Gemeente Groningen

GRONINGEN
WELL ON THE WAY

Sustainable Urban Mobility Plan

Towards a liveable, clean and healthy municipality

CONTENTS

PREFACE

Groningen will soon look very different, with more space for greenery, socialising, and for cyclists and pedestrians. The extra space for walking and biking will enhance safety and enjoyment. There will be space for socialising or for playing children. Green space too, for the sake of the climate and biodiversity.
In short: more space for the people who live and work here. The aim is to ensure that Groningen remains a vibrant municipality with a dynamic economy and a rich social and cultural life, making the entire region a great place to live and work. Groningen is the healthiest city in the Netherlands and we want to keep it that way.

Where, up until now, the car has been the main priority in decision-making, the quality of public space will be the priority from now on. Cars in particular take up a lot of public space, both literally and figuratively, whether moving or stationary. This is at the expense of the space necessary to create a pleasant and healthy living environment. In Groningen, we've already dared to diminish the priority status of cars on a number of occasions. You're aware of the examples. When it comes to an appealing living environment, therefore, we are ahead of other cities. With this vision, we are confident about taking the next step. The quality of public space is now our priority and guiding principle – and no longer space for cars.

Mobility is inextricably intertwined with our daily activities: work, study, shopping, leisure, socialising, cultural experiences, and playing sports. Every day, people and goods move frequently to, from and through Groningen. We are approaching the limits of mobility in our municipality. Because Groningen is growing, so is the mobility associated with the 180,000 people who enter and leave the municipality each day. This will only increase in the coming years. For this reason, we are now prioritising other modes of transport than the car.

However, we are not taking any risks and we have talked to many parties along the way. It's fantastic to have so many people involved and participating in the campaign and Groningen Goed op Weg, and to have received so many responses to the draft vision. We have much to do in the coming years. Close cooperation will be necessary, with fellow governments, businesses and institutions, interest groups and, of course, our residents. I am confident that we can do this. But as for how... you can read all about it in this Sustainable Urban Mobility Plan.

Philip Broeksma
Vice-Mayor for Traffic and Transport

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Introduction

The municipality of Groningen has the healthiest physical environment in the Netherlands. More people cycle here than in any other city in the world. We are also leaders in sustainable public transport. However, we're not done yet. We're adding a new chapter, which starts with this new Sustainable Urban Mobility Plan.

In the municipality of Groningen, quality of life always comes first. We are well aware of the direct relationship between our well-being, the way we design our community, and how we move around Groningen. A municipality that is on its way to accommodating 250,000 residents (or more!) should have a progressive, thoughtful vision for mobility and for the effective use of scarce public space. In our Environmental Vision document, 'Next City' (2018), we determined in which areas we intended to grow. In this Sustainable Urban Mobility Plan and in the new Public Space Design Guidelines, we provide further details on how we plan to do so.

Groningen has traditionally been a community that relies on cycling as the smartest, fastest and healthiest way to get around. Now we're also making room for pedestrians. Both cyclists and pedestrians will literally and figuratively receive much more space, at the expense of the space currently occupied by the car. We are bidding farewell to the car-centred approach that has been taken for granted for so long. We have already successfully made this shift in thinking some time ago, with respect to our own city centre and the centre of Haren. From now on, we will be embracing a post-car approach in even more parts of our community.

Our neighbourhoods and villages will become 'foredable' for cars, and we will be reducing the maximum speed for motor vehicle traffic to 30 km/h on almost every road within built-up areas. Slow traffic will receive greater priority. We are also going to mix traffic flows more often, as well as reducing the number of cars parked on streets. This will create the space for redesigning our streets and increasing traffic safety. We do this primarily in collaboration with residents.

2021:

A street that prioritises the car-centred approach.

At the same time, we want to be and remain an accessible municipality. Every day, our city attracts as many visitors as the people who live here. This translates to almost 360,000 traffic movements per day. People come here to work, go to school, receive medical care, visit stores, museums or the city centre, and enjoy recreational activities in the city. It is therefore very important to efficiently and effectively manage the daily incoming and outgoing traffic flows – not only for our municipality, but for the entire region. That's why we are making every effort to offer everyone a wide variety of mobility choices. We focus on transportation that is compact, clean and healthy. This means that we prioritise pedestrians and cyclists in the city and our villages, with bicycles and public transportation at the forefront for connections with the wider region.

Groningen is also a sustainable municipality. We aim to ensure that by 2030–2035, fossil fuel vehicles will no longer be able to enter the city centre. To facilitate the transition from fossil fuel to electric transport, we are installing charging stations and have committed to installing a sufficient number of hydrogen filling stations. We are also embracing the rise of shared mobility, such as shared bikes, motor scooters and cars. These are sustainable, environmentally friendly and save space into the bargain!

With this Sustainable Urban Mobility Plan we create the preconditions for the Groningen of 2040: a sustainably accessible municipality in which quality of life is paramount. It will feature a robust car network, equipped for lower speeds, ample space for pedestrians and cyclists, a solid, future-proof public transport system, and smart mobility solutions for everyone, such as shared mobility. We will also remain open to and embrace experimentation and innovation.

Well on the way to a liveable, clean and healthy municipality!

2040:

A street that has taken leave of the car-centred approach.

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Groningen profile

Typical Groningen-style choices made in the past with respect to traffic policy have worked out well. Mobility is both literally and figuratively in constant motion. A growing city, the climate challenge, new technological developments and the changing needs of society all require us to rethink our municipal policies.

2.1 Tradition of progressive mobility policy

Groningen is renowned as a municipality with the courage to adopt a progressive traffic policy. It's necessary too, because space is scarce in this compact city.

Groningen is an attractive municipality in which to live, work, study, do business, visit and enjoy recreational activities. This is solidly founded on thoughtful spatial and mobility policies. Because the city is compact, most amenities are within biking and walking distance of each other, so there is little need to use a car to get around.

Groningen has a long tradition of progressive mobility policies. For example, the 1977 traffic circulation plan is still widely known, in which Groningen made daring and drastic changes to car traffic circulation that reduced the dominance of cars in the city centre streetscape. A ring road around the city was built, directing through traffic around rather than through the city. This enabled the transformation of the city centre into the vibrant 'living room' that it is today for the city and region. In 2002, Haren gained international prominence when the village centre was transformed into 'shared space' – a much-imitated method for combining car through traffic with high-quality residential space.

Historical traffic on the Grote Markt in Groningen.

There have been other successes too, such as our consistent efforts to strengthen the position of the bicycle as a mode of transport. The result of this is a remarkably high proportion of bicycle use, amounting to more than 60% of all trips. Another example is the construction and continued development of 'remote parking' options, in the form of P+R sites at the edges of the city. These are connected to a sophisticated high-frequency bus network that brings motorists who have parked their cars there to various destinations throughout the city.

In our villages and rural areas, we have also been working with our partners in the region for years to encourage cycling and the use of public transport. We have been working step by step to establish a High-Quality Public Transportation System. Modern buses such as Qliners and Q-links create direct, high-frequency links between regional cores and the main cores in the city, by means of bus lanes where necessary. The development of regional bicycle transit routes puts villages within easy reach of the city by electric and non-electric bicycle as well. And in order for the ring road to act as a 'flywheel' for our municipality and region, it will be gradually transformed into a flyover.

The question now remains as to whether we are looking far enough ahead, given the challenges now facing us – particularly bearing in mind that mobility policies take a long time to implement. After all, recent projects were actually set in motion many years ago, such as the reconstruction of the southern ring road, the renovation of the Hoofdstation (Main Station), the extra express train to Leeuwarden, the establishment of the public transport hub at UMCG Noord, the development of the P+R system, and the bicycle parking facility under the Nieuwe Markt.

2.2 Developments in Groningen

Groningen houses one of the strongest growing populations in the Netherlands. This has many implications for the city and the villages.

Increasing traffic pressure

By 2035, the city of Groningen is expected to have a population of 250,000. This increase applies almost entirely to the urbanised part of the municipality. The city is expanding significantly with the construction of 20,000 new homes. In addition, Groningen is a hive of industry and the main driver of the northern Netherlands when it comes to jobs. A further 15,000 jobs are expected to be added in the next 15 years. If that weren't enough, the population in the region is actually declining, which makes the facilities in the city all the more important for the region.

In short, Groningen can count on additional residents and visitors. This means additional mobility to, from and within our municipality, which in turn means more moving and parked vehicles. There are already around 360,000 traffic movements daily between Groningen and the surrounding region, and this is set to increase.

Effects on accessibility

This expected growth will further pressure on the accessibility of Groningen. Increased traffic is already leading to road congestion, overcrowded buses, busy bike lanes and an increase in unsafe conditions. These bottlenecks will only increase in the future. We've already taken measures in many places, but we expect that we'll be testing the limits of our transportation system's capacity more frequently from now on. In that respect, Groningen is losing some of its appeal.

