

ThinkBig - ThinkBike **Dutch Cycling Vision**

ENGLISH

In front of you lies a book containing
the Cycling Vision of the Dutch Cycling
Embassy.



CYCLING FOR EVERYONE.



Colophon



Photo: Dutch Cycling Embassy



Dutch Cycling Vision

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Content



01. Cycling without frontiers	3
02. Why do the Dutch cycle so much?	4
03. Benefits of cycling	5
04. How to get there?	20
05. Let's do it together!	23
06. Sources	24



01.

Cycling without frontiers

As streets emptied and cities around the world quickly locked down in March 2020, cycling suddenly became a critical tool in the fight against COVID-19. In the European Union, 2,600 kilometres and €1.7 billion of temporary cycling measures were implemented in just two years. This “pop-up” infrastructure served two purposes: 1) Create spaces to improve physical, social, and mental health; and 2) Make up for lost capacity and attractiveness of public transport systems.

To the surprise of some, the Netherlands didn't experience the same panic to reallocate road space during the pandemic. To explain this inaction, historians point to six weeks in 1973, when we experienced a crisis similar to the one in 2020: the OPEC oil embargo. Since then, we spent decades building 37,000 kilometres of separated cycle paths and 55,000 kilometres of traffic-calmed streets, and in many ways, were perfectly placed to weather this difficult crisis.

Fifty years after this historical turning point, the Netherlands is famous for being the only country in the world with more bicycles than people (23 million bicycles compared to 17 million inhabitants). Even more impressive is the number of kilometres travelled by bicycle: 17.6 billion. That's over 1,000 kilometres per inhabitant per year!

But like most fish have no idea they're surrounded by water, the vast majority of Dutch people have no understanding of the remarkable ways their cities have been built to make them more safe, inclusive, and pleasant for everyone. The cycling infrastructure increases the autonomy and freedom of children; improves sociability and trust between citizens; creates more gender, age, and ability-equitable spaces; improves access to opportunity to all citizens; and ultimately creates cities more resilient to the stresses of the present and future.



Photo: Dutch Cycling Embassy

The challenge now—one embraced at the Dutch Cycling Embassy—is helping global cities achieve the same level of “fietsgeluk” as we do in the Netherlands. Fuelled by converging climate, health, and safety crises, there is a growing urgency to increase the number of cyclists—and decrease the number of cars—in urban areas. The pandemic showed that it can be done quickly and cheaply, and that the world is ready for a two-wheeled revolution. It is with great pleasure that I offer you this Dutch Cycling vision. I am sure it will inspire you!

Vivianne Heijnen
Minister for the Environment

02.

Why do the Dutch cycle so much?

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 side 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 70s. The high number of traffic casualties, particularly amongst children, was one of the reasons for public outrage and demonstrations.

The oil crisis made the public distinctly aware how society heavily depended on oil and the risks that came with it. Consequently, several grassroot movements were created and called for change. Grassroot movements also became stronger in their pursuit of safer cities and safer cycling; however, 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. This pressure from the public 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. 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. Consequently, the number of people cycling started to increase again. Fast forward from there, a national cycling policy was adopted in the 1990s 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 so unusual that it can't be done anywhere else.



DUTCH CYCLING EMBASSY

Image source: Nationaal Archief

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03. Benefits of cycling



Photo: Dutch Cycling Embassy

Economics

Cycling is a low-cost mode of transport for both individuals and society. Cycling requires a lower individual investment than driving a car, making it more affordable. Each kilometre cycled yields a benefit to society whereas each kilometre done by car and public transport generates a cost on society.

