

Working towards a more structural approach to incorporating cycling in national-level projects



# Cycling and Dutch national infrastructure

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**The bike.** I think many people are aware that I am very much a fan. If possible, I avoid calling for my official car. The good news is that I'm not alone. More and more people are leaving the car at home and opting to cycle. The growth rate is spectacular, helped not least by the advent and widespread uptake of the e-bike. Distances travelled by bicycle have risen by 12 per cent since 2005.

And we want more! The aim is to get 200,000 commuters out of traffic jams and on to bikes. 20 per cent greater distance covered by bike in 2027 compared with 2017. Ambitious? Certainly. But it's also necessary, realistic and feasible. Especially if you know that more than half the journeys made by car are less than 7.5 km. That's a distance that can easily be covered on a bicycle (or e-bike). We don't need to emphasise the fact that everyone can benefit: cycling is good for you, makes a difference in terms of greenhouse gases and air quality, and lessens congestion. In other words, without the bike we're lost!

How can you entice more people to get on their bike? One such way is to improve the cycle infrastructure: to make the bicycle a fully-fledged, equivalent alternative in accessibility projects. Just where we, Rijkswaterstaat and the Ministry of Infrastructure & Water Management, can make a difference! After all, we make decisions about management, maintenance and the shape of our infrastructure every day.

The result is this book: Cycling and Dutch national infrastructure. It gives a great picture of how cycling facilities can be worked into national projects. There is variety aplenty: from large-scale measures, such as construction of a cycle bridge, to smaller measures, such as good communication about a diversion. This book includes both finished and current projects in which we have utilised those opportunities. Uniting the useful with the attractive!

I sincerely hope that it inspires you. A wide horizon is a horizon that takes in all modes of transport!

**Stientje van Veldhoven** State Secretary for Infrastructure and Water Management

# Foreword



#### Introduction

You are looking at the *Cycling and Dutch national infrastructure* book. This book is an attempt to draw attention to inspiring project insights and opportunities for cycling as a viable mode of transport for employees involved in projects at national level. Its aim is to inspire: Rijkswaterstaat's aim is for cycling to be incorporated in decisions relating to national-level infrastructure as a matter of course. That is one of the stipulations of the Paris Climate Agreement and is part of the evolving policy aims of the Ministry of Infrastructure and Water Management. This book with national-level project insights is a contribution to that.

This is the concised English version of the originally Dutch book, offering insights and inspiration to an international audience of Transportation Authorities, Departements, decision makers and other professionals who are involved in developing (large) infrastructural projects. The examples in this book are unique and specific to the Dutch context, presenting deep insights in Dutch infrastructure planning and design process. It also demonstrates different ways and strategies how multiple agencies, governments and other public and private organisations can succesfully collaborate. The lessons learned could be useful to consider in other countries, contexts and projects. This book is not specifically about bicycling infrastructure projects, but about an integrated and holistic approach how to improve the transportation system as a whole by tapping into the potental of the bicycle as a serious means of transport.

This book paints a picture of the aim and nature of the project examples, and the way in which cycling played a part in them through interviews, photos and diagrams. The projects are a source of inspiration as they demonstrate the specific measures (for cyclists), plus lessons relating to cooperation, formulation of the measures and how they work in practice. What was needed in order to incorporate cycling in the project? What benefit does that have?

The book is made up of a number of sections; first a general section on the role and significance of cycling in the Netherlands. Then an overview and a summary of the project examples. Finally a section on the projects themselves. In order to make the extensive content of this book more accessible to the reader, there is a reading guide explaining the structure of the project chapters. The reading guide can be found on page 21.

#### Land of cyclists

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#### The New N200

Successful cycling boost despite a restricted budget
A multiple 'Work with work' challenge coupled with a cycli within a modest budget

#### Koning Willem-Alexander Tunnel (A2/N2)

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# More than half of all car journeys cover less than **7.5 km**

Cycle use (kilometres covered) has risen 4% since 2010

26% of all journeys in the Netherlands is made by bike (in 2017) 23 million bicycles for 17 million residents

**4.5 billion bicycle journeys**, covering a distance of 15.3 billion kilometres, were made in 2017.

In urban areas in particular, Cycling is an enormously popular mode of transport for short distances (<5 km).

Of all journeys made by bicycle, 41% are for free-time activities and 22% are for work purposes.

Replacing all short car trips (<7.5km) in NL with bicycle trips, would reduce emissions with 1.8 Megaton CO2 and 1800 ton NOX annually

# Land of cyclists

Cycling is something people do every day - in the Netherlands at any rate. Many people fail to appreciate how exceptional this is: something we can be proud of. Cycling offers us many benefits. Cycling frees up other busy roads and modes of transport, contributes to the quality of life and accessibility in towns and cities, is clean, quiet and beneficial. So it's no surprise that cycling is attracting ever more attention in national-level projects.

#### International leader

The Netherlands is an international leader as a cycling country, with the highest figures for cycle use and plenty practical experience. The Dutch attitude to cycling attracts much interest from abroad; lessons can be learnt on how cycling contributes to urban mobility, road safety and lower emissions, for instance. The positive effects on the economy, public health and the availability of a cost-effective, practical mode of transport that can be used by all make for a solid export product. [SOURCE: DUTCH CYCLING VISION, DCE E.A.]

re: Proportion of bicycle use as a percentage of total number of trips in several countries



[soruce of chart: KiM Cycling Facts 2018]

#### **Benefits of cycling**

Research on cycling is clear: cycling is good for people and society as a whole. There are benefits on different levels:

- **Economics**; cycling is a low-cost mode of transport for both individuals and society as a whole. Each kilometer cycled yields a benefit to society whereas each kilometer done by car and public transport generates a cost on society.
- Environment; Cycling and walking are the ways to move around which have the least impact on the environment. Switching from driving to cycling reduces carbon emissions and improves air quality.
- Health; Riding a bicycle is a healthy, fun and low impact form of exercise for all ages. Employees cycling to work are less likely to call in sick.
- Happiness; People who cycle to work associate cycling with happiness. Cycling encourages social interactions between different road users. It improves mental health, wellbeing and helps reduce stress.

- Accessibility; bicycles take up less space than a car, replacing cars by bicycle frees up space in your city to create more room for green spaces and for people to meet each other.
- Safety; policy and planning to separate cyclists from motorised traffic and to lower the traffic speeds result in fewer (deadly) accitents.
- Social Equity; Cycling offers greater mobility to virtually everyone regardless of origin, age, income orphysical ability. The bicycle increases social participation and is an inexpensive solution to transport poverty.

[source: Dutch Cycling Vision, DCE 2018]

#### Room for growth of bicycle use

Despite the Netherlands occupying a leading position as a land of cyclists, there is still room for improvement. Traffic jams reduce as more people cycle to work. Yet there are still too many people who use the car to get about on a day-to-day basis. Half of all journeys by car are shorter than 7.5 km (3.6 bn journeys) and one third are shorter than 5 km (2.5 bn journeys). Looking solely at the distances involved, a number of these journeys could easily be made by bike. Important pre-conditions for increased cycle use are good cycling facilities and cycle routes. [source: KiM Cycling Facts 2018]

#### Mobility trends and social developments

From the government's perspective, cycle use is a very versatile instrument. There are a number of trends, both in terms of mobility and social developments, in which cycling may figure or play a main role:

#### Accessibility in towns and cities

Towns and cities, and their hinterland, continue to grow. As a consequence congestion is increasing. ANWB Traffic Information figures show, for instance, that there was a 5% growth in traffic jams in the first half of 2019, and as much as 20% in Q3 of 2019 compared with 2018. Keeping these increasingly busy regions accessible is of great importance. So cycling is increasingly being seen as a valid alternative. More and more short journeys are being made by bike. The young adult generation tends to use the car less, live in urban areas and cycle more often than not. Another factor is that many urban authorities believe that cars take up too much space, while public transport and cycling are the future of urban mobility.



#### Mobility chain

Cycling to reach the primary mode of transport, or from there to the destination, is rapidly gaining popularity. Of the 1.2 million daily train passengers, 40% comes to the station by bike, and 15% cycles to the final destination. Cycle use as part of multi-modal transport can be improved by making it easier to change from bike to public transport and from bike to car. In other words: make it easier to store bikes at transportation hubs and popular destinations, and offer reliable information in good time about storage facilities and shared bikes.

[source ProRail/ Ruimte voor de fiets]

"If you include cycling in analyses of public transport, your range will be much wider. Cycling to transport hubs increases the number of accessible lanes by 50%, on average."

Igor Heller, Senior Network development and Vision Consultant,

Rijkswaterstaat

#### Sustainable mobility and hitting the climate targets The Climate Agreement presents opportunities for cycling. The Agreement sets the target of reducing CO2 emissions by 49%, compared with 1990, by 2030. To this end the government is encouraging measures, including cycling, to make traffic cleaner. After all, each car journey for which the bike is used instead reduces NOx emissions by 65%. And changing from car to bike saves 150 g of CO2 per km. Cycling contributes to making mobility more sustainable and, in doing so, hitting the climate targets. [L.Harms and M. Kansen, KiM Fietsfeiten 2018]

"In future, we expect that sustainability and climate targets will more frequently form part of project assignments... Exploratory studies highlight circular design, sustainability and climate targets."

Maarten Merks and Frank Fieman, A27 Houten - Hooipolder

# Land of cyclists

#### E-bike growth: more, and more varied users

Since 2018, more e-bikes than conventional bicycles are being sold in the Netherlands. In 2019 the record breaking number of 420.000 new e-bikes were sold in the Netherlands, good for almost 70% of the total bicycle sales turnover. There are currently 2,5 million electric bicycles in the Netherlands. The user group for e-bikes and high-speed pedelecs has expanded in the last few years. Apart from senior citizens, more and more commuters, schoolchildren and delivery services are using e-bikes. High-speed 'pedelecs' are increasingly becoming a competitor for the car. The growth in the use of electric bicycles and the longer distances cycled with them are ensuring that high-quality regional cycle networks are important.