Effects on quality of life

The scarce space in the city is increasingly being claimed by traffic. Of all forms of transportation, the car takes up the most space by far, both when stationary and moving (see Figure 1). People travelling by car require much more space than those who travel by bicycle, bus, train and on foot. Motorists also demand space for parking. Without intervention, our municipality – especially the city – will experience a sharp increase in the use of space by motor traffic. This stands in the way of our attempts to create attractive outdoor spaces with lots of greenery and space for socialising and occupancy.

All that traffic also means more noise, poorer air quality, and a decrease in road safety. If we don't deal with our mobility issues differently, our quality of life will deteriorate and Groningen will lose its appeal with respect to this as well.

In short, we must make clear choices about how to organise mobility to, from and within our municipality, in a rapidly growing city that should remain easily accessible and retain its high quality of life.

Space requirement per person

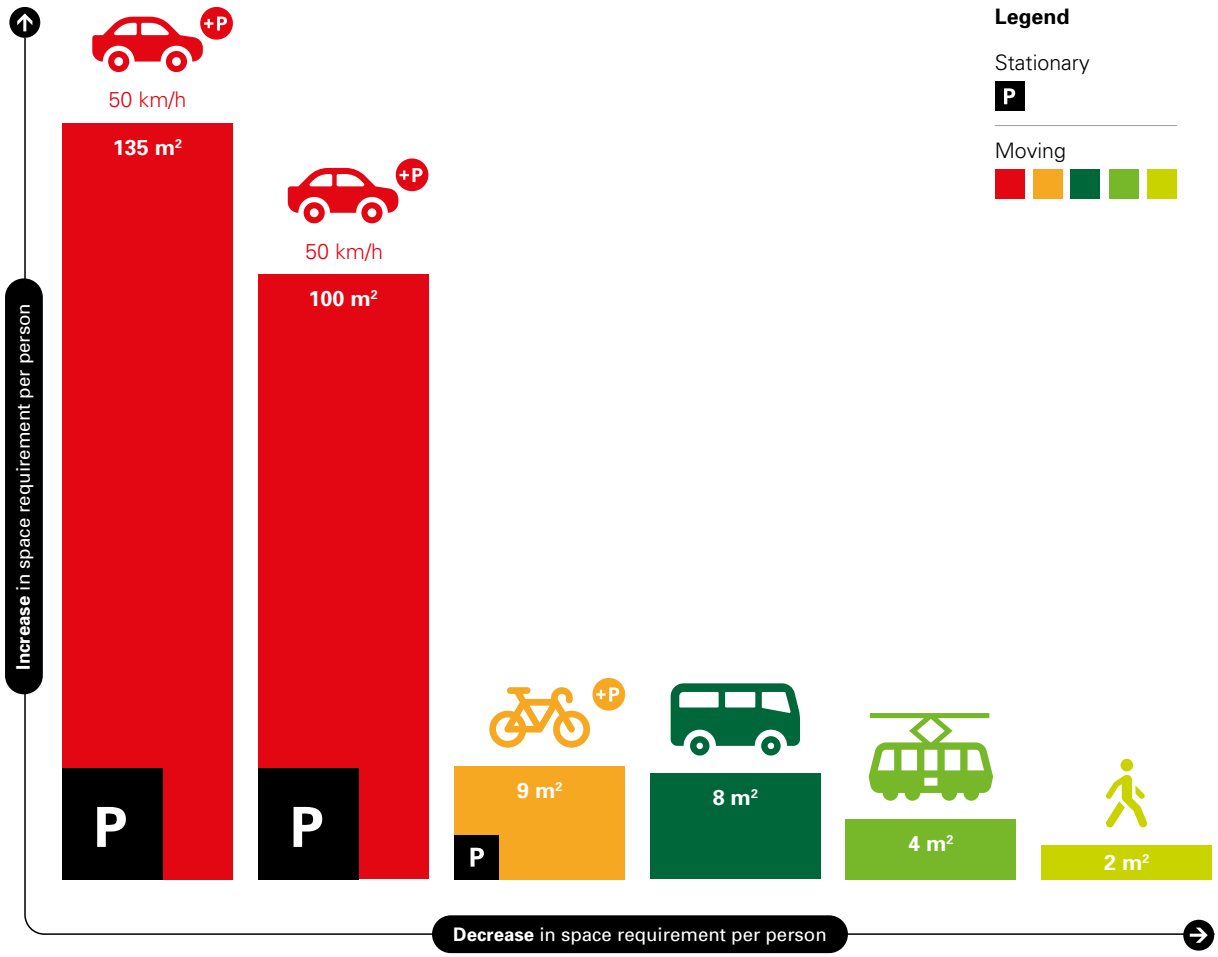


Figure 1: Space requirement per person travelling by car, bicycle, bus, train and on foot. Black is stationary and red is moving. Source: Goudappel Coffeng

2.3 Developments in mobility

The range of transport options has been changing in recent years.

Greater variety in bicycles

Recent years have seen a significant increase in the number of electric bikes (e-bikes and speed pedelecs). Thanks to its greater speed and the modest effort required for cycling, the electric bike is suitable for regional travel distances. Elderly people can remain mobile for longer thanks to the electric bike. Using electric cargo bicycles for logistics purposes is also becoming more commonplace. This increase in the variety of bicycles also means that the amount of traffic and the variety of speeds on bike paths are also increasing. This can sometimes lead to hazardous situations.

Digitalisation is changing transport

Continuing developments in digitalisation are changing our travel requirements and methods.

Working from home is becoming easier

While online facilities for working or studying at home have been around for some time, the COVID-19 crisis has significantly boosted their use. The proportion of online working and learning will be greater in the coming years than we had thought realistic up until now. This may lead to a reduction in mobility and the flattening out of urban mobility peak periods.

Chain transport and shared mobility will become more attractive

Technology offers the option of using multiple vehicles for a single trip (known as chain transport). For example, someone travelling from A to B can use their mobile phone to quickly and easily plan their trip and book and then use various means of transport, thus adapting their travel behaviour to suit their current situation. Thanks to digitalisation, it's now easier than ever to locate, book, unlock and pay for shared cars, motor scooters and bikes. This has vastly increased the user-friendliness of vehicle sharing, and has reduced the need to own a vehicle in order to get around. Travellers now have far more travel options available to them and are more flexible in the choices they make than we would have thought possible a few years ago.

Logistics is increasing in efficiency and flexibility

Thanks to innovative digital support in logistics processes, loads can be more effectively and efficiently combined than before, increasing the vehicle load factor. It also optimises the use of hubs on city outskirts for transshipment to smaller, cleaner vehicles. This facilitates reliable, efficient transport and creates opportunities to better adapt logistics processes to suit road access and emission requirements specified by road authorities. In this way, the digitalisation of logistics leads to the reduction of both costs and emissions.

Vehicles are becoming more sustainable

Billions of euros are being invested in the production of electric cars, buses and motor scooters. There are also increasing options for hydrogen-powered transport. From 2030, our goal is for no more new cars powered by petrol or diesel to be sold in the Netherlands. By 2050, fossil fuel vehicles will no longer be permitted on our roads. Our greatest challenge is to ensure that all of these vehicles will be able to reliably charge up or refuel with hydrogen. This means that the charging infrastructure has to expand as well, along with the number of refueling locations for the green energy carrier hydrogen.

Heading to work on the speed pedelec.

3

New vision for mobility

We will be making new choices on the way to 2040. These choices will reinforce the future accessibility of Groningen and improve the quality of life.

