



Dutch cycling Vision

Colophon

Dutch Cycling Vision

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Ministry of Infrastructure
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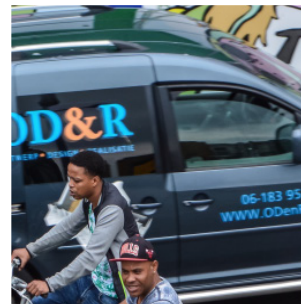


Let's do it together!

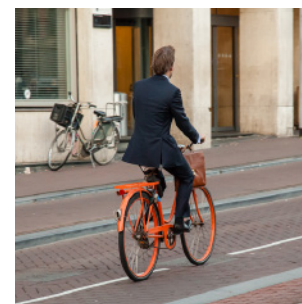


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THE DUTCH CYCLISTS



Cycling without frontiers

The Netherlands is a country of bikes. We have a population of around 17 million people, and almost 23 million bicycles! For short distances – especially in cities – bicycles are a popular alternative to public transport and cars. In fact, one quarter of all journeys in the Netherlands are made by bike. So, cycling rules!

Cycling has many benefits and helps us achieve accessibility, liveability, sustainability and health goals. The urban population will continue to grow in the coming years. Tackling climate change is a key concern, and the role cycling plays in this is increasingly important. The good news is that there are still gains to be made. For example, central government, working with employers, aims to get 200,000 commuters out of their cars and onto their bikes in the next few years by encouraging the use of bicycles and e-bikes through tax incentives.

Local, regional and central government are all keen to boost cycling. That's why

we've earmarked a quarter of a billion euros to encourage cycling and make it a serious transport option. And our Tour de Force Joint Bicycle Agenda 2017-2020 is bringing government, the private sector, NGOs and knowledge platforms together to make our country even more bicycle-friendly. The agenda centres on flexibility and an integrated approach, with special focus on improving bicycle highways and and, for example, providing bicycle lockers and racks at train stations to facilitate the first and last parts of longer journeys (the 'last mile').

Of course, the Dutch approach to cycling can be applied in other countries too, so cities and regions around the world can benefit from Dutch expertise. Our Dutch Cycling Embassy experts are keen to share their knowledge worldwide. So let's face the challenges ahead together, and allow everyone to enjoy the benefits of cycling!

Stientje van Veldhoven
Minister for the Environment



How come the Dutch cycle so much

A brief history of dutch cycling



Cycling in the Netherlands hasn't always been taken for granted. The Dutch have been early adopters of building highways. From the end of the 1950s, the car became the dominant mode of transportation and the number of cars on the road increased continuously. The few bicycle paths built at that time were not aimed at bringing comfort to cyclists but intended as a way of moving them to the sides in order to create more space for cars on the roads.

What has changed then, to explain that most people see the Netherlands as a cycling paradise these days? Several factors came together in the mid to late 70's. The high number of traffic casualties, particularly amongst children, was a reason for public outrage and demonstrations. The oil crisis made everyone aware that society heavily depended on oil and of the risks that came with it. As a consequence, several grassroot movements were created and called for change. Grassroot movements also became stronger in their pursuit of safer cities and safer cycling. But there was no national policy on cycling

yet and differences between cities were vast.

As a result of public pressure, urban planning policies gradually evolved and started considering the bicycle as part of mobility. The bicycle regained an importance in city planning which led to an effort to increase the density of urban development and the containment of urban sprawl. It also led to a bicycle infrastructure construction programme.

