integration. In terms of strategic integration it can be argued that involved authorities should align their structure vision documents (appendix A), integrating the different policies into one document, aligning concepts and giving priority to projects within their general vision documents, in order to communicate their ideas to other potential participants. This illustrates that authorities (e.g. provincial government) not only need to be communicative, they also need to be selective in order to be strategic (Albrechts, 2004, 2006).
  In terms of operational integration it can be argued that the delivery mechanisms such as land-use plans or financial structures and agreements should be aligned. However, it can be expected that these instruments often have high legal powers and are less flexible than strategic instruments. From this perspective – it might be argued – it is difficult to integrate a sectoral restrictive project plan for waterways with a legal sectoral plan of railway infrastructure in case of a bridge. In such cases the policies are aligned, but do not necessarily have to be integrated. Because legal plans are less flexible and adaptive it might be argued that integration would be a ‘bridge’ too far: the degree of coordination might be more desired in terms of operational policy adjustment.
  As might be seen in the two examples addressed above adjustment of policies in terms of organizations corresponds with the operational or process dimension of Koppenjan and Groenewegen (2005) and Hartman et al. (2011). Strategies that facilitate the process are therefore further discussed under the heading of operations.

2.3.4 Resources

In order to adjust policies within a situation (organizations, laws, policies, regulation, etc.), the available resources need to be addressed; without an understanding of the available resources integration, coordination and cooperation do not make sense. Note that resources imply a wide range of useful sources or supplies (which also have to do with skills, competencies), and hence include the dimensions of policies, laws, organizations etc. addressed above. It might be argued that the amount of size of resources determine the level of institutional capacity: the more resources, the more powerful and effective the institution is (Gupta et al., 2010) drawing on (Hoë et al., 1996; Mendelssohn & Nordhaus, 1999; Nelson et al., 2010) and (Healey, 1992; González & Healey, 2005). For instance, Stead and Meijer (2004) argue that environmental groups (NGO’s) often have limited resources and capacity for research or publicity to support their arguments, compared to interest groups, which often possess more financial capital.

For the case study area it would be useful understand what resources the involved authorities and stakeholders had at their disposal, in order to analyse how negotiations took place: for instance, did the participant had a lot of expertise, money or legal authority in order to influence the decision-making process?

Therefore is reasonable to take a closer look at what resources stand for, or what it can be. A resource can be a source or supply. A resource can be tangible or intangible, and can be subdivided in different categories such as material resources, rules and ideas (Healey, 1992) – which also touches upon the institutional layers (e.g. rules and games) of Koppenjan and Groenewegen (2005). An organization or institution can gain profit by using their resources (Needham, 2007). Finally, resources can be managed, with instruments or tools (Curtis & James, 2004), which is also called ‘resource management’. In general, and in the light of this research, resources can be headed into:
  - Natural resources (land, products, goods) – tangible
  - Human resources (labour, intellectual and human capital) – intangible
  - Financial resources (financial capital) – intangible
  - Legal resources (legal capital, authority) – intangible
where regional infrastructure projects are point of subject, more specific types of resources are likely to be mentioned. Curtis and James (2004) explain several types of resources, relevant from the perspective of community capacity. However, it might be argued whether these could be typed as resources. In particular the chosen definitions do not seem to stroke with the notion of a resource. Definitions as ‘pricing’ or ‘strategic asset management’ more touch the idea of a coordination tool (such as ‘policy making,’ ‘funding’ and ‘research and monitoring,’ addressed later in their article). Albeit both series have a different meaning, the types of resources and tools seem to be tangled up. In addition, the relation is not clear. For instance, it does not seem likely that ‘regulation and governance’ can be coordinated by ‘policy making,’ and ‘pricing’ by ‘funding.’ In fact this represents a tool coordinating another tool. Instead, policy making can be done with the purpose to save intellectual property, support patents, or to pursue a sustainable approach on land use, which is a natural resource. In addition, in terms of resources, maybe authorization and regulation can be typed as ‘legal capital’ which is a formal definition used in literature (Mahoney & Pandian, 1992), or falls under ‘authority’ (Gupta et al., 2010) drawing on Biermann (2007); hence the fact that a regulation or law can support or strengthen the power, influence and efficiency of an institution. Addressed by Gupta et al. as the: “…provision of accepted or legitimate forms of power; whether or not institutional rules are embedded in constitutional laws.” (2010: 06 – table 1).

I want to conclude here that it might be more useful to stick to the idea of financial, intellectual and legal capital – or as addressed by Gupta et al. (2010): ‘financial/economic resources’ and ‘authority’ – which might be the most influencing resources in the decision making process and could play a major role as determining factors for (adaptive) institutional capacity (Gupta et al., 2010). It is worth to pay some specific attention to these resources.

### Legal capital

Legal capital (Mahoney & Pandian, 1992) can be compared with ‘authorization and regulation’ as ‘rules’ (Healey, 1992); described by Curtis and James (2004) as a traditional resource – formal because of its statutory planning controls for land use planning or transport regulation. These important planning controls can be laws of regulation and statutory planning documents. Especially laws play an important role in the Dutch system of spatial planning. They support spatial planning policies, determine how planning agencies of all scales should act, and what instruments they can use – in this way laws have an important impact on the power of a planning agency. Note that within decision-making arenas (often characterized by a variety of stakeholders) (Albrechts, 2004 & 2006) this type of resource supports the public agencies in particular – not the private stakeholders, which operate under private law (Needham, 2007). It is the laws of regulation which are subject to change, in the recent reforms in the Dutch system of spatial planning (appendix A). Some of the laws of regulation which have been changed recently, or which are subject to change at this moment:

- WRO (Wet op de Ruimtelijke Ordening) > Wro (Wet ruimtelijke ordening – general law of spatial planning)
- AMvB (Algemene Maatregel van Bestuur – general administrative order)
- ‘Bestemmingsplan’ (land-use plan) > ‘Omgevingswet’ (environmental law)

These important changes in legislation have been described in the study on Dutch spatial planning. In the case study it can be investigated if the legal authorities had enough legal resources to make the RGL project feasible. For instance, did the provincial government have enough legal capacity in terms of the ability of planning instruments (e.g. land-use plans), in order to facilitate the implementation of the project?

### Intellectual capital

Intellectual capital or its substantive: human resources (Bontis et al., 1999) have to do with the available knowledge. It might be interpreted as the expertise of a stakeholder. Imagine a complex project with diffuse structures but with clear goals and objectives, as is often the case with projects of integrated transport planning. These projects are also characterized by a wide range of actors. Especially in such situations it is important that every party or stakeholder knows its own tasks and operates according to their own expertise, in order to achieve the overarching objectives. And even more important is that these parties are selected because of their expertise knowledge, to pursue a balanced organizational structure. The expertise differs among the range of stakeholders. The expertise can be categorized into several headings and associated with possible types of stakeholders:

- **Environmental** – different tiers of government/public sectoral agencies, consultancies, NGOs.
- **Land-use / development** – different tiers of government/public sectoral agencies, real estate companies.
- **Transport** – different tiers of government/public sectoral agencies, (public) transport companies.
- **Social and civil** – different tiers of government/public sectoral agencies, local communities/civil organizations.
- **Management** – different tiers of government, consultancies.
- **Legislation and juridical** – different tiers of government, specialized juridical offices.

It is noteworthy that public administrations (different tiers of government and public sectoral agencies) consultancies often have available different categories of expertise; there are different types of public sectoral agencies and consultancies with specific knowledge. The different tiers of government refer to the whole governmental body at one scale (including the different public sectoral agencies), and can therefore be considered to have a little bit of everything (aware of all expertise).

For the case study area it is important to be aware of the fact that different stakeholders have different expertise; what is the stakeholders’ expertise? Have they applied their knowledge and in how far did this correspond with the dedicated tasks and own interests? It can also be investigated in how are the expertise is adjusted or integrated between stakeholders of the project.

### Financial capital

From economic theory it can be understood that financial capital or resources are the physical and monetary assets that have an influence on the value of an organization or a project (Bontis et al., 1999). It can be seen as a stakeholder’s investment in a project. In other words this means that the finance of a project depends on the money made available by the investors. With regional infrastructure projects – characterized by a wide range of stakeholders – it is often the case that each stakeholder or party invests a different amount of money. This depends on the interest and the financial power of a stakeholder. Often, interest and finance are linked to each other and interest is measured by financial investment. Not only interest, but also risk and reward are linked to the percentage of financial investment. This share of investment is called ‘equity stake’ (Hale, 2008). Hale explains that equity stake plays an important role in ‘equity-based business partnership’, whereby an investor with for instance, an investment of 51% also has a major influence in the project, but also bears the risk and gains (if possible) according to this percentage. This type of investment is often agreed within financial arrangements. It might be questioned if with complex projects of regional scale and with a long time span the share of investment or contribution should be fixed.

But maybe the type of investment even plays a more important role in regional projects with public-private partnerships (since public agencies do not necessarily have to gain profit where private investors have to – public and private investors have other interests). Thus, public actors have other financial resources.
than private parties; they get their money by other ways and have different purposes with their financial investment. From this perspective these types of investment can be categorized:

- **Public financial investment** (by subsidies and taxation models) – there is no need for a financial profit according to the outcome of an investment, a balance is sufficient.
- **Private financial investment** (by own financial gains) – a surplus for the share of investment is desired in order to survive.

In projects with a wide range of stakeholders, these two interests are often the cause of painstaking negotiations. Private companies often want to get financial profits out of their investment, whereas public administrations only have to legitimate their financial investment by providing services (however, the investment should be reasonable, approved by citizens, and estimated as expected). This relationship may also be the reason why public parties often bear the risk for private stakeholders which otherwise do not invest their money in valuable and risky projects, especially in times of economic crisis.

This complex situation brings forward new questions of where the financial investment for projects should come from (which stakeholders and what sort of money) and what (flexible) structures are needed. Funds or crowdfunding can be seen as possible new tools for investment, which are discussed further in this section.

**2.3 Integrative concepts for the institutional environment**

But how can capacity building be achieved? According to Healey (1998) clear communication among different stakeholders and greater flexibility belong to some of the key characteristics of institutional capacity, which is:
- **…is the context within which where there is sufficient appreciation, trust and communicative skill for different stakeholders to find their ‘voice’ and ‘listen’ to each other involves not merely careful design of specific communication arenas;**
- **…is characterized by a rich social infrastructure (richly informed, and outwardly oriented networks where knowledge – intellectual capital – can flow around) of positive relationships between governance, citizens and companies;**
- **…allows rapid mobilization to new circumstances and enables flexible responses to be designed and developed (delivering of policy objectives of concern to all stakeholders);**
- **…with a focus on enhancing the ability of place-focused stakeholders to improve their power to ‘make a difference’ to the qualities of their place, which can be enforced by collaborative planning.**

Drawing on the latter, according to Healey this capacity has three dimensions: (1) the knowledge resources, (2) its relational resources, and (3) its capacity for mobilization. These resources slightly intertwine with the range of resources mentioned earlier (intellectual capital or human resources, legal or organizational capital and financial capital).

Institutional capacity building calls upon the available resources. The resources can be joined or scaled up (according to the degrees of policy integration also). As said before stakeholders can share knowledge, but they can also give financial support to achieve a higher total investment budget for a project (what will only be done when the project concerns interest of the investors). In terms of rescaling of resources they can be distributed to higher authorities. In the case it is desired to raise the capacity of an institution for instance, there will be tried to rescale the claim on the (sometimes un) available resources to another level of authority. Hereby the amount and size of resources play an important role. This distribution of resources is called ‘resource allocation’ (Healey, 2007). The bundling of resources corresponds to a large extent with the adjustment of operational policies addressed above.

For instance, when a provincial government has the intention to reallocate a regional project of transport infrastructure it does not have all the resources to achieve this:
- **…in terms of (a) legal resources this might depend on laws and regulations (defined by national government: public law, law on spatial planning – Wro), the available legal planning instruments (e.g. provincial land-use plans) and other lower public authorities which are ‘automatically’ affected by the new policy, because the project crosses their territory;**
- **…in terms of (b) intellectual resources the provincial government may not have all the technical expertise regarding the infrastructure and therefore needs to involve (often semi–public or private actors and institutions);**
- **…in terms of (c) financial resources it is likely that the provincial government does not have enough budget to get the project financed and is therefore dependent on author investors to become ‘stakeholders’ of the project. This can be public and private actors. For the public authorities that are involved in the projects because it connects their territories, the provincial government usually expects that they contribute because they will benefit from the new project (improved connectivity).**

This illustrates the idea that a provincial government is very dependent on other actors, usually raises its capacity by using resources of others. This is not without consequences; other stakeholders will have more influence on the project – they expect that their interests are represented in the project. This process requires compromises from all parties, often through a process of negotiation.
2.3 Integrative concepts for the institutional environment

But resources are only a substantial part of (institutional) capacity building. Gupta et al. (2010) state that this is just one of the six dimensions (variety, complexity, room for autonomous change, leadership, availability of resources and fair governance) which play a role in the adaptability of institutional capacity. To come back to the systematic framework proposed; they have developed an ‘institutional capacity wheel’ to measure the adaptive institutional capacity. This method is interesting because of its comprehensiveness, and it contains several of the components addressed in this section. Nevertheless this approach contains too many variables; the research needs to be done by a team of professionals and data needs to be validated by several members of a single stakeholder. Therefore the assessment criteria for adjustment of policies (and resources) addressed above might be sufficient to assess institutional structure and capacity of the project at the case study area.

For the assessment of the case study area it further can be questioned in how far the involved agencies had the capacity to integrate policies and in how far they had the available resources for doing so. Secondly, it can be questioned in how far there was the governance culture to achieve this?

2.3.6 How to apply at the case study?

As said above in this paragraph, the changing use of space does not only meet with the institutional configuration, which is expressed in a regional gap between provincial and municipal administration. In particular around regional transport infrastructure projects which are cross-border and ask for an integral approach of various sectoral policies, institutions, agreements and available resources, appropriate institutional structures are needed with sufficient institutional capacity. In order to assess the institutional environment around the RGL project at the case study area and to the support of possible institutional design alternatives for the case the following researches can be done:

1. The existence of an ‘institutional void’ between provincial and municipal administration can be investigated at the case study area – in how far are the involved institutions established a central project organization (framework of 2.3 Integrative concepts for the institutional environment)?

2. To what extent have policies been adjusted (sectorally, territorially and organizationally), in particular around mobility and land-use (sectoral) in order to support the RGL project – to the degree of integration, coordination or cooperation? In how far did involved government adjust their policies? In how far can sectoral departments and public and private actors adjust their policies? In how far did strategies, visions and other legal instruments have been adjusted?

3. It can also be investigated to what extend institutional capacity has been built up within the institutional structure around the project, in order to support policy adjustment. Did the involved actors (and central authority or organization) have the right instruments or resources? In how far the involved (public) institutions have the governance culture to strengthen institutional capacity?

4. In terms of the available resources the distinction can be made between the legal, natural, financial and intellectual resources. To what extent did the involved institutions have appropriate legal resources coordinate the project or to align policies? To what extent to the actors have the (technical) expertise regarding the project? How is the financial contribution between involved actors been arranged?

2.4 Strategic planning and integral funding concepts

The institutional and policy reforms which are needed to support the spatial ambitions (expressed in concepts and visions) cannot be achieved in one day. Such changes often require long-term processes of negotiation. These processes can be steered or facilitated by different approaches and instruments. Such approaches particularly can be found in strategies which define actions on the long- and short-term. It can be expected that the RGL-project of the case study also requires long- and short-term thinking because of its high complexity, large scale, and involvement of various stakeholders and decision-makers. But what operational structure, steering mechanisms, instruments or strategy would be appropriate to canalize the process of realizing the project ambitions? This paragraph draws on the operational part of the main research question; what are the issues around the decision-making process of a regional transport infrastructure project and what strategic models or concepts can support the operational structure (e.g. steering the available resources)? The purpose is to find appropriate strategic concepts in process management (related integrated transport planning), and to place the operational assessment of the case study in perspective.

From the perspective of integrated transport planning Curtis and James (2004) have distinguished several tools or instruments that have the capacity to steer the policies or resources addressed above:

- ‘policy making’;
- ‘integrated planning’;
- ‘funding’;
- ‘research and monitoring’.

Policy making can be seen as a mechanism which provides the overall strategic direction for the project (portfolio). It sets the – formal – environment in which plans are developed and actions are taken. Integrated planning can be considered as a tool that integrates resources within a geographical setting, through different levels (e.g. local, regional) that are concerned with the spatial challenge. Funding mechanisms can affect financial resources in different ways: through the use of subsidies, land purchase, services, infrastructure and intangible resources. Funding can be used for (financial) capacity building. Recently, bottom-up funding mechanisms which support participation of communities have seen the light (e.g. crowdfunding). Although it does not always need to be the case, funding mechanisms are often linked to structures of cooperation (e.g. public-private partnerships, scope optimisation and, equity finance). Research and monitoring has the aim to inform coordinative bodies about the impact of policies and planning process and to ascertain if policies and plans are achieving their desired outcomes. It facilitates the learning process (planning-as-learning) (Faludi, 1994, 2000). Research and monitoring can be done during the process, not only afterwards. The different type of instruments is further outlined below, and is explained according to several relevant theories.

It can be noticed that the some of these instruments in fact already have been discussed in the former paragraphs: the discourse of ‘policy making’ can be found within the institutional dimension, in the model of policy adjustments; and in the also expressions ‘integrated planning’ have been mentioned in both the spatial and institutional dimension by the concept of TOD, and which can also be regarded form of policy adjustment. Thus, it can be argued that in reality these concept are strongly related to each other and do not take place within one dimension of space nor institutions nor process. For instance, with the model of policy adjustment ‘organisational integration’ has been explained. This form of policy integration could be subdivided in ‘strategic integration’ and ‘operational integration’. It seems that such aspects are concerned with instruments that deal with processes. As said above strategic integration
2.4 Strategic planning and integrated funding concepts

2.4.1 Strategic spatial planning

For the case study area it might be questioned what planning mechanism is needed for the RGL – one that meets with the social, spatial and institutional conditions addressed above: open to integration of other mechanisms such as policy integration, institutional capacity building and adaptive spatial concepts for the region.

It can be argued that Healey has played an important role in the debate on spatial planning: defining spatial planning from the perspective of social sciences (e.g. ‘interactive decision making’, ‘collaborative planning’ (Healey, 2003, 2007a, 2007b)). But to find suitable planning approaches from the perspective of this research, these need to be considered in terms of regional and integrated transport planning. Planning approaches have to fit within the current climate of spatial planning in the Netherlands (Salet & Woltjer, 2009), and deal with recent issues as qualitative embedding, spatial performance and stakeholder engagement. Based on these criteria the ‘strategic spatial planning’ model of Albrechts might be useful for the case study area.

But what are strategic spatial plans and in how far do they differ from the project plans (as was the case within the comprehensive integrated model of planning in the Netherlands)? Whereas a project plan is more conformance based, strategic plan is more performance based (more focused on quality instead of quantity) (Albrechts, 2006). In fact the strategic spatial planning approach of Albrechts can be best compared with the third model of Faludi: ‘the interactive-perspective model’. According to Albrechts (2004, 2006) we might say in terms of plans: master plan/land-use plans vs. strategic plans; in terms of planning type: legal regulation vs. framework; in terms of governance type: government-led vs. government-led-but-negotiated form of governance. Or we define the differences - Albrechts drawing on Faludi (2000):

- project plan (blue-print plan): conformance based / comprehensive / land use planning / government-led / regulation plan;

Where comprehensive planning is hierarchical and persuasive, strategic spatial planning is selective and oriented to issues that really matter. Strategic spatial planning is action oriented: more focussed on the process of mobilization of third parties, therefore flexible in institutional design, and attentive to a various network of stakeholders. In spatial terms the strategic spatial planning focus is on a limited number of strategic key issue areas and on spatial results between territories with an emphasis on quality. Because of this outcome is not fixed. Strategic spatial planning has the capacity for ‘rescaling’ spatial issues on agendas of higher tiers of government and is flexible in a way that it allows integration of other planning instruments or mechanisms such as ‘transit oriented development’, or institutional capacity building. To deliver the desired outcome strategic spatial planning depends not on itself but on the custom made conditions formulated during the process: ‘The rationale of strategic spatial planning is to frame activities of stakeholders to help achieve shared concerns about spatial changes.’ (Albrechts, 2004: 749).

Especially on regional scale we see complex structures that do not ask for just one but for a various network of actors, which asks for flexibility in the decision making process – decisions around a network organization. Thereby needs to be noticed that a ‘process strong dominated by experts and powerful actors must be avoided’ (Albrechts, 2004: 754). Allmendinger & Haughton (2009) type such areas as ‘soft planning’ mechanisms. The description of this soft planning shows many similarities with strategic spatial planning (Salet & Woltjer, 2009). Strategic spatial planning seems to be the most suitable instrument for cross-border spatial areas where both local as regional issues need to be integrated and adjusted by different tiers of government (vertical) and within a various network of actors (horizontal). Although the literature on the theory of spatial planning strategies is plentiful, this has not yet led to clear guidelines for practical use. The spatial planning model of Albrechts (2004) provides opportunities. The model contains a brief set of design criteria which is quite clear and suitable for the Dutch context to bridge the institutional void at the (sub-) regional level. The four track model of Albrechts could function as a framework wherein the municipal structure visions and other mechanisms could be integrated. The four track model concerns (fig. 28):

- Track 1: a long-term vision is to be shaped;
- Track 2: long-term and short-term actions will be determined;
- Track 3: contact with stakeholders will be made, which will be followed by;
- Track 4: the basic process – the contact – with citizens.

The model works as follows: it is divided in four tracks. Within (Track 1) a long-term vision is to be shaped, in (Track 2) long-term and short-term actions will be determined, within (Track 3) contact with stakeholders will be made, which will be followed by the basic process – the contact – with citizens. This model seems to be a clear approach which might be useful for the use in the project. Strategic spatial planning approaches can be seen as a broad discourse, but which has proven to function as flexible frameworks for integrated planning (Albrechts, 2004, 2006; Allmendinger & Haughton, 2009; Salet & Woltjer, 2009) and seem to have the capacity to integrate a various network of actors, multi-level governance, complex spaces and other concepts and mechanisms such as ‘transit oriented development’, public-private partnerships (PPP/PPS) or other financial means such as a ‘regional fund’, and the possibility

Fig. 2.8 Schematic diagram of strategic spatial planning tracks (Albrechts, 2004)
to deal with issues at both local and regional level if it comes to regional cross-border infrastructural projects with an adjustment of spatial development.

In terms of the case study this model of strategic spatial planning could support the (alternative) spatial and institutional design (recommendations). For instance, when a model of TOD and certain degrees of policy adjustments have been proposed or recommended for the RGL project, the spatial planning design what actions can be done – and when – to achieve this. It could place the spatial and institutional models in perspective and show their relations (not only in by time).

2.4 Strategic planning and integrated funding concepts

2.4.2 Funding mechanisms

Funding mechanisms seem to have a strong relation with organizational structures. Often interest is measured by investment, which possibly can be derived when taking a close look at the organizational structure – the relation between the actors – and their (institutional) agreements. Such agreements often incorporate financial arrangements. An example of this can be seen in the cooperation mechanism of public-private partnerships. But first the organizational structures and funding mechanisms are addressed separately.

Funding mechanisms
Funding mechanisms can be organized in many different forms. Within spatial planning discourse in the Netherlands several approaches to funding mechanisms have been discussed, such as: the identification of stakeholders (which can be done by ‘stakeholder mapping’ part of the approach of Boelens), scope optimization (explained above), value capturing, and promotion of competition (Priemus, 2002). Value capturing is a funding mechanism which can be applied within constructions of public-private partnerships. According to Priemus, value capturing contains: ‘agreements made between and public and private actors so that the surplus profits remain available for increasing the quality of the project and for the realization of unprofitable parts of the project.’ (pp. 200). Promotion of competition beholds the participation of stakeholders according to a bidbook; concessions are rendered to the applicant who can add the most value to the project, or requires the lowest costs, given the programme of requirements. (Priemus, 2002: 200).

In the study on spatial planning in the Netherlands (appendix A) different procedures that function as investment models for the realization of a project already have been discussed: (a) the construction claim model, (b) the concession model, (c) joint ventures (Boelens, 2002; Needham, 2007). The latter refers to public-private cooperation, within public-private partnerships (PPP/PPS).

Where organization meets funding mechanisms: public-private partnerships

What exactly are these public-private partnerships and in which degrees can they be applied? Partnerships can be seen as cooperation mechanisms which are related to a funding mechanism. Public-private refers to the type of investor, or stakeholders (public stakeholders are supposed to be public agencies, private stakeholders can be enterprises such as real estate companies, or individual investors). According to Hale (2008), both can be linked through ‘equity finance’. Equity finance is a definition used in economic theory and within real estate. The equity stake measures interest according to investment of stakeholders. This means that with a minimum of 51 percent equity holding in a development of a project represents a major interest of an investor, and which makes that the stakeholder has a major influence on the project. Hale explains that within partnerships, the project partners are the equity stakeholders. A party that does not invest money in the project does not have a direct equity stake and is not within the partnership. If profits are to be made within projects, the profit can be shared according to the percentage of investment. Also risk can be shared according to this. So the relation between the stakeholders within public-private partnerships may vary. According to the equity stake, different options within public-private partnerships can be formulated.

Hales view on public-private partnerships is interesting because he explains it from the perspective of transit oriented development which might be relevant for the case study area. According to Hale (2008), there are four options within public-private partnerships for projects of transit oriented development:

- Model A: ‘Government Sponsored’ (public party has slight majority influence);
- Model B: ‘Developer Led’ (private party has slight majority influence);
- Model C: ‘Public Sector Project’ (public party has major influence);
- Model D: ‘Private Sector Project’ (private party has major influence).