3.1 Quality of life

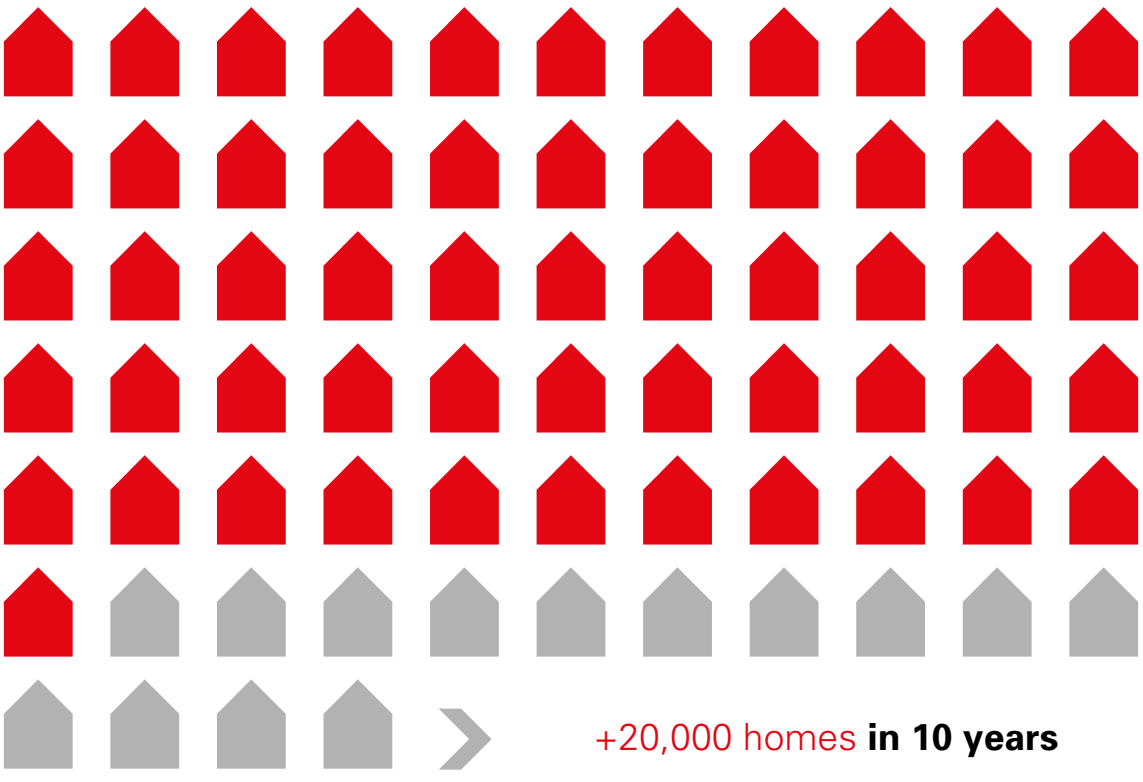
Groningen's qualities are widely known. Groningen is compact, enjoys a high quality of life and the healthiest living environment in the Netherlands, and has the highest proportion of cyclists in the world.

Quality of life is the degree to which residents and users value their residential and living environment. Specifically, this has to do with having sufficient, safe movement space for walking, as well as socialising and playing. It's about how green the surroundings are, how much opportunity there is to experience water, architecture or cultural history, and about minimising air or noise pollution.

The crucial question is how to keep Groningen accessible, liveable and attractive while the city continues to grow. We have made an agreement with the national government for the addition of 20,000 homes in the next ten years. This addition represents a fifth of the existing housing stock. While this is great news, it also means more residents (and visitors) who will want to use our public space. As it stands now, this public space is not growing along with the city, which means that the city will increase in density. In turn, the pressure on public space will continue to increase.

This forces us to make new choices. In doing so, 'quality of life' is our guiding principle in everything we do, and should be the touchstone in all design-related matters. We want our public spaces to be safe and accessible, and suitable venues for people to socialise, exercise and play. This enables public space to strengthen social cohesion and contribute to liveability and climate adaptation. In taking this approach, we are aligning with what many Groningen residents consider to be important.

That means choosing to give less space away to motor traffic, both moving and parked, so we can reclaim public space and design it differently.



3.2 Accessibility

3.2.1 Mobility; driver for social, societal and economic life

In our view, accessibility remains crucial for the functioning of our society.

Accessibility is the degree to which people and goods can reach their destinations relatively easily and within a reasonable travel time, by means of transport that suits the location and the type of activity at the destination. This means walking, cycling or taking public transport when possible and using a car only when necessary. For businesses, accessibility is a requirement when it comes to location. The form of accessibility that is considered essential varies by sector. For example, the services and education sectors will rely heavily on cycling, public transport and shared mobility options, while logistics services, wholesalers and the manufacturing industry will require good connections with the highway network. The accessibility of a location is an equally important priority for our residents. In order to have a thriving economic, social and cultural life, people need to be able to meet up with each other easily. The presence of and effective access to amenities also increases the city's appeal. We are also committed to keeping travel affordable.

The effective functioning of the traffic system within our municipal boundaries is important both to our own residents and to those from the wider region. The city provides employment, education, culture and social services for a large area surrounding it. In addition, some of our residents work in surrounding communities, and these relationships involve mobility. Groningen is a prominent part of this regional daily urban system. We realise that the choices we make with respect to mobility often affect not only our residents, but those in the region. This is reflected in the importance of regional bicycle connections and public transport connections all the way into the city and of smooth traffic flow on the Groningen ring road. We also want to be easily accessible for people coming to us from the wider region, the rest of the Netherlands and abroad. As the sixth largest city in the Netherlands, Groningen has much to offer. This makes it essential for us to have excellent connections to existing regional, national and international road and train networks, and therefore to other parts of the country and European regions.

3.2.2 Mobility and public space for all

Everyone should be able to get to their destination easily. For those who cannot drive, cycle or travel by public transport independently, for whatever reason, we offer suitable alternatives.

For the elderly and people with disabilities, walking, cycling or travelling by regular public transport is not always possible or desirable. Travelling independently by car is sometimes also not an option. We believe that everyone in Groningen should be able to participate in society. Good mobility for all, including for this target group, is a prerequisite to enabling this participation.

We are therefore committed to keeping outdoor space accessible and providing sufficient alternatives to enable these groups to travel. This means designing our public spaces to ensure that they are as free of obstacles as possible, and have facilities to help guide people who are blind or visually impaired. There should also be enough space to accommodate both sedate and fast cyclists. We are also working on providing forms of small-scale, demand-responsive transport for those who find it difficult to travel by regular public transport, as well as parking spaces for the disabled at reasonable distances from destinations. We will return to this within the various themes in this vision.

An accessible municipality is important for everyone.

3.3 New direction

Our progressive traffic policy has benefited us greatly. We are now adding a logical next step: prioritising quality of life in our public spaces over traffic space.

Our task as we see it is both to maintain accessibility and enhance quality of life. We are therefore setting ourselves two goals in this Sustainable Urban Mobility Plan:

1. Creating liveable and attractive streets by reducing space for motor traffic.
2. Changing travel behaviour to prioritise space-efficient, clean and healthy transportation.

These two goals are at the heart of this Sustainable Urban Mobility Plan and align seamlessly with the ambitions we set out in our environmental vision, The Next City (2018).

Next City Goals	Mobility challenge	Change of course
Living environment comes first	Reclaiming public space from traffic	1. Prioritising living environment Reducing dominance of motor traffic in public spaces
Zero emissions society	Quieter transport without CO_2 and air pollution	
Excellent economic, social and cultural life	Excellent accessibility for all	2. Changing travel behaviour Transition to reduced, space-efficient, clean and healthy transportation

3.3.1 Reducing space for motor traffic

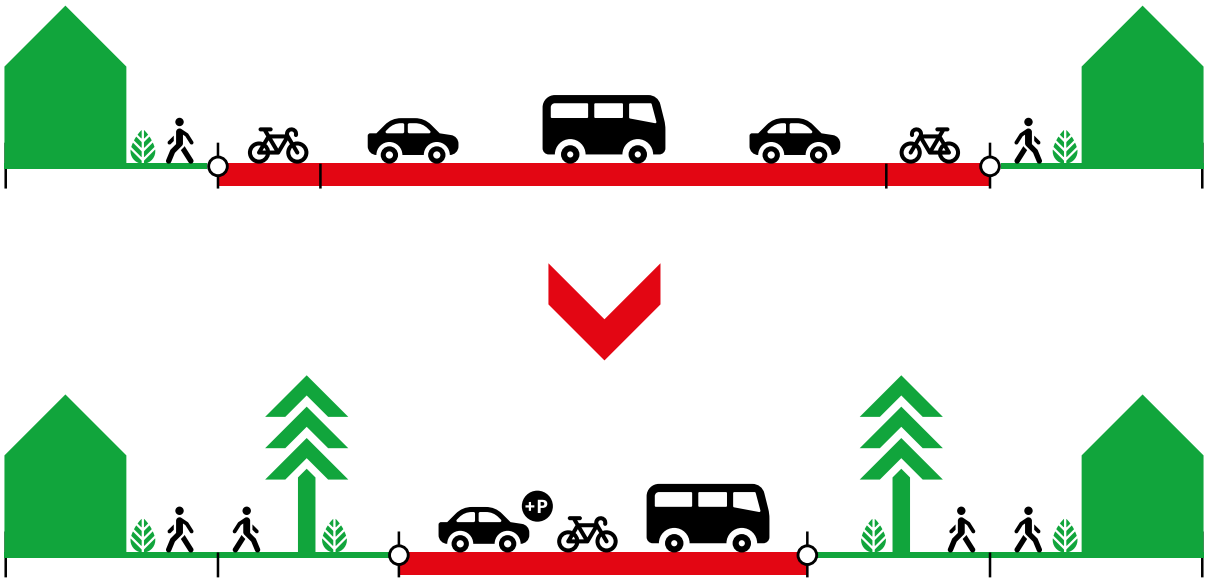
Our municipality enjoys a high quality of life. However, increased mobility is jeopardising this quality of life, and this is unacceptable to us. We want to further reduce the dominance of motor traffic on our streets in more places.