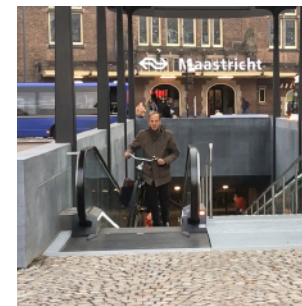
As infrastructure for cycling was built, planners started to shift their thinking from considering infrastructure in isolation to designing full networks of cycle paths in cities. The city of Delft was one of the first to create a whole network of cycle paths. These initiatives transformed cities into places where children and the elderly, rich and poor, and even the queen cycled. As a consequence, the number of people cycling started to increase again. Fast forward from there, a national cycling policy was adopted in the 1990's and cycling networks are now present in almost every

city in the Netherlands. This led to a large reduction in the number of cyclists killed in traffic. Nowadays, even with a growing population of people in their sixties and seventies, everyone in the Netherlands

cycles. The older age group shows a rise in the distance travelled by bicycle every year. This increase is primarily due to the combination of an improvement of the fitness-level of this age group and the

growing use of electric assisted bicycles. What happened in the Netherlands is special and it delivers. But it is not that special that it can't be done anywhere else.





Benefits of cycling

Why cycling is beneficial



Over the last few years, there has been a growing attention on cycling worldwide. An increasing number of cities are elaborating strategies to increase levels of cycling. Although many cities set ambitious goals, progress is often slow and very localized. Despite these disparities, research on cycling is clear: cycling is good for people and society as a whole. People cycling regularly live longer and healthier lives. People also report feeling happier when they commute by bicycle than with any other form of transport.

With an increasing proportion of people living and working in cities, the bicycle represents a practical alternative to the current car-oriented societies we live in. With the appropriate infrastructure and bicycle-friendly policies to make cycling safe in cities, it is possible to reduce and avoid traffic congestion and spend the time saved on more meaningful activities. Because of the small amount of space required to cycle, the bicycle is a more

efficient way to move people in the constrained physical space of cities than for example by car. Furthermore, as the visibility of the effects of climate change increases, cycling helps us reduce our impact on the environment.

Cycling is also beneficial to the economy. A bicycle is cheaper to buy and maintain than a car, which also makes it more equitable. Businesses in areas with higher levels of cycling tend to perform better than the more car-oriented areas.

Taking cycling as a mode of transport seriously, for example by developing cycling friendly policies and comprehensive bicycle infrastructure makes cycling easier and safer for cyclists. Investing in cycling benefits not only cyclists, but also other road users, including car drivers, as cities become less congested and less polluted.

Cycling is a low-cost mode of transport for both individuals and society as a whole. Cycling requires a lower individual investment than driving a car. Each trip is free and maintenance is minimal. Each kilometer cycled yields a benefit to society whereas each kilometer done by car and public transport generates a cost on society.



Economics

Cycling is beneficial for the economy



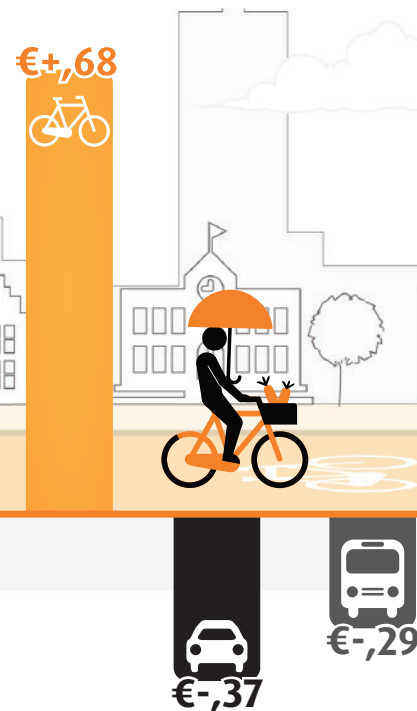
Riding a bicycle costs less!

The annual cost of riding a bike is approx. 300 euros whereas the annual cost of driving a car is approx. 8500 euros.¹



Society benefits from an urban km travelled by bicycle

A kilometer covered by bike yields a social benefit of 0.68 euro, whereas cars and buses cost society 0.37 and 0.29 euros per km travelled respectively.²



Cyclists spend more!

Cyclists shop more locally, more often and are more loyal compared to car drivers. Although cyclists spend less per visit, they spend more overall because they shop more often than people driving.³



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. Cycling is good for the planet and for the quality of life in cities.