Looking at the system of spatial planning, Netherlands, in the past it was usual to work according to model C, where public agencies invested in the project and had major influence on the elaboration of the project. Nowadays we are slightly moving to model A (see appendix A), where the public agencies still have a major influence, but give more space to private investors and hand in influence. With the other degrees the private investors have a major say. In current times of economic crises public-private partnerships are supposed to be a lucrative organization model (Muskee, 2011). However, despite that PPP/PPS might be useful for a regional infrastructure project in the case study area, it might be argued if this cooperative construction is appropriate when it is compared to the actor-relational approach of Boelens (2009). It has the following limitations: because interest is measured by financial investment, it excludes stakeholders which do not have enough financial capacity to invest. So the model is not accessible for all the actors in the region. In addition, interest should not only be measured by investment, but also by other resources. However, the understanding of such funding mechanism might be important for the case study because for the RGL-project financial agreements have been made between various stakeholders which are not only public (e.g. ProRail, which is a semi-public body).

2.4.3 How to apply at the case study?

As said above in this paragraph, complex technological systems such as the RGL-project require long-term processes of negotiation between involved actors, which also counts for the processes of implementation. Strategies and funding mechanisms belong to the possible instruments to manage available resources. For the case study it can be investigated what strategy, funding structure or planning mechanism has been used. The focus within this operational dimension is solution oriented: a strategic planning concept or funding mechanism could be proposed as an alternative for the current practice at the case study. Some of these models have been investigated in this paragraph. For the case study these models can be investigated how these models can be applied:

1. The possibilities of strategic spatial planning concept of Albrechts with its four tracks (visioning, designing, stimulating, acting); scope optimization (explained above), value capturing, and promotion of competition (Priemus, 2002) – how can such alliances be organized? Which actors can participate as stakeholders and with what purpose?

2. The possibilities of funding mechanisms such as public-private partnerships (PPP/PPS) – how can such alliances be organized? Which actors can participate as stakeholders and with what purpose?
Finally, the outcomes of this study should help in delivering a spatial design concept (or recommendations) which supports in the adjustment of development within the region and between the various transit nodes of the project (which support integration of transport infrastructure and spatial development).

Research indicators
- What are the spatial characteristics of the region: how could the form of the physical environment at a sub-regional and local level be described (e.g. the interface between the transport network and adjacent land uses), and what has been the effect of (national) spatial policies on the urbanization of the region?
- What nodal typologies or station environments can be found along the line? How are the nodes connected to other public transport modes (multifarious nodes of interaction)? What type of developments can be found around the nodes? What building heights do these buildings have?
- How far do municipal plans for spatial development correspond with the conditions for nodal development (or integrative infrastructure concepts) and with the agreements made within the project contracts of the RGL?
- How has institutional capacity being built up around the RGL?

Research methods
1. Desk research: Observing the recent data concerning the project, its region and the project agreements. Notice significant sections and elements, which can be useful further in the research.
2. Mapping: Geographical mapping of the spatial patterns of the region, the morphological types of spatial development, the infrastructure networks, the different modes of public transport, the history of spatial development, the spatial functions, the public facilities, relations between spatial development and functions and infrastructure, the transit nodes and the relation between these transit nodes. For the studies regarding the transit nodes a radius will be used of 1200 meters (for the stations of Leiden and Gouda) and of 800 meters for the stations in between (drawing on the conditions of 'Stedenbaan+' addressed by Balz & Schrijnen, 2009).

3. Interviewing: Questions concerning spatial policies will also be raised during the interviews with involved actors of the project (which in particular are intended for addressing the institutional issues). The related questions:
- What mechanisms have been used to realize the project?
- How has institutional capacity been built up around the RGL?
2.5 The empirical assessment

Finally, the outcomes of this study should help in proposing an institutional structure which supports a spatial design concept that integrates policies on infrastructure and land-use.

Research indicators

Legal power (instruments):
- How far did the provincial government have sufficient legal power (legal capacity) to support the RGL project agreements?
- How far did the provincial government have integrative instruments which facilitated adjustment of land-use and infrastructure, and how far did they use them?

Responsibility and accountability (ambitions and interests):
- How far did the provincial government have the attitude (administrative culture) for integration of policies on infrastructure and mobility (use of integrative instruments)?
- What has been the provincial attitude towards lower authorities and (semi-)private actors or NGO’s within the institutional structure?
- How far where the institutions transparent: was their clear communication between the involved actors?
- How far did institutions (provincial government) have created spatial concepts, visions or stories that support the adjustment of policies on infrastructure and land-use, and bind regional actors?
- What has been the degree (integration/coordination/cooperation) of adjustment of policies (sectoral/territorial/organizational) around the project?

Organization:
- In how far did the institutional organization around the project correspond with the various common institutional partnerships within the region?

Research methods

1. Desk research: Observing the recent data concerning the project, its region and the project agreements. Notice significant sections and elements, which can be useful further in the research.

2. Interviewing: Interviewing various involved institutions and actors: (a) the province, (b) some of the municipalities, (c) ProRail/NS, and (d) an actor of private interest (Chamber of Commerce – KvK). The list of the involved interviewees can be found in the appendix (E). The questions are based on the theory and on the first findings of the empirical research.

3. Mapping: The history of capacity building in the region can be illustrated and abstracted in a diagram.

2.5.4 From case study to alternative design, and further

The gained knowledge from the empirical research and the theoretical framework should contribute to design alternatives for the case study area (in spatial, institutional, and operational terms, according to the TIP-model of Koppenjan & Groenewegen (2005)). Whether this could be a detailed design or an abstract concept or model, or just a few recommendations for the area, depend on the answers that the empirical studies give.

After the case study area has been investigated by empirical research, after questions have been answered, after problems addressed, and after alternatives have been presented into designs and strategies, it is worth to zoom out and look how the gained knowledge relate to the recent trends within the field of spatial planning. Finally, some recommendations for further research and regional projects can be done.
The Rijn Gouwe Lijn (RGL) forms the case study area of this research. This case study is analysed according to the empirical assessment formulated at the end of the theoretical framework (chapter 2). The studies are done by mapping of the region, interviews of involved professionals and by desk research on the project agreements.

The findings of the case study form the basis for (alternative) design recommendations, for future research of the case study and for future studies on integrated transport planning in the Netherlands.
3.1 Rijn Gouwe Lijn: the details

The project of the case study area has been introduced in the introduction of this research (chapter 1). It has been explained that the east track of the Rijn Gouwe Lijn (RGL) will be part of the research and how the empirical assessment of the case study will be done (chapter 2). But there are more details around the project that need to be understood before the outcomes are described. With the details is meant a description of the project agreements (which have been published on the official website of the RGL (Rijngouwelijn, 2011) that does not exist anymore), the well-known difficulties during the long-term process of decision making and the organization.

3.1.1 Project agreements

For the project of the case study area – the east part of the Rijn Gouwe Lijn (RGL) – various project agreements have been made between the involved actors. For all the studies on every dimension (spatial, institutional and operational), it is important to know what agreements have been made in these contracts because the content is mostly multidimensional.

During the process the general and various specific contracts have been made between the following actors:

- 3rd Specific project agreement - the territory of Gouda (July, 2006): Province of Zuid-Holland, municipality of Gouda.
- 4th Specific project agreement - the territory of Zoeterwoude (July, 2006): Province of Zuid-Holland, municipality of Zoeterwoude.

Several notable issues appear in the project agreements and with the general contract in particular. These are the most remarkable findings from the desk research on the agreements:

- The project agreements do not incorporate qualitative embedding of spatial development related to the RGL. Spatial development is agreed in quantitative terms – the agreements do not mention anything about location, densities or mixture of functions. The only arrangements made other than financial are about the project scope per municipality, which concerns the distribution of tasks towards implementation of the RGL (appendix B).
- The project agreements are financial agreements in particular. The content of the arrangements is mainly about the distribution of tasks and the costs related to those tasks.
- The funding mechanism is fixed, based on subsidies and is not flexible; financial contribution is based on a minimum quantitative program of spatial development per municipality. Each municipality is committed to that contribution, despite the number of spatial development will fall out higher or lower. The project agreements might not be capable to anticipate on changing conditions through time.
- The project agreements represent an institutional structure which is public and political; agreements have been made between public and semi-public actors, the structure does not incorporate potential leading actors in the region. Especially the way in how integration of policies on mobility and land-use is agreed leaves questions; within the project agreements the relation seems purely financial. In the next empirical studies on the case study these findings are taken into account – results of the interviews can be compared with these observations for instance.

3.1.2 The crucial steps in decision making

The project has faced a difficult and long run in terms of decision making. Based on the information of the former project website (Rijngouwelijn, 2011) and on some of the interviews of the empirical research the most crucial moments over time are presented below (fig. 3.2).

It is important to realize that different writers and interviewees have different conceptions on how the project is initiated and how it has developed. Thus, the steps that are mentioned are at least confirmed by more than one source.

- 1993/1994: Plans where initiated for a light rail connection through the city centre of Leiden by local entrepreneurs in the city centre, represented by the Chamber of Commerce (Kamer van Koophandel (KVK)).
- Around 2000: Provincial government (provincial deputy Marnix Norder) placed the project on its political agenda. The approach of the project was more integral now because the plan was covering the northern part of the province to a large extent: the eastern part of the line should be extended from Leiden to Gouda via Alphen a/d Rijn. There were several reasons for the provincial government taking the responsibility for the project.

- July 2005: The first (general) project agreement for the eastern part have been made between province and municipalities.
- 2006: In Leiden plans where been made to hold an (A/B) referendum because it was not sure yet which route should be chosen through the city centre.
- 2006: Former alderman of the portfolio ‘Traffic’ (Alexander Pechtold) was against to hold a referendum because this was a project of supra-municipal interests.
- March 2007: Referendum was been held in Leiden, not in (A/B) form but in (Yes/No). There was a lot of resistance
3.1 Rijn Gouwe Lijn: the details

against the project: a majority voted against RGL-East. This would mean that the total project could not continue (the whole track).

- December 2007: Executive board of Leiden rejected the outcomes of the referendum and continued cooperation with RGL, which was also the reason for a delayed second project agreement (between former provincial deputy Atsje van Dijk and former alderman John Steegh of the municipality of Leiden).
- 2007: Subsequently the municipal council of Leiden (gemeenteraad) steps down because of the project.
- 2007-2010: The new elected municipal council and executive board of Leiden rejected the signed project agreements (opinion of political party VVD regarding the RGL changed). The Provincial Executive reacted by putting municipality of Leiden under legal pressure to continue with participation in RGL with a so called ‘proactive clue’ (proactieve aanwijzing).
- June 2010: Leiden started a committee (commissie Staal) to evaluate what would be the juridical and financial consequences if it would refuse the obligation of the province. The committee concluded this would not be feasible: the municipal council came back from their decision and continued with the project.
- April 2010: The new elected Provincial Council had different priorities and took over the advice of the minister of Infrastructure and Environment to simplify the implementation of the RGL and cut in the budget. Involved municipalities were concerned, they feared financial losses because the project might go ahead. The municipalities were bearing a financial risk.
- May 2012: The provincial government officially announced the RGL project would not go ahead (as intended in the project agreements). Instead, regional and local governments are now looking for alternatives of high qualitative public transport services (e.g. the HOV-bus corridors). Also the frequencies on the existing railway lines in the region (between Leiden and Utrecht and from Alphen a/d Rijn to Gouda) will be increased and several stations will be realized.

On the basis of these events it can be seen that (a) the project mainly was of political and public administrative concern (which is common), and (b) most of these issues took place at the municipality of Leiden – while the project was of regional importance the decisions of one single municipality appeared to be crucial.

3.1.3 The organization behind the RGL

An organization has been set up to steer the developments of the project (fig. 3.3). The organization was dedicated with tasks as coordination and implementation.

The province of Zuid-Holland (Provincial Executive) was the client of the project, by taking the responsibility and bearing the risks etc. The provincial government had formed a ‘steering group’ which was represented by the municipal representatives (the alderman on the portfolio of transport) and a provincial representative (the deputy of Mobility). The steering group was the body for negotiation.

At the ‘board of directors’ the same participants have been involved but than on administrative level. Also representatives of ProRail (exploiting and developer of railway lines) have been involved at this board – ProRail was the only contractor of the project which was not public but semi-public. Additionally the Water Board and the Chamber of Commerce (KvK) where involved, but not as contractor. The Chamber of Commerce could be seen as a lobby group, representing the interest of local and regional entrepreneurs.
3. The case of the RGL

The participants or contractors of the RGL-East were the municipalities of Oegstgeest, Leiden, Zoeterwoude, Rijnwoude, Alphen a/d Rijn, Boskoop, Waddinxveen and Gouda.

For the implementation of the project a project team was formed. This office employed approximately twenty professionals.

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3.1 Rijn Gouwe Lijn: the details

Fig. 3.3 Organizational structure around the RGL (indication)
3.2 The spatial and programmatic implications

The RGL was a spatial and infrastructure project of regional scale. In order to understand the embeddedness of the railway project it is important to understand its context: the region of which the line is taking part of. Therefore it is worth to address the characteristics of the region from a spatial point of view first, before the spatial and programmatic relations of the railway line can be explained. How diverse is this region? What type of functions can be found within the region and within the transit zones along the line? Finally, the results of another study are explained – a study which was intended to map the municipal plans for spatial development expansions of towns and villages along the line, and in how far such plans are located within the reaching distance of the transit zones.

3.2.1 The spatial characteristics of the region

When addressing the regional spatial patterns according theoretical model of Stead and Meijers (2004) learn that, in general, the composition of spatial development within the region as a whole can be typed as ‘dispersed’ and ‘polycentric’ (appendix C1); there are some major clusters of urban development defined by the various towns and cities in this region (e.g. Leiden, Alphen a/d Rijn, Waddinxveen and Gouda), which are surrounded with dispersed spatial development in the rural areas. A closer look at the morphology of the spatial development types – according to the development options of Needham (2007) – shows that these patterns of urbanization are mainly characterized by linear developments and some large town extensions dating from the last decades of the twentieth century (fig. 3.4). Especially these linear developments draw attention because of their clear presence within the region. It seems that the linear development corresponds with the local grid of car roads – which is a very clear example of the direct interrelation between infrastructure networks and spatial development. This could be one of the indications that the rural areas in the regions are quite car dependent (which also very depends on the networks of public transport in the area – it might be questioned here if it is financially efficient to facilitate public transport regarding the type of development).

The infrastructural morphology of hard infrastructure (e.g. car roads), can be distinguished according to a distinctions in infrastructural layers and by its patterns (appendix C2) (fig. 3.5) – based on some of the principles of Zandbelt (2011). This approach learns that the network of car roads in the region is multi-layered and high-densed: the region is served by several regional corridors and a local grid of car roads. With the mapping of spatial development patterns together with the infrastructural characteristics can be seen that indeed, the linear spatial developments in the region often correspond to the local grid of car roads. Before the mutual and external spatial and programmatic implications of the RGL can be addressed it also might be important to have a picture of the way how the region has grown geographically: how did urban and infrastructure development evolve through time and (roughly), what might have been the effect of some of the policy interventions that have been done by different levels of public authority?

In geographical terms, it can be seen that over time – since the start of the nineteenth century – most urban growth in the region is related to the development of hard infrastructure (fig. 3.6) (appendix C3). Subsequently it has been influenced by waterways, railways and car roads. Spectacular is the urban growth since the eighties of the twentieth century, where large urban extensions seem to take place around all the towns in the region (Leiden, Alphen a/d Rijn, Waddinxveen, Gouda and Zoetermeer) together with the significant development of especially regional infrastructure networks (e.g. provincial roads). Simultaneously, a rapidly increasing number of dispersed developments...
3.2 The spatial and programmatic implications

The illustration shows that the situation continued up till present. But why did the spatial patterns of this region change so radically in a time span of a few decades? It is fair to say that this cannot be influenced by the geographical relations only. Here the bridge can be made to policies that have been introduced and how they possibly influenced the spatial patterns in this region. And although the link between the (national) and spatial patterns cannot be made directly (there are too many factors of influence which are hard to monitor), rough indications can be found for the impact of the policies. First the possible impacts of national policies will be made since the national government has produced several strong concepts over time (appendix A).

- The first possible impacts can be seen in the introduction of the housing law (woningwet) in 1901. One of the requirements and consequences was that residential units needed to be larger; thus it is not hard to realize that (residential) buildings took more space. The first city extensions (1900 onwards) whereby it was needed to take the housing law into consideration can be seen in particular around Leiden and Alphen. But possibly because of the World War II period in between (1940-1945), the urban growth remained relatively stable.

- Partly because of the WWII, there was a shortage of housing in the country. In this post-war period the national government came up with strong policies and concepts for spatial development (appendix A). With the first three national policy documents on spatial planning between 1960 and 1987 the government used the concept of ‘bundled de-concentration’ (gebundelde deconcentratie) whereby several locations where designated as new ‘growth towns’ for spatial development. Zoetermeer (left underneath) was one of these towns. Indeed a rapid urbanization can be seen between the sixties and nineties of the twentieth century. Several ‘Green Heart Growth Centres’ such as Alphen a/d Rijn, Gouda and Leiden almost doubled in surface. At the same time urban development at the rural areas stayed limited. Maybe this is the effect of the strong spatial twin concept of ‘Randstad - Green Heart’ that was introduced in the same period (urban development should take place around the Green Heart). This is possibly reflected in the region, which is located in the middle of this Green Heart and development is concentrated at the borders around (e.g. Leiden).

- In 1988, the Fourth Policy Document on Spatial Planning was introduced, followed up with the supplement ‘Extra’ in 1992 which is also called VINEX. The context for large areal development was set; several cities where appointed to extend with residential districts – the VINEX locations. According this policy the developments should be concentrated in and around existing towns. In Zoetermeer (Oosterheem) and in Alphen a/d Rijn (Oosterwijk) such districts can be found.

- With the various national planning documents that have been presented since 1988 the national government aimed several urban nodes and for compact towns or cities (within drawn borders by red contours) and preservation of nature reserves (by drawing green contours which restricted those areas from urban development). Strangely enough it can be seen that from the nineties onwards the rural areas? Was this the effect of local planning? Was the national government loosening up control on lower authorities?
3.2 The spatial and programmatic implications

Regarding the explanations of Needham (2007) which have been addressed in the study on Dutch spatial planning, this may indeed be the result of local planning activities: local authorities or planning agencies started to develop not only passively (to the level of conformance) but also proactively (to the level of performance). This resulted in the situation of municipal planning agencies acting more as real estate developers (roughly said) by participation with private actors: the agencies had a double agenda of (conformance, from which they are ought to act accordingly) and (performance: the agencies used their legal rights to buy land, change destination of the land and sell the land afterwards which make land values increase). This legal ability made local governments relatively powerful, especially because higher authorities did not have enough legal instruments to steer the municipal land use plans.

This behavioral shift of local planning agencies in using land use planning as an earning model might be a reason which explains the dispersed development on the rural areas in the region – local authorities often did not have strong concepts (as the national government used) which facilitate spatial development. Secondly, according to several interviews that have been done for the institutional study as part of this research, it appeared the province has a clear intention to prevent the rural areas within the Green Heart from urban development by having spatial concepts for promoting development in the belt of the ‘Oude Rijnzone’ between Leiden and Alphen a/d Rijn, and by using the policy of red contours which are drawn around the towns. Apparently, the provincial government also did not succeed in preventing urban development at rural areas, despite of their measures (regarding the study of urban growth in the area). More recently experiments have been done with other types of spatial or areal development. Such approaches are more integral, combining living and leisure (large villas surrounded with green spaces and parks) at areas which had potential environmental qualities in terms of water or countryside. Such approaches also might have contributed to more dispersed developments.

What can we learn from this historical study? Generally, in terms of spatial policy, it might be said that urban growth around cities and towns has been determined by national (and possibly regional) planning policies. In contrast to towns and cities urban growth around villages and on the rural areas can be seen as a product of weak local planning policies, with the absence of spatial principles and concepts (it is questionable if local authorities had aims or used strong concepts to support their aims to address urban sprawl or uncontrolled development). It can also be seen as a weakness of the national government in spatial planning, which has not been able to steer local authorities in operating according to their spatial aims and concepts.

3.2.2 The spatial and programmatic embeddedness of the RGL

With understanding of the spatial characteristics of the region, it is worth to look at the spatial and embeddedness of the RGL project in the region: its spatial and programmatic implications. Before this can be studied it is important to notice the spatial project scope (as far as there is) at the moment of the project agreements in 2005, and what have changed since then.

The general project agreement of 2005 has been made for the east part (Leiden to Gouda) of the total project scope (Katwijk (coastline) to Gouda) – the west part was from Katwijk to Leiden. The focus of this study is on the east part, thus, from Leiden via Alphen a/d Rijn to Gouda. Originally, the project should be a mix of ‘heavy rail’ and ‘light rail’: from coastline to the east part of Leiden the hybrid vehicles (which would be specifically developed for this project) would run on light rail (through Leiden’s city centre), and from the east part till Gouda via Alphen a/d Rijn the vehicles should run on the existing railway lines (from Leiden to Utrecht and from Alphen a/d Rijn to Gouda) (fig. 3.7). With the general project agreement of 2005 several new stops had been planned (reflected by the dots surrounded by black and red circles, which can be seen in the illustration).
As has been mentioned in the introduction of the case study (chapter 1) since then the plans have dramatically changed: the hybrid construction of light- and heavy rail has been reduced to just a ‘regular’ railway project, which means that the transport frequency will be raised (…) on the existing railway track of Leiden to Utrecht and from Alphen a/d Rijn to Gouda. This means that the project will not cross the city centre of Leiden anymore. Hereby several planned stations (regarding the agreements of 2005) have been cancelled (red dots). Some other stations are still on the agenda or are currently being constructed (black dots). The current stations are:

- Leiden CS;
- ROC Lammenschans;
- Alphen a/d Rijn CS;
- Boskoop;
- Waddinxveen Noord;
- Waddinxveen Centre;
- Gouda CS.

The current planned stations are:

- Zoeterwoude Meerburg (depending on future spatial developments in the area);
- Hazerswoude;
- Boskoop Snijdelijk;
- Waddinxveen Zuid.

In order to support the relevance for this research the spatial analysis are focussed on this new situation – the current plans including the stations addressed in the lists above. The first step of the study was to see in how far the located (planned) stations along the RGL do align with the current public transport network within the region and in how far the network facilitates the region (roughly). Therefore all the bus lines of the current operator of the public transport concession in the region have been mapped. The mapping does not include the frequencies; instead it focuses on the reach and adjustment of the networks. The study (fig. 3.7) shows that, regarding the reach of the network, cities, towns and large villages seem to be well connected (higher accessibility). Small villages and rural areas seem to be poor connected (lower accessibility). Together with the type of spatial development addressed above, and which is linear and dispersed, it might be concluded that these areas are car-dependent. Regarding the adjustment of the (planned) stations on the existing public transport network it seems that with every station a modal transit is possible between the different modes of public transport (train and bus). In that respect the stations are seem to be strategic located – they can be regarded as transit nodes.

The next studies are focused on the spatial and programmatic configuration in terms of diversity of the region and within the transit radius of the stations. This can be done according a mapping method that shows the mix of functions in the region and around the transit zones, with:

- the type of spatial function groups (commercial, industrial, residential, offices) (appendix C4), and;
- the type of public facilities (town hall, museum, shopping center, hospital/health center, library, (music) theatre, primary school, high school, wu/hbo/mbo, swimming pool, sports complex, cinema, hotel/camping, cultural landmark, recreation area, entertainment/horticulture) (fig. 3.8) (appendix C5).

Note that shopping centers are considered as supermarkets in villages and small towns, and in large towns and cities regarded as shopping centers. For hotel/camping counts that, in rural areas, villages and towns this can be interpreted as campings and bed and breakfasts, in cities this can be regarded as hotels.

According to these two studies several characteristics at regional level can be noticed:

3.2 The spatial and programmatic implications
Fig. 3.8 Overview of type of public facilities in the region and around the RGL

- In terms of spatial program, the region can be typed as particularly mono-functional. This is expressed in the presence of mainly residential communities (commuter settlements).
- The level of public facilities seems to be relatively high. Basic public facilities as schools, sport complexes and supermarkets can be found in almost every town or village. Large towns and cities comprise a wider range of public facilities such as cinemas and theaters.
- In terms of public facilities, the region can be seen as diverse. When considered as a whole the region comprises a wide range of public facilities.
- The northern part of the region above Gouda and Leiden includes more recreational facilities.
- The region facilitates a significant number and diverse network of leading private actors, such as corporate headquarters, plants and trade centers. Some of them are located at strategic (accessible and diverse) locations, some are not.

At the level of the transit zones around the stations the following characteristics can be noticed:

- Most spatial functions within transit zones are spatial residential, except for station Zoeterwoude Meerburg (with in particular industrial program), Hazerswoude and Waddinxveen Zuid (with particularly green fields at the moment).
- Small towns are less diverse compared to cities and large towns but comprise basic public facilities.
- Every village, town or city comprises two or more educational institutions of the same degree within the distance of transit zones.
- In Alphen a/d Rijn most primary schools are situated outside the transit zones while there is a significant number of residential program within these zones.
- Most libraries are situated within reaching distance of the transit zones.
- Most shopping centers are located outside the reaching distance of transit zones.
- Exception for Leiden and Gouda, most museums are located outside the reaching distance of transit zones.
- In general, most recreational facilities and landmarks are located outside the reaching distance of transit zones.
- Some leading private actors are situated within reaching distance of transit zones.

3.2.3 The station typologies

Drawing on the spatial and programmatic implications (around stations), the station environments within these transit zones along the line can be characterized according to the nodal typologies of Balz and Schrijnen (2009) (chapter 2), in order to define the spatial differentiation of the railway line and to support a proposal of a ‘tailored’ TOD concept as an alternative for the current practice at the case study area: every type of node needs another adjusted approach. As mentioned in the theoretical framework these typologies depend not only on the combination of transport modes or infrastructural networks and functional program but also on more qualitative factors (environmental characteristics such as size of building blocks, building heights, densities, cultural diversity, openness of space etc.). A field and photo study has been done on the station environments along the RGL project done, based on the following criteria: building heights, openness of space, location, size of building blocks, station facilities – together with the information of the studies on the programmatic configuration of transport modes and of spatial functions addressed above.
3. The case of the RGL

Fig. 3.9-1 Photo study of the nodal typologies along the RGL

3.2 The spatial and programmatic implications
3. The case of the RGL

3.2 The spatial and programmatic implications

Fig. 3.9-2 Photo study of the nodal typologies along the RGL
Of every station along the line two pictures are taken of each site, which illustrate the station environment and at which the criteria such as building heights can be seen. Accordingly, an attempt is done address the nodal typology of each station (fig. 3.9):

1. Leiden CS – City centres: It connects Leiden’s city centre (which contains a diverse landscape of high quality public facilities such as museums, theatre and cinema) with the neighbouring railway stations in the Randstad. The station is characterized by large building blocks, up to ten floors of height, mainly offices and high quality services such as an academic medical centre and various university faculties, large public open spaces, mix of functions, public facilities such as bus stations. Regional accessibility also through other modes of transport (buses in particular).