We intend to curb the space for traffic in more parts of Groningen, mainly by reducing the form of transport that occupies the majority of space by far: the car. We are therefore reducing the speed at which cars move through the city, particularly in places where the quality of life is under threat. In turn, this reduces noise pollution, enables the reduction of particulate matter, creates a quieter traffic environment and improves road safety. We also want to reduce on-street parking.

Reclaiming public space in this way will benefit walking, cycling, play, exercising and socialising, and will enhance people's experiences of these spaces. We can also remove some of the paving in current traffic and parking areas to plant trees and plants to make the streets and roads more appealing. This will also help to combat heat stress and flooding, thus contributing to a more climate-resilient municipality.

In Chapter 4, we describe our plans for reducing the amount of space used by traffic in our municipality.

Farewell to the car-centred approach



3.3.2 Compact, clean and healthy mobility

Many of us move around a lot, and often at the same time. Mobility is an important part of our society. For that reason, we want to be and remain an easily accessible municipality, and to this end, we explicitly choose forms of mobility that are compact, clean and healthy.

There are three aspects to achieving this change in mobility:

- reducing;
- and/or changing;
- and/or going green.

Reduction

We are committed to minimising the growth of mobility, in order to prevent excessive traffic in our city and village centres. This means less travel, shorter distances and reduced movement during rush hour, both for people and goods. After all, a trip that is not made takes up no space and is sustainable. And the shorter the travel distances, the fewer the adverse effects.

We can have an effect on this by the choices we make for the distribution of housing, work, education and facilities. For example, the closer to home you can do your shopping, the less you'll have to travel. This is also about 'Alternative Travel'. Working and studying at home more, or choosing not to travel during rush hour, relieves the pressure on the mobility system.

Change

As well as focusing on reduction, we are committed to switching to more compact and clean forms of mobility. For example, we want to encourage both walking and cycling for journeys within the city and our villages. Both of these forms of transport require relatively little space and are healthy and clean. For journeys over longer distances, such as to the city from elsewhere in the region and vice versa, public transport and chain mobility are at the top of the list. Public transport also requires much less space per passenger with far fewer emissions than the car.

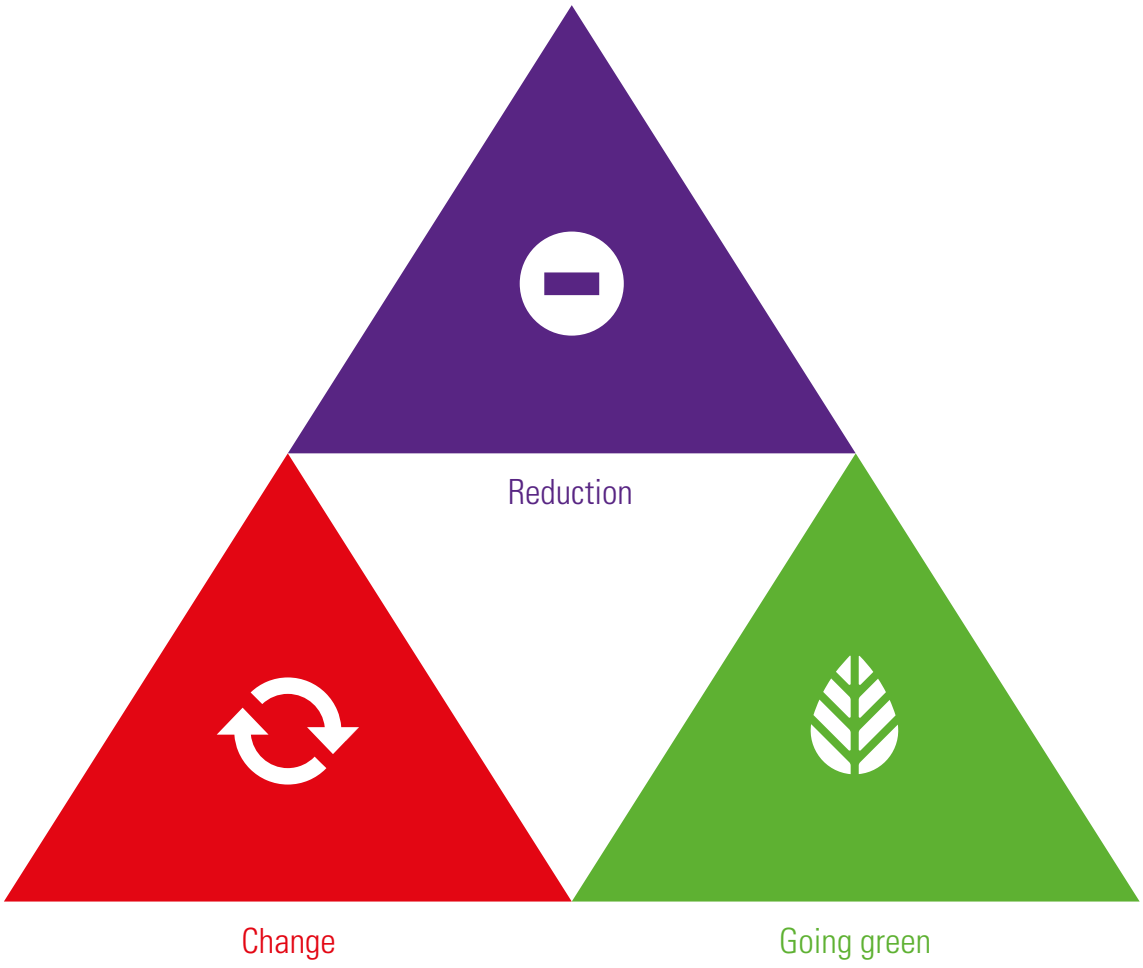
In order to influence travel behaviour, we are choosing and investing in safe and attractive pedestrian facilities, excellent bicycle infrastructure and high-quality public transport. We also facilitate and encourage chain transport and shared mobility. All of these strategies contribute to keeping our municipality easily accessible while increasing the quality of life, and making the dominance of car traffic less self-evident. On the other hand, however, cars are and will continue to be an obvious transport option in our sparsely populated region.

Going green

Any motor transport should preferably be emission-free, and powered by means of a battery or a sustainable energy carrier such as hydrogen, for example. This will benefit the quality of life in our municipality.

We are committed to ensuring that the transition to clean vehicles is a rapid one. We will provide enough public charging stations for electric cars and hydrogen filling stations, and we will also regulate the use of our roads and public spaces in favour of zero-emissions vehicles.

In Chapter 5, we describe how we intend to shape this mobility transition.



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Reducing space for motor traffic

The car is the form of transportation that takes up the most space by far. As car traffic continues to increase and space in our municipality becomes scarcer, we have to make clear choices.

We are taking five routes in this:

- Letting go of the car-centred approach (section 4.1);
- Foredable city (section 4.2)
- Increasing traffic safety (section 4.3);
- Tackling car parking pressure (section 4.4);
- Tackling bicycle parking pressure (section 4.5);
- Utilising public space opportunities (section 4.6).

4.1 Letting go of the car-centred approach

This Sustainable Urban Mobility Plan is about making a shift in our thinking. In many more places now, we are letting go of the car-centred approach to designing our spaces.

Since the 1950s, car ownership and use has skyrocketed globally. The car-centred approach to road design grew along with it, resulting in roads that cars could move along freely. Cyclists and pedestrians were increasingly separated 'safely' from fast-moving cars, including in urban environments.

This approach meant that car traffic received a great deal of space. The allocation of private domains to various traffic types has resulted in a relatively large amount of public space being paved over. Where space is scarce, mostly in built-up areas, pedestrians and cyclists sometimes have to rely on limited remaining space for pavements and bike lanes.

This jeopardises the quality, comfort and appeal of walking and cycling. The interests of pedestrians and cyclists do not combine well with fast-moving cars. Even where traffic types are 'safely' separated in urban environments, there are still many pedestrians and cyclists crossing thoroughfares. This means that fast-moving car traffic remains a negative factor for road safety. We therefore want to further reduce the dominance of cars on our roads and reduce speeds in particular, so that cars no longer have the priority in our city and village centres.

As early as 1994, we chose to give car traffic less space in the Noorderplantsoen.

Griffeweg
From 50 to 30 km/h

Current situation

Inspiration image

The ring road and the main roads connect the city and the region to each other, as well as dispatching motor traffic that passes through our city. We are committed to ensuring that these roads flow well, both to ensure accessibility by car for those who depend on it, such as regional traffic passing through the city, as well as to ensure that motor traffic is not forced to find routes through our neighbourhoods and villages. Once you've left the main roads, you can get almost anywhere in our municipality by car. However, we don't believe it should always be possible to do this quickly.