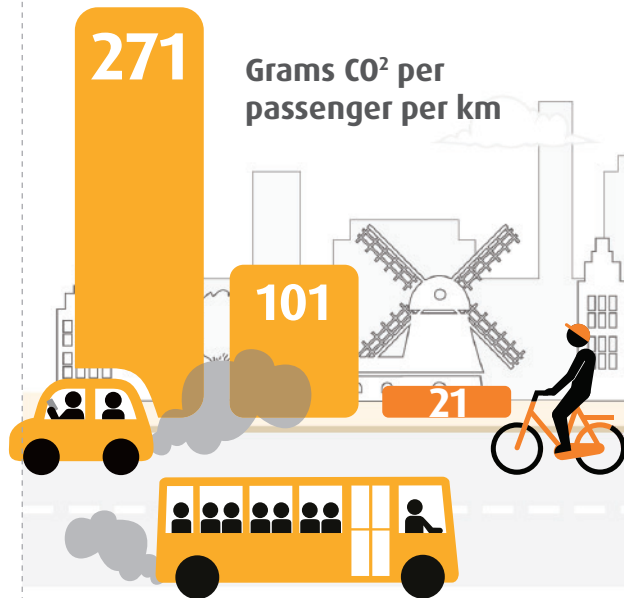


Environment

Cycling is good for our planet and our cities

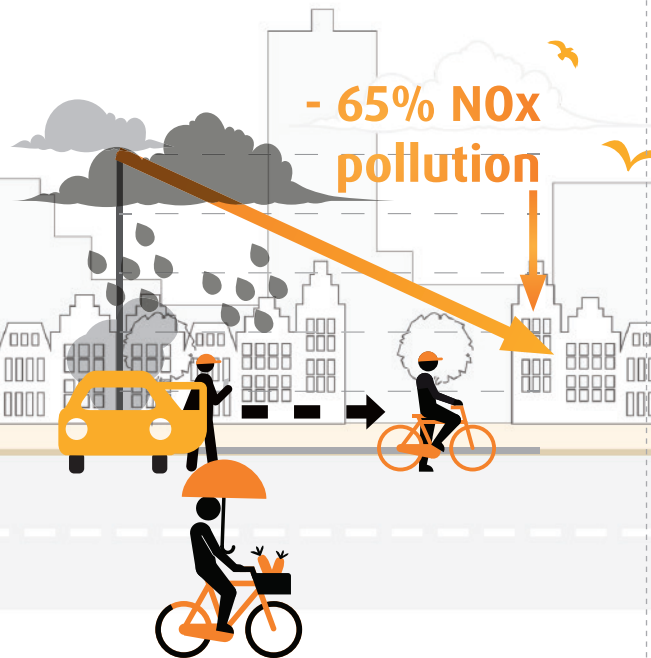
Bicycle use reduces CO² footprint

Compared to cars and buses, the product life cycle of a bicycle generates minimal carbon emissions.⁴



Cycling improves the local air quality

Local air quality improves drastically when switching from cars to bicycles. Switching from car to bicycle reduces 65% NO_x pollution per km travelled.⁵



Cycling helps to improve the quality of our public space

Public space will be improved by turning car parks into bike lanes and playgrounds with green areas to improve the local environment. Cycling is silent and helps to reduce traffic noise.⁶



Cycling is good for you!
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.
Cycling keeps you fit longer
and your immune system
young. In conclusion, cycling
contributes to living a
healthy life.



Health



Cycling leads to a healthier life

Cycling keeps you in shape

Cycling regularly boosts physical fitness and prolongs life expectancy by 3 to 14 months. Cycling 30 minutes every day is equivalent to the weekly recommended level of physical activity.⁷