[source: RAI-Bovag, KiM Fietsfeiten 2018]

"The existing network of cycle paths was created in the days when we just used pedal power. If you consider that we now have e-bikes, pedelecs and the like... You can see the potential in the modal split increasing if you can also provide good infrastructure."

Peter van 't Hoog, Former environmental manager, ViA15

#### Congestion and diversity on the cycle path

Due to the increasing popularity of cycling, a number of towns and cities in the Netherlands are experiencing trouble with traffic flows on cycle paths. The capacity of some (but not all) cycle paths is insufficient to cope with cyclists. This demands adjustments to the current infrastructure, where possible taking into account the increasing diversity (in terms of speeds) of cycle path users (cargo bikes, e-bikes, kick scooters etc.).

#### Road safety

Given the aforementioned rise of the e-bike and the increasing congestion on cycle paths, traffic safety, i.e. fewer cycling accidents, is a significant challenge for the government. And, with our ageing population, there is a pressing need for cycling infrastructure that is safe for senior citizens or is more 'forgiving'.



There are four different categories in which cycling can offer benefits in projects at national level:

- · Integrated area development: Projects that focus on improving the quality of life and open spaces, safety and/or comfort, in addition to mobility targets.
- Problem-solving potential of cycling: Capitalising on cycling's potential to solve problems at 'accessibility bottlenecks' or puzzles relating to planning and space.
- Work with work: Making smart combinations in planning studies, at the drawing board, and synergy in the implementation phase.
- Minder hinder (less disruption): Using measures to encourage cycling and making sure there is good accessibility for the bicycle (limiting disruption to cyclists) during roadworks and other construction.

The categories differ from each other in respect of the time-frame in which the cycling measure or intervention has an impact, and they differ in the reach of the aim and scope of the project.

#### Phase in national-level project (X-axis)

In the start-up phase of a project the issues, scope and stakeholders are identified. Integrated area development ensures that there is as complete a picture as possible of opportunities and challenges (in relation to cyclists). Awareness of the problem-solving potential of cycling may contribute to devising smart, sustainable and 'climateproof' solutions in the subsequent problem analysis.

Development of projects includes consideration for supplementary opportunities. By making smart combinations, it is possible to tackle the problems as efficiently as possible. The Work with work category can contribute to this.

Once work on the project is under way, it is important that road users are exposed to as little disruption as possible. Cycling can make a contribution to this through the Minder Hinder category.

#### Focus on mobility and also on other issues (Y-axis)

The nature and diversity of the aims of national-level projects, too, may differ from each other. Rijkswaterstaat projects have traditionally focused on transport (by car) in the context of the national road network. Cycling can be used as a tool to hit targets relating to mobility (and car use); the Problem-solving potential of cycling and Minder Hinder categories can contribute to these mobility targets.

In addition, there are projects that also have other aims, generally for specific municipalities and provinces. In Integrated area development the issue is more wide-ranging, while in Work with work it may reach further than national-level infrastructure alone. In this respect it is important to consider potential links with other types of infrastructure (such as public utilities, water infrastructure, wildlife crossings, networks for bicycle and pedestrian traffic etc.) and aims in the field of quality of life and open spaces, safety and comfort.

#### Making the Netherlands even more cycle-friendly

The growth in mobility, both in and around towns and cities is bringing cycling increasingly to the fore as a valid mode of transport. As a result, the government is committed to a more robust cycling policy. For instance, it is investing EUR 100 m on building and modifying cycle highways and bicycle storage facilities. Cycling policy is geared to hitting the target of getting 200,000 extra commuters on their bikes, or to cycle in combination with public transport.

#### The Paris Climate Agreement

In stating her ambitions for cycling, the under-minister believes that the Ministry of Infrastructure and Water Management wants to include opportunities for cycling as a matter of course in its considerations on infrastructure at national level, and can potentially offer links to national infrastructure. The draft Climate Agreement allows for a joint survey of supplementary opportunities for cycling in existing and promising MIRT (Long-Term Infrastructure, Planning and Transportation) between now and 2028.

#### National Cycling Agenda: Tour de Force

Tour de Force is the partnership between the authorities, trade  $\mathcal{E}$ industry, NGOs, knowledge institutes and platforms dedicated to cycling in the Netherlands. The parties involved work on cycling policy and boosting the role of cycling in mobility systems in the Netherlands. In order to address the facilitating role at national level, the Ministry of Infrastructure and Water Management is a participant in Tour de Force. The government helps not least by commissioning studies, performing experiments and helping to pay for certain measures in towns and cities. In 2017, Rijkswaterstaat adopted its own cycling policy. The main points of this are interaction with its own network, improving regional cooperation and improving the instruments at its disposal (such as modelling and social cost/benefit analyses).

#### Cycling and Dutch national infrastructure

This book showcases three projects that stem from the Rijkswaterstaat survey into supplementary cycling opportunities which have 'made the grade'. The project documents are intended to be a source of inspiration and, as a consequence, to give cycling prominence in public projects.

# Cycling inclusive national infrastructure projects



Congestion on the A12 between Bunnik and Utrecht, p

# Catering for different users

#### Different groups of cyclists with differing needs

When constructing cycling infrastructure and creating cycling facilities, it is important to take into account different types of cyclist: from 'practical' cyclists to recreational cyclists. Each type of cyclist is defined by his or her own specific requirements. So make sure that you know who is using your cycle paths and routes, and adjust your plans to match the needs of your road users. The same person may fall into different categories, depending on the time or location.

# PRACTICAL CYCLISTS -



**Logistical cyclists:** cargo bikes/E-cargo bikes are cleaner, often faster and have a smaller traffic footprint than vans. Contributes to the ambition of having emissions-free urban logistics by 2025. Users need space on the urban network for fast and heavily-laden cargo bikes. Strategic transshipment points.



**Everyday cyclists**: the bicycle as standard mode of transport for everyday use (in town). It is cheap, easy and quick. Users need bicycle parking facilities at home and at day-to-day destinations, a close-knit network.



**Bicycle commuters**: cycle to work, often in combination with public transport or the car. There is a wide range of speeds and habits within this group.

Users need safe bicycle storage facilities near public transport, facilities at work, information on allowances for commuting by bike, high-quality routes on commuter corridors.

#### Overall requirements of practical cyclists

- Get from A to B efficiently, often under time constraints.
- Comfort and attractive routes ensure that more people will opt for the bike.



**Children in and out of school, and students**: cycling to school, to friends or a sports club (unsupervised) means a degree of freedom and contributes to happy, healthy children. You're never too young to learn.

Requirements: a safe environment to be able to learn to cycle independently, road safety education.

- Safety, rules and straightforward traffic situations. Particularly for parents with children, and those with disabilities.
- Good connections to transport hubs.
- Sufficient, safe parking facilities.



**E-bike users:** greater distances can be covered more quickly, thanks to pedal-assist. Increasing differences in speed are putting pressure on the current cycling infrastructure. Users need safe storage facilities and charging stations, sufficient space on the cycle path.



**Cyclists of all ages and abilities**: make it possible for people to learn to cycle or continue cycling; from learners to people considering stopping (such as the elderly). Users need support when learning to cycle (on a different type of bike), image of cycling.

#### Overall requirements of recreational cyclists

- Sense of enjoyment from the journey: no time pressure.
- Being outside, able to enjoy nature and the environment.
- Relaxation/sporting activity, together with family or friends.

# RECREATIONAL CYCLISTS

**Sports cyclists**: The Netherlands has 850,000 cyclists who actively ride a (race or mountain) bike for exercise once per month on average.

Users need sufficient space for racing cyclists, good urban-rural connections and starting points.



**Recreational cyclists**: cycling as a pastime. Cycle tourists and visitors make an important contribution to the economy (the leisure sector in particular) in our country.

Users need good urban-rural connections, a network that covers the country, interesting surroundings, facilities and catering options.

- Specific cycle routes for recreational use, such as a mountain bike course or pleasant routes in the countryside.
- Minimum of interaction with other modes of transport.



# **Project examples**

This book Cycling and Dutch national infrastructure is, as the name suggests, a reference source for national-level projects incorporating cycling. It features example project with differing insights in their nature and scope. The original Dutch version of this book features nine project examples. This concised English version contains three project examples, however it includes the wide range of cycling measures (and incentives) and insights from the original book. We also share lessons learnt and recommendations from the teams: what was needed to really incorporate cycling in the project in question?

The pages that follow show an overview and summary of insights from the project examples:

- Over-arching lessons [page 17]:
- Inspiration for cycling measures [page 18-19]:
- Reading guide [page 21]:
- Explanation of the structure of the project idea sections.

This, the first edition of the Cycling and Dutch national infrastructure book, covers three such projects. The intention is add more project examples in due course. Below is a list of the individual projects.

Bicycle benefit categories					Example project	Title	Page	
	der				1.	Refurbishment	IJmond transport action plan	22-29
	Minder hin	Work with work			2.	The New N200	Successful cycling boost despite a restricted budget	30-37
			Mobility potential	ntegrated area development	3.	Koning Willem-Alexander Tunnel (A2/N2	e) The 'Groene Loper' in Maastricht	38-47

- Common factors in the project insights
- List of the cycling measures in the project examples



### Lessons from the project insights in this book

Below are the common factors, the lessons, from the example project in this book. These are recurring opportunities, challenges and ways of incorporating cycling as a matter of course in national-level projects. This is how we aim to unlock the potential of cycling.

#### Why has cycling been incorporated in the project?

# Cycling contributes to easing major challenges (at urban and provincial level)

The increasing demand from cities, provinces, business and the population in general for cycling was the reason for the project teams to incorporate this in their plans. That increasing demand is partly due to the desire to boost quality of life and increase support for projects.

#### Encouraging cycling works... Can the effect be made to stick?

Measures to encourage cycling in the project examples helped resolve issues (including mobility) and to relieve bottlenecks. The resulting change in behaviour represents an opportunity to permanently improve accessibility and quality of life. Nationallevel projects may be a reason for people to change their mobility habits. The present Minder Hinder measures, however, are temporary in their nature as they depend on the duration of the infrastructure project. Evalulation of the 'Beter Benutten' programme established the lasting effect of a number of Minder Hinder measures. The measures were extended beyond completion of the national-level project in a number of instances. And there was a lasting result: a modal shift to cycling. This is an opportunity!