This change in thinking is not new; we've been prioritising pedestrians and cyclists since the 1970s, for example with the 1977 Traffic Circulation Plan (Verkeerscirculatieplan; VCP) for our city centre. Nevertheless, we believe that there are still too many roads in our municipality that adhere to the car-centred approach, and it's high time we took definite steps to dispense with this approach, once and for all.

4.2 Foredable city

In Groningen, we favour a 'Foredable city'; that is, a city in which the easiest way to get around is either by bicycle or on foot. While you might still be able to get around by car, we don't want people to take for granted that this is the fastest option compared to cycling or walking.

In principle, the speed limit on all roads within built-up areas will be reduced to 30 km/h unless there is a specific reason for keeping it at 50 km/h. We also aim to ensure that motor traffic will keep as much as possible to the ring roads and main roads, rather than cutting right through the city, neighbourhoods and our villages.

We want people in every neighbourhood to have their own connection to the ring road, rather than having to get there through surrounding neighbourhoods. While reducing the speed limit works well in this regard, a few cuts are also necessary to achieve this. An important change in the current approach is that the philosophy of the foredable city no longer has a place for the Diepenring as an inner-city distribution ring. Finally, it is important for ring roads to flow so that they remain an attractive means of distributing urban motor traffic and an appealing alternative to routes through the city, neighbourhoods and village centres.
A maximum speed of 50 km/h currently applies to about 70 kilometres of our roads within the ring road. We aim to reduce the number of kilometres of 50 km/h roads by about 40% in the coming years, thus making more space for functions other than motor traffic.

The foredable city leads to:

- reclaiming public space from traffic;
- public spaces with enhanced spatial quality and more greenery, making them more climate adaptive and providing a more pleasant residential atmosphere;
- more space for pedestrians;
- more space for bicycle traffic;
- decreased noise and air pollution;
- increased road safety, safer and easier road crossings.

We are not alone in changing our view of the classification of speed limits in urban areas. Increasingly, plans have been made or steps taken to reduce the speed of motor traffic in European cities, preventing cars from speeding.

The concept of the foredable city is not just about reducing the speed on some roads and allocating areas that prioritise cyclists and pedestrians; conversely, it's also about determining which roads remain important for the flow of motor traffic. For example, we feel it's important for the ring road and main roads to consistently function well. This is not only to ensure accessibility by car for those who depend on it, but also to ensure that motor traffic is not forced to find routes through our neighbourhoods and villages. In this regard, some municipal roads also require smooth motor traffic flow or are important for public transport. We are therefore also designating 50 km/h roads dedicated to motor traffic and separate from cyclists and pedestrians.

We will allocate short sections of some 50 km/h roads on which cyclists or pedestrians take priority, such as around shopping centres where pedestrians prevail. For the sake of the residential climate, cars and buses will take second place over these short distances. The centre of Haren is just such an environment in which a relatively high flow of car traffic is combined with a focus on the residential climate, and is therefore a good example of traversibility.

Accompanying this vision is the document 'Foredable City Network 2040' (Netwerk Doorwaadbare Stad 2040). This document describes the concept of the foredable city, the desired hierarchy for our road networks in 2040, and what this will mean for the roads and streets within our municipality. By means of this document, we are establishing a new framework for the development of our road network leading up to 2040.

What is our challenge?

› Creating a foredable city network

Creating a foredable city network

Ideally, we would like road users to adhere to the new speed limit as a matter of course. However, motorists are also known to experience a 'logical speed limit' due to the road layout. This means that simply placing 30 km/h signs will not be sufficient. Road users are more likely to adjust their speed to the feeling that they have, rather than to the formal speed limit. We want to redesign those roads with a reduced speed limit so that they better suit the residential and living environment, and motorists experience the new speed as appropriate for the setting. We will also make cuts in certain places to ensure that traffic can no longer pass through and between neighbourhoods at those points. This means that each road and area is unique, requiring a custom approach. This is a considerable challenge for the coming years that will also require appropriate financial resources. We realise that transitioning to a foredable city is a long-term task.

At the same time, we do want to explore how we can get started early on switching to more 30 km/h roads. Perhaps we can do so with small-scale measures (in anticipation of the definitive redesign), combined with targeted communication campaigns, developments in vehicle technology (ISA) that prevent cars from speeding, and a different approach to enforcement.

Groningen is not unique in tackling the transition to more to 30 km/h roads, so we can learn from others who have followed a similar route. We are closely monitoring the growing nationwide call to make 30 km/h speeds the norm within built-up areas, and watching how other cities are working on the rapid implementation of more 30 km/h roads.

Foredable city

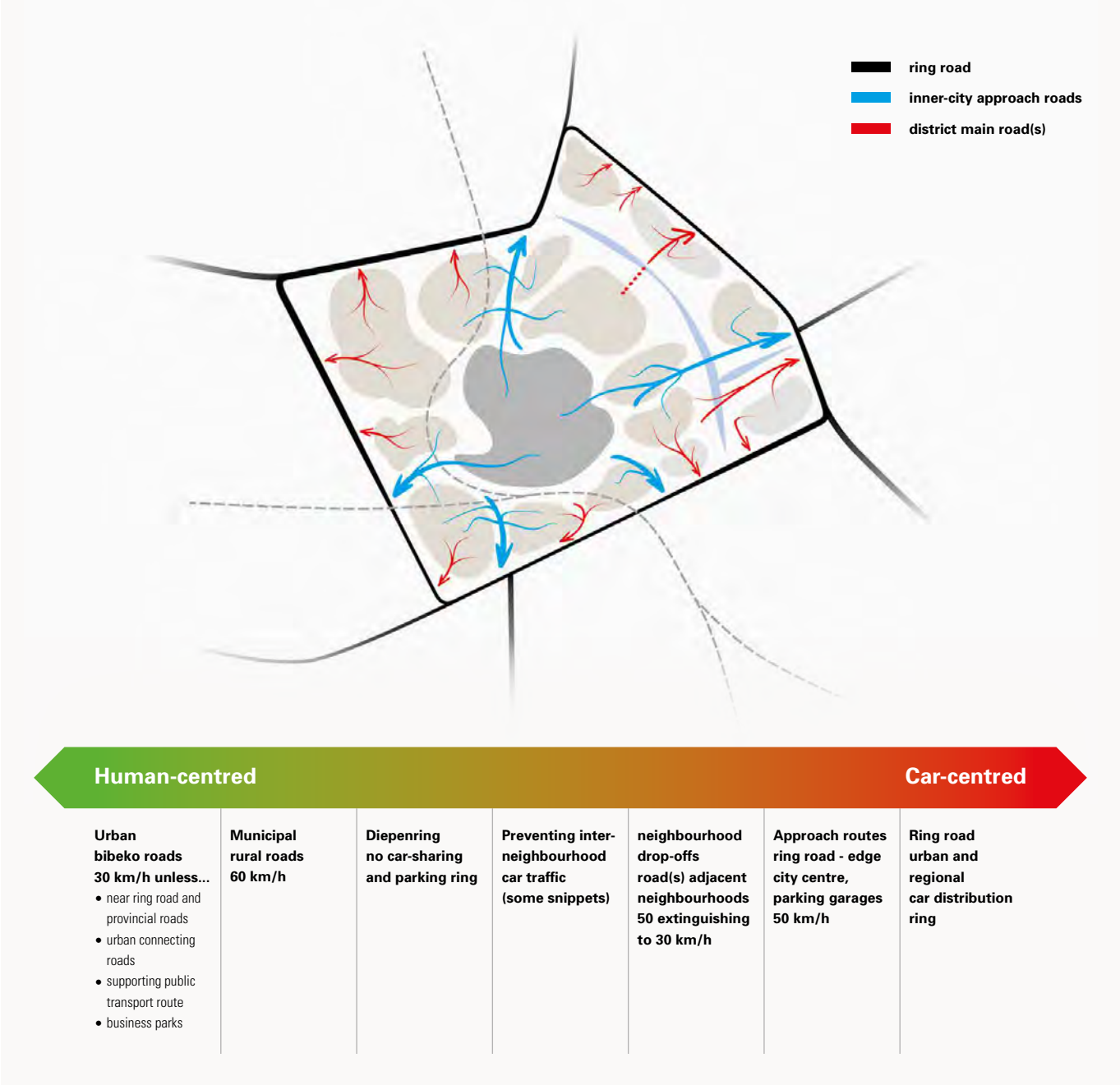
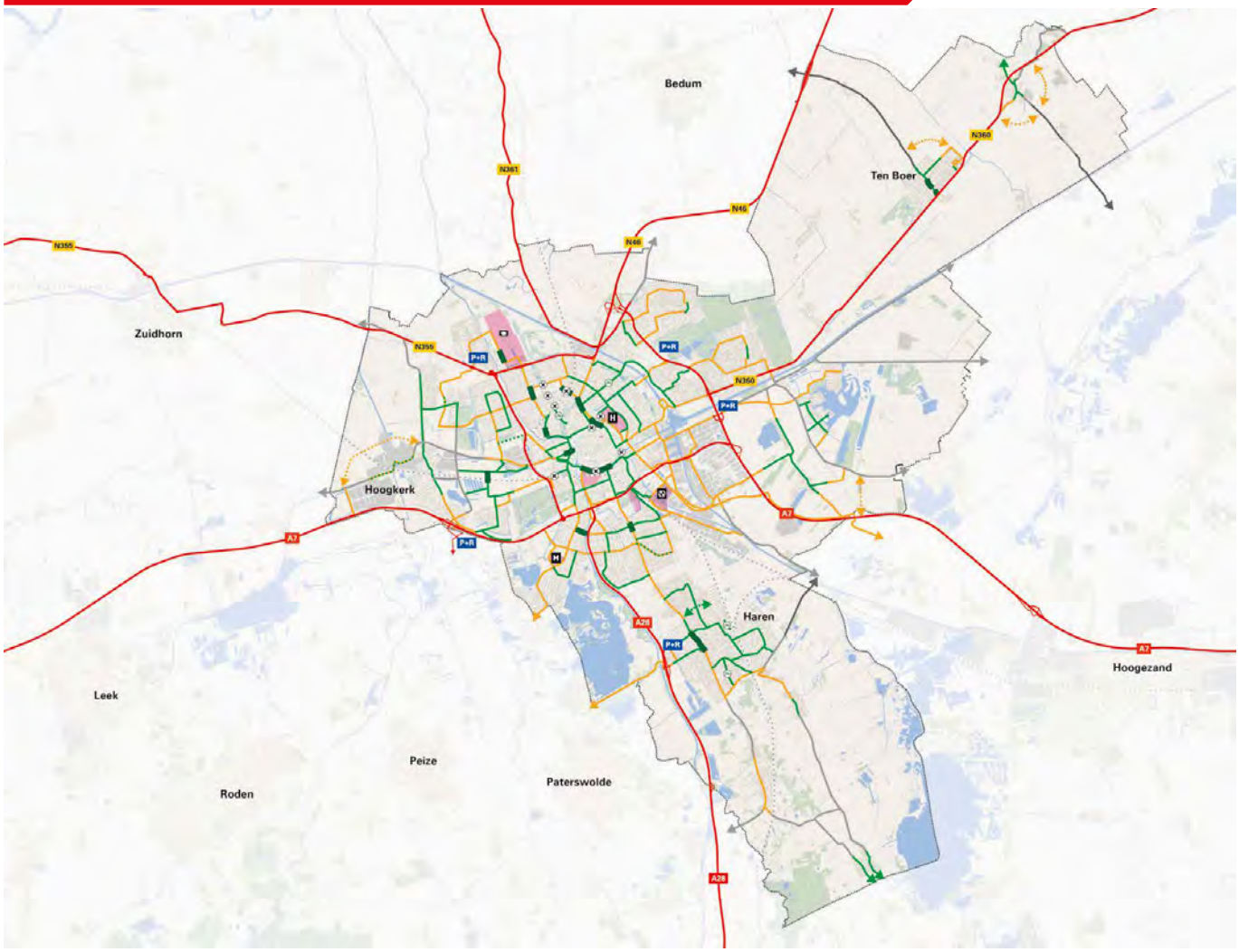