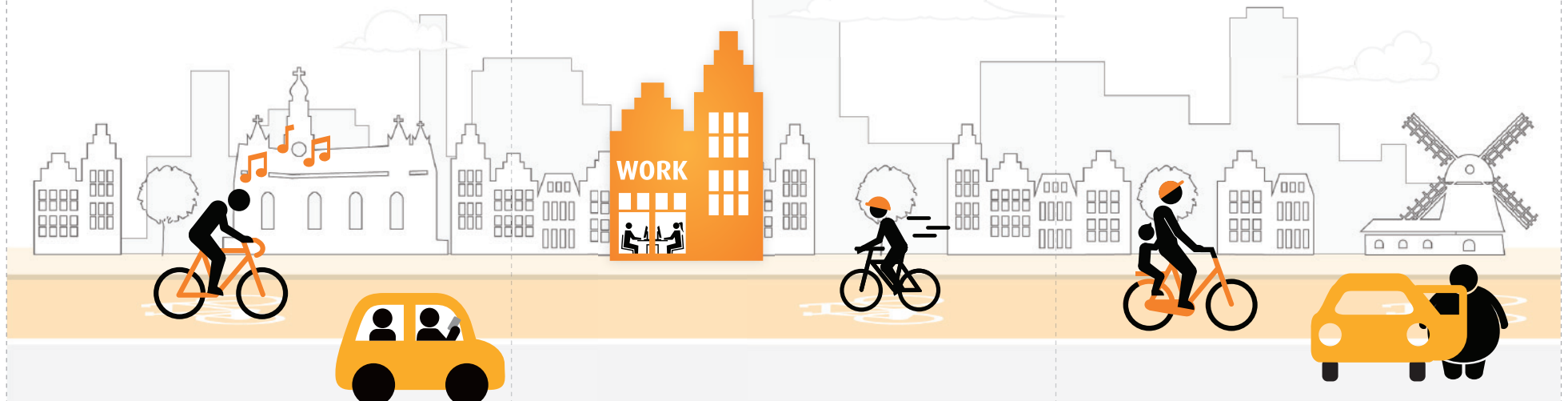
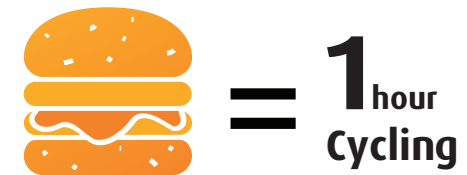
Cycling prevents serious diseases

Cycling to work every day reduces the risk of serious diseases and depression.⁸



Cycling is an easy way to burn calories!

Cycling is an efficient way to prevent obesity and reduce the incidence of diabetes type II.⁹



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.

A photograph of a woman with long brown hair, wearing a grey fedora, a dark blue scarf, a light grey cardigan over a white top, and blue jeans. She is smiling and looking towards the camera while sitting on a black bicycle. She is wearing bright orange gloves with blue and white stripes at the cuffs. The background is a blurred street scene with a brick path and some greenery.

Happiness

Cycling increases happiness

Cycling is associated with joy!

59% of all cyclists associate cycling with joy and only 2% dislike cycling.¹⁰



2%

Cycling offers freedom to children

Dutch children are the happiest in the world. Cycling allows them to reach destinations safely and gives them the feeling of freedom.¹¹

Cycling improves quality of life

Cycling is associated with convenience, independence and flexibility.¹²



Independence



Enjoyable



Always on time



Convenient



Flexibility

Cities are struggling for space. As the number of residents is continually growing, there is increasing competition for a limited amount of public space. Given that 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.



Accessibility

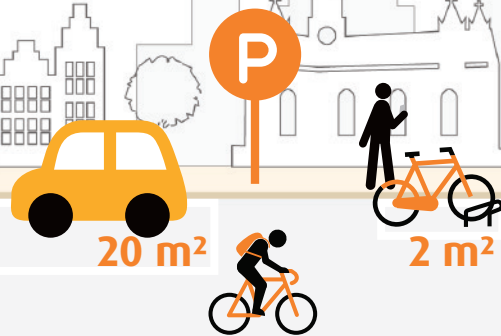


Cycling cities are pleasant cities

Cycling creates public space

Bicycles take up less space than cars, both for driving and in the amount of space taken up by parking.¹³