# Challenges and opportunities for incorporating cycling as<br/>a matter of courseInvolvement and communication at a more personal level<br/>needed, with room for input and modifications

Cycling brings you closer to the sphere of local residents than a Incorporating cycling in national-level projects is not yet motorway does; cycle paths run close to gardens, schools etc. So instinctive due to organisational challenges. The employees proper communication with those directly involved is crucial. If interviewed had to make a case for cycling to be incorporated in not properly managed, this leads to resistance. Customisation is analyses and to bring about specific cycling measures. They are needed in order to provide up-to-date information, for cyclists, happy that Rijkswaterstaat has more and more attention for too. Direct communication on the spot - often with a coffee and a cycling. But the teams still have to clear a number of biscuit - helps to prevent misunderstandings and improve organisational hurdles. The potential of cycling can be better used support. The interviewed teams have put a lot of effort into this. if projects are organised differently. Below is an explanation of a That demands flexibility from the project teams in order to be able number of opportunities that are reflected in the project to handle changing requirements. examples.

# On a different scale: not just one big solution, but a system that makes small adjustments and works

Working together with a range of parties is something new, and Cycling has been used as a way of solving mobility (and other) can be problematic. And yet, project teams involved in these issues and relieving bottlenecks. What is noticeable above all else project have the sense that the projects run more smoothly, in that respect is that a network approach is needed: a system of thanks to the overarching aims and more intensive cooperation small-scale interventions to reinforce the network. That does not with authorities at municipal and provincial level, for instance. necessarily have to be difficult or costly. What it means for the This is due to the creation of a win-win situation for all parties, the teams in practice is a different focus. What is needed is customisintegrated approach and the increased budget. Although the ing, in addition to the work on the motorway, bridge or tunnel that assignments are more complex, their ultimate effectiveness is is the feature of the national-level project. This often involves enhanced. So providing for the growing demand for cycling may several parties. Network solutions extend beyond the project area. function as a 'facilitator', create widespread support and improve In this respect, too, customisation and cooperation are needed in the image of larger-scale projects. order to reach financial and legal solutions.

# Common factors

# Make cycling measures part of the project scope, budget and issue at stake

An important common factor in all projects is that in order to incorporate cycling, from the perspective of the contractor, it must be an issue to be addressed and funds must be available. That gives teams the legitimisation to use their creativity, and allocate their funds and time to cycling. In terms of replacement and refurbishment issues, in particular, there is little room for anything extra, while incorporating cycling is of paramount importance. In addition to physical (temporary) interventions, there must also be room for aspects such as communication with locals, guaranteeing safety etc.

# Incorporating cycling in the analysis makes integration in the project easier

A wider-ranging analysis of the area in the project examples showed that the proportion of local traffic, i.e. cycling potential, was greater than originally thought. So widening horizons from early in the analysis pays off. The opportunities for incorporating cycling in the analysis and traffic models are growing, not least due to new technical possibilities for data collection and analysis, communications and use of social media.

#### New forms of cooperation are more complex and time-consuming, but also productive and effective

# List of cycling measures in the project examples

The cycling measures taken per project are listed under the project examples in part 2 of this book. These measures vary from measures to encourage cycling, means of communication and temporary cycling connections to boosting the cycling network. Below is a summary of the spectrum of cycling measures that have been applied in the project examples:

#### Focusing on changing behaviour



Example of a cycling incentive programme, Go-Velo app De Nieuwe N200, picture credit: govelo.nl

#### **Encouraging cycling**

#### Accessibility programme

Reducing disruption and encouraging sustainable changes in behaviour using various measures and initiatives (Minder Hinder).

#### Travel information as a means of accessibility

Giving motorists more information and better insight into real-time journey times was an incentive to use other modes of transport (such as cycling) and to travel by different routes. Real-time information was sent directly to users via internet and telephone.



Real-time route information for cyclists, picture: screen shot, De Nieuwe N200 website, 25/11/2019 "Closed / open / detour for cyclists and pedestrians"

#### Employers' approach

We worked together with employers to encourage employees to cycle to work. The advantage of this is that employers were actively involved and that widespread support for projects was boosted as a result.

#### Apps

Cycling-registration apps, such as Go-Velo, were used, with financial rewards for distances cycled.

#### Facilitating the switch to cycling

Offering promotional activities and support to people who are considering cycling, such as a cycling trial promotion, which allows you to try out a pedelec for two weeks.

#### 'Detour compensation'

A temporary cycle path closure may be a reason to switch to the car; that may be overcome by offering detour compensation, for instance. This encourages people to keep using their bike during a long-term closure and ensures that they don't feel ignored.

#### Communication

#### Personal level

In the case of road users, direct and/or personal contact helps to create widespread support among those concerned. Real-time changes can also be communicated at personal level, for instance by text messaging.

#### Local involvement

Good communication and promotions aimed at local residents and those involved help to create widespread support and gather local knowledge.

**Communication on the spot about a changed situation** Supporting traffic controllers where it is necessary to deal with situations on the spot. Approaching cyclists personally where temporary diversions are in operation, or providing extra on-street signage.



Personal communication with cyclists, Groningen Ring Road (South), picture credit: ARZ

### Focusing on facilities and network



Temporary bicycle and pedestrian connection Botlek bridge, picture credit: Rijkswaterstaat

#### **Temporary cycling facilities**

#### Temporary cycle route diversion

Diverting existing cycle paths to keep them open during road works. An interesting option would be to test new temporary situations with 'cycling pioneers'.

#### Temporary cycle route facilities

For example: temporary cycle bridges during road works to keep destinations accessible.

#### Alternative transport due to closure

Keeping important destinations accessible using alternative transportation during closure, for example a shuttle service to a temporarily inaccessible school, or the use of (or extra capacity on) a ferry service.

#### Improving cycling infrastructure

#### Improving and 'future-proofing' cycle connections

Improving the quality and accessibility of the existing cycling network. For instance, improving safety and comfort, making a route shorter, but also getting a ferry (or one specifically for cyclists) to operate more frequently. Also, offering space to the increasing diversity in cycle path users; the current infrastructure needs to be modified accordingly and be adaptable for future infrastructure.



Rijnwaalpad cycle super-highway, A15 tunnel, picture credit: Otto Kokke

#### New cycle connections, addressing barriers

Motorways and waterways form barriers to cycling networks. Incorporating a cycle path in the design of a new bridge, or creating a cycle tunnel under a motorway can make significant links in the cycling network. There is a supplementary opportunity here to use national-level projects to substantially improve cycling networks by conceiving and building new cycling links.

#### Improving environmental quality

The quality of life is higher in places with low car use, and there is space in such areas for safer and more attractive cycling.



An attractive new cycle route has been created in the park area on top of the Koning Willem-Alexander tunnel. Photo credit: Maurits Lopes Cardozo

#### Better connections with other modes of transport

Make it easier to change from the bicycle to other modes of transport at stations and transport hubs.

#### New cycle highways

New cycle highways are often connected to the national road network. In some cases, creation of a cycle highway can be linked to a national infrastructure project.

#### Embedding cycling in projects

Include specific contract requirements for cycling in the tender documents, for example: limit the distance of alternative cycle routes during road works.

#### Improving accessibility of outlying areas for cyclists

Continue to develop the national recreational cycling network; an attractive, high-quality, well signposted network which is protected in terms of urban and rural planning.

## Structure of the project chapters

Each chapter on a featured example project is structured in the same way. First a short, general introduction of the national-level project, the project context and the timeline. Then a focus on the cycling measures, with insights and lessons for colleagues.











# Reading guide

Project summary

Project context

Concrete cycling measures

Project lessons and recommendations for colleagues/ Summary of most important lessons



"Looking back, the project we feared the most turned out to be a template for the future"

Insights and inspiration, an interview with

Ilkel Taner, environment manager, Rijkswaterstaat and

Jasper de Vries, environment management team, XTNT

# Refurbishment

The Velsertunnel was completely closed to traffic for a period of 9 months in 2016 due to large-scale refurbishment work. In order to maintain accessibility in the region, Rijkswaterstaat drew up an accessibility plan that outlined the terms for the traffic, mobility and communications measures to be used. Ikel Taner and Jasper de Vries of the environmental management team: "The essence of our role was to enable the engineering work by closing that tunnel, and to keep the region accessible and local residents happy at the same time."

### Why was cycling incorporated in the project?

65,000 cars per day use the Velsertunnel, and they were no longer able to get through. If we were to divert all of them through the Wijker tunnel, or via a different route, the result would be gridlock on the entire road network in North Holland. That was not an option." We looked at how we could best spread traffic volume. The job we were facing was to get 3,000 motorists out of the rush hour. Cycling appeared to be feasible for the distance between Velsen and Beverwijk, so we focused on that with a package of various cycling measures. "We ultimately got 1,000 road users on to their bikes. For those for whom cycling was not an option, we created a diversion via the Coen tunnel, and opened an extra lane at the Wijker tunnel."

Name of project Location Party(ies) involved

Issue

Velsen App/North Sea Canal junction Rijkswaterstaat, IJmond Bereikbaar (coordinators), municipality of Velsen, province of North Holland The Velsertunnel was completely stripped and reconstructed in a period of 9 months. Almost all technical installations were replaced, the tunnel headroom was increased, new emergency exits and escape routes were created, and a new ventilation system was made. In addition. Riikswaterstaat faced the while the work was progressing.

Contact

For more information

Phone: +31 88 797 71 02

### IJmond transport action plan



# IJmuiden

Velsen 4



#### Main project aims and challenges

"This is not a cycling project: the project is all about the refurbishment of the oldest motorway tunnel in the Netherlands, so that it complies with the latest tunnel standards. In essence, our role was closing the tunnel so that the engineering work on the project could be achieved, while keeping the region accessible and local residents happy."