2. ROC Lammenschans – Outskirts of cities. This station is located at one of the outskirts of Leiden and separates a residential neighbourhood from an industrial estate at the outskirts. It connects the area to the city centre and to the region between Leiden and Alphen. Building blocks vary from small (residential) to large (college building). Very little public facilities can be seen in this in the area, which is characterized by a residential green environment but also by industrial expansions (local enterprises). Low building densities and building heights of no more than three levels can be seen – except for a large commercial and public ROC Lammenschans (approx. ten levels). The station is also accessible through other modes of public transport (bus lines).

3. Zoeterwoude Meerbarg - Business sites: This station is supposed to be realized, depending on the amount of spatial developments which will be realized in this rural area between Leiden and Zoeterwoude in the near future. At the moment some greenfield developments are taking place. Offices are to be planned along the railway line and a highway (A4), together with residential developments (housing). At the moment there are no public facilities and the area is poor accessible in terms of public transport (one bus line is crossing the area).

4. Hazerswoude – Rural areas: This station will be realized in the near future but at the moment this location is surrounded by rural landscapes – at the middle of the countryside, at several kilometres distance of from the closest village Hazerswoude. Within the transit zone various residential neighborhoods (old family houses) can be found together with some small industries. Building blocks are small and building heights and densities are low (up to three levels). Public facilities seem to be in this area. Accessibility can also be achieved by other modes of public transport (various bus lines are crossing the area).

5. Alphen a/d Rijn – Cities of the future: The town Alphen can be characterized as a ‘cities of the future’ (although the term future is not totally relevant) but also touches the identity of a ‘small town’ because the town is easily accessible (by car), mainly contains (new) low density housing areas, in the middle of the Green Heart. The public facilities around the stations are limited, large open spaces (waiting for development) are still to be found. Building blocks vary from large (offices) to small (housing). Building densities seem relatively low. Public facilities are rare and clustered in some small commercial centres located within the residential neighbourhoods. Around the station a public parking space can be found. The station area is also connected through a bus line.

6. Boskoop – small towns: The station can be found in a village, located in a rural landscape that is characterized by a strong local economy – the presence of horticulture seems crucial in this village: small canals and local agricultural firms can be found everywhere. Building densities are and heights are low (no more than three levels), and building blocks seem small (residential and small firms). Small housing sites are planned as expansions at the borders of the village. The village seems autonomous: public facilities are mainly concentrated in the centre of the village – but located approximately a kilometer from the station. Around the station a casino and a restaurant can be found, together with some open space for public parking and some development sites (housing). The station area seems well accessible by other public transport modes (bus lines).

7. Waddinxveen Noord – Small towns: This town is larger compared to its neighbouring village Boskoop. The place around the station is characterized with mainly residential communities and the rustic appearance of a village as Boskoop cannot be seen at Waddinxveen: very little old buildings can be found. The building blocks vary from small (family houses) to large (apartment buildings) which also counts for building heights (three till ten floors). Building densities seem relatively low. Public facilities are rare and clustered in some small commercial centres located within the residential neighbourhoods. Around the station a public parking space can be found. The station area is also connected through a bus line.

8. Waddinxveen Centrum – Small towns: This is a second station situated in the town. The station environment is somewhat similar to the transit zone around and Waddinxveen Noord, except for the amount of public space: a green park with a lake and some greenfield sites waiting for spatial developments in terms of housing (first neighbourhood has been built) can be found. Also this station area is connected through a bus line.

9. Waddinxveen Zuid – Business sites: A third station at Waddinxveen is planned but still needs to be developed. At the moment the location of this spot is still a rural area, but also surrounded with some small industrial estates. The future plans promote expansion of these industrial activities, together with an enormous residential district at distance (Zuidplas polder). Except for this areal development public facilities in this area are rare and the area is characterized with heights and densities are low (one or two levels) and building blocks are relatively large (industrial halls). At the moment this area is poor accessible by public transport (probably one bus line).

10. Gouda – Creative Cities: This station area is connects the city centre of Gouda with other cities in the Randstad. Various railway lines come together. Also other modes of transport can be found (a bus station), which supports regional accessibility. Public facilities such as small restaurants can be found, together with a new town hall and some offices. Building blocks are quite large (offices) and building heights up to ten floors can be noticed. Building densities do not seem extremely high: large public open spaces surround the station – some of them waiting for new developments.

This observation show that the (station) environments vary – the region is diverse and differentiated by mainly spatial and infrastructural characteristics – although most towns and villages share that they mainly exist out of residential communities (which might suggest that these areas contain a relatively large amount of daily commuters). It can be seen that urban areas (Leiden and Gouda) follow rural areas (e.g. Hazerswoude, Boskoop). This also means that pressure on mobility varies strongly and depending on the sort of settlement along the line (city or village), which makes that the right transport frequencies for the whole trace. Also development locations vary from town to town – at some locations as Alphen a/d Rijn, Gouda and Waddinxveen lots of open space can be found which means that program and building typology needs to be tailored to the type of station area or settlement. This study confirms that a ‘tailored’ or adjusted version of TOD is needed to support the area in terms of mobility and land-use. The (alternative) design proposal for this region these characteristics need to be taken into consideration also (chapter 4).

3. The case of the RGL
3.2 The spatial and programmatic implications

3.2.4 The municipal plans for spatial development

In collaboration with the foundation ‘Stichting Deltametropool’, a broad study on the municipal ambitions and plans for spatial development has been done – based on the data presented at ‘De Nieuwe Kaart van Nederland’ by 2010 (appendix D). The aim for this was that it would be crucial to see in how far spatial extensions of villages and towns within the participating municipalities are planned within reaching distance of the transit zones – a direct comparison with the agreed number of spatial development per municipality in the general project contract was not possible, because that agreement does not say anything about locations an names of plans or extensions.

However, it is interesting to see that especially within a small towns or villages as ‘Hazerswoude Koudekerk’ more than half of the planned developments (‘Herziening Oude Rijnzone’ and ‘De Nieuwe Hoop’) is considered outside the transit zones (appendix D). In how far did the responsible municipality Rijnwoude took the project serious? It is very unlikely that those extensions which are located far from transit zones contribute to an increasing number of users of the line – these locations seem more car-dependent. This also raises the question in how far the provincial government is able to steer or to adjust such municipal plans or developments.

3.2.5 Conclusion of the spatial studies

Based on the studies on the project and its region, the following can be noticed:

- In terms of spatial characteristics the spatial development patterns within the region can be typed as dispersed and polycentric forms of urban growth (Meijers & Burger, 2009). Especially the last decades (from 1980 onwards) of rapid “urbanization” can be seen, using more and more space of the rural areas. This might be the result of liberal policies’ of municipal authorities in particular, because of having limited or no spatial development concepts and policies for their jurisdictions, and because of insufficient adjustment of spatial development between the authorities in the region. Strong (integral) and adjusted concepts and policies (between authorities) might be crucial in order to counteract the spatial implications of urban sprawl.

- In terms of spatial morphologies, most of these developments also seem to be linear, along car roads. This might indicate a high car dependency in the area (although this also depends on the level and accessibility of public transport) – at least it is a threat because it might not be lucrative for maintaining public transport networks within areas of dispersed developments in the near future, because this can lead to high operation costs.

- Residential neighbourhoods seem to dominate the region, in terms of main function groups – living and housing might be important themes, which could also mean that the area hides a relative large number of daily commuters. For future developments it might be questioned if this should be housing, perhaps development of other functional program is needed in order to avoid monofunctionality but instead, to promote diversity in the region.

- In terms of public facilities the region seems quite autonomous – in most villages or towns basic public facilities are present (e.g. supermarket, education, health clinic). This also means that communities are not completely dependent on each other.

- The level of public transport does not seem to be very poor – at least in terms of accessibility: these networks (bus lines) reach all towns and villages in the region. Also the different public transport modes seem to be quite well adjusted (bus lines cross the (future) stations of the RGL railway line).

3.2 The spatial and programmatic implications

Adjusted of the public transport modes plays an important role the application of a TOD concept as a possible design alternative for the area.

- The line of the RGL project seems to cross a region which contains a significant differentiation in spatial environments (not in functional program) – the stations and transit zones along the line seem to have very different characteristics, which indicates that spatial developments around every line need to be ‘tailored’ and adjusted on each other. This asks for application of a ‘tailored’ TOD concept whereby station environments are taken into consideration.

- Although the link between the infrastructure and land-use developments in the project agreements is purely financial (and the fact that municipalities are not encouraged or supported to plan these developments around their stations because of weak (provincial) instruments or policies), most developments are planned within distance of the transit zones. However, at some locations it might be questioned why the planned developments take place outside these transit zones (e.g. Hazerswoude Koudekerk). At least it seems important that a higher authority promote developments around stations because this example shows that this does not always happen.

These conclusions will be taken into consideration in the main conclusions and in proposing improvements or alternatives (design) suggestions for the case study (chapter 4).
The studies on institutional capacity revealed several remarkable issues, especially at the level of provincial governance. The first issue can be seen in terms of the available legal resources, or planning instruments (that support integration of policies). The second issue regards the attitude and (shared interests) of the involved institutions. This is followed by a distinction in type of policy integration and accordingly, to what extend the policy integration took place (what degree). The paragraph concludes with the meaningful role of the regional partnerships.

This study also includes elements which can be regarded as the operational dimensions (such as the strategies or financial mechanisms that have been used) because they seem strongly intertwined with the institutional dimension.

### 3.3.1 The legal powers

Regarding the enforced legal powers for higher authorities (national and provincial government), with the introduction of the land-use plans for these tiers of government the following questions arise: Did the province have enough legal power to support the RGL project agreements? And second, did the authority have integrative instruments which facilitated adjustment of land-use and infrastructure?

#### Instrumental changes

The new law on spatial planning Wro (Wet ruimtelijke ordening) introduced in 2008, has given the province more authority and has given the province stronger instruments. Before 2008, the province had instruments to oblige lower authorities to work according to their plans – which were labeled as ‘proactive indication’ (proactive aanwijzing). However, the province was only allowed to use this, if it had developed a ‘provincial structure plan’ (streekplan) (appendix A). In case of the RGL, the province has used both instruments against the municipality of Leiden.

The current law on spatial planning is more functional than the former WRO (Wet op de Ruimtelijke Ordening) goes less out from contradictions between different layers of government. Next to the municipality also province and national government are now able to use some sort of zoning plan or imposed land use plan (for municipality this is called ‘bestemmingsplan’, for province and national government this is called ‘inpassingsplan’). This allows more regional coordination for a regional body - the ‘Provincial Council’ (Provinciale Staten), instead of the ‘gemeenteraden’ (municipal councils). This has made it easier to realize regional projects:

>*‘The new law on spatial planning (WRO) has made it easier for provincial government to realize regional projects.’* – Representative A.

**Dispersed powers**

Nevertheless, this does not mean the provincial government was not facing difficulties regarding the power of lower authorities. Where the provincial authority has most powers according to their planning instruments (legal resources), municipal governments have strong powers because of their landholding in particular (material resources). For higher authorities the latter ability seems to be perceived as an obstacle in terms of negotiation – municipal governments have strong stake in this because they can bargain with their material resources (the owned land). This issue is stated by several interviewees:

> Although a regional partnership can make more agreements in terms of spatial adjustment nowadays, they do not have the instrumentation to enforce local development. The strong municipal powers and landholdings make it difficult to achieve powerful agreements on higher level – representative C.

*‘The provincial government does not have the right resources to negotiate with lower authorities, namely money and property (land).’* – representative B.

Despite of this constraint the provincial government appeared to be the most powerful during the decision making process of the RGL (since it was able to oblige the municipality of Leiden to continue participation in the project). Also with their legal spatial development policy red contours they are able to force municipalities to expand within the drawn boundaries. Within these boundaries, provincial government has relatively less to say; municipalities seem to have more freedom for their development perspectives within these borders by the use of their land-use plans.

Additionally the province regarded themself not able to implement quality guidelines for spatial development around stations (e.g. mixed use, densities) and which also counts for the adjustment of numbers in functional program at regional level (e.g. offices, housing), because it was not feasible in administrative terms – regarding the available planning instruments:

>*’The former provincial land use plan (streekplan) allowed the province to incorporate policies for quality guidelines (that managed minimal density, integrated parking in order to promote compact development) in their general policy for nodal development. But since the former “streekplan” has been replaced by the current ‘spatial regulation’ (Verordening Ruimte) – which more can be seen as a spatial law’ such policies are not part of the instrumentation anymore, simply because the ‘Verordening Ruimte’ is too strict for such policies, while the new provincial structure visions are too soft for this. (...) Currently such policies are now seen as the task of municipal governments’* – Representative B.

Thus, in terms of integration of policies, the instruments did not seem sufficient to support spatial development around stations. This brings us to a deeper explanation of the integration of planning instruments.

#### Integrative planning instruments

From the perspective of one of the intentions of this research – the integration of mobility and land-use – did the province have the ability of integrative instruments for doing so? It can be seen that provincial structure visions allows such integration, but when it comes to the implementation of regional projects an integrative approach does not seem possible; the former (streekplan) and the current ‘provincial land-use plans’ (inpassingsplan) – also regarded as ‘spatial regulation’ (Verordening Ruimte) – has a more specific purpose can only be used sectoral. In for instance, the regulation of office space:

>*‘The Verordening Ruimte’ or ‘inpassingsplan’ is not integral, it is committed to one single sector. In the case of the RGL for this has been used to support the implementation of infrastructure’* – Representative B.

This means that in the initiative phase of regional projects sectoral ambitions (as infrastructure and land-use) can be integrated by the use of ‘structuurvisies’, but in the phase of implementation these are separated (with the ‘Verordening Ruimte’ or ‘inpassingsplan’). If integration of restrictive plans is a must in terms of integrated planning might be questionable, it would rather be a question if the provincial government is able to steer development on the very local level (in order to achieve the success of nodal development – by promoting development around stations). As has been discussed above, the answer to this would be negative. Maybe it is more appropriate to speak not in terms of integrative instruments, or using the possibility to create such instruments, which will be discussed in the next paragraph.

In term of provincial legal power on spatial planning, it can be concluded that the province has the authority and ability of planning instruments that are powerful enough to restrict lower authorities act according to their policies (and which are also able to override the land claims of municipal governments).

One of the issues however, and which can be argued, is that the province is missing a legal framework (that beholds somewhere between the ‘Verordening Ruimte’ or ‘inpassingsplan’...
3.3 The institutional capacity & steering process

3.3.2 The interests and ambitions

Regarding the project agreements, why is the arranged number of spatial developments between province and municipalities not been promoted around stations? Does the provincial government use other instruments to promote this, or was it simply not the intention of the province to concentrate the agreed number of developments around stations – a matter of attitude an insufficient stories perhaps? And subsequently, what has been the attitude towards lower administrative level and (semi-)private actors or NGO’s within the institutional structure?

The interest and attitude (of mainly the provincial government) are explained according to the following issues:

Unintended use of provincial structure vision

The first issue can be seen in the provincial government having insufficient visions on spatial development for their regions, which is also reflected by the use of their legal planning instruments. Regarding these instruments, the replacement of the former ‘streekplan’ by the provincial structure vision was being done with the purpose to stimulate external communication of spatial ambitions of provincial government (appendix A). The provincial government did not use the structure visions according to this purpose:

‘Currently, the provincial government has a structure vision that is strongly based on the former ‘streekplannen’. During the time of transition, there has been discussion in the way how to develop the new structure visions. Eventually the former provincial executive decided to make the structure vision as less progressive as possible, to fit the document in the former ambitions. (...) Hereby has been chosen to use the new planning document as a sort of “interim policy” whereby ambitions for spatial development where postponed. (...) This is reflected in the provincial structure vision, which is a good example of the integration of the various former “streekplannen”, but where ambitions are hard to find – the document is simply not focused on the future.’ – Representative B.

No administrative culture for spatial regulation on local level

Secondly there has been the absence of specific policies regarding the RGL. The provincial government had the intention to promote nodal development around public transport corridors, and to keep the rural areas in the Green Heart by supporting urbanization in an axe called the ‘Oude Rijnzone’. Nonetheless, this was a general policy and not specifically intended for the RGL:

‘In 2003 the provincial government started to incorporate the concept of nodal development in their former ‘streekplan Zuid-Holland West’ which shows the ambition to invest in public transport corridors which have potential for spatial development. (...) But this is a generic policy, thus not specifically intended for the RGL:’ – Representative B.

Also, specific guidelines for nodal development for the RGL have not been embedded in provincial plans:

‘...within the project agreements on the RGL-West a reference to the currently valid planological framework has been included. For the project agreements on the RGL-East this never has been done. (...) For the RGL-East it was more the case of the province having an ambition to develop a certain number of functional program and that’s it. Subsequently, in the provincial structure vision and the former ‘streekplannen’ guidelines for development around stations have been included, but constantly on a very general level.’ – Representative B.

...which is reflected in the original intentions of the provincial government on the project:

‘Originally the RGL has been intended as a public transport project in a classical form (without a link to spatial development), because the province saw it as their task to maintain the public transport connection which was about to be abolished – the essence could be seen in the financial instruments to which the provincial government was looking for in order to maintain the accessibility of the region. (...) the linkage of spatial development locations and public transport has never been the original choice.’ – Representative B.

A reason for this can be found in the administrative culture of authorities in the region:

‘...it also has to do with the steering philosophy of the authorities (...) the provincial government took responsibility for the infrastructure of the RGL, while the task of municipalities was to take priority for the other subjects (spatial development was seen as their task) – the provincial government simply has executive boards which are quite reserved in the use of instruments that would steer development on the local level, that is not part of the administrative culture. (...) Instead, the relation between the province and municipalities is built on trust.’ – Representative B.

Restrained attitude towards (semi-)private actors

Another aspect of this administrative culture was the reserved attitude of provincial government towards the involvement (single) private actors (as stakeholders of the project):

‘...the provincial government has the right instruments and authority, but has an administrative culture which is not there to invite NGO’s and private actors regarding such projects. (...) And the province did not dare to include private actors so they did not make use this possibility. Additionally it would have been possible to incorporate such arrangements (regulation of the way how land is used around stations) in their project agreements, which this never has been done. Would this then be the result of an attitude which is not there to stimulate integrated development?’ – Representative B.

This issue feeds the discussion in how far private actors need to be involved in the process, and in what role. One of the RGL participants stated as follows:

Private actors will always say that they want to be involved in a very early stage to develop their product and to have influence on the process, in order to deal with the often high complexity of such projects. (...) Within the process of the RGL it has been tried to involve lead private actors in the region for financial contribution, but they will always appoint to the other firms in the area and say why do they not contribute? – otherwise they will benefit from our investment: private actors want to be involved only for own benefits and interests.’ – Representative D.

In that sense it is likely that private actors let themselves representing by a body that joints the shared economic interests of regional and local enterprises, which actually did happen with the involvement of the Chamber of Commerce (KvK). Within the RGL this organization did only raised interest (right from the start – early nineties by representing the initiatives of the local entrepreneurs in the city center of Leiden) but did not contribute in financial terms. Regarding the form of participation (if involvement of private actors should take place in a public-private partnership or PPP), the same representative stated the following:
For the RGL there was no public-private partnership, which has to do with the political and administrative attitude of the province. (...) A reason for this, from the perspective that regional infrastructure developments are often so complex and abstract (especially in an early stage) that PPP constructions are nearly possible." – Representative D.

An exception here can be made for the involvement of ProRail, a semi-public actor which has the technical expertise on the implementation of the railway and the stations. For the project ProRail also represented various other interests; of ‘NS reigers’ (the national railway company ‘NationaleSpoorwegen’ has a division for real estate ‘NS Poort/Stations’ and a transport division ‘NS Reigers’ – ProRail normally acts as accountable for the railway infrastructure) and the interest of DB Schenker Rail (a rail freight transport company), which made ProRail an important player – of other importance than for instance a ‘Heineken’ which an actor of economic regional importance, but not on technical expertise. The NS real estate devise (NS Poort/Stations) was not involved in the project but because it appeared to have insufficient interest – the company owned land around stations but did not act as a developer, it rather would sell the land. Nevertheless, for the project ProRail was assigned as a contractor, not as a stakeholder. The company always had difficulties with this position, or at least in the way how the province considered their role – there was no mutual trust between both parties:

‘The collaboration between the province and ProRail was one without trust. (...) This is mainly because the province did not have sufficient technical expertise regarding such projects, and did not want to give ProRail the room for contribution; they hired expertise from other consultants to control our input.’ – Representative E.

Competing interests
Another important constraint can be found in the strong interest of municipal governments which compete with each other for spatial development:

‘Personally I experienced that municipal governments had strong individual interest because of their potential for spatial development. (...) Everyone was considering their own interest more important than the shared interest. (...) The province had high ambitions for the project and needed regional commuters; spatial development was needed, this could not be realized without the municipalities – in that sense the province was dependent on the municipalities.’ – Representative E.

‘In my opinion there have been some jealous relations between municipalities – do I get enough spatial development compared to my neighbouring municipality?’ – Representative E.

‘It was a project wherein everybody thought it could realize it aims but the aims were not corresponding. Eventually the project became the aim itself and not the instrument anymore to achieve the aim.’ – Representative C.

‘The interventions of the municipalities were very limited – non-interventions. Each municipality had a strong individual interest. The cohesive element however was created by the province.’ – Representative G.

Conformance or performance
Thus, did the provincial government take its steering role seriously, in order to get the municipalities on board for the project? And should the government – despite of their administrative culture – take more responsibility by being more restrictive or more facilitative regarding these issues?

‘The province should show more administrative power, they should be able to make both horizontal and vertical alliances and should inform other participants better in what their interests are or should be.’ – Representative C.

‘The provincial government should have the aim to have more influence within their chosen system; they should steer more intensive and make better use of their instruments. But this should have been done form a more integral perspective – and focus one thing. With too many ambitions you cannot focus. The provincial government should also imperative that focus: and warned municipalities in the meanwhile, if they want to develop somewhere else.’ – Representative C.

‘In my opinion, the provincial government was not capable enough to take its responsibility for a project as the RGL.’ – Representative C.

‘Slowly on both the Provincial Council and Deputy are wondering why lower authorities do not succeed in the adjustment of spatial development and accordingly, if they should act more enforce their role as a director for adjustment of spatial development.’ – Representative B.

The municipalities also did not cooperate sufficiently, and from an individual interest in particular. (...) The municipalities competed with each other, they all wanted spatial development.’ – Representative C.

According to the institutional relations of governance this development of competing governments is very common (chapter 2). But in this situation the role of a higher authority becomes important. This brings us to the role provincial government.

Provincial compromises municipalities
During the process however, the province succeeded in getting all the municipalities on board (except for the municipality of Leiden – which had more an internal conflict because of the complications of their referendum, contrary to not with other participants – there have not been serious constraints between the municipalities (they all supported the RGL rail project). Regarding the following representatives the problem better can be seen in the way how the province dealt with the regulation of spatial development around the line, which can be

‘If we did the project at this moment and in the current setting, we would have used the provincial ‘inpassingsplan’ more intensively. (...) This appears to be a powerful instrument which helps to decrease the administrative pressure.’ – Representative A.

But in that case the provincial government would be more restrictive to lower authorities, which is something the municipalities do not prefer:

‘The provincial government acted extremely restrictive, because it had the most financial resources and was bearing all the risk. We would rather have seen that the provincial government acted more as a mediator’ – Representative F.

‘The province should have acted less restrictive but more to the role of performance – stimulating.’ – Representative E.

This dialogue shows that it is likely that lower authorities want higher governments to be less restrictive, while the provincial government is now having the intention to be more active and restrictive in their role of steering municipalities in development. Thus whether the provincial government should be more restrictive or more facilitative is difficult to say.
seen in the following:

“If a real estate company wants to develop on a particular location but not around a station, a municipality does not like to refuse such a developer, because when such a company is rejected by municipality A, it goes to municipality B, which has land-use plans that offer more space for development – thus it has to come from the market. The only thing you can do about this is to invest in spatial quality and in good accessibility around stations to make spatial development more attractive at these nodes.” – Representative C.

‘Within the municipality of Zoeterwoude there was a discussion how the contribution to the RGL could be paid. In those days agreements have been made for development on new greenfield areas at the southern part of the village “Zoeterwoude-Dorp” (Swetterhage) – which is located several kilometres from the railway station – in order to pay the contribution as agreed in the first general agreement.’ – Representative G.

It is remarkable that the province accepted developments (financially linked to the railway project) that were located far away from the transit zones of the railway stations. The province did even go a step further by facilitating such developments and by loosening up their policy of ‘red contours’ around the railway – which can be seen as a compromise of the provincial government to the municipality Zoeterwoude, in order to guarantee the realization of the project. Contradictorily however, such compromises can work out negative:

‘The number of expected commuters had to be downgraded, what was caused by the provincial government not restricting municipalities when they continued with development in the Green Heart instead of around the stations. The province has never been restrictive towards their own spatial policy.” – Representative C.

Absence of supporting visions and concepts for the RGL

The final and most agreed issue is that the provincial government had no clear supporting concept, vision or story for the RGL, in order to inform and to bind the participants:

‘There has neither been a good supporting story for the RGL nor a good concept – never. Interests can be told as strength for instance, and as stories that bind. Both the province as the municipality of Leiden never succeeded in this. Leiden never had an integrative approach to transport.” – Representative C.

‘...often a strong story behind a development location (node) is missing. A strong spatial story for the project is that we want to keep the Green Heart free from urbanization.” – Representative B.

Especially for long term projects a strong concept or vision is important, because participants often lose the original intentions of the project during the process:

‘Almost nobody can explain anymore what had been the ambition, vision or reason behind the RGL was or everybody tells a different story – there is no shared vision, no shared ambition.” – Representative A.