Figure 2: Schematic representation of foredable city.

Emergency services need to be able to reach an emergency quickly. A road network that is no longer equipped to allow cars to pass smoothly can conflict with this need. This requires special attention in the development phase; naturally we want to guarantee that our emergency and rescue services can continue to do their work. The way in which the foredable city is designed and roads are laid out is a deciding factor in this. In any case, we are designing the proposed cuts in the network in such a way that the emergency services will not be impeded by them. We are consulting closely with the emergency services in the development of the foredable city.

We will draft an implementation programme in 2022 that lays out precisely how we intend to accomplish the Foredable City Network.

Foredable city
Network 2040



LEGEND

- Experience locations
- Proposed cut in road network
- Neighbourhood streets **(30 km/h)**
- Connecting roads **(50 km/h)**
- Ring/Main roads **(>50 km/h)**
- Potential future neighbourhood streets **(30 km/h)**
- Potential future connecting roads **(50 km/h)**
- Bicycle street
- Park + Ride (P+R)
- Parking garages

4.3 Increasing road safety

Every traffic casualty is one too many. In alignment with the national goal, we are aiming towards zero serious road accidents.

Accidents occur within our municipality, sometimes resulting in injuries and unfortunately also in fatalities. Over the past six years, the police in the municipality of Groningen have recorded an annual average of 1,100 accidents on municipal roads. About 300 people end up in the hospital each year. During this period, a total of 14 people died as a result of traffic accidents in our municipality. We participate in the national intention to ultimately reduce traffic fatalities to zero.

Many accidents in our municipality occur on busy connecting roads where a lot of traffic and different traffic flows come together. Groningen is home to many young people, as well as to many cyclists. This is reflected in the accident figures. A relatively high number of casualties are young people (16-30 years old). In our municipality, almost half of all accidents resulting in casualties involve a cyclist, and a quarter involve a motor scooter rider.

Without additional measures, road safety will decline in the coming years due to increasing traffic. If we want to achieve a substantial reduction in traffic fatalities, we will need to combine clear infrastructure with small speed differences and the promotion of responsible behaviour. We will need to focus on reducing the number of bicycle and motor scooter accidents.

By creating a traffic-safe living environment, we will also enable everyone to participate independently in traffic and therefore also in society.

What are our challenges?

- Reducing the speed limit and blending traffic more effectively.
- Tackling traffic hazard spots.
- Continuing traffic education.
- Discouraging motor traffic near schools.
- Drafting Traffic Safety Strategic Plan 2030.

Reducing the speed limit and blending traffic more effectively

Our new vision for the road network boosts the improvement of road safety. Reducing the speed of motor traffic is also a direct traffic safety measure. The likelihood of serious accidents is significantly lower at 30 km/h than at 50 km/h. Reducing motor traffic in favour of walking and bicycling also lowers the risk of accidents.

If vehicle speed is reduced to 30 km/h on former 50 km/h roads without bike paths or only with bike lanes, this reduces the difference in speed between cars and cyclists, which also means improved traffic safety. And at a speed of 30 km/h, it is possible more often for cyclists and cars to share the road. This literally gives cyclists more space and may improve traffic safety on busy bicycle routes by reducing conflicts between different types of cyclists. On these blended routes, motorists are always aware of cyclists. After all, they now have to take cyclists into account on the entire length of the road, not just at intersections or crossings. Blending car and bicycle traffic can also lead to new traffic safety issues. For example, cyclists may feel uncomfortable if there are too many cars on the road. This requires careful consideration. We choose to blend traffic where possible and separate it when necessary.

Tackling traffic hazard spots

In our Approach to Traffic Safety (Aanpak Verkeersveiligheid) (2018), we focused on those locations that stand out due to registered accidents. We will continue to do this in the coming years, linking up with regional developments, projects and major road maintenance in order to make good progress. In addition, we believe it is important for our

residents to feel safe in traffic. That's why we sometimes tackle locations that don't show up directly in the accident statistics. These are locations at which we determine that traffic safety is an issue, often based on signals received from the community.

Continuing traffic education

Paying attention to behaviour and education is at least as important as designing safe roads. About 90 percent of accidents result from unsafe behaviour. Together with the province of Groningen, surrounding municipalities and the police, we will continue to carry out traffic safety campaigns and educational activities within the regional traffic education programme, Verkeerswijzer Groningen ('Traffic-smart Groningen'). This programme focuses explicitly on vulnerable road users such as young cyclists, but also the elderly, who are becoming increasingly mobile and active.

Discouraging motor traffic near schools

We want the vast majority of children to walk or cycle to school. This will help them to gradually learn how to behave safely and independently in traffic. Committing to this represents a long-term investment in future road safety. Unfortunately, we have noticed that many children are being taken to school by car, both in the city and in villages. This creates a downward spiral, with more motor traffic around schools leading to decreased traffic safety. This in turn causes more parents to take their children to school by car, and so on.
In the areas around schools, we want to significantly reduce motor traffic consisting of parents dropping off and picking up their children. We are considering temporarily closing streets around schools to incoming motor traffic as a means of breaking the negative spiral described above. While we are reluctant to create new kiss-and-ride spaces, we do want to improve the walking and cycling routes to and from schools.