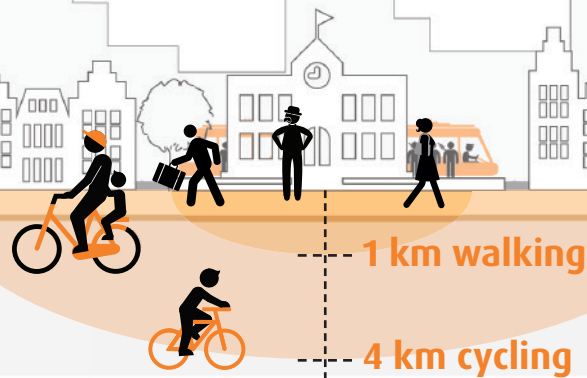
1
car
parked = **10**
bicycles
parked



Bicycle is the easiest mean of transportation

Within the urban environment, locations are easier to reach by bicycle or a combination of bicycle and public transport than by car.¹⁴

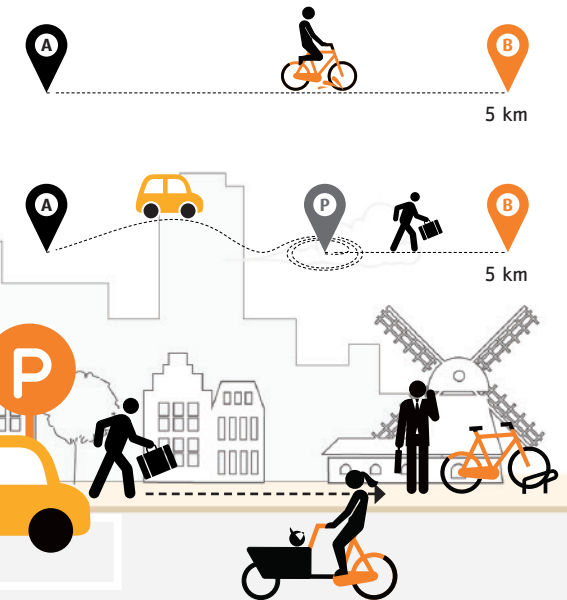
The service area of cycling is **15x** larger than for walking!



And even more with an E-bike

Cycling saves you time

No need to search for a parking spot. Within the urban environment, the bicycle is the fastest mean of transportation.¹⁴



Planning for the promotion of cycling and walking creates cities safer for cyclists and pedestrians but more broadly for all road users. Statistically, cyclists are less likely to cause deadly collisions.



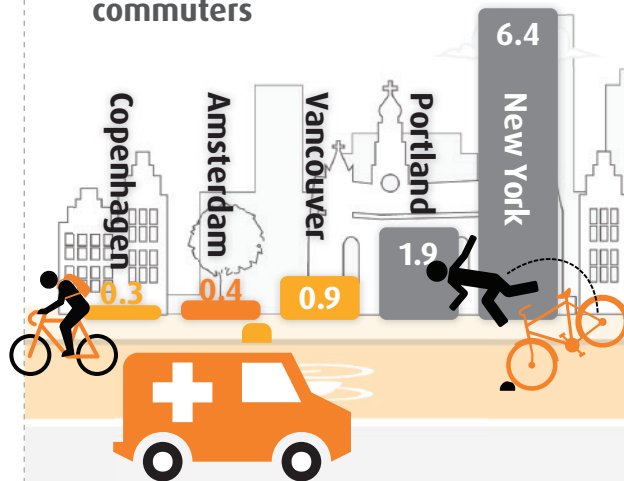
Safety

Cycling leads to safer cities

Cycling cities have fewer casualties among cyclists

Cycling cities embrace cycling in their policies and city planning. They build a cycling culture by teaching the future generations to cycle. Cycling cities develop safe cycling infrastructure.¹⁵