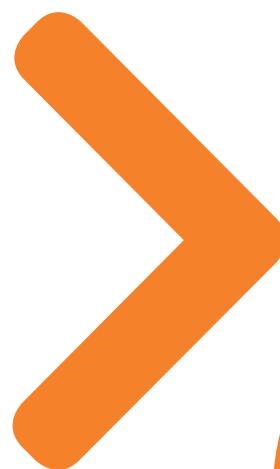


Photo: Dutch Cycling Embassy

Cycling is beneficial for the economy

Riding a bicycle costs less

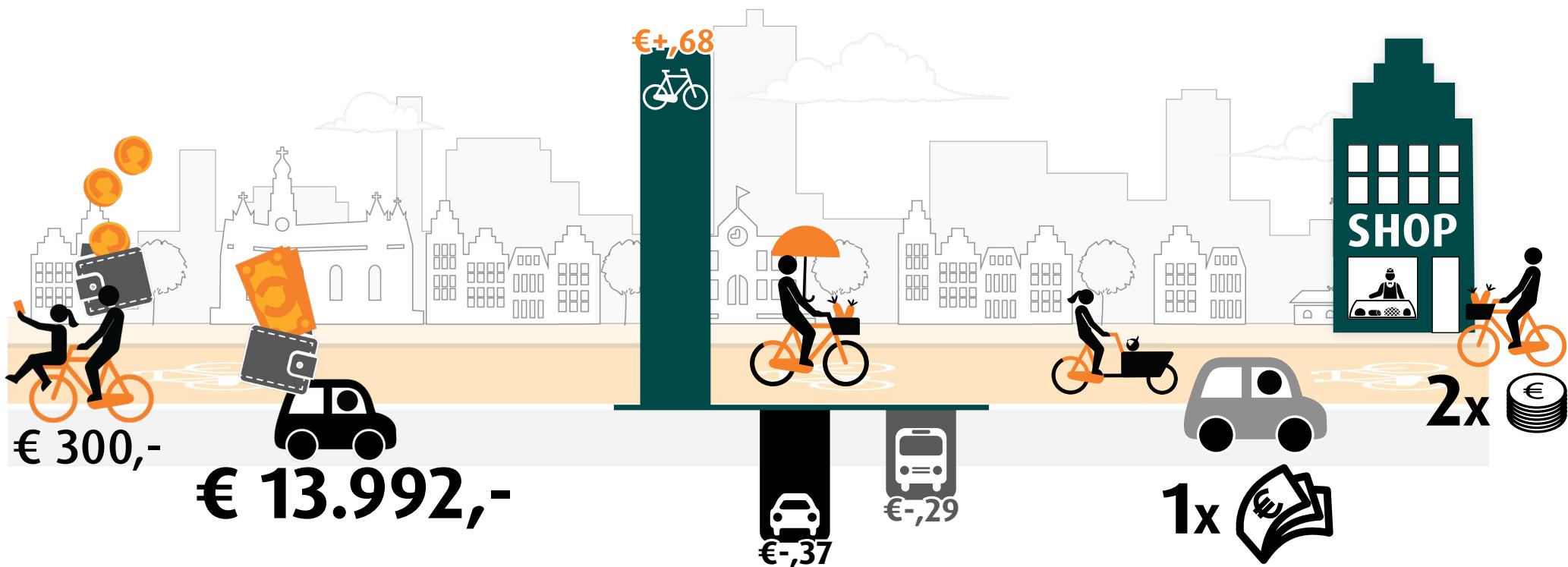
The annual cost of riding a bike is approximately 300 euros whereas the annual cost of driving a car is approximately €13,992 euros.¹

Society benefits from each kilometre cycled

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

Cyclists spend more

Cyclists shop more locally, more frequently, and are more loyal compared to car drivers. Although cyclists spend less per visit on average, they spend more in total because they generally visit shops more frequently than people driving.³



Environment

Cycling and walking are the means of transport that 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 quality of life in cities, increasing the resilience of both.