"Looking back, the project we feared the most turned out to be a template for the future. At that time, Rijkswaterstaat's track record on tunnel projects was poor... The Velsertunnel was the first refurbishment project. We felt that there was too much at stake for anything to go wrong... There was plenty political pressure on the project. Plus external pressure from business and local residents: everyone assumed the worst, that they would be cut off. There were many worries about how to tackle the project, and plenty resistance. The plan, the approach and the communications: none of that existed in 2013. This was a unique project due to a combination of factors: a challenging project, the right people in the right place, political pressure and, fortunately, a budget for accessibility of EUR 13 m. Covering the accessibility approach as a whole, i.e. including diversions, traffic management measures, mobility management and communications. Without the budget, this would never have been a success story."

#### Main points on time line and reasons

2008: delay

A20

 2012: preparations re-started: environmental and technical analyses carried out

ve starting points for

the Velsertunnel Beverwijk, IJmuiden and Velsen are close to each

Lots of local vehicle use of

3. Velsen ferry service can be

4. Local cycle routes can be

5. Environmental challenges

in IJmond region

vcling:

other

improved

improved

- Mid-2014: definitive transport action plan, plus award of the contract
- Early 2015: start of employers' approach, and start of encouraging cycling
- Mid-2015: extra ferry service in operation, plus implementation of other measures
- 2016: 9-month closure
- January 2017: on-schedule opening
- 2017 present: continuation of cycling measures and extra ferry.

# Transport action plan complete in mid-2014, before award of the contract.

"The definitive version of the plan was an important point to take stock, when you remove uncertainty: you've considered the effects of the work before a spade has even gone into the ground, so that you don't have to make changes 'on the hoof' later. The tunnel was closed for 9 months in 2016. The really tense moment was the closure itself. Whether the accessibility measures, including cycling incentives, would work. We created all sorts of new, temporary connector loops in the junctions at Beverwijk and Velsen, and explained in detail how those loops worked at the preparation stage. On the day of the closure, I was standing next to the motorway. The press had gathered along the motorway, waiting for a story about chaos...but there was none. It all went so smoothly! Thankfully, but then we had put so much effort into averting chaos. 9 months later to the day, as per the planning schedule, the tunnel was reopened."



"Even at the analysis stage, you could see that this ferry is an important link. So we increased the service frequency to 1 every 10 minutes, rather than every 20 minutes."

ren leaving the Velsen ferry, picture credit: IJmond Environmental Service

# Cycling measures

1. Extra ferry in operation

3. Communication at personal level

2. Travel information as a means of accessibility

4. Improving cycling infrastructure and routes in the area

5. IJmond Bereikbaar for employers' approach and cycling incentives





#### 1. Extra ferry in operation

"Even at the analysis stage, you could see that this ferry is an important link. So we increased the service frequency to 1 every 10 minutes, rather than every 20 minutes." That offers a good alternative for local traffic. That ferry began operating in mid-2015, six months before the closure. This was done specifically so that people could get used to the idea, and could opt for the bike. "We even assessed the guayside from where the ferry departs in a new light, to see how we could improve the layout to make it safe. And, let's not forget, now the tunnel has reopened the ferry is still operating at the same frequency. This means that cycling is still an attractive option. That ferry generally carries cyclists. Schoolchildren are an important target group."

#### 2. Travel information as a means of accessibility

The team made a great step forward by using travel information as a means of accessibility, by offering real-time information. Insight into actual journey times is a way of getting people to use other modes of transport or choose other routes. "That was quite a tense time. Offering real-time travel information, both before and during the tunnel closure, was really innovative in 2016. That was also indirectly linked to cycling. Whereas that information was only for car traffic, it also had the aim of triggering a response in people to take the bike instead. We had gathered the journey times (by car) for all important locations in the area. Imagine you live in Beverwijk, you need to get to Velsen and you want to use the Wijker tunnel detour? You know that there is a traffic jam. 1 button on your mobile might persuade you to cycle."

#### 3. Personal, real-time communication

A significant success story in terms of environmental management is communication with local residents, cyclists and motorists. People were told what the closure meant and how they could prepare themselves, every step of the way. The way of communicating, via social media was something new." Answering as quickly, openly, transparently and as personally as possible. "The local press was very negative at first, so it was really great to see headlines like 'Compliments to the people who devised the detour loops."

#### 4. Improving cycling infrastructure and routes in the area

Which concrete cycling (incentive) measures have been taken?

In the preparatory phase, potential cycle routes were reviewed and bottlenecks addressed. For instance, a route over some locks was made safer and safe routes were created in and around a business park in Beverwijk. "Cycling becomes attractive if you make it easy to get from A to B by bike. So it's only logical that we investigated all those cycle routes."

#### 5. IJmond Bereikbaar: employers' approach and cycling incentives

The employers' approach was implemented together with IJmond Bereikbaar. Right from late 2014/early 2015 a start was made on the employers' approach and encouraging cycling, not least by rewarding each kilometre cycled. "It's too late to attract people once the tunnel's closed. What worked really well was that IJmond Bereikbaar already had a relationship with many employers. There was already latent demand, and thus cycling potential. The refurbishment and, in particular, the closure was inevitable: that was just the nudge we needed. What IJmond Bereikbaar achieved was to keep on emphasising the importance of the participation of business."

### What was needed in order to incorporate the bicycle the project?

#### Accessibility plan and contracting carried out in parallel: from uncertainty to certainty

Making the accessibility plan definitive before the award of the contract helps turn the tide of uncertainty. In fact, an important factor in the success of the project was that the team could work in parallel to the accessibility pan and the contracting. "What was unique about this project, and the achievement of the team at the time, was to insist that the project could only be awarded once the accessibility plan was in place and politically sorted out. We started from scratch and the accessibility plan was up and running in less than a year, despite the high pressure. At the same time there was also the award of the contract. It's all very well having a plan ready, but the measures will also have to be implemented. By doing this in parallel, you have a solid approach: you have a job

within an assignment. The contractor is not responsible for the social aspects: that's not realistic. A contractor cannot be responsible for accessibility in an area, because responsibility is delegated to more than one manager. That's just not possible in our principal-contractor relationship."

#### Wider horizons than just the project right from the analysis

Wider horizons than just the project right from the analysis The whole area was analysed prior to drafting of the accessibility of keeping the region accessible." plan. Who are the people who use the roads around the Velsertunnel? Where are they heading? The analysis of the area A total package of measures with commensurate budget and showed that half the people who use the tunnel are making good communication journeys that could be made by bike. "At first we expected that the We needed the time between formulation of the plan and closure people who use the Velsertunnel would generally come from of the tunnel to lead people step by step through what closure Alkmaar and Amsterdam, but at the analysis stage we discovered meant, and what they could do to prepare. "Consider stakeholders that many people were going from IJmuiden to Beverwijk and such as road users, residents, business etc. It was necessary for the back. That makes you stop and think. Those two towns are just a steps to run parallel to set up and work out the package of few kilometres from each other." That gave pointers for the use of measures as a whole. We needed both the measures (substance) cycling as a Minder Hinder measure, on the basis of the geographand the public support (changing behaviour) to keep the region ical situation in the area. "What you can see is that there is a lot of accessible. Both points cost time, and really go hand in hand." local car use through a tunnel, Beverwijk, IJmuiden and Velsen are close on routes that can be improved (ferry and route along the Use of tech (and data), plus media means you need to hold your locks) and there are existing environmental issues in the IJmond nerve Many things that were done in this project were new. Offering real-time travel information, working together with service

region: 5 things that work in favour of cycling. This is what you find out by investigating the situation." providers and the use of social media for open, transparent Drafting the accessibility plan together with local residents communication had not been done in this way before. So being The plan was drafted together with the municipality, the province able to hold your nerve is a factor for success: "You're in a project and the IJmond Bereikbaar environmental service. As local context where you need to deal with innovation; that is a source residents were able to contribute on measures, they had a lot of anxiety, because you don't know whether it's going to work. But more certainty about what was about to happen. "It is important you do have the project goal, which you have to stick to." The to have local support if the cycling programme is to be a success. possibilities grow. "Back then, information on journeys was not on We made sure everyone was involved: business, municipalities. In the agenda. If I could do it again, I would also incorporate the that way, cycling aims can also come to the fore. It is really bike. From a technical perspective, this was already a real important that you do this in good time, early on in the preparachallenge back then, but it's definitely possible now. The heart of tory phase, and give the idea of accessibility an overarching aim so the matter is that the cycle paths are not properly shown in the that you can underline the urgency, effect and strength. What navigation system. That is beyond our control. That's something actually started as a technical challenge turned around. We all had we can work on." the same aim: keeping the region accessible during the refurbishment. Everyone was able to make a contribution; the vision Long-lasting effect: more successful than expected became reality for all. If everyone is to have the same goal, it is The cycling encouragement programme is still running; the important to do things with people, rather than for them. The way incentive and reward principle has been well received by the we tackled accessibility was not the environment team acting locals. "Happy to see that it is still working. You can see that in the alone. We were the most visible but the whole team, including the numbers and the enthusiasm with which people speak about it. contractor, was involved. We all realise that we are involved in a Cycling was more successful than we had expected: over 2750 refurbishment project, but we have closed that tunnel, and lots of people are effected as a result."

#### Creating widespread support with a win-win situation

It is possible to make latent needs visible by identifying the attractive elements within an area. These are helpful for formulating a common, overarching aim. "What I think we have done well is to utilise opportunities from within the community and seen where that could also be of use in terms of the tunnel refurbishment. We have been able to reach a win-win situation in that respect." The area is home to not least a hospital, Tata Steel

# IJmond transport action plan

(Hoogovens) and many logistics distribution companies that are dependent on the Velsertunnel. "Using the connections that we were forming, we could also see that this area needed cleaner air due to the presence of heavy industry. They were already looking at how they could reduce emissions. There was a possibility, a latent need, and this project was used as a catalyst. "It wasn't a welcome message, but it was precisely what was needed to get people on their bikes. So cycling wasn't the goal, but was a means





active cyclists. What we have achieved is 1500 new cyclists. We have hit the target - the challenge was to get 3,000 motorists out of the rush hour - but more importantly still, we have started something like a permanent change in behaviour."