Drafting Traffic Safety Strategic Plan

The Traffic Safety Strategic Plan (Strategische Plan Verkeersveiligheid, SPV2030) is a national approach in which all governments are collaborating to reduce traffic fatalities. The priority is to recognise risks in order to avoid unsafe situations. Under the direction of the province of Groningen, we are linking up with this and drafting a regional implementation programme.

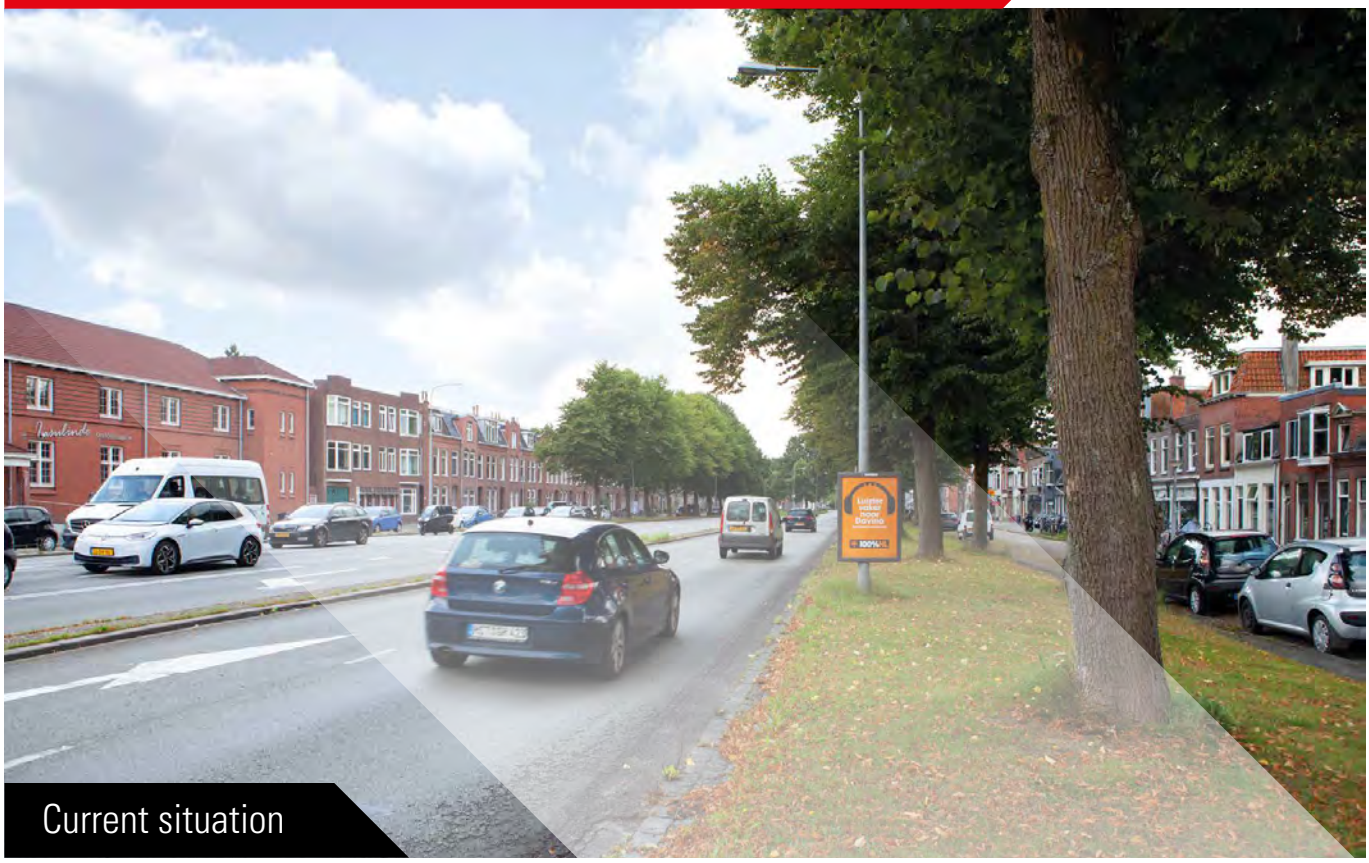
Traffic congestion caused by cars at the International Primary School GSV in Coendersborg.

Paterswoldseweg
From 50 to 30 km/h

Current situation

Inspiration image

Bedumerweg
From 50 to green



Current situation

Inspiration image

4.4 Car parking

We want to reduce the obvious dominance of parked cars in the streetscape. With paid parking, we hold the critical key to directing who can park in the city and where.

Public space belongs to everyone. However, the daily reality is that many streets in Groningen are filled with parked cars. This leaves little or no space for greenery or for playing. For this reason, we would like to reduce street parking in the city and densely built-up parts of our villages.

We do not take it for granted that public space should be put to private uses, such as for parking cars. In the places where we do allow this, it is not always free of charge. By establishing paid parking zones, we can have an effect on the number of cars parked in public spaces, where they are located, and which vehicles are allowed to park where. This will enable us to keep non-neighbourhood traffic out of our neighbourhoods and provide direction to both mobility and the use of our public spaces.

As it stands, we will not create additional parking capacity in the public spaces in the city. There are no new visitor garages needed in the city centre; the current parking capacity is sufficient. New construction should not result in additional parking pressure on the surrounding area. Where parking is scarce, we are more likely to prioritise zero-emission cars and shared cars over private fossil fuel-powered cars.

In 2018, we adopted the parking vision 'Space for the Street - parking in a living city: vision, principles and policy 2018-2025'. We align with the philosophy of the parking vision in this Sustainable Urban Mobility Plan.

What are our challenges?

- Reconsidering street parking spaces.
- Expanding paid parking.
- Tightening up parking permit policy.
- Encouraging the use of parking garages and P+R.
- Refining car parking standards in connection with new construction.

Reconsidering street parking spaces

The car has become much less of a priority than previously, when it comes to making design choices for street parking or for greenery, meeting places, bicycle parking and play facilities. This applies both to already existing streets, such as the Singels, and to streets in new neighbourhoods. Being able to park 'at the front door' is not always something to be taken for granted. Instead, we believe that parking up to 250 metres from the home is acceptable. In the city centre, parking spaces can even be as far as 500 metres. Wherever possible, concentrated parking at the edges of neighbourhoods is preferable to on-street parking in the middle of neighbourhoods. Profit is not a primary goal in our parking policy. We weigh the cost of eliminating a parking space against the social value of an attractive public space.

Expanding paid parking

Parking in Groningen has always been 'free unless paid'. However, in order to manage the number of parked cars, our perspective has shifted. Now parking is 'paid unless free'. Our intention is to encourage residents, commuters and visitors to the city to consider the availability of parking, its location and its price when choosing their mode of transport.

We will introduce paid parking in all areas of Groningen where parking leads to bottlenecks in public space. By doing so, we intend to reduce parking on residential streets by commuters and visitors to the city, while also preventing the bottlenecks from shifting (the waterbed effect). We therefore choose to expand paid parking in large zones.

The car-centred approach visible in Helpman Oost.

Tightening up parking permit policy

On-street parking is becoming increasingly limited for residents too, and we are not closing our eyes to residents' genuine parking needs. Different measures are possible, depending on the issue at hand. For example, we can:

- limit the number of resident permits to one per address;
- make the price of a second permit substantially higher than the first;
- establish a quota for the number of permits to be issued;
- limit the issuance of visitor permits.

A combination of these measures is also possible.

We are also considering dynamic pricing (rate depending on time of day) and options for limiting parking duration, as well as other ways of handling the visitor's pass.

Encouraging the use of parking garages and P+R

Parking garages help to reduce the dominance of parked cars in the streetscape. We would rather see a car parked in a garage than on the street.

We encourage visitors who want to park in the urban area to choose a parking garage at the edge of the city centre where possible. Because we want to limit motor traffic in the city centre, parking garage Haddingestraat will be closing permanently as a visitor garage (target date 2024). This provides opportunities to redesign Haddingestraat and Pelsterstraat in a different, more welcoming way. We are investigating whether this location can be used as a bicycle storage facility and an alternative to street parking for residents. This intention is not new, but with this new vision, we aim to make it happen as soon as possible.

We do not foresee any new parking garages aimed at the city centre. The existing parking garages provide enough capacity. Therefore, when it comes to developing the station area, our guiding principle is that new parking opportunities will only be created that are directly linked to the functions in the area, and therefore not focused on the city centre. Should parking garage capacity disappear on the south side of the city centre, for example the Museum parking garage, we will have sufficient capacity in our other garages (including Damsterdiep, Forum, Rademarkt and

Westerhaven) to accommodate this. We keep the rates for our garages below the price of a street parking spot. We will be promoting parking in urban parking garages (both municipal and commercial) more to visitors to the city. These garages will also be fully equipped to facilitate electric charging as well, naturally while taking fire safety into account.