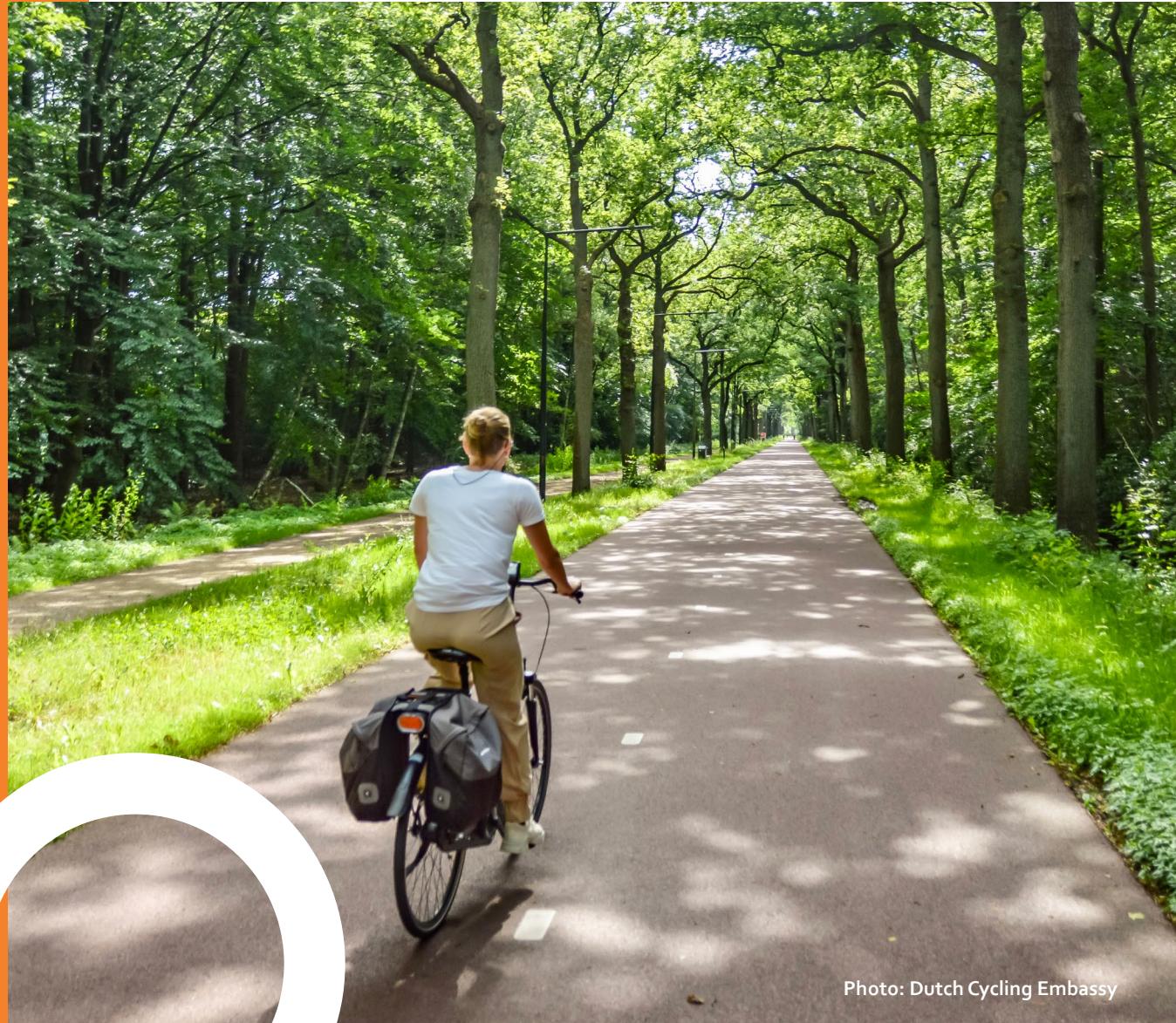


Photo: Dutch Cycling Embassy

Cycling is good for our planet and our cities

Cycling reduces carbon emissions

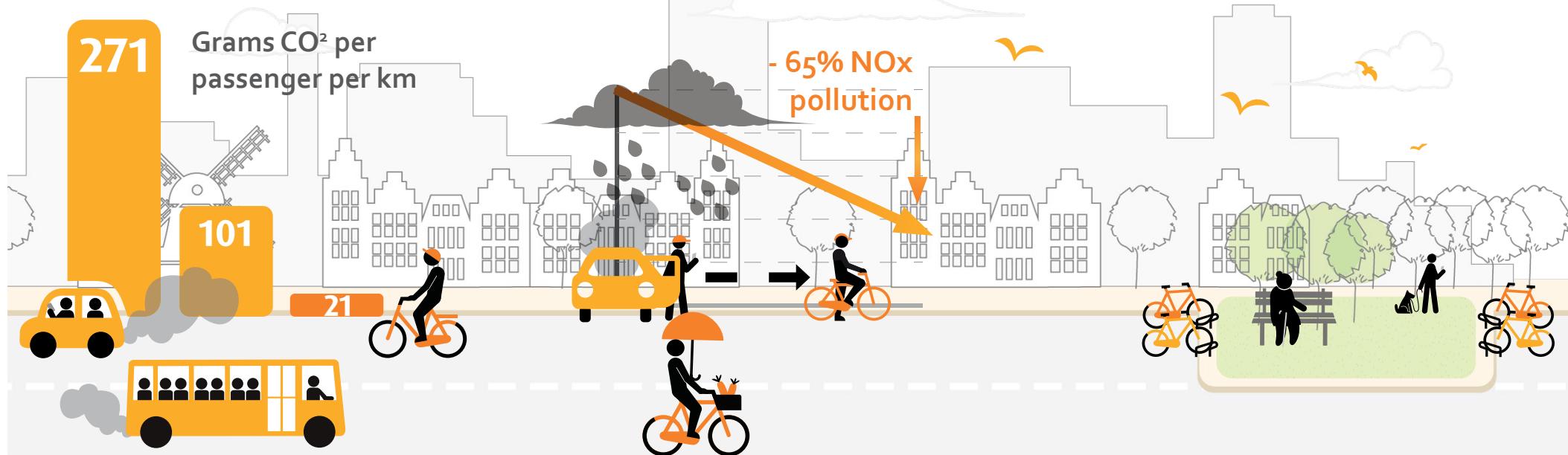
Compared to cars and buses, the product life-cycle of a bicycle generates minimal carbon emissions.⁴