Make the results so visible that you can account for yourself

Implementing an accessibility challenge like this can only be done with financial injections. The total budget for the accessibility approach was EUR 13 m. More than half the money was spent on infrastructure and traffic measures, while around a quarter was invested in mobility management. "We have brought about a situation with an extra ferry service and have been able to fund the employers' approach. Those were just the sort of boosts we needed. Once you have public money at your disposal, you need to be able to justify your choices." Figures and making the results achieved as visible as possible help to account for and legitimatise the money spent.

#### The Beter Benutten programme made a contribution

Between 2012 and 2014, Beter Benutten was looking for projects for co-financing. "Beter Benutten paid for the first year, during the closure the Velsertunnel paid and, after the closure, Beter Benutten paid again for the ferry and a portion of the cycling incentive programme."

## Project lessons and recommendations for colleagues

#### **Wide Horizons**

#### Look further than project aims to aims for the area

"One tip is not just to look at the project, but at the area concerned. You have aims for the project, and for the area. In our case, the challenge became the project scope. And to meet that challenge we really needed the cyclists. That is an important difference with other projects. The project manager often has just a single aim, and that is not getting people to cycle. I can well imagine that cycling doesn't immediately seem to be a logical solution for any motorway project in the Netherlands where the aim is to reduce congestion and increase traffic flow. But if you think outside the box and in terms of the area as a whole, with urban areas and hinterland, they have other aims. In this case, Tata Steel had environmental aims. Link these with each other and you might find that there massive cycling potential if you look at regional level."

#### Start early

At an early stage extract potentially promising measures from your analysis, those which could help you fulfil latent needs. "Often, if you get a large project up and running early colleagues will ask: 'Are you sure you're not too early?' Although starting early is actually the key to success! It is a mindset: part of the solution is already enshrined in the process early. The drawback is that things are still vague at that point but, on the other hand, the benefit is that looking back, you have worked on a much better process and you have people with you."

#### Customisation and systematic approach Try to create a win-win situation

"Essentially, the question is 'Can you find a common goal'? Can you formulate it in a way that suggests there is a win-win situation? Try to find common factors. What are the factors for success, and can they be combined with the various stakeholders/ with each other? That is a force to be reckoned with. Even if, at the start, so many of you think 'How are we going to get this done?' If I were to do it all over, I'd try analysis of the area again, identifying the possibilities, in combination with the technical scope, how the area fits together, then it's about looking for common factors."

#### Make a case for it!

"If you really do have a good idea and you're convinced that cycling and encouraging bike use can make a contribution, say so! Try to look for arguments that stand up to scrutiny, and to link them to the project aims. Ideally, you won't have to look hard. Because if your area is suitable, in terms of geography, and configuration and objectives, the arguments will make their own case. You just have to emphasise the right points to find support."

#### Cooperation and communication

#### Work towards trust and a team

"As a project team, including the contractor, we have always stuck to the planning schedule. You don't want any delays, because you want to be reliable in the message you convey. And it was a significant decision to place the accessibility measures with IJmond Bereikbaar, which already had support in the area, rather than 'big Rijkswaterstaat', which was little more than a passer-by. It's all very well performing on an individual level, but at team level you need an innate sense, to be able to help each other. Real team spirit. We all had the same vision. So it's not a question of 9 - 5 any more. During the day, at the weekend, we were always occupied... And it was fun, too! You get loads of positive feedback. That gives you a lot of energy."

# Important lessons



- potential, for cycling too.
- wider package of measures, including cycling measures.



#### Customisation and systematic approach

- the new situation. This can create permanent change. Communicate openly and directly, and dare to use new technology, social
  - media and data. too.



### **Cooperation and communication** Try to create a win-win situation by combining success factors for the various parties involved into a single challenge. This can create strength and

- support.
- Involve local residents at an early stage: the inclination to change behaviour is required, as well as the accessibility measures, for a modal shift.
- Work on trust.

# IJmond transport action plan



Start early and look further than project aims to aims for the area. An early, extensive analysis shows which measures have promise and where there is

Work in parallel with the award and accessibility plan: so you can embed the



Start on accessibility measures in good time: that way people can get used to



# **HET IS DRUK OP DE N200** STAP OP DE FIETS!



"Cycling programmes can be set up with a relatively small budget... It was possible with little effort from the project team"



Alexander de Baar, Rijkswaterstaat environment manager and

Jasper de Vries, traffic and mobility project manager

# The New N200

The N200 between Amsterdam and Halfweg is getting a real overhaul with major work on the road and dyke. In addition, work is being done on new mains water pipelines, a green entry to Amsterdam, a new bridge at Halfweg and the creation of a wildlife crossing. Jasper de Vries, traffic and mobility project manager: "The New N200 project was borne by four agencies, the various aspects of the project scope come from these four agencies: Waternet for the mains water pipes, Amstel, Gooi en Vecht water authority for the dyke, Rijkswaterstaat for the refurbishment of the N200 and the bridge in Halfweg, and the municipality of Amsterdam for the configuration of the road."

### What was the reason for incorporating cycling in the project?

An extensive analysis of the area, traffic, and potential solutions and measures was carried out before the project began. A process was set up so that stakeholders could create measures with widespread support. One of the measures adopted was cycling.

Name of project	N200: Major maintenance
Party(ies) involved	Rijkswaterstaat, municipality of Amste Vecht water authority and Waternet (p tors), municipality of Haarlemmermeer.
Issue	Major maintenance work on the N200 b Halfweg, associated with major mainten laying new mains water pipelines, a gree Amsterdam, a new bridge at Halfweg an wildlife crossing
Contact	Phone: +31 88 797 71 02 E-mail: informatiepuntwvl@rws.nl
For more information	https://www.denieuwen2oo.nl https://www.rijkswaterstaat.nl/wegen/p onderhoud/index.aspx

# Successful cycling boost despite a restricted budget

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# ZaandamA8



#### Main project aims and challenges

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Jasper: "The main aims of the project are: raising the dyke which carries the N200, keeping Amsterdam free of inundation and working on a more robust road network, by reconstructing the road with new base course and asphalt. Thanks to the new water pipes people will be able to use safe water of good quality for the next 100 years. And we also have mobility aims: the N200 runs through Nieuw West, Westpoort and Sloterdijk and although these are formally part of Amsterdam, it will remain a national road. Until recently, it was a sort of motorway forming a corridor into the city. This road is getting a new layout here, and the idea is that it gets a more urban character. And mobility is also being addressed in Halfweg: the current situation can be irritating; it is a village cut in half by the road." Alexander de Baar, environment manager: "The bridge will be replaced and the road reconfigured, not least with a sharper bend that will automatically slow the speed of passing vehicles. It will look more like a village, so that people notice that they are driving through a small settlement and drive more slowly. We're aiming for a better-quality environment."

Jasper: "Since the arrival of the A5, the N200 is no longer the main through route unlocking the western approaches to Amsterdam, as the A5 has assumed a significant portion of that function." Alexander: The N200 is now forms more of a regional connection between Haarlem and Amsterdam, with lots of local traffic. The A5 has helped to reduce through traffic here."

Jasper: "Here in Amsterdam and the surrounding area there are other on-going projects, so congestion has to be adapted to that. We are squeezed in between projects like the Zuidasdok and other projects in adjacent areas, like Nieuw West and Westpoort. We are in the middle of the work. We started in October 2018 and will be ready in mid-2020. The project planning schedule has moved a little, which makes the project extra challenging, in relation to those other projects, at any rate."

#### Main points on time line and reasons

- 2011-2012: start of project with amended scope: Waternet and Rijkwaterstaat were working on the dyke, wildlife crossing and water supply
- 2013: project suspended due to insufficient funding and urgency
- ...funding secured
- 2016 June: project restarted, wider scope including reconfiguration of road as 'urban' road. (As part of the Sloterdijk Centrum area development)
- 2017: widening of scope: Boezem bridge, Halfweg
- 2017 May: selection for tender procedure
- 2018 October: start of work (very quickly, following award in July 2018)



"Go Velo offers an app that lets you save up for rewards for local good causes. In order to make people aware of the project, Go Velo also uses flyers and other promotional materials."

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# Cycling measures

4. An urban context for the road





1. Go Velo app and promotional materials to encourage cycling

Go Velo is a programme to encourage cycling. Go Velo offers an app that lets you save up for rewards for local good causes. The cycle path alongside the N200 had to close so that the water pipe could be laid underneath. Jasper emphasises that this was partly why the team had three significant cycling encouragement aims: "1.) Keeping people cycling, despite disruption due to roadworks. 2.) Encouraging people to cycle in order to limit traffic disruption and 3.) convey the image that the project is geared to cycling and sets up a special programme."

In order to raise awareness of the project, Go Velo makes flyers and advertises on bus shelters, has a barrista's trolley at schools, etc. Alexander: "Programme uptake is reasonably good; there are 280 participants, nearly half of whom are new cyclists. We didn't have particularly high hopes in advance: our aim was for 500 participants. In addition, many people are aware of the programme but perhaps don't download the app. The programme achieves more than what is quantifiable in hard figures alone: limiting disruption is most significant in this project."

#### 2. Cycling website with 'real-time' cycling information

Which concrete cycling (incentive) measures have been taken?

1. Go Velo app and promotional materials to encourage cycling

2. Cycling website with 'real-time' cycling information

3. Personal approach and communication from one portal

The New N200 project has made real progress towards providing information on road closures that is as up to date as possible on the www.denieuwen200.nl website. The team did this by integrating Google Maps. Jasper: "We achieved this for all roads. Providing up-to-date information on cycle paths via Google turned out not to be possible yet. But we thought it was important, precisely because the situation changes so often for cyclists. So now, we update the situation for cyclists on the map manually, at www.denieuweN200.nl/fiets. Apart from the homepage, the cycling page is the most visited page on the site. Over the next few years, we expect provision of real-time information on cycle paths via Google to become viable for projects of this kind."