With such a long-term project the original motives disappear to the background, in that sense it is hard to say for me what these original motives have been.’ – Representative F.

Strong concepts or stories can function as a facilitator for integrative planning approaches and for organizational structures for implementation of these projects. For the RGL this could have supported the integration of infrastructure and spatial policies. This did not happen. Additionally, even the organization around the project was not created to support integration of both spatial and infrastructure policies:

‘We now see that the project and its organizational structure was strongly oriented towards traditional infrastructure: the project office for instance had as strong focus on technique, old and new railway tracks but not on the areas around the stations.” – Representative B.

According to the results of the study above most remarkable issues in terms of attitude can be seen in:

- The restrained attitude of the provincial government towards (semi-)private stakeholders. Especially the relation between the province and ProRail was weak; there was no trust between both parties, while they were strongly dependent on each other.
- The way how provincial restricts spatial development at the local level. Apparently, they do not act according their own policies; they change red contours as a compromise for getting the municipalities on board for the RGL project.
- The absence of strong spatial concepts and visions that support and facilitate the project. Because there was no good story, participants eventually forgot the original intentions of the project and no shared interest in terms of spatial developments. Such communicative tools possibly also would have helped to decrease the matter of completion between municipalities. Additionally, strong concepts could have supported the integration of policies on mobility and land-use.

Altogether, it can also be argued if the municipalities were aware of the spatial and programmatic implications of (each other’s) project plans and agreements around the RGL (which increases mutual dependency).

The issues addressed above might play a role in the sense that there was very little mutual communication (and transparency) between municipalities, partly because of the provincial role in the project (ambitious in realizing their aims) by doing all the communication between the involved actors whereby mutually competing municipalities where not informed on each other’s plans and developments – it might be questioned in how far the province was transparent in its communication to other actors.

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Insufficient communication

Subsequently their also was the issue of insufficient communication between authorities. Apparently, the municipalities had more contact with the province than with each other:

‘The municipalities had more contact with the provincial government than with each other. The province played an important role in the project and acted as a director. In global lines we knew what the plans of other municipalities were, but often we did not know how far they were in their plans.” – Representative F.

‘Originally there was almost no mutual correspondence between the municipalities on the RGL, on the assumption that the province would do the communication.” – Representative C.

‘The communication between the involved actors should have been better and should have been started in an earlier stage.” – Representative D.

This constraint could have been addressed by better communication during the process and more interactively so that municipalities realize what consequences their interventions have for others.

3.3.3 Sectors, territories and organizations

As explained in the theoretical framework (chapter 2), two discourses can be seen in terms of policy integration: (a) sectoral integration, territorial integration and; (b) integration, coordination or cooperation. Both dimensions relate to each other when the following to questions are raised:

- What needs to be integrated (or coordinated, or cooperated)? – sectors/territories/organizations
- To what extend or degree do sectors, territories or organizations need to be “integrated”? – integration/coordination/ cooperation

Thus, in order to find an answer on the predominant question to what degree policy integration took place at the case study area, this more distinctive approach is considered for
3.3 The institutional capacity & steering process

the assessment – the situation of the case study is subsequently assessed according to both discourses. According to the first question on what needs to be integrated (or coordinated; or cooperated) the options for the case study area can be considered as followed:

- **Sectoral integration** (the ‘joining-up’ of different policy domains and their actors within a particular territory) can be considered as the integration between departments within one authority or as the integration between (semi-)public, private sector and voluntary agencies. As mentioned in the theoretical framework sectoral integration can be subdivided in two divisions, namely cross-sectoral and inter-agency integration. For the case study area this is expressed as follows:
  - Cross-sectoral integration: between provincial departmental policies (reflected in the steering group) – adjustment of policies on spatial development and mobility or infrastructure.
  - Inter-agency or stakeholder integration: between (provincial) authority and (semi-)public, private sector and voluntary agencies – adjustment of Provincial planning agency, ProRail and Chamber of Commerce (KvK).

- **Territorial integration** (concerning policy integration between different territories and is seen to minimise the negative impacts of policy in the context of inter-territorial (cross-boundary) working and encourages complementarities) between the public authorities each responsible for their own jurisdiction (vertically and horizontally) – adjustment of national, provincial and municipal governments.

- **Organizational integration** (necessary to encourage the strategic and operational co-operation between actors that is critical to effective delivery) can be considered as the alignment of linked strategies or of related delivery mechanisms. Also herein a distinction can be made, for the case study area this is expressed as follows:
  - Strategic integration: between linked strategies, programmes and initiatives – alignment of provincial and municipal structure vision plans/strategic spatial visions and spatial concepts
  - Operational integration: between related delivery mechanisms – alignment of decision making and financial mechanisms/agreements

3.3.4 The degree of operation: integration, coordination or cooperation?

For the case study, it can be indicated to what extent integration of the policies described above took place – based on the information which has been gathered with the interviews these policy fields (table 3.1). The degrees to integration are cooperation, coordination and integration. Although these degrees have been introduced above (in chapter 2), it is worth to give a short overview of their characteristics before the situation of the case study is explained (according to Stead & Meijers, 2004):

- Cooperation – at the lowest level, which simply implies dialogue and information;
- Coordination – implies cooperation plus transparency and some attempt to avoid policy conflicts (but do not necessarily imply the use of similar goals);
- Integration – includes dialogue and information (as in policy cooperation), transparency and avoidance of policy conflicts (as in policy coordination) but also includes joint working, attempts to create synergies between different sectors (win-win situations) and the use of the same goals to formulate policy.

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<tr>
<th>Form of policy integration</th>
<th>Expression at case study</th>
<th>Degree of policy integration</th>
<th>Expression</th>
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<td><strong>SECTORAL INTEGRATION</strong></td>
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<td>Integration</td>
<td>Coordination</td>
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<tr>
<td>Cross-sectoral integration</td>
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<tr>
<td>Inter-agency (stakeholder) integration</td>
<td>Adjustment of (provincial) authority and ProRail or KvK</td>
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<td><strong>TERRITORIAL INTEGRATION</strong></td>
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<td>Vertical integration</td>
<td>Adjustment of provincial and municipal government</td>
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<td>Horizontal integration</td>
<td>Adjustment of municipal governments</td>
<td>X</td>
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<tr>
<td><strong>ORGANIZATIONAL INTEGRATION</strong></td>
<td>Adjustments of strategic spatial visions or spatial concepts (provincial departments)</td>
<td>X</td>
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<tr>
<td>Strategic integration</td>
<td>Alignment of decision making (sectoral legal planning documents)</td>
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<tr>
<td>Operational integration</td>
<td>Alignment of financial agreements or mechanisms</td>
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Table 3.1 The degrees of policy adjustment in terms of sectors, territories and organizations

At the case study area it can be seen that cross-sectoral integration took place at the level of cooperation; the steering group (and project office), where formed according to traditional infrastructural conditions ‘integration of modes’ – Curtis & James, 2004. Spatial development did not belong to the portfolio of this steering group, and there was no clear link and adjustment between infrastructural and spatial policies (at least there was little transparency between both policies, there was just a dialogue between them), which is confirmed by interviews with the province – within this steering group there was no cross-sectoral integration.

What also became clear is that in terms of inter-agency integration there was a very different relation between the provincial planning agency and ProRail. This company was the only contractor of the RGL at provincial level who was not public. It was a company with other interests. However, this company was the automatic contractor (as explained above in this section) and had the technical expertise in terms of infrastructure which the province did not have. Despite they were dependent on each other there was no trust between both parties and little commitment, there was little transparency and there have been conflicts which have not been avoided; this inter-agency relation took place at the level of cooperation.

In terms of vertical territorial integration there was a strong relation between the provincial and municipal governments – as said above in this chapter they needed each other (in
3.3 The institutional capacity & steering process

The same provincial representatives also announced that it was not possible to integrate sectoral legal planning documents which are more restrictive and which are used to the level of conformance (e.g. ‘inpassingsplan’ or ‘Verordening Ruimte’). Such planning documents can be seen as instruments which belong to the policy type of operational integration. Because such legal planning documents are completely sectoral and not intended to avoid policy conflicts (which often take place with the use of these instruments) the degree of operation can be considered as cooperation.

As mentioned in the first paragraph of this chapter the first general project contract of the RGL contained agreements on financial contribution per participant to the project. These financial contributions were linked to the agreed number of spatial development per municipality. Despite a municipality would realize more or less than the agreed number of development, the contribution was fixed. Eventually municipalities seem not be able to realize what has been agreed (because of crisis), and were stitched to the high bills of investment in the line. This financial mechanism (the amount of investment in infrastructure linked to expected number of spatial development and benefits) can also be seen as a form of operational integration. The financial agreements have been adjusted with the intention to avoid conflicts; this can be considered as a degree of coordination. However, these arrangements where so fixed that they are little adaptive or flexible to unexpected changes. Possibly it would have been better if these arrangements would be more flexible and if the participants were less dependent on each other, what supports the argument for a degree which is more oriented towards cooperation.

Overall, considering all the types of policy integration and their degrees of operation it can be seen that there is an institutional and operational policy structure which is more oriented towards cooperation, than to the level of integration. It does not mean that all geographic, procedural and legal terms). Government at both tiers made adjusted agreements (reflected in the general project agreement) regarding the amount of development, the stations, the investments etc. The policies where not joint (and there was the attempt to avoid policy conflicts between province and municipalities) but adjusted: the relation between province and municipalities can be regarded as the degree of coordination. The discussion on whether the provincial government should take more leadership, be more restrictive towards municipalities or just more facilitative or stimulating does not mean that the provincial government had no coordinative role.

As mentioned above in this chapter, there was a lot of competition between municipal governments – especially in terms of spatial development. Every municipal participant wanted to have spatial developments within their territory. Thus there were a lot of competing interests. It also became clear that this was very little (formal) communication between municipalities regarding the spatial developments (no transparency) – municipalities roughly knew about their plans, but not about the stage of those plans. Communication only mainly took place by the provincial government. This horizontal territorial relation took place at the degree of cooperation.

In terms of strategic integration the provincial structure vision can be considered. The representatives of the provincial government mentioned in interviews that their strategic structures – especially in development where all former sectoral policies (housing, infrastructure, environment etc.) where collected or stitched together with the agreement and which made the document sensitive for sectoral policy conflicts. This made the structure vision too comprehensive, very unclear and not oriented towards the future (representing very little ambitions) – the government did not have been selective. The representatives admit the document could have been more integral when those policies where joined. The degree of this strategic alignment can be considered as coordination, but the aspect of strategic integration at provincial level also different regional public transport concepts such as Rotterdam and NOV-net are running parallel to each other and are far from integration.

Especially the general partnerships (which are all ‘WGR’ regions – appendix A) can be regarded as meaningful clusters because they deal with issues of different sectors (not only of spatial but also of social or economic importance) that ask for an inter-municipal approach. Additionally, these partnerships sometimes have financial resources (e.g. Holland Rijnland), that has a ‘regional investment fund’ subsidized by the participating municipalities – which can be regarded as bottom-up investment that is useful in negotiations of regional projects between different clusters, and by raising interest; bringing a project on a higher agenda (which can be seen as some sort of lobbying). Thus, the financial resources make it possible for these partnerships to function as a stakeholder and to strengthen their interest within such projects. Finally, these partnerships function as a sort of ‘knowledge institute’ for small municipalities; the partnerships have the expertise in, for instance regional infrastructure projects, where the municipal governments sometimes do not have enough ‘intellectual resources’ for:

The regional partnership acts as a sort of platform for discussion for municipalities. It can be regarded as a knowledge institute for small municipalities that are have less expertise in certain aspects. (...) They have a regional investment fund, which municipalities deposit money, which offers room for negotiation in at certain arenas of decision making. The partnerships are always a platform for discussion, and the aspects that a partnership has own money, which they can use to do a first bid – Representative C.

Again, this shows that in this way interest is built from bottom-up – municipalities bring their own money. But this statement is a desire, a reaction on something that did not happen at the moments when the former project agreements, which most municipalities had to bring their own money.

In the diagram that reflects the study on regional partnerships it can be seen that the institutional structure which was needed for the RGL project is one of the scars organizational structures that have a relation between all
3.3 The institutional capacity & steering process

the three general partnerships (next to the organization around the RGL only the economic relation ‘Oude Rijnzone’ does an appeal on all the partnerships). It might be argued here that the relation needed for the RGL project was not common – most of the relation require cooperations of not more than two different general partnerships. Because these partnerships have strong interests for what is the best for their region, the required structure for the RGL might have been ‘fragile’ and sensitive to competing interests.

Having the importance of general partnerships in mind, it is remarkable that all municipalities were involved in the project agreement individually, which could have encouraged a ‘fragmented field of interest’ or ‘tragedy of commons’ (simply because more actors are involved and with insufficient control of the province in case of the latter). Anyway, this did not happen, at least not to this extent: only the municipality of Leiden appeared to be the municipality with conflicting interests (as mentioned above) – with crucial consequences, however.

Possibly it would have been better if the provincial government involved the regional partnerships (representing the shared interests of the municipalities) into the project agreement instead of the municipalities individually – in order to facilitate negotiation and adjustment of different interests around the project. ‘The RGL East does no appeal on the partnerships (representation on the municipalities). The first project agreement has been made between all municipal governments individual, which required an extensive steering group. This can be seen as one of the issues regarding the institutional structure on the RGL-East.’ – representative C.

Nevertheless, as has been mentioned above in this section the involvement of general partnerships does not mean that the role of the province becomes less important. The general partnerships do not have legal resources – they do not have legal instruments to steer or facilitate other authorities (the fact that these are WGR regions does not say that these partnerships have legal authority – it is on the provincial government to decide whether they delegate authority to such partnerships). As mentioned above the province and municipal governments have most legal powers – the provincial government because of their legal instruments, the municipal government because of their landholdings in particular. Especially for higher authorities the latter ability seems to be perceived as an obstacle in terms of negotiation – municipal governments have strong stake in this because they can bargain with their ‘material resources’ (the owned land). This issue is stated by several interviewees:

‘Although a regional partnership can make more agreements in terms of spatial adjustment nowadays, they do not have the instrument to enforce local development. The strong municipal powers and landholdings make it difficult to achieve powerful agreements on higher level’ – representative C.

‘The provincial government does not have the right resources to negotiate with lower authorities, namely money and property (land);’ – representative A.

However, as became clear out of the analysis on the regional relationships it can be argued that the institutional organization around the project did not correspond with the common institutional partnerships in the region: the organization called on new intergovernmental relations. This could have contributed to the difficult and long run during the project, with municipalities (part of different clusters) having difficulties to adjust their spatial policies and having competing interest in this.

In general, the dialogue between regional partnerships and provincial government (with the partnerships representing the municipalities in their interest and with the province having the capacity for coordination and implementation) is interesting because it beholds at the level of the ‘regional gap’. This gap can be addressed by regional partnerships that have (a) the expertise on large scale issues, (b) represent and promote interests of lower authorities and (c) bring them on the agenda of the provincial government. Such partnerships are created voluntarily and can change from structure (municipalities can move between partnerships), which make these organizations dynamic and adaptive for change – they can be seen as an example of governance Type II (which also counts for the steering group and the project office of the RGL, which were represented by different authorities and were temporary).

3.3.6 Governance culture

In the study on the institutional relations of the regional partnerships (appendix C7) became clear that the institutional organization around the project did not correspond with the common institutional partnerships in the region. But why might this have contributed to operational issues around decision-making between partnerships, but also between municipalities in particular? Does this have to do with the governance culture of authorities in the region? – some other empirical studies (interests and ambitions) indicated that involved authorities (province and municipalities) did not have the governance culture to collaborate and to the support of policy integration. But this brings the following question: why? Perhaps conclusions of both studies show the relation of these issues around the governance culture.

Partly, this could have something to do with the history of cooperation in the area: some of the regional partnerships have a long tradition and some have less (and some of the partnerships have been established by own (bottom-up) interest, and possibly some have been established by higher levels of authority (province) (top-down) – the provincial has the possibility to oblige municipalities to establish and collaborate a WGR partnership. Because the research did not involve studies on the institutional history at the region it is difficult to prove such developments. However, in case of the Holland Rijnland partnership it can be argued that this has been established around 2002 by shared ambitions and interests of neighbouring municipalities, and that this partnership draws on the integration of two former collaboration in the area: the ‘Duin en Bollenstreek’ and the ‘Leide Regio’ – mainly with the purpose to strengthen decisive power. More recently, in 2008 one of the ‘Rijnstreekberaad’ joined the Holland Rijnland partnership also (with the same argument). This example shows that municipalities are willing to cooperate as long as they can enforce their political power, but with keeping their democratic legitimacy at the same time. Because the institutional structure around the RGL calls on the municipalities instead of partnerships the issues around collaboration might have another cause. Possibly because the project was the only connecting element of the municipalities in the region, it might be argued that there was not enough commitment between them (and not as with general partnerships, often established to counteract various cross-border issues and in different sectors (e.g. youth care and safety) which ultimately can lead to more commitment).

Another argument might be found in the ambitions and interests of the province. As explained at the start of this chapter the project has become an important project for the province – perhaps a little too important (private actors were kept at distance (relation province – Pro Rail), but also lower public authorities (whether municipal partnerships or single municipalities) have been insufficiently involved in the initial phase (especially in terms design and defining the portfolio) – the operational approach or intention of the provincial government cannot be typed as ‘collaborative’. This is clear in the communication of the provincial government towards other participants: the province was having a defective integral (regional) vision where project and region were aligned. This situation made it difficult for municipalities and other participants to realize the aims and in being aware of the implications of the project – also the participants had little to say at the early stage in this approach was far from collaborative. Possibly, as part of the strong orientation of the province on the project, the municipalities became less communicative and more reactive instead of proactive.

In the next chapter of conclusions and recommendations some suggestions to these issues are done (chapter 4).
This section contains the main results of the empirical research. Accordingly, recommendations are done for the case study area, which are translated in a process, spatial and institutional design. The findings are also placed in perspective within the context of the case study: integrated transport planning in the Netherlands. Finally some recommendations for future research are done.

Keywords
- Institutional capacity
- Governance culture
- TOD
- Design
- Future research

Paragraphs
- #4.1 Conclusions case study
- #4.2 (Design) recommendations for case study
- #4.3 Recommendations to similar projects in the NL
- #4.4 Recommendations for future research
4.1 Conclusions case study

The purpose of the research was formulated in two main research questions; one problem addressing and one solution oriented question. The following question should address the issues:

What are the issues of governance between local planning agencies, around the integration of sectoral policies on mobility and land-use and around the implementation of a transport infrastructure project such as the Rijn Gouwe Lijn at regional level?

The question represents the general aim of the research in addressing the issues at the case study according to three dimensions: space, institutions and process. For every dimension, sub-questions have been raised. According to these questions, the conclusions of the case study are presented in two headings: the spatial dimension, the institutional and operational dimension. The latter two dimensions are combined because it appeared that these issues intertwine. The conclusions are based on evidence; the results of the empirical research (desk research, interviews, mapping).

Spatial dimension

Related question:

To what extent have the spatial development implications of the transport infrastructure (RGL) been considered in the planning of the line?

The conclusions are:

- In terms of spatial characteristics the spatial development patterns within the region seem to be quite autonomous – in most villages or towns basic public facilities are present (e.g. supermarket, education, health clinic). This also means that communities are not completely dependent on each other.
- The level of public transport does not seem to be very poor – at least in terms of accessibility: these networks (bus lines) reach all towns and villages in the region. Also the different public transport modes seem to be quite well adjusted (bus lines cross the future stations of the RGL railway line). Adjustment of the public transport modes plays an important role in the application of a TOD concept as a possible design alternative for the area.
- The line of the RGL project seems to cross a region which contains a significant differentiation in spatial environments (not in functional program) – the stations and transit zones along the line seem to have very different characteristics, which indicates that spatial developments around every line need to be ‘tailored’ and adjusted on each other. This asks for application of a ‘tailored’ TOD concept whereby station environments are taken into consideration.
- Spatial development implications of the RGL have not been considered in the planning of the line; the project agreements pay little attention to the location of spatial developments (guidelines for spatial quality) and there was no legal support to achieve spatial development objectives. Although the link between the infrastructure and land-use developments in the project agreements is purely financial (and the fact that municipalities are not encouraged or supported to plan these developments around their stations because of weak (provincial) instruments or policies), most developments are planned within distance of the transit zones. However, at some locations it might be questioned why the planned developments take place outside these transit zones (e.g. Hazerswoude Koudekerk). At least it seems important that a higher authority promote developments around stations because this example showed that this does not always happen.
- It seems that the provincial government had sufficient legal power; they had appropriate instruments for policy making and for conformance of plans made at lower levels of governance. If the provincial government does not have the right instruments they are technically able to develop such instruments because of their legal authority, defined by law.
- In terms of integration of policies the available instruments are not always sufficient: the provincial legal plans (inpassingsplannen) can only be applied sectoral. In terms of planning policies on local level the provincial government did not see possibilities to incorporate local planning regulations (that guarantee mix of use, densities etc.) in their legal framework.
- Integration of policies (on infrastructure and land-use) is possible in an early stage (on abstract level) with the use of the provincial structure vision which is open to integration. This instrument is also suitable for external communication of the provincial ambitions. However, the province did not use the instrument in this way: the attitude and administrative culture of the provincial government was not strategic or selective, not there to facilitate integration of policies (on infrastructure and land-use) and not pro-active because of limited ambitions for future (not presented in their vision document).
- The establishment of a ‘flexible’ project organization (with a steering group...
4.1 Conclusions case study

and an office for implementation of the project), formed by various representatives (provincial and municipal governments, but also ProRail and Chamber of Commerce – KvK) can be considered positive because this office could have been able to deal with the high complexity of the project. This construction also corresponds with models from theory (chapter 2) of flexible governance and inter-governmental agreements.

- The provincial government did not have the attitude towards adjustment and regulation of spatial development at local level (they did not have the intention to steer spatial quality around stations that promote mix of use, densities etc.), but let municipalities free in how they want to develop within the drawn red contours.

- The provincial government had a restraint attitude towards actors who were not public (ProRail) – there was no trust between both parties, despite the fact they were highly dependent on each other (province the authority, ProRail the technical expertise on the rail infrastructure). They did neither refuse nor invite such actors for participation of the project.

- Project organization was not oriented towards integrated transport planning such as TOD, but more based on traditional infrastructure concepts (which consider the infrastructure in particular) – this structure did not facilitate the integration of sectoral policies on mobility and land-use.

- The financial mechanism around the project was fixed and not flexible for change (adaptive): within the project agreements the financial contribution of the municipal stakeholders was defined by a proposed number of spatial developments per municipality. Whether a municipality decided to develop more or less than the agreed number, the contribution stayed fixed. This has put participating municipalities under pressure – since they had to downsize their ambitions because of the financial and economic crisis. As said above, there have been insufficient legal regulation mechanisms that encourage developments around stations. Together with the pressure on these municipalities – because of the heavy financial agreements – this would stimulate municipalities to build on greenfield sites (because benefits are higher when developing on such locations).

Taking these issues into consideration, the degree to which policy adjustment (sectoral, territorial and organizational) took place most approximates a form of cooperation: there was little alignment between provincial departments, little alignment of province and (semi-)private actors, little alignment and communication between public authorities at the same level of governance and little alignment of planning instruments.

According to the empirical studies, these issues also might indicate that involved authorities (province and municipalities) did have no or little governance culture to collaborate and to support policy integration. This raises the question of why? How can this be explained? This can have a few causes:

- Possibly because the project was the only connecting element of the municipalities in the region, it might be argued that there was not enough commitment between them (and not as with general partnerships, often established to counteract various cross-border issues and in different sectors (e.g. youth care and safety) which ultimately can lead to more commitment).

- (Private) actors were kept at distance. The relation between provincial government and Pro Rail was far from communicative, there was no trust. Pro Rail was not considered as a partner.

- The provincial attitude and operational approach towards stakeholders was far from collaborative: lower public authorities (whether municipal partnerships or single municipalities) have been insufficiently involved in the initial phase (especially in terms design and defining the portfolio of the project).

- The provincial government was having a defective integral (regional) vision wherein project and region are aligned. They did not communicate with other participants through a strong integral vision, which could have encouraged participation and engagement.

- The strong focus of the provincial government in realizing the project and in their insufficient communication might have brought municipalities into a more reactive position instead of proactive, informed and communicative.

Taking all the issues into consideration, the project in its intentional form (the hybrid construction of a light rail vehicle running on a heavy rail) might have been too ambitious. The expertise of participants on such projects appeared to be deficient. In particular because developments around these stations did not have been enough promoted because of insufficient policies and policy-adjustment. This also counts for the station environments, which seem to be not well considered in terms density, building heights and program. Maybe, and partly because of the level of public transport in the region, where most towns and villages do not seem poor accessible, the project was not completely oriented towards the needs of the region – and probably was more the result of an ambition which did not meet with the changing needs over time. Also, it appeared to be difficult to create commitment because of ‘passive’ participation and the absence for a platform of discussion – it seems that stakeholders did not have been encouraged enough to participate through for instance, interactive scenario making or planning support tools such as gaming (e.g. Sprintstad).
Both the theoretical and the empirical research appeared fruitful (e.g. degrees on integration of policies, station typologies, strategic spatial planning approaches); knowledge which can support the project at the case study, but also seems useful for similar transport infrastructure projects in the Netherlands at regional level. An attempt is done to provide some recommendations for the case study area, which ultimately can be translated to (alternative) design suggestions. Before several recommendations and a design are presented, the second main research question requires attention:

What planning mechanism could address issues of governance, facilitate integration of policies and support the implementation of such a project?

The answer on the main research question should be found in the mechanisms that provide a (better) alternative. This question solution is oriented; it is focused on the delivery of a planning mechanism which anticipates on the issues which were at present in the case study area. Now these issues have become clear, it is worth to look further in order to make some suggestions.

There is of course, no single answer to this question. However, in this paragraph an attempt is done to give a possible answer with the input of (a) the Dutch planning system, (b) the theoretical models and (c) the findings on the case study area. With this input some recommendations can be made. These recommendations may help in proposing an improved institutional, spatial and process design for the case study area (which until now – as far as you can speak of a design – have been plans for a ‘classical’ railway project, organized by several project agreements with a financial link between infrastructure and land-use developments, and in a supporting project organization with representatives of the involved authorities).

