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## Towards area-oriented approaches in infrastructure planning

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# **Towards area-oriented approaches in infrastructure planning**

*Development of national highway networks  
in a local spatial context*

Niels Heeres

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rijksuniversiteit  
groningen

## **Towards area-oriented approaches in infrastructure planning**

Development of national highway networks  
in a local spatial context

### **Proefschrift**

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# Preface

## A challenging trip

The picture on the cover of this book shows the reconstruction of highway A9 near the town of Badhoevedorp in the Netherlands. This project nicely introduces the main theme of this study on area-oriented infrastructure planning: the tension between highways as part of (inter)national transportation networks and the local landscape of the surrounding areas.

The original highway, seen in the centre of the picture, forms a barrier between the northern and southern parts of the town. That means that the highway is not only part of a large scale transport network, it is also a dominant element in the local spatial structure. To enlarge the road's capacity, to get rid of the road's barrier effect and to create opportunities for urban redevelopment, the highway is now being relocated south of the town. The relocation serves the interests of the local municipality, regional authorities and the national ministry of Infrastructure and the Environment. For years these stakeholders have cooperated to combine their interests, as well as those of private stakeholders, in an integrated development plan. The relocated highway can be seen on the right side of the picture. This view emphasizes the infiltrating character that highways can have as they cut through local landscape structures, such as underlying roads, canals and the typical layout of the polder landscape.

The reconstruction of highway A9 is also illustrative for this study in another way. This project is one of the nine cases that this study explores. Project documents have been studied and interviews have been held with people representing the various organizations that were involved in planning these projects. In the period following the completion of the case study, realization of the A9-project has started and the construction works are now nearing completion. Simultaneously to this study.

The picture brings back memories of the research that was undertaken for this study. In April 2013 I cycled from Hoofddorp to Badhoevedorp, following an interview at the municipality's planning office, for a site visit. Since this study is not only about the interactions between the sectors of highways and other land uses that take place in planning offices, but also includes ideas about the actual, functional-spatial interrelatedness of those interests, I wanted to see the impact of the highway on the town with my own eyes. I did that with the other cases as well, but the low temperature and strong headwinds made this 22 kilometer cycling tour through the open polder landscape an especially challenging trip.

Like the cycling trip to Badhoevedorp, the study as a whole may be described as a challenging trip. A trip that has taken a few years more than initially anticipated. A trip that has taken me to corners of the Netherlands, Europe and outside of that. A trip that has taught me a lot about doing research. But above all, a trip that has given me the

opportunity to meet many interesting people in planning practice and research. Consequently, this trip has not only been challenging, it has also been very satisfying.

Although, in the end, I am the one that will be defending this thesis, many people have accompanied and supported me in the production of it.

In the first place, the completion - but also the start - of this study would not have been possible without my supervisors, Jos Arts and Taede Tillema. I would like to thank you for the discussions that we had about the topic and about doing research. Jos, your vision on the topic, your practical and academic knowledge about infrastructure planning and your enthusiasm have been very inspiring. Taede, your analytical view, your research experience and your encouragement to look deeper have helped me a lot. Nevertheless, in the end, I think it is the support from both of you, your trust, and your continued efforts to read and discuss my work (often at 8 AM in Rijkswaterstaat's coffee corner in The Hague) have been most important to me. Thank you very much for that.

Next to my supervisors also Terry van Dijk and Sander Lenferink have contributed to the work in this thesis as co-authors. The conversations that we had about the role of design in infrastructure planning and about the application of value capture mechanisms have greatly enhanced the quality and depth of this study. I would like to thank you for the inspiring discussions that we had on these themes and for your tips about writing.

However, the list of people that contributed to the completion of this study is wider than the people that supported the writing. First of all, my fellow PhD's from the programme 'Duurzame wegen' - Sander, Tim, Catherine, Marije, Jannes, Arjan, Wim and Frits - deserve a great thank you. With great pleasure I think back to the fun and inspiring discussions that we had about infrastructure planning and about doing research. It is a great boost to be surrounded by a group of people who are dealing with comparable challenges. I am delighted to see that the hard work that we all put in to our studies is paying off.

In addition to the Duurzame Wegen-group, I must also thank many others from the Faculty of Spatial Sciences' department of planning. It is an inspiring location to work as a PhD, with a great sense of community among the staff. Therefore, I would also like to thank Ferry, Ward, Stefan, Sarah, Chris, Jessica, Britta, Jasper H., Jasper M., Melanie, Uma, Mohammed, Eduardo, Laksmi, Mita, Taufiq, Rongdi, Yang, Ruiqian, Katharina, Elen and Shuhai for your collegiality and distractions from work - from time to time. But academic cooperation is of course not constrained by the borders of universities. Wendy, Els and Andrew many thanks for the cooperation and sharing your ideas.

Of course, doing this study would not have been possible without the cooperation of many people from Rijkswaterstaat, from the Ministry of Infrastructure and the Environment and from provinces, municipalities and consultancy companies throughout the Netherlands and outside of it. This includes the people that I interviewed, but also people that provided me with information about relevant projects, initiatives and events from the world of highway planning, and the people that involved me in their work, such as the development of the Omgevingswijzer. It has given me a rich and valuable inside

view of the activities that are going on in planning at the interface of highways and other land uses. Thanks a lot for sharing your enthusiasm and knowledge, for your cooperation and for involving me in your activities, and for your openness and time.

From late 2014 onwards, I have combined the completion of this thesis with a new job at Sweco. Finding my way in this new environment has been an additional challenge. At the same time, I think it has given me the balance that I needed to stay motivated to finish this study. At Sweco I was welcomed warmly by my new colleagues from the team planning and mobility. I am thankful for the patience and understanding that you showed when I kept on working to finalize my PhD-study.

Since this PhD-project has dominated my agenda for the past years, I must also thank my friends and family from outside the academic community. It is good to have friends who, despite not being able to meet up regularly, remain interested in good conversations, positive words, help with construction works, fun activities, good diners or just a few beers. Thanks a lot for that. Furthermore, I especially want to thank my parents, Janneke and Remco, my grandmothers, and my parents-in-law. I know that the progress of my study has not always been clear to you and I can very well imagine that you wondered when this was going to end. Nevertheless, you never lost interest and, from time to time, kept on informing about the progress that I was making.

Finally, there is one person that has accompanied me the whole trip. Anne, I very well remember the day when I was making up my mind whether or not to apply for this position. We sat on a bench near the pond at the Zernike Campus. I decided to do it and throughout the entire seven year period you supported me, encouraged me, put me to work, distracted me and checked my work. Thank you very much for that. And now that this one is over, it is time for new trips and adventures, together.

Niels Heeres

Amersfoort, December 2016





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