#### 3. Personal approach and communication from one portal In order to get people involved and informed properly, the team is

using integrated project communication from a single portal. This information is combined with communication at personal level 'on site'. As Jasper says, "An important way of attracting people to the site is to hand out flyers in the morning at sites where we're



going to close a cycle path. The flyers show the detour, and also the message 'Your cycle path will be closed over the next few months: see www.denieuwen200.nl/fiets for more info.' The secret of success is in the personal approach, that way you retain satisfaction. Those people won't be able to cycle there for three months. Whether they download the app isn't important; what is, is that we've gone to them in person, they have a calling card, and they're aware of the situation." The Go Velo promotional team was also at the organised open evenings for residents. Alexander says of this: "People saw that we were doing something 'green'. More people took to the bike."

#### 4. An urban context for the road

The N200 is being reconfigured as a road in an urban context, with possible in this project a more urban and green image that suits Sloterdijk's residential The team really wanted to latch on to an existing programme. On profile. Space is being created for cyclists and pedestrians, and the that point, Jasper says: "As a small project, we had a small budget quality of the environment is improving. Three new crossing and it's always better to have a broad cycling incentive programme points for bicycles and pedestrians are being built along the N200. than individual ones per project (involving disruption). One pedestrian crossing and two for pedestrians and cyclists, each Beforehand, we devoted effort into latching on to an existing controlled by traffic lights. They go from Amsterdam Nieuw West programme, but we couldn't." Alexander adds that for two years, to the Sloterdijk area and form a link between the two suburbs. In between 2016 and 2018, attempts were made to find a fit. A lot of that way, the N200 forms less of a barrier. There will be a green time was put into that: discussions were held with various projects central reservation and many new trees. The speed limit will drop and cycling initiatives. So what went wrong? "Tough question." from 70 to 50 kilometres per hour. More space will be created for Jasper recounts that there was no time left at the end of 2018. "At cyclists and pedestrians, and the road will have fewer cars. This that point, we decided to do it ourselves. And not without success! will benefit the cycling infrastructure. Particularly if you consider that we are a relatively small project, in which boosting cycling was one of several disruption-restricting measures. There is, indeed, room for optimisation: if you boost cycling for all of Amsterdam West, it becomes even more relevant and effective. Currently it's just people who happen to have something to do with the N200 who get a reward."

## What was needed in order to incorporate the bicycle the project?

Taking cycling as a measure seriously, even if this is not the largest measure to emerge from the extensive analysis form part of the contract Before the project started, an extensive analysis was performed A number of starting points have been included in the contract in including, among other things, analysing the area and its traffic. the field of traffic. A key issue was not closing too many northsouth crossings for cyclists and pedestrians over the N200 at the Possible solutions and measures suggested by the analysis were then explored: which issues have the greatest potential in terms of same time: there always had to be an alternative. mobility management? What are the most promising measures? What are the target groups? How does traffic flow on the road? What sort of environment are we dealing with? This is how you create widespread support, together with stakeholders. Jasper: "One of the potential solutions that emerged from the analysis was cycling. So, right from the start, cycling was part of the package of measures. Having said that, we didn't expect cycling to be a miracle cure, although we did take the bicycle seriously. The main reasons were the image it conveys, marketing and public support. Cutting congestion was next in line." Alexander adds: "We really made a rigorous analysis and put our energy into the cycling aspect."

# Successful cycling boost despite a restricted budget

#### Communications team on board early to boost coordination of communication to target groups

The communications team has been involved since the start, even for considerations on the package of measures. So the measures are better attuned to the various target groups. Jasper explains: "In this case, we're talking about Amsterdam Nieuw West versus Halfweg. That's a big difference!" Also, local knowledge was deployed as early as possible. "In June 2016, we met with the Cyclists Union and got a lot of information from them on routes used by long-distance cyclists. Haarlem-Halfweg-Amsterdam is 15-17 km."

# Latching on to existing programmes is more effective, but not

# As with other aspects of the scope, starting points for cycling

### Project lessons and recommendations for colleagues

#### Customisation and systematic approach

#### An effective cycling programme is possible, even with a relatively small budget and little assistance

Jasper and Alexander make it clear that if they had to do it again, they'd do it the same way. A successful cycling programme can be set up even with a relatively small sum of money. On that point, Jasper says: "The cycling programme allows us to generate communication and visibility for the bicycle. Regardless of all the ifs and buts, the effect is huge! The method that we opted for, iterative rather than deliberate, is easily transferable. We put a tender procedure on the market for the maximum amount (€100,000) with the aim of encouraging cycling as much as possible. It was about a campaign with the following aims: 1.) Make cycling incentives highly visible, promote it. That helps you contribute to the image of the project, and people are forced to think about cycling. 2.) Try to persuade people to use the bicycle. 3.) Keep people on their bikes, even where cycling is disrupted. We used this to select three parties who set to work, and we had three bids." Alexander adds: "This is simple to transfer to other projects and, moreover, the programme was possible with minimal effort on the part of the project team. In this project, Go Velo and the New N200 project organisation team were important to the cycling programme; our assisting role was actually very minor. The team works very independently. It takes just a little effort to set up a cycling programme. The contractor and the municipality of Amsterdam have no specific role to play."

#### Make a case for your plan! Find a suitable solution based on the project scale and measure of cycling potential

Alexander: "There's always funding for good ideas, but you do have to make the case. You have to work hard to bring the ideas to fruition." Jasper: "We discussed money in-house and need to explain how we intend to spend that hundred grand for cycling. If we hadn't stood up for it, the cycling plan would have bitten the dust. If you don't believe in it yourself, it won't happen; you need to take control and make the case for it. After all, that large sum could be put to good use elsewhere." The lesson here is that you have to check that the project can be scaled up. Alexander points out that the amount of cycling potential is also important: "Take a good look at the aims of your project and then find a suitable solution. If I had to do this again, I'd look for a large scale for small projects [e.g. by latching on to other projects and initiatives]. If a project is small and/or has little cycling potential, the opposite applies. The smaller your project, the more important it is to scale up. It also has to do with the extent of cycling potential. Where a project has high cycling potential or is a large project, there is less need to seek cooperation at a high level." Jasper adds: "Amsterdam Bereikbaar, for instance: we could have a tie-in there. You need to look further than project level and find common ground. And as a project, we don't have the manpower to work on cycling incentive programmes alone."

#### Even for small projects, there are more resources available to do traffic analyses more quickly and cost-effectively.

Jasper: "The preparation for this project, from 2012-2016 was relatively traditional. We are still using a traditional traffic model here, so that we can check whether the planned number of lanes is still appropriate for the traffic volume." Alexander: "We had a traditional origins and destinations analysis done: unwieldy, expensive, inflexible." Jasper continues: "It's now possible to do traffic analyses with more resources, cheaper and, more to the point, quicker." You have more modern applications, such as floating car data. That wasn't available a few years ago. The easiest example is social media: everyone has a telephone with Facebook on it. It's a marketing tactic. For instance, if you've bought some shoes, all you get a week later is shoe adverts in your time line. You're being followed. You can put those mechanisms to good use. To cite one example: a project in Groningen. Many German tourists drive past the city. There is disruption on the ring road. At a number of key spots in Friesland, and on Texel, all German road users are selected so that they can be notified via a message on Facebook: "Note: when you go home this weekend. Don't travel via Groningen - take this alternative route." That is the aspect of providing information, but you can also look at the analysis side of things. For instance, if you notice that a lot of German road users are passing, you might decide to display mobility management messaging in German, too. With modern technology, the parties involved can investigate whether there are also French-speaking road users passing."

#### Cooperation and communication

Image and reducing disruption most important

Alexander: "As far as our project is concerned, restricting disruption is of greater general importance than hitting specific accessibility targets." Jasper adds: "Whether or not hard figures are needed differs enormously for each project. In this case, it is purely a question of keeping people happy while you spend ages tinkering with infrastructure, doing all sorts of disruptive work. If everybody manages to get from A to B. it's a success. It's all about image. It's true that we've set a target [a number of participants] for Go Velo, but this definitely wasn't the absolute priority for this project, but we are keeping cycling in mind [involving cycling was definitely a priority]. In other projects, those with accessibility targets, hard figures are important. If we'd closed the Boezem bridge in this project, that would've been because things were different, because we had different aims."

#### Anchor governance in a cooperation agreement

In order to properly incorporate cycling measures - certainly in a project with so many different aims and involved parties - good governance is crucial. Alexander: "Governance must be properly anchored in the cooperation agreement in advance; it is a strong point in this project. It is important to make solid agreements."

# Important lessons

- Before the project, perform an extensive analysis of the area, traffic and potential solutions together with those concerned, in order to create measures with widespread support. One of the measures adopted was cycling. Take cycling seriously, and use it successfully as a measure, even where cycling is
  - not at the heart of the project. In the case of the New N200 project, the use of cycling contributed to the targets and to the image of the project as a whole.

- assistance.
- Provide real-time data on available routes, not forgetting cyclists. Even in small projects, new analysis tools can make more possible in the field of traffic analysis and providing real-time data. Even for cyclists.

### **Cooperation and communication**

- Take a personal approach to communication in order to retain satisfaction. In order to restrict disruption and boost its image, this project combined integrated information (from a single portal) with personal, direct contact tailored to the target group.
- Anchor governance in a cooperation agreement, especially where cycling is not at the heart of the project or where work involves many different parties.

# Successful cycling boost despite a restricted budget



#### Wide Horizons



Customisation and systematic approach An effective cycling programme is possible, even with limited budget and little



"What we did specifically on the A2 Maastricht project was to secure funding by having a broad, integrated approach; not just a motorway, but also a park and housing. A full package, including cycling."



Insights and inspiration, a discussion with

Jeroen Maas, environment manager at Rijkswaterstaat

# Koning Willem-Alexander Tunnel (A2/N2)

The Koning Willem-Alexander tunnel is made up of two double tunnel tubes, one on top of the other, creating the first double-decker tunnel in the Netherlands. Thanks to the tunnel, 80% of all traffic passes Maastricht underground, rather than through the city at ground level. There is now a park-like environment where the old A2/N2 once ran. This Green Carpet on top of the tunnel forms a new recreational area in the middle of the city. Jeroen Maas, environment manager for the project: "It is not just a traffic-related problem that needs solving; it's also a quality-of-life issue. They are both part of a wide, integrated solution."