From the perspective of this research, how would the project have more legitimacy? Or is this not possible because of governance culture which does not support the project? Or would it have been possible to create more commitment with an open or shared vision, through interactive participation like scenario making or gaming? Some suggestions are given below:

- Some of the interviewees have indicated that if the provincial government had a strong (integral) vision and concept for the project, but open for adjustment (participation), and one which facilitates integration of infrastructure policies and land-use around transit zones – which can be found in a concept as ‘transit oriented development’ (TOD) – this could have led to more transparency and commitment between stakeholders.

- Because by the studies done on the spatial differentiation of the region, it became clear that this region was diverse: the line is crossing various towns and villages with different characteristics. This means that if a TOD concept would be applied, preferably these characteristics should be considered.

- Based on the concept of TOD (chapter 2), the provincial government could have formulated or stimulated conditions (e.g. mixed use, densities) for spatial development around stations in their project agreements and was able to use a legal framework that supported such qualitative developments within the transit zones. These conditions could be formulated by all participants in for instance, an arena or platform for discussion.

- The project agreements have shown that investment in the infrastructure was linked to a key distribution of spatial developments per municipality. This allowed very little flexibility. Better adjustment in payment mechanisms (which anticipate on economic changes) might have increased the chances for legitimacy of the project: the provincial approach to spatial planning could be more strategic in using mechanisms such as ‘transfer development rights’ (TDR), which allow for land trade-offs (between municipalities). A second opportunity can be seen in the contribution or investments of pension funds, which have large financial capacity. First signals of such developments in the Netherlands can already been seen in participation of pension funds in national infrastructure (NOS, 2012).

- The interviews as part of the empirical research have shown that in terms of public-private partnerships, there was little trust between public and (semi-)private actors. If the provincial government was more open to (semi-)private actors – in terms of the relation between the province and ProRail it could have been helpful to start an alliance (a public-private partnership instead of client-contractor relation) for better integration of expertise, investments and responsibilities. Also pension funds could become stakeholders in such alliances.

- The results of the empirical research have shown that the provincial government involved all municipalities independently during the whole process which required complex a complex organization for doing communication. Possibly the provincial government improved bias for negotiation by involving regional partnerships instead of all the municipalities independently. This would have eased the decision-making process simply because fewer participants would have been involved, and because some municipalities in the region miss the expertise for such complex projects (which the regional partnerships have).

- Drawing on the subject of communication, it might be argued if the institutional structure around the project (e.g. steering group) did create the right conditions for achieving commitment – basing on the interviews. In such a arena or platform for discussion and interactive communication was established, this might have facilitated more commitment between participants. This also gives opportunities to ‘test’ if there is the right governance culture to continue with the project. In such arenas communication would not only take place vertically (by provincial government), but also more horizontally (between municipalities or regional partnerships, but not without supervision of the province) and more interactively – workshops could have been a good platform to realize such interactions because they stimulate participation, mutual awareness and raise interests for the project (where the regional partnerships were involved it would also have been possible to organize such workshops). Examples of this can be found at ‘Zuidas’ as part of the Stedenbouw project, or the planning support tool ‘Sprintstaf’ (a game that facilitates participation through interactive scenario making). Such platforms have been addressed in this thesis and are translated into the design alternatives below.

The planning recommendations are elaborated in a multi-dimensional design proposal for the area that allows integration of different concepts (from spatial, institutional and
4.2 (Design) recommendations for case study

The first proposed design, strategic spatial planning can be regarded as a process design. The design is based on the principles stated by Albrechts (2004, 2006). As has been mentioned in this report, the institutions have to act strategically; they have to be selective, collaborative, flexible and need strong frameworks that allow and steer a high degree of flexibility in planning. This makes phasing of long-term projects highly important. Therefore the design contains four tracks (note that the process is not linear, tracks influence each other and sometimes run simultaneously), according to the theory of Albrechts (fig. 4.2):

- **Track 1 (Long-term vision)** – Once the provincial government decided to take the responsibility for a regional projects as the RGL (the initiative started at lower levels of governance, but are brought to a higher agenda, to where it is linked to other ambitions) it can expressed their vision by a strong integrative concept (one that supports integration of land-use and infrastructure – TOD) and support this with clear diagrams and structure vision documents to ease communication with possible participants/stakeholders.

- **Track 2 (Long-term & short-term actions)** – Subsequently the provincial government can define the long- and short-term actions. They can draw further on the concept of TOD by adjustment of the policies on mobility and land-use, their internal organization (the departments), their planning instruments, and a legal framework that facilitates implementation.

- **Track 3 (Stakeholder participation)** – Because the initiative for the project started in Leiden, it can be stated that contact between potential stakeholders started earlier. However, once a clear vision and concept has been elaborated it is easier to get other actors on board. This does not mean that the vision is not open for change, after the vision has been presented, participants which get on board can create adjustment in a platform or arena which facilitates participatory planning interactive scenario making. Accordingly institutional structure (authority) can be created around the project. Because the RGL crosses a large number of municipalities it might be better to negotiate with the existing regional partnerships that represent the interest of the municipalities, in order to ease the process of negotiation. Besides such partnerships have the expertise of large-scale projects which the smaller (rural) municipalities do not have.

- **Track 4 (Coordination & integration)** – The contact with (semi-private) actors could be made to facilitate integration of knowledge, expertise and investments. For the RGL this could mean that the provincial government should start an alliance or public-private partnership with ProRail, instead of a client-contractor relation. Because public administrations often miss the financial capacity to invest in large-scale infrastructure projects, also collaboration with pension funds (which have high financial capacity) could be seen as a potential in finance.

Fig. 4.2 Process design: strategic spatial planning approach according to Albrechts (2004)
4.2 (Design) recommendations for case study

4.2.2 Transit oriented development (space)

As has been addressed at the first stage of the process design, it is important that the provincial government makes use of a clear spatial and integrative concept that stimulates participation of other actors and supports adjustment of policies regarding the project. In this respect transit oriented development (TOD) could be considered as a useful concept for the RGL, with only when the characteristics of the different station environments are taken into consideration.

First it is worth to mention that the province would have benefited from acknowledging and recognizing the spatial and programmatic qualities and its driving forces of the region. In other words, the province had the intention to keep the Green Heart free from spatial development as much as possible by promoting development in an axe corridor follows this axe. Spatial development could be promoted within the transit zones of the stations along the line.

4. Conclusions & recommendations

1. The provincial government had the intention to keep the Green Heart free from spatial development as much as possible by promoting development in an axe corridor followed this axe. Spatial development could be promoted within the transit zones of the stations along the line.

2. Promoting spatial developments within the transit zones can also be supported with ‘green buffers’ or corridors between the station areas – discourage linear development.

3. Distinction in the hierarchy of stations (according to the theory of Balz and Schrijnen (2009), or at least train stops and stations (with transit possibilities to other railway lines).

4. Presenting the railway line in relation to other modes of networks – the whole of public transport networks in the region.

5. Assimilation of spatial ambitions of lower governments in the document (and station areas) and placing this in relation to the provincial ambitions.

6. Presenting the locations of main function groups (offices, housing, industry and shopping).

7. Providing conditions for development around station and presenting this in a framework where recommendations for mixed use of functions and for building heights and densities (promote higher density around stations).

For the legitimation of the project, it seems important for the authorities to investigate spatial and programmatic characteristics in their towns and villages, especially around the (planned) stations. Also densities, mix of functions and building heights play an important role. This would be crucial because of the spatial differences in the regions – as the empirical research has shown these characteristics seem vary according to the place the stations stops (e.g. the spatial environment of Boskoop is different from its neighbouring town Waddinxveen) (fig. 4.3 – next pages). In order to apply such ‘tailored’ approaches of TOD, the nodal typologies of Balz and Schrijnen (2009) could be used.

Another recommendation to develop spatial design is that in an early stage, it might be important to keep the vision ‘open’ for adjustment. These adjustments could be done according to the interests of participating stakeholders – the story should be built up together. Such a participatory planning process with interactive scenario making could have encouraged more commitment and awareness between the participants.

Especially for the latter a ‘planning support tool’ might be useful. The foundation ‘Deltametropool’ has developed a corridor simulation game, where municipal plans can be introduced. The software links the figures of spatial development to the transport frequency on the railway infrastructure, places this in time and presents the outcomes in variable diagrams which are not hard to read – the software is interactive and open for adjustment (fig. 4.4).
4.2 (Design) recommendations for case study

Fig. 4.3-1 Spatial design: concept of TOD linked to regional spatial vision and concept

4. Conclusions & recommendations

Waddinxveen Zuid
office - industrial site

1. Mix of functions
2. High densities:

FSI 1.0 - 3.0
(depending on location)

Section A-A

urbanizing
corridors
residential expans.
Zuidplaspolder
horticulture
Boskoop
preserved
cultivated lands.
preserved
cultivated landscape
intensive agriculture
water recreation
regional station
transfer

green buffers
green buffers
green buffers

green buffers
green buffers
green buffers

green buffers
green buffers
green buffers

green buffers
green buffers
green buffers

town hall
library
wo/hbo/nbo
hotel/
camping
museum
(music) theater
swimming pool
cultural
landmark
shopping
center
prim. school
sport complex
recration
area
hospital/
health center
High school
cinema
entertainment/
horticulture
4.2 (Design) recommendations for case study

Fig. 4.3-2 Spatial design: concept of TOD linked to regional spatial vision and concept
The involved participants of the RGL could have used this software in order to get clear understanding of the mutual programmatic implications of the individual plans. This could have led to better and more flexible adjustment of developments around the line. Additionally, this tool could have encouraged participation because actors are involved actively and results are directly visible – it can be regarded as a strong communicative tool, which supports transparency between stakeholders.

This instrument incorporates a little of all three dimensions of Koppenjan & Groenewegen; it deals with the technical/spatial issues, supports institutional capacity building and has a steering role in the process by interactive communication between participants. Therefore it might be argued that the instrument would have been a very appropriate planning tool for the RGL. Unfortunately, I was not able to elaborate on this planning tool within this research – it would have taken too much time to invite all stakeholders and organize workshops.

Improving connectivity or stimulating economic activity? Regarding the concept of TOD it is worth to give attention to the discussion whether railway infrastructure or developments should be build first or if functional program such as housing, offices or commercial functions instead. From the interviews of involved participants it became clear that with light rail (trams, subway) it is usually the case to invest in accessibility first and where after spatial development will follow. With heavy rail (train) however, it is more likely to start with spatial developments (or simultaneously with railway infrastructure) in order to create pressure on public transport – otherwise public transport will not be feasible or beneficial and political support will be difficult.

The latter can be seen in a development which takes place at a neighbouring municipality of the case study area (Zoetermeer), where similar agreements (as the RGL) have been made between the province and the municipality for realizing an extra station (heavy rail) together with a town expansion (Nederpel, 2012). The province required the municipality to realize a certain number of spatial developments; otherwise it would not get the station. Because of the crisis, the municipality realized that they were not able to accomplish the required number of developments and considered themselves compelled to change plans in order to get the new station; they came up with the idea to realize an outlet centre instead of a residential or office location – large enough to attract a number of visitors from the region which is needed to get the station. Despite of the resistance from local entrepreneurs in the city centre – fearing a backdrop of commercial and economic activities – the provincial government recently approved the plans for the outlet centre and the new station. The province acknowledged the possible commercial and economic decline in the centre of Zoetermeer, but considered the new outlet centre more important because of its regional potential. However, it might be argued, such types of development are unlikely to support a concept as TOD.

What can be learned from this development? That lower authorities are flexible and creative. However, it might be argued, such types of development are unlikely to support a concept as TOD.

4.2 (Design) recommendations for case study

Table 4.1 Institutional design: proposed degree of policy adjustment

<table>
<thead>
<tr>
<th>Form of policy integration</th>
<th>Expression at case study</th>
<th>Degree of policy integration</th>
<th>Suggested alternative</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Integration</td>
<td>Coordination</td>
</tr>
<tr>
<td>SECTORAL INTEGRATION</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Cross-sectoral integration</td>
<td>Adjustment of (provincial) policy areas on mobility and land-use in steering group</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Inter-agency (stakeholder) integration</td>
<td>Adjustment of (provincial) authority and ProRail or KvK</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>TERRITORIAL INTEGRITION</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Vertical integration</td>
<td>Adjustment of provincial and municipal government</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Horizontal integration</td>
<td>Adjustment of municipal governments</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>ORGANIZATIONAL INTEGRATION</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Strategic integration</td>
<td>Alignment of strategic spatial visions or spatial concepts (provincial departments)</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Operational integration</td>
<td>Alignment of sectoral legal planning documents</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Alignment of financial agreements or mechanisms</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

4.2.3 Institutional framework (institutions)

From the perspective of institutional capacity it is worth to take a look again at the degrees of policy adjustment. In the empirical research a table has been used for ‘measuring’ the degree of integration, regarding several fields of policies. The same table (table 4.1) can be used to show what the relations should have been instead. In the strategic spatial planning design (process) the indications for the new degrees have been given already, but here follows an overview on how it was and of how it could be strengthened, which may be useful in strategic planning.

- In terms of cross-sectoral relations the steering group (created by representatives of the involved institutions) should be oriented to both policies on mobility and land-use, and endeavour adjustment of these policies in order to support the concept of TOD. Therefore it would be desirable that different provincial departments integrate their policies.
- In terms of inter-agency relations the actors could operate together more intensively and acting as one authority. The provincial planning agency and ProRail in particular because it has become clear that they are very dependent on each other. They can start an alliance or public-private partnership to adjust their policies and share their expertise and authority in order to support the concept of TOD. This is a form of integration.
- In terms of vertical territorial integration, here considered as the interaction between provincial government and lower public administrations, should take place according to the level of coordination – territorial governments do not have to integrate (which would be a bridge too far for only the project as RGL, because governments also have other tasks in

4. Conclusions & recommendations

Table 4.1 Institutional design: proposed degree of policy adjustment
4.2 (Design) recommendations for case study

4. Conclusions & recommendations

- In terms of horizontal territorial integration, here considered as the interaction between participating municipal governments, could take place according to the degree of coordination; the municipalities should be aware of their plans and actions, communicate this with each other and adjust their policies where needed. The same as for vertical integration counts here that integration between the territories would be a bridge too far for the RGL only.

- As the suggested spatial design proposal (regional vision document) already showed, the provincial government should communicate their policies and strategies by bringing them to the level of integration (strategic integration). They could integrate their sectoral (supported by various departments) concepts and policies within the provincial structure vision document, or in a strategic vision for the region in order to support the project and the concept of TOD.

- In terms of operational integration the provincial government could align their legal planning documents to the level of coordination, which are currently sectoral and not adjusted. For instance, the provincial land-use plans ‘inpassingsplan’ and various infrastructural policies can be better adjusted in order to support the concept of TOD – full integration of legal instruments would possibly be a bridge too far because some of these policies are generic.

The financial mechanisms that have been used around the project could have been more flexible. The empirical research has clarified that participating municipal governments were facing difficulties regarding the ambitious and fixed financial agreements for the line. Adding more flexible mechanisms such as ‘transfer development rights’ can be seen as a potential, because exchange of municipal development rights (attached to the amount of contribution) break up the fixed financial agreements and allow for unexpected changes.

Another suggestion for an institutional design can be done in the way how the project organization or authority is constructed. Drawing on the issues of commitment between participating authorities (of too much authorities being involved), and can be proposed that in terms of collaboration the province could involve the partnerships in the authority or steering group, instead of all the municipalities independently (fig. 4.5). This could ease the negotiations, and organization around the project. However, it has to be said that this construction is not without any risk; this construction makes it more difficult for local authorities to legitimize the project. As mentioned above a project authority in the form of a public private-private partnership or alliance could be established with representatives of participating public and private actors and NGO’s, in order to create a platform for discussion and a body that takes responsibility for the project.

Fig. 4.5 Inviting regional partnerships instead of municipalities independently (and incorporate private actors by establishment of an PPS alliance)
4.3 Recommendations to similar projects in the NL

4.3 Recommendations to similar projects in the Netherlands

With the input of both theory and practice (of the empirical research on the case study area) the system of spatial planning of the Netherlands can be considered again, in terms of regional integrated infrastructure projects. It is not the intention to call the system into question, but just to show a personal understanding of the relations of infrastructure projects within the Dutch planning context, based on this research. What can be learned from the case study and what does this mean to other transport infrastructure projects within the Netherlands that ask for policy integration and regional, cross-border governance?

What needs to be realized is that these large scale projects seem context sensitive: the characteristics of the region play a crucial role – in spatial and socio-economic terms, but also in political terms: local governance, the governance culture and the institutional structures (the key actors in the region). This means that the recommendations for this project do not count for all of such projects – at least not literally. Instead, a free interpretation of the most crucial lessons can be given which might be of importance when considering similar projects. Secondly, it turned out that these projects are so complex because of such a wide range of potential influential factors (social, economic, political forces). This means that recommendations always need to be interpreted from the context of the research.

The understandings of such projects can be the best explained according a ‘generic’ process design (not completely of course, but only based on elements which regional transport infrastructure projects seem to have in common up to a large extent). This diagram (fig. 4.6) explains a process for integrated transport projects at regional level, according to some of the recommendations for the case study. The process recognizes and provides answers to the question of how local governments (municipalities) can be guided and involved in these large infrastructure and spatial planning projects, and how this could be organized (who takes responsibility and who has the authority).

As happened at the RGL, the initiative for a (part) of the project was taken at local level; a local authority or actor has the ambition for a project and brings this to the agenda of a higher authority. The higher authority could take this project in its agenda, extend the project portfolio and take responsibility (because in general, higher authorities have more institutional, legal and financial capacity). In terms of regional projects it would be likely that this would be done by the provincial government. After initiative has been taken over at provincial level, it can create an ‘open vision’; open in the sense that potential stakeholders such is involved territories (municipalities, regional partnerships, water boards) but also private actors and NGO’s could be part of a participatory planning process through active participation which makes adjustment of the vision possible. This supports mutual transparency between the actors, and creates possibilities for an integral vision and for policy adjustment. This could be done in a project atelier or arena which functions as a platform for discussion, and where interactive simulation can take place to study the options of different scenarios, which could be done according to ‘planning support tools’ such as the game ‘Sprinstad’ as has been explained above. The interactive process might lead to more commitment between participants. Also, by creating this platform, governance culture can be ‘tested’; are these actors willing to collaborate? If this seems possible a project authority can be established, with representatives of (semi-)public and private actors and NGO’s – preferably managed by an independent person or office because of integrity. The project authority could be delegated with the tasks and portfolio around the project, and with most responsibilities around policy-adjustment and collaboration. Also the project agreements could be made and coordinated by this temporary organization. It seems crucial that during the process the project (also in the initiative phase) is constantly monitored by the authority, in order to support the legitimacy of the project and to learn from the process.

Fig. 4.6 Proposed process of integrated transport planning at regional level
This process shows how (policy) adjustment and collaboration in a situation of divergent interests where actors cooperate parallel could slowly reach the level of integration. Of course, this process is not generic, but it shows what seems crucial for complex projects and what did not happen at the RGL project: creating commitment between (potential) stakeholders and creating a project which is integral by involving policies on mobility and land-use.

In order to facilitate such processes within the spatial planning context – the daily practice of planning in the Netherlands – a shift in governance culture might be needed towards a more collaborative form of planning, wherein provincial governments should take the lead, and where local authorities could follow.

### 4.3 Recommendations to similar projects in the NL

The research was multi-disciplinary, involving spatial content, institutional structures and planning approaches. This also means that the research delivers a lot of new questions for future research; within the field of integrated transport planning, but also for the project of the case study area which is still subject to change.

#### 4.4 Recommendations for future research

The research on the case study area was mainly focused on the plans agreed in 2005. Although new developments have been taken into consideration also, the project still changes. Recently the provincial government has decided to cancel the RGL project, but continues with parts of the former project (e.g. new railway stations, new transport frequencies, new public transport concessions) to keep the region accessible by public transport. The knowledge which is gained during the process of decision-making will be useful with future (cross-border) projects in the region.

- For further elaboration on the (leftovers) of the RGL-project it seems very important that clear communication takes place between the involved institutions. Actors are not transparent in their behaviour so how can they be persuaded to share their knowledge and expertise regarding the project in order to create commitment between participants? It is likely that an environment needs to be created where actors trust each other. Because developments change rapidly, interactive communication seems to be crucial. Therefore it might be worth to study the possibilities of the corridor simulation game ‘SprintStad’ developed by the foundation ‘Deltametropool’ and to apply this on the project. This ‘planning support tool’ is not only technical but also very communicative. The game studies scenarios of integrated transport planning by linking figures of spatial developments per municipality to transport frequencies interactively and requires active participation of potential actors. This might enhance the chances for a successful project; more transparency in communication, improvement of institutional cohesion, better and more interactive adjustment of mutual spatial developments and with transport frequencies.

- For further research on the subject of integrated transport planning (in the context of Dutch spatial planning) it might be interesting to further investigate resilience and adaptability of institutions on the uncertainty in long-term planning – especially in these times of economic crisis, where financial capacity, demands and behaviour of actors seem to change rapidly. It would be useful to investigate in how far there are flexible planning mechanisms that can anticipate on environmental changes (cultures, norms and values) and support legitimization for long-term projects, such as ‘transfer development rights’ (TDR) might be helpful. For example, it could be figured out how fixed agreements regarding spatial developments, linked to investments in transport infrastructure can be broken up and how the development rights can be redistributed by exchange between participating stakeholders or public administrations.

- Another recent issue in terms of finance and feasibility of large infrastructure projects is that public authorities seem to have less financial capacity for such projects. As has been mentioned in this report, public authorities are looking for new investors and are doing experiments with participation of pension funds, which often have high financial capacity. It can be investigated what the role of these pension funds can be in terms of integrated transport planning – positively and negatively.

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This chapter contains the references of all the consulted sources for the research of this thesis. For the bibliography a distinction is made between literature resources and illustrations.

### Keywords

- Books
- Journals
- Newspapers
- Internet
- Websites
- Weblogs
- Images

### Paragraphs

- #5.1 Literature
- #5.2 Illustrations
This paragraph contains the list of all the consulted literature. This can be scientific literature as books or journals, but also sources of daily practice like newspapers and websites.

5.1 Literature


5.1 Literature


LUJTEN, A. (2012a) Terug naar de kerntaken [Online].


5.1 Literature


5. Bibliography


5.3 Illustrations

This paragraph contains all the references of the illustrations in this thesis, which are not made by the author.

Fig. 0.2: GOOGLE EARTH (2012) Adapted satellite image of landscape between Leiden & Gouda. Google.

Fig. 0.3: ROCCO, R. (2012) Portret Jasper Bras for graduation studio Complex Cities. TU Delft.

Fig. 1.1: ABSPOEL, P. (2011) http://www.vrijpraak.wordpress.com

Fig. 1.2: MINISTERIE VAN INFRASTRUCTUUR EN MILIEU (2011) Ontwerp Structuurvisie Infrastructuur en Ruimte: Nederland concurrerend, bereikbaar, leefbaar en veilig. Rijksoverheid.

Fig. 1.4: VAN WEEZEL, T. G. (2011) ‘Randstad groeit razendsnel’. De Volkskrant, 11-10-2011.

Fig. 1.5: VAN KEKEN, K. (2011) ‘Voorstel superprovincie dit jaar op tafel’. De Volkskrant, 19-10-2011.

Fig. 1.6: WEEL, I. (2011) ‘EU tikt Nederland op de vingers over natuurbeleid’. Trouw, 18-10-2011.

Fig. 1.7: GOOGLE EARTH (2012) Adapted satellite image of landscape between Leiden & Gouda. Google.

Fig. 1.15: CBS (2011) Figures based on data CBS. www.cbs.nl

Fig. 1.16: CBS & EDUGIS (2011) Figures based on data CBS. www.cbs.nl & www.edugis.nl

Fig. 1.17: CBS & EDUGIS (2011) Figures based on data CBS. www.cbs.nl & www.edugis.nl

Fig. 2.1: MINDERHOUD, M (2012) www.wikipedia.nl

Fig. 3.1: WIKIPEDIA (2008) www.wikipedia.nl

Fig. 4.1: WEGMAN, W. (2010) http://www.wimwegman.wordpress.com

Fig. 5.1: STEDEBOUW & ARCHITECTUUR (2010) www.stedebouwarchitectuur.nl

Fig. 6.1: BIKEPC (2012) http://www.toerpraat.blogspot.com

Fig. A.1: PUMA, M. (2012) http://ronaldpuma.wordpress.com
Appendix

#A Spatial planning in the Netherlands
#B RGL project agreement: financial distribution
#C Empirical analysis of the case study area
#D Analysis SprintStad (Deltametropool)
#E List of interviewees
#F Reflection

Fig. 6.1 Photograph: lift bridge Waddinxveen
One of the supporting sub-questions raised in the introduction of this research (chapter 1) was: How does spatial planning work in the Netherlands? The question supports a study on the planning system, in order to get a basic understanding of the Dutch land use planning. This spatial planning environment can be considered as the arena of regional planning projects; the context of the case study, where and how decisions are made and what factors play a role in this.

Altogether this study should help in understanding the planning language, the governmental structures and available planning instruments which can be used in both the theoretical and empirical research. The study is done according to some elements, such as: the principles, the concepts and policies, the legal authorities (planning agencies) who are in charge of the spatial planning system, and the resources and instruments they use. An important additional question for this exploration is: what influences the integrated planning process of a regional infrastructure transport project in the Netherlands, at regional level?

Most of the content of this study is based on the literature of Needham (2007) because the message of this study is rather explorative than taking a position in the field of land use planning. The work of Needham is characterized with its comprehensive but explicit overview of the Dutch land use planning – similar kinds of sources which give a total description of the complex system of Dutch spatial planning are very limited. It is therefore necessary to use some of his explanations.

At the end of this study some recent trends and debates that play a role within the daily practice of spatial planning within the Netherlands are introduced. These trends might have an influence on integrated planning projects at regional level, and through this play a role at the case study.

**Title**
Spatial planning in the Netherlands

**About**
One of the supporting sub-questions raised in the introduction of this research (chapter 1) was: How does spatial planning work in the Netherlands? The question supports a study on the planning system, in order to get a basic understanding of the Dutch land use planning. This spatial planning environment can be considered as the arena of regional planning projects; the context of the case study, where and how decisions are made and what factors play a role in this.