Cycling improves air quality

Local air quality improves drastically when switching from cars to bicycles. Switching from car to bicycle reduces nitrous oxide pollution per kilometre travelled by 65 percent.⁵

Cycling improves the quality of public spaces

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



Health

Cycling is good for you! Riding a bicycle is a healthy, enjoyable, and low impact source of physical activity for all ages and abilities. Employees who cycle to work are less likely to call in sick. Cycling keeps you fit longer and your immune system strong. Not only is cycling beneficial for your physical health, but it can do wonders for your mental health as well. No matter the conditions, people will bike with others to various destinations as a method of social mobility. In conclusion, cycling contributes to a healthy lifestyle.



Cycling leads to a healthier life

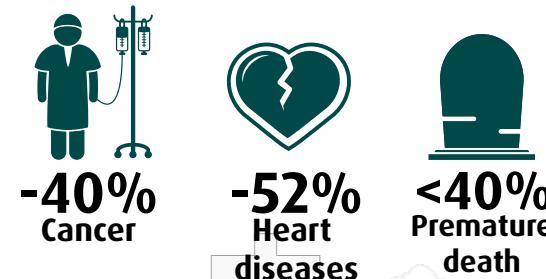
Cycling keeps you in shape

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



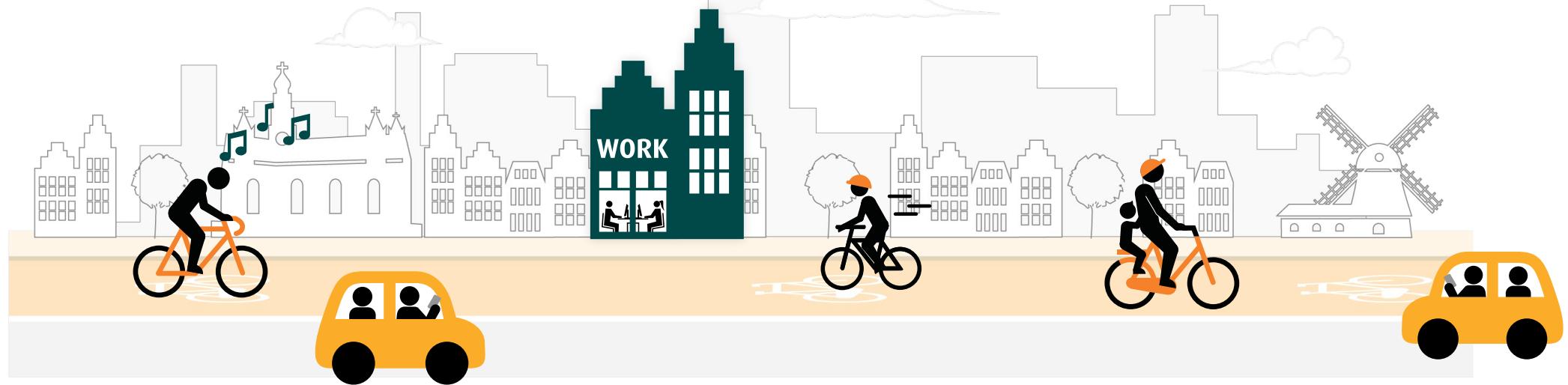
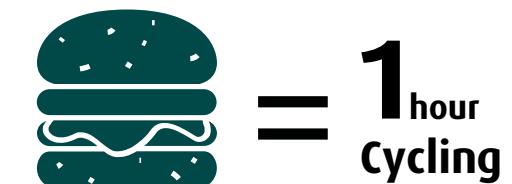
Cycling prevents serious diseases