### What was the reason for incorporating cycling in the project?

At the plan-formulation stage the project switched from a sectoral 'motorway plan' to an integrated plan. By working together with the city, it was possible to include a lot of urban development in the plan, such as a park on top of the tunnel. "Cycling and walking are very important for the municipality of Maastricht; the statement of requirements has built-in cycling aims and the technical specifications to help boost quality of life."

Name of projectKoning Willem-Alexander Tunnel (A2/N2)LocationMaastricht, east sideParty(ies) involvedThe government, province of Limburg, municipality of Maastricht<br/>(coordinators), municipality of Meerssen, Maastricht Bereikbaar, A2<br/>Buurtplatform, Cyclists' Union and othersIssueImproving the traffic flow, accessibility and quality of life of<br/>Maastricht.ContactPhone: +31 88 797 71 02<br/>E-mail: informatiepuntwvl@rws.nlFor more informationhttps://www.rijkswaterstaat.nl/wegen/wegenover-<br/>zicht/a2/koning-willem-alexandertunnel-a2-nz/<br/>index.aspx

# The 'Groene Loper' in Maastricht



# Maastricht

Koning Willem-Alexander tunnel Double-decker tunnel with local traffic in the upper tubes (N2) and through, motorway traffic continuing through the lower two tubes (A2)

#### Most important project aims and challenges

Groene Lope

A park environment above the tunnel amounts to a new restricted-traffic part of the city.

The main project aims were to improve traffic flow, accessibility and quality of life in Maastricht. The A2 Maastricht project is often seen as an infrastructural project. Or even just as a tunnel project. But that's not the reality: A2 Maastricht is more like a social project than an infrastructural one. It's all about mobility, plus quality of life. The public parties working together saw the tunnel not as an end in itself, but as a means to tackle several problems in and around the city. It wasn't by chance that designer and builder Avenue2 opted for the name Groene Loper ('Green Carpet'). [A2maastricht.nl]

"Beautifying the city: that's what I think's the best bit. At Rijkswaterstaat, we took on this project primarily as a measure to address traffic flow, accessibility and quality of life, particularly noise pollution... The fact that you get a fantastic new park into the bargain, a brand new environment? That's an added bonus. If you have a park you can't just leave it at that, of course we were going to make it attractive to cyclists! That's a high-quality extra."

"I believe the key milestone was was the opening of the tunnel in 2016. The old motorway was still on top of the tunnel. It was in plain sight, but was no longer in use from that point. It was all so quiet!"

#### Main points on the time line and reasons

- 1970s 1990s: exploratory phase
- 1999: Minister decides not to address the A2 traffic artery in Maastricht
- 2001: management agreement negotiations for integrated plan
- 2006: impact & cost assessment
- 2006: tender procedure
- 2007: 'De vraag aan de markt' ambition drafted
- 2009: award
- 2010 and 2011: planning procedure order, preparatory work
- 2012-2016: tunnel construction
- 2016: tunnel open
- 2016: creation of park / Groene Loper
- 2016-2026: property development

#### Addressing an integrated challenge together

At the turn of the century, Maastricht mobilised and involved stakeholders in order to widen the scope of the project. As well as being a traffic issue, it was also a quality-of-life issue and a spatial planning challenge. By tackling these challenges together it was possible to find space to go for a wider, integrated solution, in which government and other parties worked together.

But when the tunnel was commissioned and the Groene Loper opened to the public, the project was not over. From 2016 - 2026 inclusive, Avenuez is able to develop property: they are working on that now, and have until 2026.



"Improving the living and working climate was an important topic for A2 Maastricht... Cycling can help make the area a pleasant place to be. When the cars go into the tunnel, only then do you realise how quiet it's become."

The new Scharnerweg roundabout is on top of the tunnel and is one of the new safe cycle connections, photo credit: Maurits Lopes Cardozo

# Cycling measures





potential of cycling

# Which concrete cycling (incentive) measures have been taken?

- 1. Barrier to cycling becomes safe place to be with restricted traffic
- 2. Building a recreational cycle route, looking beyond the project boundaries
- 3. Creation of cycle tunnel for better connection to cycle highway
- 4. Maastricht Bereikbaar working for less disruption and changes in behaviour
- 5. Accessibility (by bike) guarantees and use of temporary bridges during road works

#### 1. Barrier to cycling becomes safe place to be with restricted traffic

Traffic safety was a problem, not least due to the cycle crossings over the A2. As the large schools were on one side of the city and residential areas on the other, there was a situation with lots of conflicting traffic flows, with many schoolchildren having to cross the A2. But the Groene Loper has created a low-car-use zone. Road safety has improved thanks to the boring of the A2/N2 tunnel and the creation of cycle crossing places on the Groene Loper. They form new connections between the east and west of Maastricht. Jeroen says that incorporating cycling in the project was reflected in the improved road safety. "In place of three traffic-light controlled crossings on a busy road with high-speed

traffic, there are now 11 or 12 connections in an area with traffic restrictions. Cyclists can ride here without encountering conflict with other modes of transport. That's something special." The fact that road safety and quality of life have improved so much is, in part, thanks to the contractor, who laid out the Groene Loper on top of the tunnel to be 'meandering', not an obvious short cut between Stadium de Geusselt and Europaplein junctions. Jeroen explains enthusiastically: "What idea was the contractor trying to convey? If, in future, cars still use the boulevard, that has to be discouraged in some way. Make the route so 'meandering' that it's attractive solely as a road for people who live here. And not for people to use as a short cut. That's fantastic! Not least for cycling. That was completely different to what I'd been expecting."





#### 2. Building a recreational cycle route, looking beyond the project boundaries

The cycling network has been enlarged, including destinations outside the project boundaries. The Groene Loper runs past the de Geusselt junction to the Landgoederenzone, and forms a ribbon that links the whole plan. "We made it into a recreational route. The Groene Loper isn't limited to the zone above the tunnel: it runs further, to the north of the city. If you want to achieve more with cycling, you need to create attractive routes."

#### 3. Creation of cycle tunnel for better connection to cycle highway

A better connection to the cycle highway from Maastricht to Aachen was created on the advice of the Cyclists' Union. Otherwise cyclists would've had to make a diversion. "All parties have contributed to building an extra underpass in the area around Europaplein. This way you get more convenient access to the cycle highway."



# New motorway and cycle highway

#### 4. Maastricht Bereikbaar working for less disruption and changes in behaviour

In order to keep the city accessible and cause less disruption, Rijkswaterstaat was involved in setting up Maastricht Bereikbaar, which has put a lot of effort into changing people's behaviour. One such change ought to be that people leave the car at home and use a conventional bicycle or e-bike instead. As a consequence, Maastricht Bereikbaar has devised all sorts of promotional routes. Such as an 'e-bikes and covenants' pilot scheme, with around 100 companies, including Rijkswaterstaat, in which a specific percentage of employees agree not to go to work by car. In addition to short-term acquaintance with alternatives, the attitudes of a number of people have changed for good. Some opt to travel 15 kilometres by e-bike, rather than in the car. Jeroen explains that he gradually saw the impact this was having: "A project often means disruption. You want to limit that, so it is a good idea to get people out of the car and to offer them an alternative. To begin with, I was a bit sceptical - is that really going to achieve anything? - but ultimately it seemed that day-to-day life in Maastricht had undergone a modal shift, and that's all down to the efforts of Maastricht Bereikbaar."

#### 5. Accessibility (by bike) guarantees and use of temporary bridges during road works

During the road works all sorts of measures were taken to guarantee accessibility, including the use of temporary cycle bridges. Discussions on the implications of road closures were held in advance with environmental management, communications and with the neighbourhood. Measures were taken to mitigate the effects. "It's one step at a time, from south to north. That means that there comes a time when each of the existing roads has to be dug up. For instance, we made agreements with a business owner who said, 'In that case, I'll lose half my customers. In such cases we made a temporary cycle bridge. You can hire them."

## What was needed in order to incorporate cycling in the project?

#### Integrated Groene Loper plan is more than just a tunnel

As A2 Maastricht saw the Groene Loper as a comprehensive plan for the city and the motorway, this plan took motorists, cyclists and pedestrians into account. For visitors and residents too. Work on infrastructure and urban development was integrated. Jeroen Maas explains: "The approach to the project was to see it as an urban-design challenge, not purely a traffic issue. In 2006 we concluded a management agreement, a sort of package deal, to the effect that it would be a single integrated plan to address not one, but five issues. An agreement with not just a single party, four: the government, the province of Limburg, and the municipalities of Maastricht and Meersen. We had agreed that we would do that in partnership, not just improve accessibility and traffic flow, but also tackle the various other problems. That may be more expensive, but you can obtain funding from a range of sources, so you can get more money and a comprehensive deal."

#### City and province working together

The project combined work on the infrastructure with improving the living and working environment by boosting road safety, improving air quality, reducing noise pollutionand creating 'meeting space'. The city and province have a greater interest in improving that living and working environment, and cycling can contribute to that. Jeroen clarifies this: "The A2 Maastricht project agency was the coordinator for the various agencies together. As far as Rijkswaterstaat was concerned, the focus was particularly on the accessibility and traffic flow issues facing vehicles. By working in partnership with the city of Maastricht, we could incorporate cycling, too."



#### Use market expertise at an early stage

Jeroen emphasises how important it is to ask experts from the market for their ideas at an early stage. "Rijkswaterstaat could never have conceived the Groene Loper idea on its own. The municipality of Maastricht could never have achieved it by itself. The contractor was able to get together a consortium of parties, including urban planners, architects, builders etc. to devise and, ultimately, put these smart plans into practice." In order to challenge consortia, in addition to the Programme of Requirements, the 'De vraag aan de markt' ambition document was also drafted. The key wish was to achieve synergy and an integral approach. Participating consortia had the space they needed to come up with improvements. Jeroen points out that the three participating consortia added a great deal to the original plan drawn up by Rijkswaterstaat. "When we started, we had a plan: a tunnel with traffic on top of it, as simple as that, a really blackand-white plan. The plan conceived by Avenue2 was something so much better: a narrower tunnel - our idea was guite wide - by making the tunnel a double-decker. This is narrower and more expensive, but the plan saves housing and leaves space for a temporary roadway. That saves money and - more importantly - kept the city accessible, even during the temporary situation. In addition to the engineering know-how of Arcadis and contractor know-how of Strukton, Avenue2 also incorporated the urban design know-how of West8 (and I've no doubt forgotten many other parties). That took things to a new quality level. If we had taken part in the tendering procedure with our plan, we would have come last."