Annual fatalities per 10,000 bike commuters



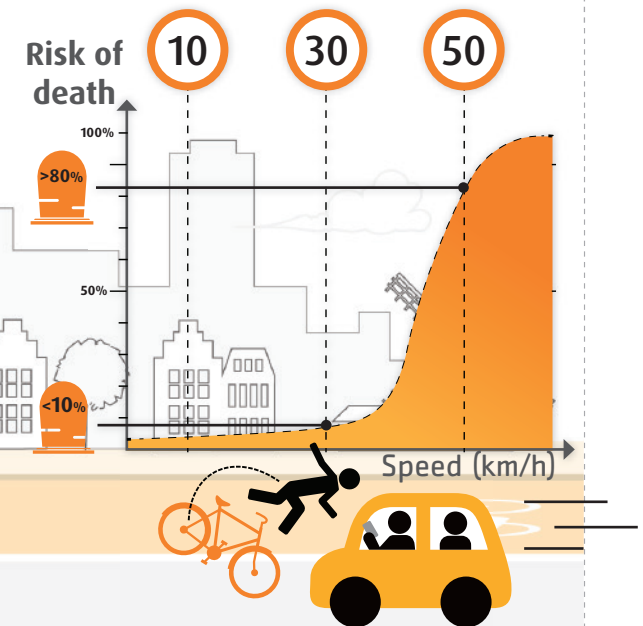
Separating cyclists from motorised traffic results in fewer accidents

Developing a clear road safety program reduced 1.600 traffic casualties between 1998-2007 in the Netherlands.¹⁶

-1.600 casualties!

Lower traffic speeds result in fewer deadly accidents

The likelihood of a deadly accident at speeds 30km/h or less is aprox. 75% less than at 50km/h.¹⁷



Cycling is a democratic mode of transportation. It offers greater mobility to virtually everyone regardless of origin, age, income or physical ability. The bicycle increases social participation and is an inexpensive solution to transport poverty.



Social Equity



Cycling encourages social participation

Cycling allows people to get access to more opportunities

Cycling is more affordable than driving a car and allows people to get access to a larger range of options for jobs and activities.¹⁸

Cycling keeps the elderly socially connected

Cycling allows the elderly to remain socially active for longer.¹⁹

Cycling increases social interaction

Cycling requires social interaction with other road users to mediate traffic flows or to prevent collisions. As a result, cycling is experienced as a social activity.²⁰



How to get there?

Cycling for everyone

The Dutch have not only created a safe and extensive network for cycling. They designed this network to make cycling safe and suitable for people of all ages, all abilities and for different types of bicycles. Cycling as a mode of transport is therefore accessible to everyone.

Take cycling seriously

The Dutch take cycling seriously and treat it as a proper mode of transportation on the same level as the car or public transport. Transport policies should aim at

the optimal mix of transport of which the bicycle is an integral part.

An integrated cycling policy is based upon hardware, software and orgware. It is not enough to focus only on building the hardware (e.g. development of infrastructure, cyclepaths). We need to

attract cyclists by working on the software (campaigning, equity in traffic laws, etc). And the orgware (capacity building of the different institutional actors) is needed to strengthen the strategy on a broader basis.

Stationweg 2016, The Hague (photograph Frank Jansen)



Stationweg 1990, The Hague (photograph Jos van Leeuwen)



Main barrier to cycling is safety

People are more influenced by perceived safety than actual safety statistics. In places where the chances of an accident are statistically low, people will not consider cycling a viable transport option if the physical environment looks dangerous. Therefore, policies and design should create and promote a safe environment inviting to cycling. The Dutch have long preferred promoting active safety (prevention of accidents) rather than passive safety (softening the outcome of accidents) through the creation of bicycle infrastructure rather than recommending, or enforcing, wearing a helmet and reflective clothes.

Groothertoginnelaan 1995, The Hague (photograph Willem Vermeij)



To enable people to reach all destinations, the Dutch have built an extensive network of cycling infrastructure adapted to the environment to ensure safety and comfort for all cyclists.

"Road safety is not a goal, it is a precondition for cycling!"