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**Keywords**
Authorities - planning agencies - spatial concepts - legal power - instruments - coordination - trends

**Paragraphs**
#A1 The content of Dutch spatial planing policy
#A2 The public bodies involved in spatial planning
#A3 The power of the planning instruments
#A4 Intergovernmental relations
#A5 Practices within Dutch spatial planning
#A6 Learning lessons & conditions for research
It might be said that the process of spatial planning in the Netherlands is internationally famous because of the ‘clear’ spatial concepts and policies which have been produced, especially on national level. This can be seen as an indication that public authorities and planning agencies had strong intentions and ambitions of how to deal with the land – within this environment of spatial planning, it might be argued, the creators of the policies feel responsible for the use of the land. It might be questioned here which policies and concepts have been created and why? What are the purposes of spatial planning in the Netherlands?

A1.1 The principles

Over time, several principles have been used which can be considered the rules behind the development of concept and policies, the rules that impose how to act in land-use planning.

Principles of the national government

That the Dutch government has high ambitions in term of spatial planning can be seen in the principles formulated by the national government. In an analysis of the policy of the national government since the first ‘National Policy Document on Spatial Planning’ in 1960, the Scientific Council for Government Policy (WRR, 1998) claimed to be able to identify five ‘basic principles’ of that national policy. These are the following (WRR, 1998):

- **Concentration of urbanization.** This principle is an expression of the wish to avoid urban sprawl and aims that urban development should take place in or around existing towns and cities so the open country and the agricultural land stays free of urban development. At the same time this should lead to high quality services in towns and cities, reduce the need for mobility but sustain public transport instead.

- **Spatial cohesion.** In order to avoid mono-functional development – which contributes to long journeys between different activities – it is aimed that there should be a good geographical relationship between various activities in an area. Housing, schools, shops, employment and recreation must interrelate and close to each other.

- **Spatial differentiation.** This principle comes out of the wish to avoid uniformity and monotony. From another perspective; attractiveness should be created and maintained by a high differentiation of activities and a clear distinction between countryside and historical town centres should be maintained in terms of density and characteristics.

- **Spatial hierarchy.** In order to sustain the viability of towns and cities and realize spatial differentiation and facilitate a high level of services the principle of spatial hierarchy contains the relation of size and grade of facilities. The bigger the centre, the higher the range of facilities. For instance, it makes sense that an airport is situated near Amsterdam rather than close to a small town.

- **Spatial justice.** In order to avoid deprivation and living conditions below the minimum standards it is aimed that people should have access to good facilities and services (work, schools, shops) in their direct environment.

It cannot be concealed that these principles change over time: it is questionable in how far these principles still hold, especially since the national government is transferring powers to lower authorities recently. Two of the basic principles, ‘concentration of urbanization’ and ‘spatial differentiation’ have disappeared, argues Zonneveld (2012). The national government does not seem to use strong spatial concepts to canalize urbanization anymore. Also spatial differentiation lost its priority at national level – supporting concepts are missing. Thus, such principles can no longer be seen as the intention of the national government to steer spatial development; such principles now more depend on the attitude of lower authorities (e.g. the provincial governments).

Implementation of the principles

The national principles mentioned above are not always realized on the ground because of conflicts of interests between national land use policy and local land use policy. It can be argued that this is partly the result of differing principles of the national government and the provincial and municipal government – who do not always follow the principles of national government but have own principles instead.

Provincial and municipal governments can be enforced by the national government to implement their national policy, but its powers were not always strong enough to do so (for specific purposes however, such as infrastructural policies, the national government has obtained more legal power recently – partly since the law on the spatial planning has been changed). Besides, provinces and municipalities make land use policy in the interests of their own citizens. This will pass the revue further in this thesis.

Results on the ground

It is interesting to notice the impact of such policies and to see the results on the ground. It appeared to be very difficult to address the spatial implications as a result of certain policies or institutional structures – which is being acknowledged by Zonneveld (2010). It is therefore that there is hardly any clear research to be found. In his work Needham (2007) gives a few statements away from which one is quite relevant to the subject of this thesis: ‘Cooperation between municipalities in order to make and realise land use policy at the regional scale is still scarce and problematic’ (Needham, 2007: 52). Within the case study, an attempt will be done (roughly) to see the influence of (national) concepts and policies over time have on the spatial and urbanization patterns in the region around the project. Also the extent to which municipal governments in the region were willing to cooperate in order to realize the project will be investigated.

A1.2 The history of spatial concepts & policies

In order to communicate the principles and ambitions the national government presented their future spatial visions for the country in a series of national planning documents: ‘National Policy Document on Spatial Planning’ (Nota Ruimtelijke Ordening) (table A.1). Within these documents the planning principles were often supported with strong spatial concepts (Hajer & Zonneveld, 2000; Lambregts & Zonneveld, 2004; Dühr & Lagendijk, 2007). Officially, the following documents have been produced:

- 1960: ‘First Policy Document on Spatial Planning’ (Eerste Nota Ruimtelijke Ordening);
- 1966: ‘Second Policy Document on Spatial Planning’ (Tweede Nota Ruimtelijke Ordening);
- 1974: ‘Third Policy Document on Spatial Planning’ (Derde Nota Ruimtelijke Ordening);
- 1988: ‘Fourth Policy Document on Spatial Planning’ (Vierde Nota Ruimtelijke Ordening);
- 1992: ‘Fourth Policy Document on Spatial Planning Extra’ (Vierde Nota Ruimtelijke Ordening Extra: VINEX);
- 2001: ‘Fifth Policy Document on Spatial Planning’ (Vijfde Nota Ruimtelijke Ordening);
- 2004: ‘National Spatial Strategy’ (Nota Ruimte);
Heart was more refined to the level of large-scale conurbations and megapolises (Lambregts & Zonneveld, 2004) the country was divided by Western, Southern and Northern Wings, connected by an extended urban system that was considered as the 'Urban Ring Central Netherlands' (Dühr & Lagendijk, 2007).

Subsequently, in 1988, the national government spread over the country: public investment was to be concentrated on these nodes so private investments should follow (Needham, ... 'Fourth Policy Document on Spatial Planning Extra' (VINEX) in 1992 In 1988 a trend break followed, with the concept of compact town: lower authorities should build within or as near as possible within their existing towns and cities, that were well accessible by high quality public transport and near to employment and recreational facilities (Needham, 2007).

Also, since the ‘Fourth Policy Document on Spatial Planning’ presented in 1988, the idea of cohesion has been replaced by the provocation of regions on their own strengths) (Dühr & Lagendijk, 2007). The Randstad should function as a polycentric metropolis in order to compete internationally with other agglomerations (e.g. London or Paris). In the ‘Fifth Policy Document on Spatial Planning’ this ambition was translated to the ‘Randstad Holland’. Eventually (also by the ‘National Spatial Strategy’ of 2004), the concept of was introduced: polycentric model would be supported with the connection of city-regions and wings by eight identified urban networks. Within this document also the concept of compact town was enforced with policies as red contours (green contours (that where drawn around towns and cities where spatial development should take place) and (for areas that should be prevented from urban development) (Needham, 2007). The National Spatial Strategy of 2004 also contained policies as mixed land use (stimulating multiple spatial functions in an area), the 'layer approach' and the ‘Ecological Main Structure (Ecologische Hoofdstructuur – EHS) which are explained further in this section.

### Table A.1 Overview of National Policy documents, policies and concepts of spatial planning

<table>
<thead>
<tr>
<th>Year</th>
<th>Policy Document</th>
<th>Policies</th>
<th>Concepts</th>
<th>Philosophy</th>
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<tbody>
<tr>
<td>1960</td>
<td>Eerste Nota Ruimtelijke Ontwikkeling</td>
<td>Spatial quality</td>
<td>Spatial Coordination</td>
<td>Anti-Sprawl: Spreading welfare and relocation over regions towards peripheral areas</td>
</tr>
<tr>
<td>1970</td>
<td>Tweede Nota Ruimtelijke Ontwikkeling</td>
<td>Anti-Sprawl: Spreading welfare and relocation over regions towards peripheral areas</td>
<td>Congestion: Changing urban sprawl to compact urban networks</td>
<td></td>
</tr>
<tr>
<td>1988</td>
<td>Vierde Nota Ruimtelijke Ontwikkeling Extra (VINEX)</td>
<td>Anti-Sprawl: Ecological Main Structure (EHS)</td>
<td>Competitiveness: Regions on their own strengths</td>
<td></td>
</tr>
<tr>
<td>2001</td>
<td>Vijfde Nota Ruimte Spatial quality</td>
<td>Anti-Sprawl: Mainports/greenports/brainports</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Fig. A.2 History of the spatial policies, spatial development and infrastructure in the Randstad

- **2011:** ‘National Strategy on Infrastructure and Space’ (Structuurvisie Infrastructuur en Ruimte).

Probably the most famous concept that returned in (and survived) several of the national documents is the twin concept of the ‘Green Heart’ and the ‘Randstad’ (Lambregts & Zonneveld, 2004). This concept was meant for the west part of the country, where most economic and spatial activity takes place. In general this should prevent the heart of the area (qualitatively regarded as the area where most natural or cultivated landscape could be found, in the west part of the country) from spatial development by supporting development in a shape of a ring around the center. Note that a large part of the case study area is located in what used to be the area of the Green Heart.

But over time, also other strong spatial planning concepts have been presented by the national documents. The national government wanted to prevent the country from uncontrolled dispersed development or urban sprawl, since suburbanisation was seen as one of the major threats in the post-war period (Fig. A.2). Similarly, there was the fear of strong urban concentration (Dühr & Lagendijk, 2007). Accordingly, the government wanted to prevent the pressure on the Randstad by promoting prosperity over the whole country. Therefore, the national government promoted cohesion by spreading welfare and relocation towards peripheral areas during the first three national planning documents between 1960 and 1985. One of the most famous anti-sprawl concepts in this period was the concept of bundled de-concentration (promoted by the third document) ‘development should take place outside the existing towns and cities, but ‘bundled’ and not dispersed.’ (Needham, 2007: 55). Possibly, the effects of this concept are also visible in the case study area, since a town as Alphen aan den Rijn (located at the case study area) was dedicated as one of the generously sized grown towns that should be well accessible by car. In the second and third ‘Policy Document on Spatial Planning’ of 1996, the twin concept of the Randstad-Green Heart was more refined to the level of large-scale conurbations and megapolises (Lambregts & Zonneveld, 2004) the country was divided by Western, Southern and Northern Wings, connected by an extended urban system that was considered as the ‘Urban Ring Central Netherlands’ (Dühr & Lagendijk, 2007). Subsequently, in 1988, the national government presented the ‘Fourth Policy Document on Spatial Planning’, that contained a more compact concept of urban nodes spread over the country: public investment was to be concentrated on these nodes so private investments should follow (Needham, 2007). With the ‘Fourth Policy Document on Spatial Planning Extra’ (VINEX) in 1992 In 1988 a trend break followed, with the concept of compact town: lower authorities should build within or as near as possible within their existing towns and cities, that were well accessible by high quality public transport and near to employment and recreational facilities (Needham, 2007).

Also, since the ‘Fourth Policy Document on Spatial Planning’ presented in 1988, the idea of cohesion has been replaced by the provocation of spatial competitiveness (since then regions have to compete and build on their own strength) (Dühr & Lagendijk, 2007). The Randstad should function as a polycentric metropolis in order to compete internationally with other agglomerations (e.g. London or Paris). In the ‘Fifth Policy Document on Spatial Planning’ this ambition was translated to the ‘Randstad Holland’. Eventually (also by the ‘National Spatial Strategy’ of 2004), the concept of regions on their own strengths) (Dühr & Lagendijk, 2007).
Because of the idea that networks became more important (concept of urban networks), the latter National documents were dominated by another concept that could ‘...encourage inter-municipal collaboration between core cities as surrounding suburbs and communities, to pursue both economic and spatial aims (Dühr & Lagendijk, 2007: 14): spatial coordination (chapter 2).

With the most recent planning document, the National Strategy on Infrastructure and Space it seems that the decentralization process (which has been introduced with the National Spatial Strategy of 2004) has been intensified (De Gier, 2011). Furthermore it supports a more integrative approach to sectoral policies on infrastructure and space. However it can be argued if the most recent planning document contains clear concepts that concern the national level of spatial planning. From the first national planning document to the most recent it can be seen that the orientation of these documents has slightly shifted from concentration to a focus of deconcentration on spatial development.

The national planning documents contained various other spatial planning policies. Besides, spatial policies also have been developed at regional level. This means that the policies can be subdivided between the different layers of government. Additionally, policies are made at different departments (sectors). It might be worth to take a look at how the various subjects of planning policies have been developed at different scales, regarding:

- policy for the location of new housing,
- policy for towns and cities,
- policy for rural areas.

Each of these policies change over time and are different can be described through the changes in time and being explained from national, provincial and municipal level.

Policy for the location of new housing

The national policy for the location of new housing was first expressed in the ‘Third National Policy Document on Spatial Planning’. The document contained a policy for ‘bundled deconcentration’. This means that “development should take place outside the existing towns and cities but ‘bundled’ and not dispersed.” (Needham, 2007: 55). Thereby employment and housing should be taking place outside the national policy of concentrated development. The national government has the power to make the land use plan invalid. However these plans often already have been made and contain a building capacity. When the national government wants the municipalities to change those plans this could bring big claims because the land owners will ask for compensation of development value.

The municipal policies are expressed in local land use plans which are legally binding. Most of all the municipalities want to grow and make land use plans for new housing and employment areas abutting the towns and villages and thereby refuse the national policy of concentrated development. The national government has the power to make the land use plan invalid. However these plans often already have been made and contain a building capacity. When the national government wants the municipalities to change those plans this could bring big claims because the land owners will ask for compensation of development value.

The provincial policies are different from each other. Some provinces have loose policies to avoid conflicts between different actors. Others have very strict policies for the protection of open space. One of the policies which are being used is called ‘allocating house building contingents’ which tells how many houses each town or village is allowed to build the next ten years. Another policy provinces are working with is expressed in ‘red contours’, which has been described above.

Policy for towns and cities

One policy in the category towns and cities which is worth to mention; it restricts competing developments outside the city centre. According to the principal of spatial hierarchy mentioned above shops could only be built within the built up area. ‘Peripheral’ shopping centres (PDC) where rarely allowed and only with a limited amount of shop. Due to the pressure of property investors since 1993 it is permitted to build ‘large-scale’ shopping centres (GVD) bigger than 1500 metres, on the location of urban nodes (stedelijke knooppunten), and only if the province gives approval. However, most of the municipalities did not want competition with their own town centres so the development of big shopping centres is still quite limited. Because residential areas have been built further away from the town centres and in lower densities the inhabitants have become more car dependent. Therefore subsidiary centres have seen the light. These are big centres located along public transport nodes and contain mostly big retailers (furniture shops, for instance) and are tightly planned according to market demands. Because that town centres are attracting people for their residential activities the subsidiary centres are not a threat.

Policy for rural areas

In the Netherlands governments always have had relatively strong policy for rural areas. And as mentioned above land always has to be used, which also counts for rural land – whether it was for agricultural use or for recreation. But what happened and what is left from this rural landscape? What sort of policies do the Dutch have for rural areas?

Because the surface of the Netherlands, which is relatively small compared to other countries – commuting distances between town and countryside and the cities are relatively short – ‘the whole country is a development location’ (Needham, 2007: 77). Given this situation whereby building land has a higher value than agricultural land, the temptation for farmers to sell the land for development is often relevant. Therefore, it is not strange that there is a long tradition of policy making for rural areas.

The policies for rural areas are often related to the function of the rural landscape, which is often being used in different ways: for ‘public utilities’ (infrastructure, flooding areas for water), as a playground for urbanities (the inhabitants from the cities use the rural landscape for recreation), as a ‘historical park’ full of monuments, or as a landscape with ‘traditional’ natural functions with a rich biodiversity (mostly natural reserves) – dedicated as ‘cultivated landscape’. It may be clear that a location cannot fulfil all of those functions and that these often conflict with each other, which also counts for the related policies for those functions. Some of these policies are relevant for the project, and are being explained below.

As mentioned above the Green Heart can be seen as the most important spatial policy concept of Dutch planning (fig. A.3). Nevertheless, the concept always remained relatively abstract, the national government never really succeeded in elaborating the concept into specific policies for preservation of the area (Akac et al., 2005, Kooij, 2006). In the nineties of the twentieth century, and especially with the ‘National Spatial
Fig. 2.3 Supposed contours of the green heart

Spatial qualities should be more imbedded in regional visions – did the provincial government do this?

But there are more rural policies worth mentioning. For the protection of the biodiversity policies for nature are being introduced. Four types of protected areas can be distinguished: nature reserves (natuurbeschermingswetgebieden), areas under the European policy 'Natura 2000' (Containing the European bird directive and the European habitat directive) and areas under the national policy for an 'ecological main structure' (EHS) – some of these areas overlap. The protection of the areas can be done in three different ways:

- acquiring the land and putting them into the ownership of a specialist organization (the National Forestry Agency, the Dutch Association for the Conservation of Natural monuments, or the provincial nature management agencies);
- leaving the land in private ownership (usually farmers);
- through normal land use planning regulations.

Rural areas can also be protected from urban development because of a great historical value. Therefore policies for landscape have been introduced. One of the policies is called 'Belvedere', which is applied for areas from some of which are included in the 'UNESCO World Heritage List'. Rural areas have been designated as 'national landscapes', 'provincial landscapes' and as 'national parks'. Also some of the areas function as 'green buffers' which prevent region between towns and cities from urban sprawl but preserve opportunities for open-air recreation instead.

As mentioned earlier towns and villages want to grow in terms of housing and employment (according to natural growth of the local population) and are allowed to do so (by national policy – 'National Spatial Strategy'). In addition these areas are confronted with a moving out of local services and facilities (the school, the bakery) and a changing social composition (elderly people from the cities move to countryside). Policies for the visibility of rural areas have been introduced for that.

Because of the difficulties to deal with all the separate policies for separate land uses which has led to 'messiness and fragmentation' the need for integrated visions for the rural landscape where increasing. Therefore integrated rural development has seen the light. The rural areas should be planned in an integrated way. Mostly provinces work according to such a planning policy for rural areas.

In terms of accessibility, mobility and traffic it might be argued that the Netherlands is a country of commuters. Because of its small size but with a high concentration of nodes (in the west) – located within small distances from each other – people often move from A to B, between work and living. Therefore the locations of houses and workplaces are dispersed. In his work Needham (2007) comes up with the following question which gives a good direction, concentrating on the relationship between land use planning and traffic: ‘...what should be the content of land use policy, so that people are able to make the trips they want to, without causing the problems (...) as noise and pollution from traffic, congestions and traffic jams, crowded trains together with a vulnerable public transport network, a landscape cut up by motorways and railway lines?...’ Some policies are worth to mention:

- ‘Fairly intensive development’ (concentration of development) with fair distances for trips on foot, by bike or by bus.
- ‘Policy for intensive development’ which did not work out because most Dutch cities have been built in low densities.
- ‘ABC-location policy’ which is a policy that defines different types of workplaces in order to reduce transport activities – (A) near to high quality public transport, (B) accessible by public transport and by car, and (C) accessible only by car. The types of accessibility where interlinked to types of land use and function with (A) as the most intensively used, dedicated to offices and with (C) as the less intensively used, and dedicated to industry. However this policy failed to succeed.
- ‘TOD’ (transit oriented development) which is a policy that is to intensify development around nodes of public transport (together with a higher frequency and capacity of the public transport network).

In the course of time the impact of the European Union has become bigger. EU policies have become more influential on the way the land is used in the Netherlands. As has been said above the ‘Natura 2000’ has been a very influential policy, but also air quality guidelines – quite often Dutch planning authorities seem to struggle with such policies.
Spatial planning has been addressed by its purpose and by the concepts and policies which are created to steer the land-use, or spatial development. Such concepts and policies are developed by institutions, which are legally authorized by law to operate within the daily practice of spatial planning. Actors involved in spatial planning can be public bodies, institutions, governments or their departments of spatial planning (spatial planning agencies) but also semi-public bodies, such as the transport authorities as NS or ProRail.

A2.1 The planning agencies

In the Netherlands there are three tiers of governance (national, provincial and municipalities), each with its own responsibilities and statutory powers (for making statutory plans) (fig. A.4). In terms of spatial planning the term ‘planning agency’ is being used. In his work Needham describes planning agencies as followed: ‘The term ‘planning agency’ is used to refer to a body of the public administration which has the statutory task and responsibility of preparing and executing land-use policy for its area, and which has been given statutory powers to do that.’ (Needham, 2007: 122) (drawing on Alexander & Faludi, 1996).

The powers and responsibilities are for the planning agencies are determined by law, defined by:

- **National planning agency**: Dutch Constitution (article 21)
- **Provincial planning agencies**: Act regulating municipalities (article 108)
- **Municipal planning agencies**: Act regulating provinces (article 105)

Within each layer of government various organs have a role in spatial planning. It is important to understand these relationships because of the legitimacy of large development projects, which also counts for the case study area. Within the:

- **Municipality** the ‘municipal council’ (elected representatives) has the responsibility for the general content of the policy and the ‘executive board’ (mayor and aldermen) for working out that policy and implementing
- **Provincial council** the ‘Provincial Council’ (elected representatives and the ‘Provincial Executive’ (the Crown’s Commissioner and the deputies) are working according the same policy of ‘dualism’. For provinces too it is not obliged by law to have a department of spatial planning. The role of the province can be considered very important since the national authority is transferring its powers to lower authorities and is less concerned with spatial planning. The provincial government can be seen as the intermediate authority, dealing with regional issues (e.g. infrastructure, adjustment of spatial functions) which are not important enough for national government, but are too complex for municipal government because such issues cross-borders and because of mutual competition between municipalities. The provincial government therefore might play a very important role at the case study. The roles of the provincial authority are explained further in this thesis.

- **National government** the ‘cabinet’ (executive body with members chosen by the political parties in the majority) and the Parliament – the Second Chamber (directly elected representatives) and the First Chamber (indirectly elected representatives) have the responsibility for the general content of the policy. The ‘Ministries’ (civil servants) work out the policy (and implement it). The ministry which deals with spatial planning was called ‘VROM’ – Volksvliëning, Ruimtelijke Ordening en Milieubeheer (Ministry of Housing, Spatial Planning and Environmental Policy) but this has recently been changed into the ‘Ministerie van Infrastructuur en Milieu’ (Ministry of Infrastructure and Environment).

It often happens that the **executive body** decides formally to make a statutory plan under the guidance of someone of the executive body: the alderman (municipality), the deputy (province) or the minister (national government). When finished the (draft) plans are waiting for provisional approval by the elected representatives. The plan will become legally valid if the elected representatives decide to adopt the plan. The public may have any objections (a formal appeal) against the adoption of such plans.

Next to the planning agencies with statutory powers there are many more public and semi-public bodies involved in spatial planning, but they do not have a formal responsibility for spatial planning.

A2.2 The ‘regional gap’

In the Netherlands there is no public administration at the ‘regional level’. The country is too small for a permanent fourth level of government. The problems here are arising because ‘municipalities are often too small to tackle problems as public transport, transport planning, housing and local economic policy (...) provinces do not have a strong tradition of decisive power.’ (Needham, 2007: 125). Another important issue is that municipalities are often jealous of their autonomy and refuse to give up any powers to the provinces. (Needham, 2007: 125). It might be argued however, that the role of the provincial government in addressing regional issues is changing – they are ought to take more responsibility and to play a more serious role in this, which is explained further in this thesis.
A2 The public bodies involved in spatial planning

**Public bodies**
The water boards are public bodies – the oldest bodies with public powers in the Netherlands, older than any other body of public administration – in the sense that they are responsible and accountable for water management and thereby, should serve the interest of the public. These water boards have a long tradition in water management and have an indirect influence on spatial planning because they are able by law to make water management plans, which statutory planning agencies have to take into account when making their own spatial plans. Therefore water boards are an important player if it comes to spatial planning. The areas for which the water boards are responsible for often do not correlate with the municipal and even provincial jurisdictions (cross-border). This sometimes brings forward difficulties in arrangements and the making of new spatial plans.

**Semi-public bodies**
Important semi-public bodies can be found in the public transport sector. The biggest railway company in the Netherlands are the NS ‘Nationale Spoorwegen’ (National Railway lines) – a semi-public firm. They are public in the sense that they have a similar responsibility (they are responsible and accountable for the service and facilitation of public transport and thereby serve the interest of the public. They are semi-public because they have to make profits since they have been privatized by the national government. The national government still holds shares in the company. During the privatization the national railway company has been split up in two firms each with their own responsibilities: ProRail (which is responsible for the railway lines), and the NS (which facilitates the public transport by making use of these lines). Within this construction both companies have to cooperate. Together they are responsible to everything what has to do with railway transport planning. Thereby they have a significant (in)direct influence on spatial planning. Direct because together they have a lot of land property (along railway lines) – land ownership gives a lot of rights in terms of spatial planning. Because the case study concerns a transport infrastructure project (railway line) it is expected that such semi-public bodies as NS and ProRail played a significant role in decision-making around the line.

A2.3 Public and semi-public bodies

In the Netherlands there are (other) public and semi-public bodies which do not have the responsibility for spatial planning but do have a significant influence on that planning. Some of these bodies are mentioned below:

**National**

**Provincial**

**Regional**

**Municipal**

A3 The power of the planning instruments

The bodies of public administration (not the semi-public bodies) have certain responsibilities in terms of spatial planning. To carry out those responsibilities they are allowed to use instruments – plans or documents – by law. It might be argued that these instruments define to a large extent the legal powers of an authority – the legal resources. But how much power do the agencies have? The differences between these plans are described in this paragraph.