#### Include cycling in the Statement of Requirements

One lesson from this project is that cycling must be part of the project if it is actually to be incorporated in the plans. That way, the team can obtain funding. "The Statement of Requirements includes a section on routes for pedestrians and cyclists, and the standards with which those routes must comply. Cycling is included as a criterion in the Statement of Requirements and the contractor considered that accordingly, giving it a prominent place in the plan."

#### One joint budget: so that everyone is fully responsible

Working in partnership means making compromises; team members are also working on things that might not be right at the top of the list of priorities. What helped incorporation of cycling in this project was working in the context of a shared budget. Jeroen: "Whether the money was for a tunnel, cycle path or tree, it didn't matter that much. It had to be taken from that single budget, which makes the parties wholly responsible for a project of this kind. That had a fantastic effect. There are projects where the parties fight tooth and nail over money. That didn't happen here. What I learnt myself, for instance, is that I have to reserve my opinion in my role as environment manager."





Create space. Gain support at management and environment Work together with local residents and those directly involved. level: then the process accelerates for instance in the special 'neighbourhood platforms' A relative novelty for this project is that drafts had been shared The best advice that Jeroen can give as an environment manager is to create space. Space in the project scope, in in the planning with residents at an early stage. In order to be able to involve the procedure order, the project schedule... Jeroen draws a funnel on a eight neighbourhoods in the vicinity of the A2 plan area, the A2 notepad. In order to create space, you have to work on gaining 'Neighbourhood Platform' was set up in 2004. In this way, the support and involve people in the process. The further into the information and consultation procedure with the various process, the more restrictive the space. "What is essential is to neighbourhood platforms could be organised in one central location. During the initial phase of the plan, the demands and involve people in the development of the plan at an early stage, while there is still space available. That can be problematic, as the wishes for the project had precedence, plus the effects on the plans may still be relatively vague. But if you leave it too late, the various neighbourhoods. Jeroen Maas: "What we did was to space will be gone because everything has been set out in the involve people in the plans from an early stage. That made it possible to improve the plans and nip a number of objections in contracts." So in order to create such space it is essential to enter into early partnership with the authorities and surrounding area. the bud. Once we had a plan, we went together with the contrac-"Involving parties earlier, that is the crux; there's still space at that tor to the neighbourhood platforms. In this way, many things ran point, you gain local knowledge and support... And the process more smoothly. I wasn't familiar with that way of doing things. In can accelerate." the beginning I had a lot of criticism about it because I was afraid that this information could be used against us in court. Now, Cooperation and communication however, I use this method in other projects I work on: it was a highly important factor for success." A joint project agency makes you sharper

Working together on an integrated plan is complex, but the intensive partnership between Rijkswaterstaat, the province and Take each others' interests into account and bring the right municipalities also made the team sharper. Jeroen clarifies this: people together "We set up a single project agency, projectbureau A2. We made all "The partnership with the contractor, Avenue2, worked well. The our products together, with people from Rijkswaterstaat, the strength of this project was in the people involved: they took the province, and the municipalities of Maastricht and Meersen. A real others' interests into account. There was a good balance. You mixture, plus consultants. We couldn't spare very many people of really have to be selective on both sides. As is the way with our own and didn't have very many experts in this field for a contracts, it was very clear and specific. But on the last page, it tunnel of this kind. That's a once-in-a-lifetime experience. I was included the 10 principles of cooperation. We genuinely tried to responsible for the draft planning procedure order, and also drew complete this project in the right way, meaning a good financial up the development plan for the municipality and started the outcome for all concerned, on schedule and to the standards we process for permit applications. We worked in an integrated way, had agreed." which was a strength. That intensive partnership with municipalities makes me wonder why we don't do it this way every time. Sometimes it's not possible: the parties are too far apart. But not here. It was a success."

# New motorway and cycle highway

Lots of interaction with locals

, Little space in plan

But then there's no more space!

#### Implementation

Diagram: Jeroen Maas, edited by Bike-minded

#### **Wide Horizons**

#### The integral approach facilitates the process

Jeroen explains that the innovative, integrated approach made it easier to put the plan into practice. The integrated approach makes the work to be done easier to digest, as it were: "The most interesting part of this process is the fact that the plan became so much better than we had originally expected: it became a plan that was 'nicer', more integrated and had more widespread support. That's great. Widespread support makes it considerably easier to complete the project. For example: the contractor made1100 permit applications for us. Working together with the municipality was easy. That mutual cooperation, good coordination and listening to each other properly, helped a great deal."

#### Different funding models - with urban development and space for property development - make more things possible

The integrated approach also makes more space for funding, Jeroen emphasises: "What we really tried to do with the A2 Maastricht is to have a wide, integrated approach so that we could obtain funding: so not just a motorway, but a park and residential property, too. Everything: cycling too. My boss said: "This is actually an example of improving the land ahead of a project, expensively." You hide the motorway under the ground, giving you fantastic land, ready for urban development. In fact, this is the first time we at Rijkswaterstaat have been involved in a contract that includes property. That is a sort of business model that can help you generate revenue. I hadn't noticed the fact that this project offers opportunities for urban development beforehand. At first, I thought this was just a tunneling project. At the tendering stage we saw, for the first time, how the contractors tackled problems in the designs. I really enjoyed that."

#### Administrative boldness and mutual trust are needed

Another success factor was administrative boldness and mutual trust. For a long time, not a lot of substantive information can be shared: "We used 'competitive' dialogue. The main thing in that respect is administrative boldness to get the process underway. We knew one thing for sure; the basic plan that we'd come up with wasn't going to be used. Competitive dialogue means negotiating. which meant that we couldn't reveal any details to policy makers for a year (or two). The municipal executive kept asking "What's the plan looking like?" We had to keep quiet. It was the same from within Rijkswaterstaat: "What are you actually doing?" You see... If you don't have mutual trust, that can be quite difficult."

#### Customisation and systematic approach Linked opportunities improve support

Widening the scope of a project, for instance by linking it to other opportunities, helps to improve public support and improve its image. "You notice that if a project is spread over several parties there is much more support for the plan. That works. It's worth exploring whether or not you can tie in with other projects in the neighbourhood. It will be more complex as a result, but that helps the project climb up the 'hierarchy'. There are straightforward road-widening projects, and then there's the A2 Maastricht, in a different league."

#### Share knowledge among projects: on both successes and mistakes

Jeroen points out that his team has learnt a lot from the process and sees opportunities in improved sharing of project know-how and experience: "A real improvement measure used within Rijkswaterstaat is active knowledge sharing of not just successes, but failures, too. That can be awkward. I was interviewed recently for a study commissioned by the national ombudsman, which put the question: if this is so good, why don't you share it? Indeed, we did that a lot: we had an information centre that people could visit, and I think that I gave perhaps as many as 200 lectures. I enjoy that, and you learn a lot in the process. But it's not as though we have to drop in on everyone; we try to process all the knowledge and expertise we have in guidelines and frameworks. I believe we have 200 frameworks. Each project is almost an organisation in itself, one which believes that it needs a certain measure of artistic licence; one which wants to do things its own way. And I believe that there's still a lot to be gained in that respect: learn from each other's successes and failures."

#### Stay involved for longer

Reflecting on the process, Jeroen still sees an opportunity: he has been associated with this project, for Rijkswaterstaat, for an exceptional length of time: all told, each stage up to area development. That sort of continuity has made the process easier. Being involved even longer could, potentially, be even more beneficial: "Riikswaterstaat should also be involved in the A2 Maastricht area development. By being involved longer, you can prevent problems arising in future; that can only be good, I reckon. As it stands, we've invested hundreds of millions in the tunnel. It'd be terrible if some specific urban developments mean that the solution is no longer viable. You have to guarantee accessibility in the long term and I think that we aren't doing that at the moment. But I also understand that we can't do everything: there's a limit to our mandate."

# Important lessons



#### Wide Horizons

- Combine work on the infrastructure with improving the living and working environment; that helps take cyclists and pedestrians into account. The Groene Loper is a comprehensive plan for the city and motorway.
- Work together with urban and provincial authorities: They have a greater stake in improving the environment. In this project, the municipalities were the driving force in terms of incorporating cycling in the plans.
- Utilise market expertise at an early stage in the process. In this project, the plan was much better as a result. The project has synergy and an integral nature.



- cycling. In this project, for instance, space was created for a park and housing.
- Widen the project scope, for instance by capitalising on linked opportunities. That helps boost support and improve the image of a project.



#### Collaboration

- space. There is less space in later stages, once everything has been set out in contracts. The process accelerates thanks to increased support from authorities and residents.
- Work together in a joint project agency: that makes you sharper and facilitates the process.
- Neighbourhood Platforms.

# New motorway and cycle highway





### Customisation and systematic approach

Take an integral approach, that creates more opportunities for funding. Even for



Molve people in the development of the plan at an early stage, while there is still

Organise information provision and consult with stakeholders in a central location. In this project, drafts were shared with residents at a early stage in special

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Bike-minded Design Consulting B.V, Rotterdam Maurits Lopes Cardozo Marlies Bielderman

English translation by sbv-anderetaal Gorinchem Ingeborg Meinders Jonathan Todd

In association with: Rick Lindeman Alan Hoekstra Marianne Oosterbroek Kim Ruijs Lysanne de Gijt Klaartje Arntzen Mariska van der Steen

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Cover image: cyclist, junction of Woudweg and A4 Highway near Vlaardingen, picture credit: Maurits Lopes Cardozo.





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