This effort not only focused on building cycle paths but also making intersections

safer by changing layouts or by adding lights for cyclists, thereby reducing the chance of conflicts with vehicular traffic. Where the physical space is too small for physical separation, vehicular traffic is slowed down by a change in the street layout as well as signs. Dutch planners also create areas where cars are allowed to enter but where they are guests and cyclists and pedestrians have priority.

Groothertoginnelaan 2016, The Hague (photograph Frank Jansen)



Cycling and public transport

The bicycle is the ideal mode of transportation for short distances. Its reach can be increased when it is considered in association with other modes of transportation notably public transport (e.g. trains, trams or ferries). It is therefore important to ensure an easy transition between cycling and other modes of transport (e.g. cycle path to and from the station, bicycle parking next to stations, shared bicycles at egress stations). We talk about chain mobility.

In order to make cycling a sensible transport option, urban development should be oriented around public transport nodes, so that people can walk or cycle to the station. In the Netherlands, around

Stationsplein station Hollands Spoor 1995, The Hague
(photograph Sjoerd van der Hucht)



40% of train passengers arrive by bicycle. Planning for the bicycle further increases the catchment area of the station up to 15 times compared to just considering walking. This model extends the TOD (Transit Oriented Model) concept into a HOD: 'Hybrid Oriented Development'.

Planning for density and proximity

In denser neighborhoods the modal shift for cycling is much higher than in more rural areas. The bicycle is a good mode of transport for short distances, therefore its

benefits are greatly increased when urban areas are designed for proximity between different uses (residential, commercial, health services, shops ...). No large supermarkets or 'hypermarchés' on the edge of the town that can only be reached by car, but a spread of smaller shops on a cycling distance.

Cycle paths don't have to be alongside roads

The Dutch don't limit themselves to building cycle paths on or along roads. When

Stationsplein station Hollands Spoor 2016, The Hague (photograph Frank Jansen)



planning new neighborhoods for example, planners will sometimes create cycle paths completely isolated from roads for cars. Usually, these cycle paths will offer a more direct route to interesting destinations. (e.g. Leiden Merenwijk to Leiden station, Schippersbrug in Utrecht). Sometimes this is created by diverting traffic to other roads to create simpler, safer, faster paths for cyclists through neighborhoods. This is called 'filtered permeability'.

Protecting the cyclists in the law

In complement to building the infrastructure to making cycling safe, The Netherlands also changed its laws to further increase the protection of cyclists. In the case of a collision between a car and a

Javastraat 2010, The Hague (photograph Claudia van Noord)



bicycle, the car driver is liable by default. It is considered that due to its size and power drivers should pay extra attention to other, more vulnerable, road users.

Creating a bicycle agenda

The government sets out objectives to promote and increase the level of cycling. The current bicycle agenda is named 'Tour de Force 2020'. The objective of this plan is to increase the number of kilometres cycled over the period 2017-2027 by

20 percent. To do so, the agenda defines the different actions needed to reach the objective as well as the different actors required. This plan follows several other national bicycle plans going back to the early 1990s. These plans are then integrated in the regional and local plans. The national plan helps creating a continuity and consistency of the bicycle infrastructure and a coordinated action for better cycling.

Javastraat 2016, The Hague (photograph Frank Jansen)



Let's do it together!

No need to reinvent the wheel

Transforming the Netherlands into a cycling nation required overcoming numerous challenges. There is no need to reinvent the wheel: the Dutch cycling experts who realised change in the Netherlands are more than happy to help cities and regions around the world making cycling an option for everyone!

The Dutch Cycling Embassy can help you by connecting you with these experts in order to become a bicycle friendly place.

Let us know what challenges you are facing and let us help!

Contact us via info@dutchcycling.nl
or call +31 15 202 6116.



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Zwolle

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The Dutch Cycling Embassy is a public private network for sustainable bicycle inclusive mobility. We represent the best of Dutch Cycling: knowledge, experience and experts offered by private companies, NGO's, research institutions, national and local governments.

Would you like to know more about the Dutch Cycling Embassy?

Visit: www.dutchcycling.nl



Dutch Cycling Vision