Cycling to work or school 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 type 2 diabetes.⁹



Happiness

People who cycle regularly associate cycling with happiness. Cycling encourages social interactions between different road users. It improves mental health, well-being, and helps reduce stress. Cycling is associated with convenience, independence, and flexibility.



Photo: Dutch Cycling Embassy

Cycling increases happiness

Cycling is associated with joy

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



Cycling offers freedom to children

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

Cycling improves quality of life

People who cycle tend to be more satisfied, less stressed, more relaxed, and experience greater freedom compared to people who commute by car.¹²



— Accessibility

Cities are struggling for space. As the number of residents continually grows, there is increasing competition for a limited amount of public space. Since bicycles take up less space than a car, replacing cars with bicycles frees up space in order to create more room for green space and for people to meet each other.



Photo: Dutch Cycling Embassy

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



The bicycle is the easiest means of transportation

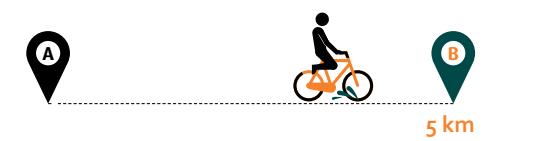
Within the urban environment, locations are easier to reach by bicycle or a combination of bicycle and public transport than by car.¹⁴

The surface area
of cycling is
16x
larger than for walking!



Cycling saves time

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



Safety

Policies that improve the safety of walking and cycling create cities safer for pedestrians and cyclists, but more broadly for all road users. Statistically, cyclists are less likely to cause deadly collisions.



Photo: Dutch Cycling Embassy

Cycling leads to safer cities

Cycling cities have fewer casualties

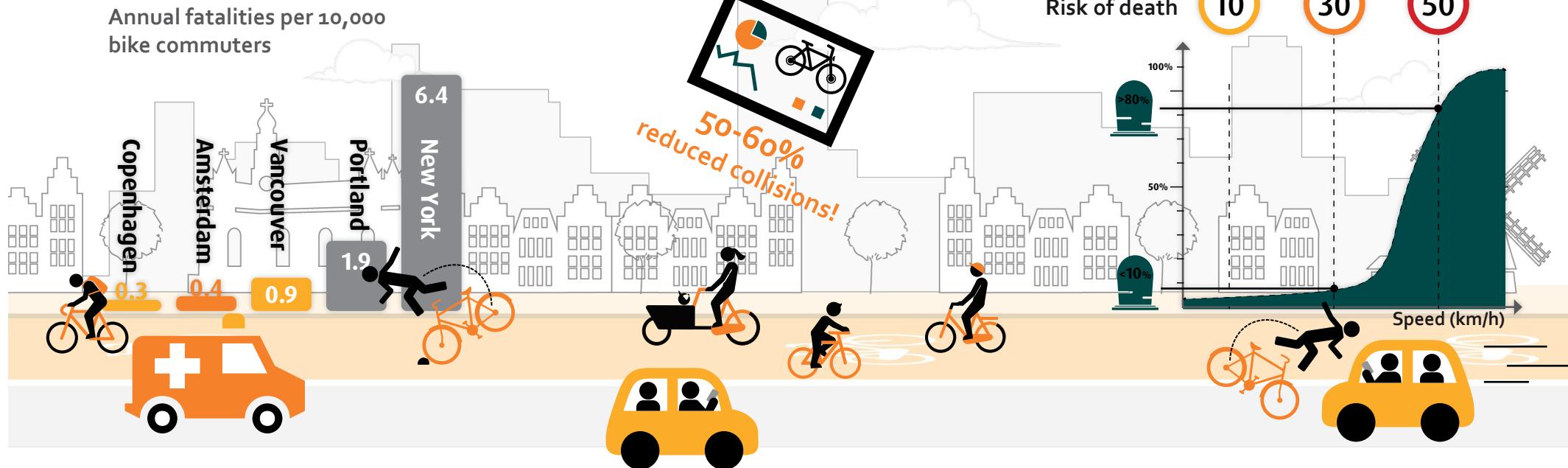
Cycling cities embrace cycling in their policies and city planning. They build a cycling culture by teaching the future generations to cycle and develop safe cycling infrastructure.¹⁵