A3.1 Statutory plans

Spatial plans which are regulated in the Spatial Planning Act (Wet op de ruimtelijke ordening – WRO) are called statutory plans. The planning agencies are allowed to use planning instruments (statutory plans) according to this law. Since 2008 the law has been replaced by the New Spatial Planning Act (Wet ruimtelijke ordening – Wro). With the introduction of the Wro planning agencies have seen new planning instruments appearing and disappearing. Thereby the power of a planning agency increased or decreased. The trend is that higher authorities (planning agencies on the provincial and national level) get more power due of these changes in the instruments they are allowed to use, especially if it comes to the implementation of projects (fig. A.5). The changes will be mentioned also (former plans are grey coloured, new replacing plans are black coloured). First the total plans (comprehensive, containing several subjects or sectors) are described, followed by the plans with a specific purpose (as the name says, with one subject such as water or infrastructure). The latter will not be explained into detail.

**Municipal plans**

- **Municipal land-use plan (bestemmingsplan):** A municipal land use plan is extremely powerful because the municipality (before 2008) is the only one who can make such plans. The land use plans are legally binding and is the only type of plan where a building permit can be issued. This makes that municipalities (where) in the exclusive position to influence land use directly (and thereby planning agencies on higher levels only had indirect influence on land use, because only the municipality was allowed to make a land use plan). Municipalities want full control so they have made plans which cover their whole jurisdiction. Besides guidelines for allocation, land use plans contain a lot of regulations (such as building regulations).

Since 2008 the municipal land use plan is still in charge but currently a serious debate is going on to replace the municipal structure plan by a so called ‘environmental law’ (omgevingswet) – complex integration of various laws that concern spatial planning – which is more flexible (gives more possibilities especially in terms of regeneration), but is appearing to be weaker than the current land use plan. Hereby the trend of a decreasing power for the lower authorities and an increasing power for the higher authorities will be continued.

- **Municipal structure plan (structuurplan):** For a municipality it is not obligatory to make a structure plan. A structure plan is used by the municipality to set out the desired future development and could be seen as a framework for the investment plans of the municipality, and as a framework for coordination of various sector plans as housing, transport and employment. In terms of power the municipal structure plan is very weak because it does not contain a lot of restrictions.

Since 2008 the municipal structure plan has been replaced by a so called ‘municipal structure vision’. The ‘independent project procedure’ has been replaced by a ‘project plan’.
A3 The power of the planning instruments

- Municipal structure vision (structuurvisie): According to article 124 of the Constitution municipalities are now obliged to make a structure vision for their jurisdiction. The differences between a structure plan and a structure vision on municipal level are minimal. The structure visions are indicative just like the structure plans but give more direction towards the structure of financing.

- Project plan (projectplan): Where the municipality was allowed to make exceptions (or where the land use plan could be changed afterwards) for its own land use plan for important projects that did not stroke with the latter, they could make use of an ‘independent project procedure’. The ‘project plan’ (which does not seem to be different) will replace this. The policy is extremely powerful because it is able to break with the land use plan. Since 2010, the project plans are incorporated in the so called ‘Wabo’ regulation (Wet algemene bepalingen omgevingsrecht).

Provincial plans

- Provincial structure plan (streekplan): The planning agencies on provincial level were expected to make similar structure plans (as municipalities do), with the same purpose of setting out the desired future development of the area. However, provincial structural plans are heavier than the structure plans of the municipality because they are ‘self-binding’: ‘it binds the province to act in accordance with its own plan, but it does not bind others (...) with its structure plan, the province regulates how it will give or withhold approval’. (in relation to the municipal land use plan) (Needham, 2007: 134).

Since 2008 the instruments of the provinces have been extended. The provincial structure plan has been replaced by the ‘provincial structure vision’. In addition, the province is now allowed to make to make ‘provincial imposed land use plan’ and a ‘project plan’.

- Provincial structure vision (structuurvisie): For here the same counts as for the municipalities: the structure vision replaced the structure plan, but than on provincial level. The difference is that a provincial structure plan had more legal power than the municipal structure plan. The provincial structure vision seems to be less restrictive than the provincial structure plan.

- Provincial imposed land-use plan (inpassingsplan): The power of the provinces in spatial planning has increased since they are able to make the land use plans. This makes that provinces are able to issue building permits too, whereas formerly only municipalities were allowed to do so. Provinces are able now to influence the land use directly.

- Project plan (Wabo): With the introduction of the project plan for municipalities the power of the provinces increased even more. Also here counts that where first only the municipality was allowed to make (some kind of) project plan, now also the province is allowed to do so. When a project plan on provincial level is being made, a municipality has no possibility anymore to block or delay the proposed project.

National plans

- A national spatial planning key decision – PKB (Planologische Kernbeslissing): The spatial planning policy of the national government (was) expressed in several ways (and approved according to the same formal procedure) – the national spatial key decision (PKB). A national policy document (nota) is expression of this policy worth to mention. This could be seen as a national spatial
plan containing projects of national importance. In a key decision says what the national government intends to do, and how this needs to be implemented. A key decision also helps in the coordination of the actions of various national government departments. In the form of a project of national importance a key decision has direct consequences for the provinces and municipalities concerned.

Since 2008 the PKB’s have been replaced by the ‘national structure vision’ and the ‘project of national importance’ by the ‘project plan’. Together with the provinces the national planning agency is now allowed to make a land use plan too: a ‘national imposed land use plan’.

- National structure vision (structuurvisie): The national structure vision seems to have the most from the ‘national policy document (nota)’ – which is one of the expressions of the PKB’s – as explained above. The vision contains the areas with national importance which should grow in future.

- National imposed land use plan (inpassingsplan): Also the national planning agency is now allowed to make a land use plan like municipalities and provinces. Hereby they have appropriated similar powers for land use planning.

- Project plan (Wabo): Project plans made by the national government are similar to the ‘projects of national importance’ now have been replaced. Also here counts when a project plan on national level is being made, neither the municipality nor province has no possibility anymore to block or delay the proposed project.

### Plans with a specific purpose

- National plans for line infrastructure (trajectnota’s) / MIRT: The national government has the responsibility for line infrastructure (national roads, railways, canals and other waterways). The Trajectory Act (tracéwet) was being used for these types of infrastructural projects. Nowadays the national government presents a ‘multiple year program of infrastructure and transport’ (Meerjarenprogramma Infrastructuur, Ruimte en Transport – MIRT) every year. Projects within this program are worked out together with regional authorities and get national or regional priority. In addition, financial arrangements (often with subsidies from higher governments) between the concerned levels of authority are made for the implementation of those plans. It is expected that such policies have a major influence on projects such as: within the case study, because involved municipalities have very little to say if an infrastructural project becomes MIRT-labelled (when it gets priority of national government).

- Water: Both the planning agencies and other public bodies – the water boards as explained earlier – make water management plans for the country, for parts of the country, regional or local. Some of them made by public bodies: ‘National water management plans’ (Nota Waterhuishouding), ‘water management plan’ (waterhuishoudingsplan), ‘management plan for river basin’ (strooimgebiedbeheersplan), ‘management for parts of river basin’ (deelstrooimgebiedvisies), ‘management of rivers and deltas with national responsibility’ (beheersplannen rijkswateren), local water management plans. Some of them made by the water authorities: ‘management plans’ (waterbeheersplannen), ‘plans for managing water defence works’ (waterkeringsbeheersplannen).

- Land re-adjustment schemes (landinrichtingsplannen): The municipalities are the only planning authorities which are allowed to make ‘land re-adjustment schemes’ (landinrichtingsplannen). This happens for rural areas. Where a municipal land-use plan prevents the land from change (passive), the land-re-adjustment schemes are made to change the land use in rural areas (pro-active). The law for the land re-adjustment recently changed into ‘Wet Inrichting Landelijk Gebied’ – WILG.

### A.3 The power of the planning instruments

#### A.3.2 Less spatial policies, more legal power

In general terms, basing on the change of policies a trend can be seen that (despite of) national government is having less policies and less concern for spatial organization considering the ‘whole’ area of the Netherlands (except for some areas of national priority). Contrarily, another trend can be noticed that due of these instrumental changes (of planning instruments, since the introduction of the new planning law in 2008 and regarding the ongoing changes in legal reforms within public management) higher authorities obtain more legal powers (with the national government in particular) – they now have the authority to develop land-use plans, where originally only municipalities where allowed to do so. This tendency of higher authorities obtaining more legal powers but simultaneously having less spatial concern by retreatment of policies and concepts does not sound very logical, it even can be argued if this makes sense. Nevertheless, a reason for this development might be found in higher governments wanting to have more powers to guarantee the implementation of (infrastructure) projects (such as the national freeways) with a specific purpose and with ‘national priority’. Also for the case study area this shift in powers and policies regarding infrastructure projects might be influential.

#### A.3.3 Non statutory plans

Next to all the statutory plans which have to be made according to law, there are many other plans that are being made by all planning authorities but which are regulated by statute law. This can be plans for such as: flying kites, influencing public opinion, attracting investors.
Intergovernmental relations

A4. Spatial planning in the Netherlands

An indication has been given of the power which different planning instruments (spatial plans) give to the planning agencies and other public bodies. However, the relations between those still have been undescribed. Next to these ‘vertical’ relations between different levels of government there are also ‘horizontal’ relations between different policies, between different bodies and different stakeholders running and operating parallel to each other. A distinction between coordination and cooperation can be made here: the word coordination can be used for the organization of policies and cooperation can be used for process of working together.

The relations will not be described in detail here; appropriate models will be discussed in the theoretical framework, and practices in the empirical part of the thesis (case study). For the region at the case study area it would also be interesting to figure out what the history of ‘coordination’ is in the area – if there is a culture of policy alignment and of working together. A study on the degrees and distinctions of operational forms or policy adjustment (the extent to which policies are integrated) in order to assess the case study, is explained in chapter (2).

A4.1 The ‘polder model’

Before the ways of coordination and cooperation can be explained the ‘polder model’ needs to be mentioned. Internationally the Netherlands always have been famous for this model of consultation. The polder model draws its name for the fact that the Dutch have a long tradition in managing polders. The water boards (as explained earlier) where the first public bodies supported by civil society, imposed with the task to reach consensus out of different interests for one bigger purpose: preventing the land from flooding (which was the shared public interest).

This process of consultation instead of fighting out a conflict has been embedded in Dutch society. It often has been the purpose to ‘get win-win-situations’ with compromises between concerned participants to achieve that. This also has been the case in terms of spatial planning. With the polder model, it often takes a lot of time and effort to achieve a broad level of support (consensus building). However, perhaps due of rapid changes in economy, society and politics it can be argued if this polder model is still relevant, especially in terms of spatial planning. In the analytical part of the thesis, within the case study area this debate will pass the revue again.

A4.2 Coordination

The process of spatial planning as practiced in the Netherlands works according to several types of coordination (fig. A.6). Three types of coordination can be distinguished: vertical, horizontal, and diagonal coordination (from which the latter can be seen as a combination of the vertical and horizontal coordination).

Vertical coordination

Needham gives a definition for vertical coordination: ‘Vertical coordination refers to the coordination of spatial policy between the various levels of government levels.’ (2007, pp. 142).

The public administration of the Netherlands can be described as a ‘decentralized unitary state’ (gedecentraliseerde eenheidsstaat): hereby the public powers are distributed over three levels of government.

However, this is not a strict hierarchical system where national government determines everything what happens and where lower authorities only carry out the aims of a higher authority. There is a general policy which counts for all tiers of government, but more important are the spatial policies by each of the three tiers of government which are different but are being applied for the same area. Within this structure the municipal government has the strongest policies – they have active planning policies whereby they are taking new initiatives. The highest authority (national government) can always win from lower authorities, but then might expect claims of land owners (which have powerful rights) due of unexpected evaluation of their land when spatial plans of lower authorities are blocked. In general we see that project plans (explained above) give a higher authority the capacity to oblige a lower tier of government to adopt their plan or policy to that. In that sense project plans are extremely powerful and have a high level of implementation.

Consultation between the different tiers of government often took place in the past. However, it might be argued that the climate of the polder model – the willingness for consensus to serve the public interest – is changing and gets more a juridical character with different tiers of government involved in law cases.

Horizontal coordination

Next to vertical coordination Needham also describes horizontal cooperation in his book: ‘Horizontal coordination refers to the coordination between policy sectors within one government level.’ (Needham, 2007: 146). So this refers to the different ‘sectors’ (ministries or departments at one tier of government) which accommodate different ‘faces’. At the lowest tier (the municipal level) the cooperation between the different policies of the different departments is the easiest: the structure of the bodies is not complex because their small scale. At the highest level (the national government) coordination is the most difficult because the large ministries legally operate independently (it has to be said that they often cooperate). On national level there have been alliances (meekoppeliende belangen) between different ministries. Nowadays the trend is that ministries are merged together (to reduce the number of ministries and to stimulate coordination). There are different mechanisms used in practice for horizontal coordination, however these are intended for national level. A more useful mechanism – and relevant for the case study area of this research – is the horizontal coordination between transport and spatial policies; there are various mechanisms to coordinate these policies on different scale levels (international concepts such as Transit Oriented Development (TOD) are quite popular at the moment).

One other mechanism worth mentioning is the formation or regional bodies (on regional level) WGR(+) which have been mentioned above. Here horizontal coordination is difficult because a large number of municipalities have to work together. This practice is often accompanied with vertical coordination between different tiers of government.

Not only coordination between spatial policies is taking place, it also counts for policies of other public bodies like the water policies of the water boards.

‘Diagonal’ coordination

The mechanisms for vertical and horizontal coordination are part of the structure of the planning system. There are also theories on ‘diagonal’ coordination, which implies a combination of horizontal and vertical coordination (this comes close to the regional bodies WGR(+) or regional partnerships from explained above). However, for this type of coordination there are many other expressions – for instance, the type B governance of Hooghe and Marks (2003) and the theory of Transit Oriented Development (TOD) which could also be seen as a model of diagonal coordination because vertically and horizontally participants are involved. These diagonal constructions are often temporary, flexible and used for large projects (which also counts for the case study area of this research – and therefore these constructions could be a serious option). The different expressions of ‘diagonal’ coordination will be discussed in chapter (2).
A4 Intergovernmental relations

A4.3 Cooperative mechanisms

Cooperative mechanisms, it might be argued, refer to the operational structure – of how different bodies (with strong personal interests) work together to realize a project. Such organizational structures can however, represent degrees of coordination or integration as described above (because within such structures often (sectoral) policies need to be aligned). In practice cooperation takes place between different public bodies (planning agency and water boards), between public and semi-public bodies (planning agency and the national railway company), and between public bodies and private actors (public agency and real estate company). Within this thesis the focus is on the latter option of cooperation (between public bodies and private actors) – this understanding might be useful for the case study area; were also semi-public bodies (e.g. ProRail) have been involved in the project. An official model for public-private cooperation practiced in the Netherlands is ‘Public-private partnerships’ (PPP/PPS). When different actors operate within one partnership or alliance it might be regarded as a form of ‘integration’ (chapter 2). In order to introduce such alliances or public-private partnerships the models according to Needham (2007) are explained.

Public-private partnership (PPP/PPS)

In his book Needham (2007) addresses three types of public-private partnerships (pro-active planning) practiced in the Netherlands:

- **Building claim model** (bouwclaimmodel): commercial developers buy land in the plan area and then sell it, voluntarily, to the municipality.

- **Joint-venture model**: a private limited liability company is set up by developers and municipality together (a ‘land development company’ or (grondexploitatiemaatschappij)). The shares in the company are divided between the various partners, sometimes under the condition that the municipality owns less than 50 percent.

In theory different forms and different expressions (or just other names) of PPS, other than the models above can be found. These theories and different conceptual models of PPS as well as models which are closely related to PPS – such as Transit Oriented Development (TOD), wherefore alliances can be made to support this concept – will be discussed in the theoretical framework (chapter 2).
Practices within Dutch spatial planning

The following discussions are recognized from the perspective of this research:

- The shift of power between planning agencies;
- The changing attitude of planning agencies;
- Changing structures of operation;
- Changing development initiatives;
- The insufficient use of the spatial structure.

These discussions are recognized because they might (have) influenced the project together with its organizational structure and the decision-making process at the case study area – at least it the understanding of the current debates helps to place the issues in perspective. The themes are described not only according through the recent changes; historical developments are explored also.

A5.1 The shift of power between planning agencies

The observations on the system of spatial planning in the Netherlands show that there is a strong relation between the different levels of public authority – or in terms of spatial planning; between levels of planning agencies. But relationships between levels of authority change.

A shift of power can be seen in the post-war period after the WWII, when public authorities where facing major challenges such as the increasing demands for housing and infrastructure (Faludi & Van der Valk, 1994; Needham, 2007). These nationwide spatial issues asked for a national approach to spatial planning. Subsequently, the national government took its responsibility, seeing it as a serious task to provide answers. Therefore its national planning agency reinforced power in order to carry out nationwide spatial planning policies on housing and infrastructure. Since then, the role of the national planning agency always remained particularly strong compared to planning agencies at lower levels (province and municipality). The national planning agency always produced clear national policies which have been represented in a series of planning documents that relied on strong spatial principles and concepts (Faludi & Van der Valk, 1994; Van der Valk, 2002).

This does not mean that agencies at lower levels had nothing to say: while spatial policies mainly belonged to the domain of national planning agencies, the legal structure (laws) allowed municipalities a lot of freedom in daily practice of spatial planning. The municipalities were authorized to deal with land-use; they had the capability to use legal instruments (for instance a ‘bestemmingsplan’ or ‘land-use plan’) to act as a merchant in land-use management. This gave municipal planning agencies an extremely powerful position within the daily practice of spatial planning, while at the same time these where the agencies that often acted with the absence of a strong spatial concept or policy (Needham, 2007).

At the beginning of the nineties gradually a discussion started on what role provincial planning agencies should play within spatial planning practice, especially in concern of regional issues. However, real changes in the roles and responsibilities of planning agencies only have taken place in the first decade of the twenty-first century (Mastop, 1991). Due of changes in instruments and legal authority related to spatial planning practice, a shift of power between planning agencies can be noticed. This has resulted in new actor relations and in new responsibilities. The first signals were given by the national planning documents presented by the national planning agency that showed that new national policies were drawing less on the spatial principles and supporting concepts (addressed above). Secondly, the recent reforms in the national law on spatial planning in 2008 (Wet op de Ruimtelijke Ordening ‘WRO’ became the Wet ruimtelijke ordening ‘Wro’) and the continuous reformation process on public has given lower authorities more power and responsibility in daily practice of spatial planning. Especially the provincial planning agencies are now delegated with tasks that originally were taken into account by national authority (De Gier, 2011). The province is now expected to act as a facilitator of the planning process and is expected to behave as the major composer of spatial planning policies. But also municipal agencies are dedicated with new specific planning tasks from which they do not know how to deal with or have enough capacity for. We might speak here of a devolution of powers which has been put in motion by national government – at this moment the national authority preferably considers areas and projects which are of ‘national importance’ as their portfolio. It might be argued that regarding these high priority projects the national government has appropriated some of the powerful instruments which originally belonged to the exclusive domain of municipal authorities – now both national and provincial planning agencies have the right to use an ‘inpassingsplan’ (land-use plans), with similar legal capacity as a municipal ‘bestemmingsplan’ (land-use plan) (Needham, 2007; 2011; De Gier, 2011).

In general, considering both the changing attitude of the national government’s attitude to spatial planning (obviously represented by their national planning documents) and the reformation process on legal powers (changing laws), it can be stated that spatial planning content (polices, principles and concepts) has become business of lower authorities, while legal power has been obtained and enforced at higher levels of authority (De Gier, 2011). Within this process the provincial government has become the important mediator of both planning process and policy between different levels of authority – especially in the case of regional issues that cross municipal borders.

Regarding several articles that have been written before the very recent developments (Mastop, 1991; Hajer, 2003; Salet, 2006), it might be expected that this process of devolution of powers by national government brings new challenges for lower authorities (at provincial and municipal level). With a retiring national government as a director and facilitator of planning policy and practice lower authorities have become more dependent on each other – spatial planning slightly has become more decentralised. Simultaneously, due of budget cuts on public government, local governments in particular are struggling with the increased pressure on their daily activities (Zellstra, 2012; VNG, 2012); municipalities have limited capacity to deal with a wider range of tasks. In order to support regional adjustment on urban development and to enhance operation capacity, provincial and municipal governments are dealing with questions whether they should coordinate or integrate. At the moment changes in public management can be seen at local level, where (an increasing number of) municipalities decide to integrate with neighbouring municipalities in order to deal with issues (e.g. youth care, environmental safety, adjustment of housing tasks that are for a regional approach and which are relatively new for them – because earlier this was the task of higher authorities) (Rijksoverheid, 2012c, d). At regional level changes in public management are is expressed in for instance the role of responsibility at provincial governments, who tend to take their role as a director more serious – they try to coordinate participation of municipalities in regional projects that cross municipal borders (Van Boxmeer & Vliegenberg, 2011). If governments are capable to do so in how far they succeed in this need to be figured out with the project of the case study.

Thus, for regional infrastructure projects such as the railway project into the case study area the role of the provincial might be crucial.

- Are they capable to manage or coordinate such project that crosses various municipal borders?
- Do they have the right legal powers or instruments?
A5.2 The changing attitude of planning agencies

In public management governments at all layers are delegated with a wide range of tasks and with associated responsibilities (from social care to education facilities). In order to deal with these sectoral responsibilities governments are subdivided in several departments or ministries. The departments that deal with issues related to spatial planning (the planning agencies) are operating according to legislation – they are expected to regulate spatial developments and facilitate processes that are needed to achieve these developments. Planning agencies participate and try to resolve the social, economic and spatial issues that appear within their jurisdiction and that cross their path – they act proactively (Needham, 2007). This role of planning agencies can be seen as the attitude of conformance. But planning agencies are not just facilitators; they make (spatial) policies, operate according to principles and concepts, and initiate projects, driven by ambitions. From this perspective – and within the discourse of current planning theories such as ‘strategic spatial planning’ (Albrechts, 2004; 2006) – agencies are more selective and oriented towards the embedding qualities, whereby they strengthen and benefit from those qualities. In this role the planning agencies operate according to the attitude of performance (reactive). Within this role the agencies can even go a step further by supporting pro-active forms of participation (active participation in planning projects) (Needham, 2007).

The way a public agency should operate according the idea of conformance or performance can be seen as a point of discussion – some theories still argue that planning documents which are less restrictive allow more freedom for the translation of ambitions and concepts. With the recent reforms in the national law on spatial planning in 2008 (Wet op de Ruimtelijke Ordening ‘WRO’ became the Wet ruimtelijke ordening ‘Wro’), agencies at all levels of governance are now to authorized to develop a structure vision planning document (structurevision) for their jurisdiction. The structure plan can be seen as a planning document that relies on a clear future vision and that represents the ambitions of an agency, whether or not, based on interests of local and regional (private or civil) actors. Regarding the introduction of this instrument, agencies are supposed to have a vision on the way their

villages, towns, cities or region should develop. The agencies are expected to think about their future (orientation) and to act according to their ambitions. Therefore they have to be strategic and selective, think in terms of qualities and potentials, and need strong concepts and visions to encourage potential stakeholders. Thus, where public authorities usually work according to the principle of conformance (with their land-use plans) these current developments mostly refer to the profile of performance.

In that respect, it can be argued that the focus of public authorities (their agencies) on the aspect of performance has become more important. It can be expected that, together with the trend of the devaluation of powers of national government – and the weakening national principles and concepts on spatial planning (Zonneweld, 2012) – lower authorities such as provincial and municipal governments are more dependent to have a story and vision for their region. Especially for provincial agencies (and municipalities together) the question arises in how they want to strengthen their regions from a qualitative point of view. The provincial agencies need to have strong concepts and stories for that – and for regional projects that support regional development.

It can be seen that regional infrastructure projects – and especially railway corridors cross transit nodes of other public transport lines – ask for strong (and selective) visions for the infrastructure itself but also for the spatial and programmatic developments around the corridors (Tan & Bertolini, 2010). It can be questioned if involved public authorities have enough experience or expertise and the right knowledge for using their instruments of performance (e.g. structure vision documents) to facilitate such projects.

- Are these instruments appropriate?
- Do the public agencies have the right attitude to deal with their new roles?
the possibility where projects are initiated and funded by individual citizens, civil committees and NGO’s and whereby projects are funded by the ‘crowd’ (e.g. crowdfunding) (Howe, 2006; Rubinton, 2011; Van de Laar, 2012).

During the twentieth century the public structure has been most common. It has been since the 90’s that the structure of public-private partnerships gained serious interest (in for instance, area development – the VINEX-locations) (Franzen & Luijten, 2011). PPP’s are still relatively popular – although applied on small scale for specific projects as town halls, because in these times where the crisis hits the market it is hard to find investors for large projects (infrastructure) that want to bear (shared) risks. Nevertheless, regarding to some discussions PPP’s are the solution of this moment (to manage complex projects), in a situation of economic crisis and of public authorities loosing capacity by decreasing human and financial resources (Muskee, 2011). Thus, when in these times private investors can be found who are seriously interested it is still an interesting possibility to involve them in large urban projects such as infrastructure which would otherwise not have been realized because of insufficient adequate resources – it can be seen that planning agencies are still exploring the possibilities for this alternative and beyond (more adaptive and flexible investment strategies) (Luijten, 2010). Anyhow such models are still young – it is just one of the possible solutions (if there is one).

Another structure which has been coming up last years is the one that is based on the initiatives of the crowd. These are highly dynamic structures and hard to predict. It can be seen that such initiatives are often related to local projects and initiatives (Van de Laar, 2012). Up to the present day it stays unclear whether the crowd is interesting for support and development of larger projects – in particular for regional projects this seems to be very unlikely. However, this development plays a big role in the trend of the movement where projects are initiated from bottom-up instead of top-down.

In general, it might be stated that organizational and financial structures around large spatial infrastructure projects have shifted from a traditional public structure with only public actors participating, to more complex structures such as public-private partnerships, that are open to active participation of actors or stakeholders in mixed diversities, not only public, but also semi-public, private, or NGO’s and civil committees. Within this time of crisis, where long-term visions on large projects cannot be realized without any short-term visions, represent the need for flexible investment strategies instead of fixed financial models that where common.

- But is this happening in practice?
- Do involved stakeholders have the expertise to this?

A5.4 Changing development initiatives

As explained above, the Dutch legal system of spatial planning is divided over three layers of public management (national, provincial and municipal). It has also been mentioned that mutual relations of legal capacity may change between the public authorities. But there are also movements in who initiates development proposals; who takes the initiative?