Separating cyclist from motorized traffic results in fewer collisions

Developing an effective road safety policy with separated cycle paths reduced annual traffic collisions by 50-60%.¹⁶

Lower traffic speeds result in fewer deadly collisions

The likelihood of a deadly collision at speeds 30 km/h or less is approximately 75 percent less than at 50 km/h.¹⁷



Social Equity

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



Photo: Dutch Cycling Embassy

Cycling encourages social participation and inclusion

Cycling improves access to opportunity

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





04. 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 where the bicycle should be an integral part.

Create a holistic approach

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, cycle paths). 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) to strengthen the strategy on a broader basis.

Make cycling safe

People are more influenced by perceived safety than actual safety statistics. In places where the chances of a collision are statistically low, people will not consider cycling as a viable transport option if the physical environment looks dangerous. Therefore, policies and design should create and promote a safe environment, making it inviting to cycle. The Dutch have long preferred promoting active safety (prevention of collisions) rather than passive safety (softening the outcome of collisions) through the creation of bicycle infrastructure rather than



recommending, or enforcing, wearing a helmet and reflective clothes. 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 signage. Dutch planners also create certain streets where cars are allowed to enter but only as "guests," so cyclists and pedestrians have priority.

Combine cycling with 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 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 Development) concept into a HOD: 'Hybrid Oriented Development'.

Plan for density and proximity

In denser neighbourhoods, 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 'hypermarché's' on the edge of the town that can only be reached by car, but a spread of smaller shops on a cycling distance.



Photo: Dutch Cycling Embassy



Photo: Dutch Cycling Embassy



DUTCH CYCLING EMBASSY

Develop attractive routes

The Dutch don't limit themselves to building cycle paths on or along roads. When planning new neighbourhoods 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, Daphne Schippersbrug in Utrecht). Sometimes these cycle paths are created by diverting traffic to other roads to create simpler, safer, faster paths for cyclists through neighbourhoods. This strategy is called 'filtered permeability'.

Protect 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 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.

Create a bicycle agenda

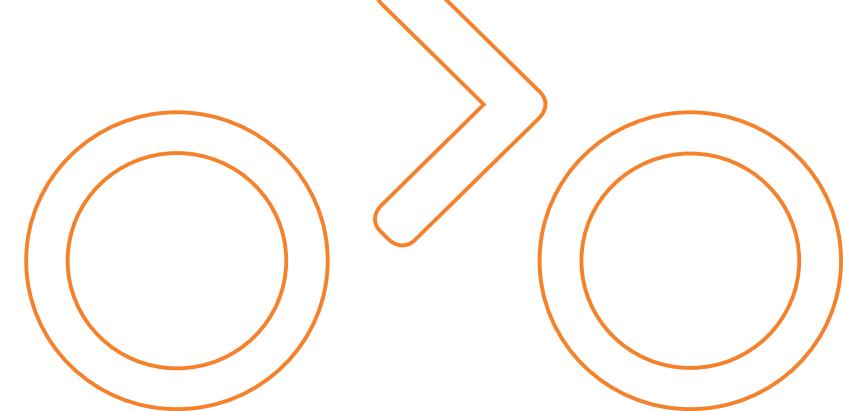
The government often sets out objectives to promote and increase the level of cycling. The current bicycle agenda is named 'Tour de Force 2020'. The objective of this plan is to increase the number of kilometres cycled over the period 2017-2027 by 20 percent. To do so, the agenda defines the different 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 by creating continuity and consistency of the bicycle infrastructure and a coordinated action for better cycling.

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05. Lets do it together!



Photo: Dutch Cycling Embassy



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. We can organise study visits for delegations or set up ThinkBike Workshops in your city to support the facilitation of this transition.

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

Contact us via:



More info at dutchcycling.nl



Photo: Dutch Cycling Embassy

06.

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