Whether a planning process of a project can be seen as top-down or bottom-up, might to a large extent depend on the level on which the initiative is taken and the way in how the process evolved (who became involved in the project) (Van Bourneer, 2011). Thus, it might be argued that the nature (type or scale) of a project plays a role in this. In that respect a rough distinction can be made between projects of larger and of smaller scale. It might be obvious to think that large projects are the result of initiatives that have been taken at higher levels of authority. However, this is not always the case, it is not necessarily that large projects are initiated at higher levels of authority – in the Netherlands projects related to area development or infrastructure are often initiated by an interest of local governments that have strong ambitions and which have succeeded to bring that interest at the agenda of a higher authority, in order to get the project subsidized (Province Zuid-Holland, 2012; Rijksoverheid, 2011). The same counts for small projects that have strong interest of higher authorities – because of strong national policies the national agencies had strong impact on some specific local projects, such as the implementation of community or neighbourhood centres. However, because of national government which is less concerned with local issues (except for their key areas with national priority) similar situations are not likely anymore.

The dialogue between top-down and bottom-up is not limited to layers of public governance with legal authority. Generally, the term bottom-up is used in planning theory that is concerned with Third World or developing countries (Graham & Marvin, 2001), with a presence of strongly fragmented cities that are characterized by physical separation of slums and primary networks, and that run on formal and informal economies (Hart, 2000; Esquirol, 2010). It is argued that in such cases, where public governance does concern about the informal and the slums, plans need to be taken bottom-up, outside the rules and games of the government and with help from for instance, NGO’s. For the dialogue of top-down and bottom-up processes (integrated) strategies have been developed (D’Haer et al, 1998; Fraser et al., 2006).

In the Netherlands, similar developments can be noticed (but of another scale) (De Graaf & Kleiman, 2012; Van den Ende, 2012). There is a visible trend in local initiatives that are undertaken by local citizens, civil committees or NGO’s outside or with less involvement of planning agencies. Most important is that the initiatives have been started by the people and not by the authorities. Apparently people are unsatisfied with neither the decreasing level of commitment nor decisions of public authority, and develop projects by themselves driven by a collective or of individual ambition. It might be argued that also the financial and economic crisis play a role in this, where large projects with long development paths cannot be completed or are delayed, and are in need for short term solutions – people do not accept authority of national or local government. In a way these are informal processes that most often start at the very local level and which develop alongside the legal structure of public agencies.

A5.5 The insufficient use of the spatial structure

It might be clear that the Dutch system of spatial planning is divided in a vertical structure of multi-layered governance, where every planning agency makes its own policies (often in collaboration with other tiers). In general, this vertical structure allows higher authorities to supervise lower levels of governance in making their plans and policies. But as previously mentioned, local developments appeared to be relatively powerful because they have been able to use planning instruments (the land-use plans) where agencies at higher levels where not authorized to, before the introduction of the new national law on spatial planning (Wro) in 2008. Thus, municipal planning agencies had strong legal capacity to support their policies. In addition, the municipalities are also able to buy agricultural or open land. Regarding both resources, it gives municipalities the possibility to buy land and to allocate other functions to that land by changing their land-use plans. Hereby the land value of the lots increases (e.g. the value of land that is allocated to offices is higher compared to agricultural land). This process made municipalities act as real-estate companies, gaining profits by using their legal
capacity to control the rules of the game and using their financial capacity to operate actively in area development (Luijten, 2012a; 2012b). The allocation of land became a profitable process for municipalities and an interesting method to strengthen their financial resources.

In general, local authorities want to strengthen their economic position and encourage employment. It might be argued that mutual competition between municipalities played an important role in this, with lower authorities wanting to be more attractive than others. The active attitude of lower authorities to the allocation of land has resulted in an oversupply of allocated land and property, with office and industrial space in particular – the sum of all these developments transcended the demand for offices and industrial locations (Van der Krabben & Van Dinteren, 2010).

It also might be stated that oversupply of allocated land and property seems to be the result of undesired market outcomes (Van der Krabben & Van Dinteren, 2010; De Volkskrant, 2012). Because the public sector dominates the market the number of suppliers is limited. On top of that all municipalities want to attract the same commercial parties. Combined this leads to a negative spin-off for value. These outcomes have mainly evolved out of local (municipal) policies on spatial development – oversupply has become a negative externality of local policies.

Since the start of the twenty-first century a powerful discussion in the Netherlands regards the issue of mono- and oversupply of allocated land and property (Trouw, 2001). This is because the impact of these policies can be seen in geographical terms; it can be understood that not only national policies have had strong influence on the spatial patterns within the Netherlands, but these (dispersed and fragmented) patterns are also the result of the daily practice of planning at the very local level. Thus, it might be stated that oversupply of spatial property contributes to urban sprawl (Van der Krabben & Van Dinteren, 2010).

Another negative side effect, in terms of environmental quality, is that urban commercial sites tend to deteriorate rapidly because business removal to more attractive new sites is relatively cheap. Thus municipalities face the growing problem of brownfield land. When it comes to solutions for existing deteriorated sites – no-go areas with a collection of dead offices – the costs of these externalities may be internalized by the use of models of compensation; for instance ‘transfer development rights’ (TOR) (Van der Krabben & Van Dinteren, 2010; Janssen-Jansen, 2010). For the time being TOR would be an adjustment to the institutional order (municipalities).

Another approach can be seen in the regional coordination of planning, which has the capacity to counter oversupply and to avoid the negative environmental externalities and low-quality sites in future. In this approach a restructuring institutional order is proposed (Van der Krabben & Van Dinteren, 2010). However, in the Netherlands there seems to be no planning mechanism yet which deals with this undesired spin off (Olden, 2010; ANP, 2012; PropertyNL, 2012; RTV Rijnmond, 2012).

Given these tendencies, it would be interesting to look what this means in terms of regional infrastructure projects, what are the spatial and programmatic implications and what coordination is needed to achieve adjustment on spatial functions in the region?

As might have become clear this study (especially on the current practices and tendencies within spatial planning) also has brought forward new questions which might play a role regarding regional transport infrastructure planning. These additional questions can be seen as some of the conditions for the later stages of this research and the supported the preparations of the interviews as part of the empirical research. The most relevant questions are summarized below:

- At the case study area the RGL-project, ‘does an appeal’ on three regional partnerships (Holland Rijnland, Midden-Holland, and the Rijnstreekberaad):
  - In how far do these partnerships have played a role in the project and what has been the relation between them (more than just a connection by the RGL)?
  - In how far are the planning agencies (in particular at provincial level) capable to manage or coordinate projects that cross various municipal borders (institutional capacity)?
  - In how far do these agencies have the right legal powers or instruments for doing so (legal resources)?
  - In how far do the involved planning agencies have the right knowledge for using their instruments of performance (e.g. structure vision documents to the support of integral visions at regional level) (governance culture)?

This study has given a better understanding of (the daily practice of) spatial planning in the Netherlands. The planning context has been useful for theoretical (chapter 2) and empirical research on the case study area (chapter 3) – the used spatial concepts, the involved institutions and actors, their authority, their legal instruments and their interdependency or mutual relations. It places regional transport infrastructure projects in perspective (although this research is not a statement but more an observation of the context) and provides conditions for the next stages of the research – with the case study in particular.

- In how far do the involved planning agencies have enough experience or expertise (technically, spatially, institutionally and operationally) to facilitate regional transport infrastructure projects (intellectual resources)?
- In how far do the public agencies have the attitude to deal with their new roles – provincial government: increasing responsibility and accountability on regional projects (governance culture)?
- In how far do the involved stakeholders have enough expertise on flexible (cooperation and funding) strategies and mechanisms for the long and short term to the support of regional infrastructure projects (institutional capacities)?
- What are the spatial and programmatic implications of the RGL project (case study)?
- Do the involved agencies have sufficient policies to avoid mono- or oversupply of functional program (e.g. adjustment of housing, office space, commercial functions and industry) regarding the increasing mutual dependency by integral transport planning (governance culture)?
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## Table: Financial distribution of RGL project agreement, linked to spatial development

<table>
<thead>
<tr>
<th>Stops</th>
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<tr>
<td></td>
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### Table:

<p>|  | Kantoor | Aantal woningen | Commercieel | Bedrijven | Voorz. | Kantoor | Woningen | Commercieel | Bedrijven | Voorz. | Maximum | Per gem | % Gemeente | Verantwoordel | Verantwoording |
|---|---------|-----------------|-------------|-----------|--------|---------|----------|-------------|-----------|--------|---------|---------|---------|-------------|--------------|----------------|
| 1 | Gouda Centraal | 40.000 | 460 | 12.000 | 6.800 | 2.000.000 | 800.000 | 900.000 | 85.000 | 3.765.000 | 8.090.000 | 10.0% | Gouda | 6.47 |
| 2 | Gouda Gouwe Poort | 45.000 | 4.500 | 2.250.000 | |
| 3 | Gouda Westergouwe | 5.000 | 2.600 | 3.000 | 2.000 | 280.000 | 6.500.000 | 235.000 | 20.000 | 8.265.000 | 8.870.000 | 15.0% | Gouda | 7.07 |
| 4 | Waddinxveen Commercieel | 300 | 25.000 | 10.000 | 1.575.000 | 100.000 | 2.575.000 | |
| 5 | Waddinxveen Centraal | 1.000 | |
| 6 | Waddinxveen Noord | 1.200 | 2.400.000 | |
| 7 | Zoetermeer/Smitweg | 1.400 | 2.400.000 | |
| 8 | Zoetermeer | 1.950.000 | |
| 9 | Alphen aan den Rijn | 52.500 | 770 | 7.000 | 78.000 | 2.825.000 | 1.540.000 | 525.000 | 20.000 | 4.710.000 | |
| 10 | Hazerswoude | 5.000 | 1.500 | 1.000 | 2.000 | 2.500.000 | 3.000.000 | 250.000 | 3.800.000 | 3.500.000 | 8.3% | Rijswoude | 8.14 |
| 11 | Zoetermeer Smeetsweg | 6.000 | 176 | 3.000.000 | 352.000 | 3.352.000 | |
| 12 | Zoetermeer Smeetsweg | 3.000.000 | |
| 13 | Leiden Lammerschans (ROC) | 75.000 | 750 | 1.500 | 1.750.000 | 6.250.000 | 18.590.000 | 33.3% | Leiden | 16.96 |
| 14 | Leidsestraat | |
| 15 | Wittevrouwstraat | |
| 16 | Kort Rapenburg | |
| 17 | Kort Rapenburg / Stellingstraat | |
| 18 | Stationplein | |
| 19 | Leiden Loevenhuis | 200.000 | 18.000 | 75.000 | 30.000 | 10.900.000 | 1.125.000 | 1.975.000 | 200.000 | 13.300.000 | 11.2% | Oegstgeest | 3.61 |
| 20 | Transfereum / Ritjefont | 70.000 | 1.000 | 30.000 | 3.500.000 | 2.000.000 | 750.000 | 6.250.000 | 6.250.000 | 55.872.000 | 55.872.000 | 100.0% | |
| Total | 552.500 | 8.988 | 82.000 | 190.000 | 56.000 | 27.825.000 | 17.992.000 | 4.650.000 | 4.825.000 | 580.000 | 55.872.000 | 55.872.000 | 100.0% | 50 |</p>
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Spatial development patterns
Layers of infrastructure linked to spatial development

1st layer national freeways
2nd layer provincial roads
3rd layer main roads
4th layer small roads

Infrastructure & spatial development
The two patterns combined
History of urban developments linked to national planning documents

1800

Housing law (1901)

1900

End of WWII

1945

1st NOTA

1960

2nd NOTA (1966)

1960

3rd NOTA (1974)

1980

4th NOTA (1988)

1990

VINEK (1992)

2000


2010

Strategy Infra & Space (2011)

2020

-1600

1900-1944

1980-1989

1600-1699

1945-1959

1990-1999

1700-1799

1960-1969

2000-2009

1800-1899

1970-1979

2010-2019
Programmatic analysis of main function groups
Programmatic analysis of public facilities

1. Leiden CS
2. ROC Lammenschans
3. Zoeterwoude Meerburg
4. Hazerswoude
5. Alphen a/d Rijn CS
6. Baskoop
7. Baskoop Snijdelwijk
8. Waddinxveen Noord
9. Waddinxveen Centrum
10. Waddinxveen Zuid
11. Gouda CS
Mapping of regional partnerships and relations

C7

Holland Rijnland

- Noordwijkerhout
- Hillegom
- Lisse
- Teylingen
- Kraag en Braassem
- Zee en Zeezone
- Leiden
- Leiderdorp
- Zoeterwoude

Rijnstreekeraad

- Alphen a/d Rijn
- Rijnwoude
- Greenport Boskoop
- Reeveijk
- Bodegraven
- Schoonhoven
- Bergambacht
- Vlist
- Nederlek
- Duderkerk
- Natuur & recreatie-Compagnie Reeuwijkse Plassen

RGL-East

- Midden-Delfland
- Zevenhuizen-Moerkappel
- Nieuwerkerk a/d IJssel
-年第
- Waddinxveen
- Moordrecht
- Gouda

Midden-Holland

- Water Board
- Province of Zuid-Holland
- National government
- Private actors

Milieudienst West-Holland

- Den Haag
- Zoetermeer
- Leidschendam-Voorburg

Private actors

- Water Board
- Province of Zuid-Holland
- National government

Private actors

- Water Board
- Province of Zuid-Holland
- National government

Private actors

- Water Board
- Province of Zuid-Holland
- National government

Private actors
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<td>#D Analysis of municipal plans around transit zones</td>
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Analysis of municipal plans around transit zones

Plannen stationsgebieden Leiden - Alphen a/d Rijn - Gouda

Nieuwekaart van Nederland (bijgewerkt 2009)
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<td>Paragraphs</td>
<td>#E List of interviewees</td>
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</table>
List of interviewees

- prof. ir. Joost Schrijnen – former director department of Spatial Planning at province of South Holland
- Brechtje van Boxmeer MSc – consultant and project manager at Procap
- Henk van der Meij – project manager RGL at project office
- Marc Platell – legal management consultant RGL at Province of South-Holland
- ing. Jos Wassens – senior policy advisor Spatial Planning at Province of South-Holland
- ir. Erik Kiers – program manager Traffic and Transport at regional partnership Holland Rijnland
- drs. Ben Schuttenbeld – department manager Regional Development and managing director Regional Promotion
- ir. Harold van Veen – project manager RGL at ProRail
- Petros Ceelen MSc – policy advisor Spatial Planning at municipality of Zoeterwoude
- John Steegh LLM – former alderman on Infrastructure and Environment at municipality of Leiden
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<td>Paragraphs</td>
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Reflection on the research

Reflection P5
A critical review on the research approach

As part of the graduation programme a personal reflection on the delivered work is needed. I can understand the importance of this; in my opinion this is common because science is not only about having (good) results or about the process, but also about evaluation – in how far did the results meet with the expectations at the start of the research, and what has influenced this?

Personally I see this as part of the learning process; having an understanding of the strengths and weaknesses of the research can be considered as a learning lesson for future work. Thus, I think this reflection is not only useful for the university but also for my own progress. The supposed purpose of this reflection however, is to find an answer on how and why the chosen research approach did work or did not work, and to what extent?

The reflection assignment requires discussion of the following aspects:

- What is the relationship between the project and the wider social context?
- What is the relationship between the theme of the studio and the subject/case study chosen for the research?
- What is the relationship between the methodical line of approach of the studio and the method chosen for the research?
- What is the relationship between research and design?

I would like to highlight the subject of research again, before reflecting on the delivered work. What was the intention and purpose of this research? How can this research be labelled and positioned, since it also involves other disciplines rather than spatial planning only? And what structure or method was considered to achieve the aims of the research?

Multi-disciplinary research approach

The subject of this research started with a fascination in preventing urban sprawl (in developing countries) and to define appropriate strategies that address such undesired developments. Nevertheless, I came to the conclusion that this subject would be too hard to research because it would be difficult to get the right data, especially in foreign countries. It would make more sense to focus on the context of spatial planning in the Netherlands, where it would be easier to get the information that was needed for research. But regarding the Dutch system of spatial planning I reconsidered the subject of research and adjusted this to more current issues within the daily practice of spatial planning, which made the study relevant in social and academic terms. These issues could be found in the devolution process of power from the national planning agency to lower levels of authority, which increased the pressure on regional governance for having spatial policies and instruments to deal with spatial interactions and for avoiding undesired outcomes of spatial planning (such as oversupply or urban sprawl). Especially in terms of large scale urban developments this would play a role. From this perspective, the development of regional transport infrastructure was regarded as a potential case study because such projects often cross various territories of lower governments and require coordination of higher authorities.

However, this subject had as a consequence that other disciplines such as public management came in; an orientation towards governance (the attitude and instruments regarding spatial planning) was required. This has led to a research that not only considers space as a single field of research, but one that acknowledge the relation to other environments. For the research I needed to dive
in theory and subjects of other disciplines that were more related to spatial planning and public management rather than spatial form – in which I was not familiar because of the educational vision of the faculty in teaching architecture and urbanism is more focused on the latter discourse of spatial form. Fortunately, the Department (Spatial planning and strategy) of the Graduate School (Complex cities and regions in transition) gave me room for such an interdisciplinary approach and allowed me to study on my personal fascinations for urban planning. This is also the reason why my second mentor Wil Zonneveld (specialized in governance and urban studies) of OTB is involved.

With the description above some of the criteria for reflection already have been introduced, namely the relationship between the project and the wider social context and the relationship between the theme of the studio and the chosen subject of research.

**The research anticipates on the social context**

In the introduction of the thesis report the rationale for the study has been explained. The subject of research has mainly been chosen because in different type of sources (e.g. newspapers, weblogs and forums) I recognized a debate within the Netherlands on regional governance related to spatial planning – how can regional spatial projects be managed nowadays, and what should be the roles and responsibilities at regional level for doing so? Since I was reading theory regarding this subject, I also noticed that this is not only an issue within the Netherlands, but that this is also a subject of academic relevance – there is a lot of research going on about spatial governance and institutional structures, which are needed to manage projects of regional scale – especially the regional level, because ‘regions become more important than nation-states’. Despite the relevance of the subject, the amount of researches in the Netherlands that deal with the results on the ground (impact of policies and governance on the spatial structure) seemed scarce.

Within the research I also observed several trends within the field of spatial planning in the Netherlands, and tried to figure out how this may influence the subject. The chosen project as case study, the ‘Rijn Gouwe Lijn’ was a highly emerging project well known because of its political and operational constraints. Generally speaking, I think this research is social relevant and draws on recent issues which are of major concern within the system of spatial planning the Netherlands.

**The subject of research belongs to the portfolio of the studio**

The studio, which is called ‘Complex Cities and regions in transition’, is partly organized by the department of ‘Spatial planning and strategy’. As the name already indicates, is that this studio deals with urban and regional spaces which are often characterized by a high complexity of social, economic and institutional processes and networks. These interactions ask for an interdisciplinary view or approach, in order to understand such processes. Within the studio it is therefore not the intention to create a ‘blue-print’ design or fixed masterplan, which is not able to anticipate on these dynamic processes. It is more common to develop flexible strategies, and proposing instruments that facilitate or support these processes. The studio also deals with issues related to governance, which is reflected in the definition of spatial planning. However, regarding the focus of the studio on delivering spatial strategies and dealing with issues of governance I think the subject of this research fits in the scope of the studio – I cannot imagine a studio at the faculty where my research belongs to better than Complex Cities.

Additionally, I have to mention that within the studio there is a lot of knowledge on the relation between governance and urban processes – especially on international and abstract level, because of the international mentor team I guess so – but when it comes to the daily practice of spatial planning in the Netherlands I have noticed that expertise was needed from outside the faculty. The collaboration of the department together with the research institute OTB opened the doors. At OTB and also related the faculty of TBM there is a lot of knowledge regarding theory of public management and of the practice in the Netherlands. Fortunately the collaboration between both institutions made it possible to get the right mentor team for supporting this research (in getting the right information and in mentorship); otherwise it would be a lot more difficult I believe.

**The research methodology**

The subject calls on studies within different disciplines (e.g. analysis on space, institutions and process) which make the research complex and also tricky, because with the involvement of different dimensions it is harder to clarify certain relations. Especially for a master research it is difficult to verify the results because time and instruments are limited for doing a multi-disciplinary or multi-dimensional research. The tricky part can be seen in the threat of too many variables. For instance, how can you prove that findings from dimension A do not influence the results of research at dimension B if this is not desired? Or maybe you want to prove a relation instead, that findings of dimension A are the cause or the result of dimension B. This makes it very important to have a strong methodological concept that supports reasonable argumentation and interpretation of results.

Therefore research and findings are interpreted according to the method of inductive reasoning (as mentioned in the introduction of the thesis report), which means that the research does not derive from theory but starts from a situation of practice (the practice of spatial planning in the Netherlands, together with a case study area as the arena where the issues take place). Reasoning can be seen as describing properties or relations to objects based observation.

In headlines the research contains a theoretical framework and an empirical research. According to the philosophy of inductive reasoning the research starts in the empirical, ‘real world’ where the first observations are done. In relation to the first findings, theoretical models are to be found that deal with the constraints in the real world. Subsequently the issues of the real world can be studied according to the theoretical framework in a case study. This interactive process between the theoretical and real world is also described as critical realism.

Because the subject of research is multi-disciplinary, the verification of findings (from the different dimension) is applied through the use of triangulation across disciplines – using different research methods and studies to verify the information (in this case, across various dimensions). A model for doing so could be found in the TIP-concept (technical, institutional and process) of Koppenjan and Groenewegen (2005). The three dimensions of this model corresponded with the multi-dimensional approach of the research, which required the same paradigms of thinking. Although the layers within the field of research are often intertwined, an attempt is being done to structure the research according to the three dimensions of space (technical), institutions and process.

Also, the research is qualitative and not quantitative – figures and calculations did not have been done. Instead, various interviews for the empirical research of the case study have been done in order to gain realistic data and to verify some of the information.

Despite of the attempt to create a strong methodological framework I have to admit that it remained very difficult to align the results of the research – perhaps the approach was a little too ambitious for a master research. It also gave me difficulties sometimes in staying on the right track – it is easy to get lost with such a comprehensive approach. With the chosen model of research, I possibly did a step too far which was beyond the philosophy of the department for a master thesis. Personally I think that the results of the spatial research could have been better. The results within the institutional dimension are more satisfying, better verified by the interviews with the involved experts and more corresponding with the expectations of the issues at the case study area. However, I am still not sure if the rigid distinction between the dimensions was the most suitable approach for research although I cannot find a clear alternative.
Research and design

Although research by design is often promoted as a research method at the faculty of Architecture, this is not the most common practice within the department of spatial planning and strategy. Also in my research this method is not used, simply because this would not be possible regarding the subject of my research. The relation of research and design should be found elsewhere. In fact the role of design is quite small compared to the share of research. The research is based on a structure which is more common at other scientific institutions, where answers to questions need to be found and some subsequent recommendations are done at the end of research. For this study it means that a clear distinction is made between the research and design instead of combining them in one research for fact finding – the designs rather form the tale of the research.

Thus, the most important element was addressing the problems and find possible alternative suggestions for the issues addressed earlier with the research. These possible alternative suggestions are proposed in (design) recommendations with for instance, a design of a strategy, or an institutional structure or spatial scenario or concept.

As part of the learning lessons of the case study it was the purpose to demonstrate the use of a design from a more collaborative approach. This means that from the perspective of this research a design cannot be interpreted in a classical blueprint plan, as said above, but rather can be considered as a strategy or proposal of how the situation could have been. An attempt is being done to propose a subsequent multi-dimensional design approach which contains a specific design suggestion within every dimension (spatial concept/vision, institutional framework/structure and process or strategy) according to the multi-dimensional TIP-model which has been used for the analysis.

The learning lessons

In headlines I would like to end up with what I have learned from this research:

- How urban planning practice in the Netherlands occurs (which also required a lot of reading of theories on spatial planning practice and public management – subjects which were new to me).
- I have learned a whole new subject; by studying theories such as institutional capacity building, that fall under the discipline of public management.
- Elaboration of concepts that support integrated transport planning such as ‘transit oriented development’ (TOD) or nodal development.
- In terms of research structure and methodology I have learned that the approach was perhaps too ambitious and too comprehensive for a master research. The multi-disciplinary approach made it easy to get lost and hard to verify results.
- I always had pleasure in studying the content of the research and often red new theories with lots of curiosity, despite there were moments during the process that I found difficult – the moments when I lost the overview – which has to do with the ambitious research approach also.
- During the process of research I have improved my English writing style, created a better understanding of how to write a thesis and in developing a research structure which is needed for a scientific study. Also I have gained new experiences in interviewing techniques, by doing several interviews during the research.
If we think of large scale infrastructure projects in the Netherlands that have been developed recently we might come to the conclusion that the number of completed projects in terms of rail infrastructure is very limited. And if someone might ask to give a successful example of a railway line that has been developed last years it is hard to give a positive answer to this. We probably all know the ‘Betuwe’ or the recently completed ‘HSL FRYA’ (both connecting the Netherlands with its neighbouring countries), because of the issues around these projects: the extraordinary budget and their outranging costs in particular. It even might be argued that such projects have put large railway projects in a negative perspective. But also projects of smaller scale have been realized, at regional level: the ‘RandstadRail’ for example – a tramline that connects The Hague and Rotterdam. This project is probably more successful, partly because the line has been built together with its surroundings. Nevertheless, what these projects have in common is that they are defined by high complexity: for instance, they require participation of many different stakeholders and ask for integral planning approaches because these projects interact with their spatial and programmatic environment.

The research of this master thesis draws on some critical issues and major developments, which contribute to a changing practice of spatial planning in the Netherlands: the constraints around integration of infrastructure planning and spatial development, and the related issues of governance at regional level, between provincial and municipal administration also known as the ‘regional gap’. Both issues come together with projects in regional transport infrastructure. Accordingly, the following questions are being raised:

What are the issues of governance between local planning agencies, around the integration of sectoral policies on mobility and land-use and around the implementation of a transport infrastructure project such as the Rijn Gouwe Lijn at regional level?

What planning mechanism can address issues of governance, facilitate integration of policies and support the implementation of such a project?

The Rijn Gouwe Lijn (RGL) is used as a case study to address these issues.