With respect to owners of private built parking facilities, we try to make mutual agreements on the use of their parking capacity in the evenings and on weekends. These parking spaces are often only used during the day. This is a complicated task, but if successful (with the help of market parties for whom this is core business) it will simplify the reduction of parking in public space. The generously sized P+R sites on the outskirts of the city also make it less necessary or desirable for people to drive into the city by car and look for a parking spot there (see also section P+R and hubs).

Refining car parking standards in connection with new construction

When it comes to new construction, the responsibility for the parking issue lies with the owner or developer. They provide sufficient parking spaces on their own property or in the building, a substantial number of which are spots where electric cars can be charged. The developer may also offer a mobility solution that requires fewer on-site parking spaces, such as shared cars. We are also putting the 'zero standard' in place, which means that new constructions in urban areas with excellent public transport or located near the Hoofdstation will not be required to provide parking places. This will prevent the new construction from adding to parking pressure in the surrounding area.

Crucially, with new construction, we are ruling out the possibility of new residents or employees having rights to parking permits on surrounding streets. This can be done in all neighbourhoods where we have implemented paid parking.

Priority parking for disabled people

We also believe that people with disabilities should be able to participate in society independently. Since disabled people tend to be more reliant on cars as a means of transport, we take this into account in our parking policy. This means that even where parking space is scarce, we provide on-street parking for the disabled. Additional attention is required for specific destinations, such as city centre, retail, public or healthcare facilities. In places where there is high demand, we combine multiple handicapped parking spaces in one location. This is more efficient and reduces traffic searching for parking. The fewer the earmarked parking spaces, the more efficiently everyone can use the available parking. We bear this in mind each time we give careful consideration to constructing general handicapped parking spaces. The experiences of disabled people themselves are a helpful indicator that enables us to determine the need.

Parking at P+R Hoogkerk can be cheap and appealing.

Thanks to the underground bicycle parking, Nieuwe Markt is an attractive environment.

4.5 Bicycle parking

Because we value the strong growth of bicycle traffic, we also offer sufficient, good quality bicycle parking. This helps to prevent overcrowding of bicycles parked on the street and pavements, which can compromise pedestrian movement and the quality of the space.

Haphazardly parked bicycles are causing problems for pedestrian thoroughfare in an increasing number of places. It's a good sign, of course, that many people are taking to their bicycles to get around, but it does make it more difficult for us to create an attractive public space in some locations. Because we value the fact that so many people in Groningen cycle, we are reluctant to impose too many restrictive measures for cyclists. However, we do intervene where it is genuinely necessary, and accelerate the construction of additional bicycle parking spaces. We will be further addressing the bicycle parking problem in the coming years.

What are our challenges?

- Reclaiming public spaces by creating new bicycle parking.
- Influencing cyclists' parking behaviour.
- Tightening regulations and oversight.
- Implementing bicycle parking standards for new and renovated buildings.

Reclaiming public spaces by creating new bicycle parking

Bicycle parking places a disproportionate burden on public space in several locations. We are committed to reclaiming the public space. We are reluctant to install new bicycle parking spaces on the street – if we add parking capacity, this may not be to the expense of the accessibility to and experience of the public space. One possible solution is to eliminate parking spaces for cars in favour of parking capacity for bicycles.

Central shopping area

The numerous parked bicycles take up a lot of public space in core shopping areas in particular. In our Bicycle Implementation Program 2019-2022 (Uitvoeringsprogramma Fiets 2019-2022), we announced that we would be making clear choices about the location of bicycle parking facilities. These choices must align with the parking needs of visitors, employees and residents.

- Short-term parking: our solution is flexible bicycle parking spaces on the shopping streets.
- Medium-term parking: our solution is fixed parking facilities, for example with clamps, near the shopping streets where there is still space.
- Long-term parking: our solution is high-quality bicycle parking, either indoors or underground.

We are currently working hard to expand the number of parking spaces in the city centre. The Nieuwe Markt bicycle parking facility has already increased the bicycle parking capacity in the city centre by 1,200 spaces, and keeps Nieuwe Markt itself more or less free of bicycles. This is an example of how we can provide sufficient, well-utilised parking capacity and keep public space free of often chaotically parked bikes in the middle of a busy city.

In 2021, we will open the new Grote Markt bicycle parking facility (with 1,500 spaces) and will remove existing on-street bicycle parking spaces in its immediate vicinity. There is a great need for additional bicycle parking particularly in the Vismarkt and A-Kerkhof area and the Zuiderdiep and Herestraat area. In order to provide sufficient capacity in these areas too and to reclaim the public space, we are looking for high-quality solutions comparable to the Grote Markt and Nieuwe Markt bicycle parking facilities.

Parking capacity in city neighbourhoods

The neighbourhoods surrounding the city centre (known as the 'schilwijken' or 'shell neighbourhoods') also have large numbers of parked bicycles in public spaces. We are going to explore the possibility of clustering bicycle parking more in these neighbourhoods. Specifically, this means storing the bicycle relatively close to the destination, with less inconvenience to the surroundings. Where necessary, this may be at the expense of car parking spaces; approximately ten bicycles fit into one car parking space.

Influencing cyclists' parking behaviour

In our experience, cyclists often choose the easiest parking solution. We are therefore focusing on influencing their behaviour by means of providing attractive alternative facilities, red carpets, bicycle stewards, the 050 Cycling City campaigns and the like.

Many bicycles parked on the pavements in the Schildersbuurt.

Tightening regulations and oversight

As well as creating enough attractive alternative parking locations and encouraging good behaviour, we are committed to providing appropriate enforcement in the event of undesirable situations. We have already imposed a bicycle parking ban in some parts of the core shopping area. There is also a maximum parking time for bicycles in the city centre, the surrounding neighbourhoods, and around the stations. The maximum permitted duration is now four weeks, with a maximum of 12 days at stations. This improves the accessibility of our public spaces and reduces the number of 'orphaned' bicycles. Regular enforcement remains necessary to prevent excesses.

Implementing bicycle parking standards for new and renovated buildings

We want to do away with the non-committal approach to realising bicycle parking facilities in spatial developments such as new construction, redevelopment, change of function or conversion and division of existing buildings or apartments. Currently, new construction often leads to increased parking pressure from bicycles in the immediate surroundings. We will now be setting requirements for the minimum capacity of bicycle parking spaces associated with new spatial developments. We do this by means of bicycle parking standards similar to those for cars. In this way, we will ensure that bicycle parking capacity becomes a permanent part of the planning process.

4.6 Exploiting public space opportunities

With the Sustainable Urban Mobility Plan, we aim to reclaim public space from traffic. This provides opportunities for the redesign of public spaces.

This Sustainable Urban Mobility Plan focuses on improving public space by reducing the presence of cars. Lower speeds naturally present opportunities for allocating less surface area for motor traffic purposes, and reduced on-street parking also plays a major role. Since quality of life is our priority, we want to increase the attractiveness of the space that becomes available.

What are our challenges?

- Public Space Guidelines
- Limiting the barrier effect

Public Space Guidelines

In 2021, we will draft Public Space Guidelines that explicitly examine different ways of designing our roads and streets, with greater focus on pedestrians, socialising and a safe and healthy living environment.

This Sustainable Urban Mobility Plan also contributes to a climate adaptive municipality. This can be achieved by means of technical solutions such as green parking spaces. Transforming our streets into more car-free areas and reducing parking in public spaces also helps to significantly reduce the bricks and asphalt and make more room for greenery or water in a number of places. This improves rainwater run-off in these areas, reducing the chance of flooding. This also aligns with our goal of adding another 30,000 m2 of green space to public spaces each year to increase climate resilience and biodiversity.

We hope that these Public Space Guidelines will provide inspiration and offer a quality framework for a different way of designing public space. This will allow us to find a new balance between the claims being made on the limited space, and make other choices if necessary.

Zonnelaan
From 50 to experience

Current situation

Inspiration image

Limiting the barrier effect

The quality of life in neighbourhoods and villages benefits from neighbourhoods being interconnected, with as few barriers as possible, such as a major thoroughfare or a canal. Barriers do not make it much harder for people to get from A to B on foot or by bicycle, and they do not generally contribute to a sense of social safety or spatial quality.

We therefore want to prevent the creation of new barriers and attempt to remove existing ones. For example, Tackling the South Ring (Aanpak Ring Zuid) will lead to the disappearance of the southern ring road as a barrier in neighbourhoods in the south of the city. The ring road will be partially sunken and a new park established above it: the Zuiderplantsoen. In tackling Ring West, we explicitly choose to remove the barrier that the ring road currently creates between the western city districts and the city centre, and between the districts on either side of the ring road.

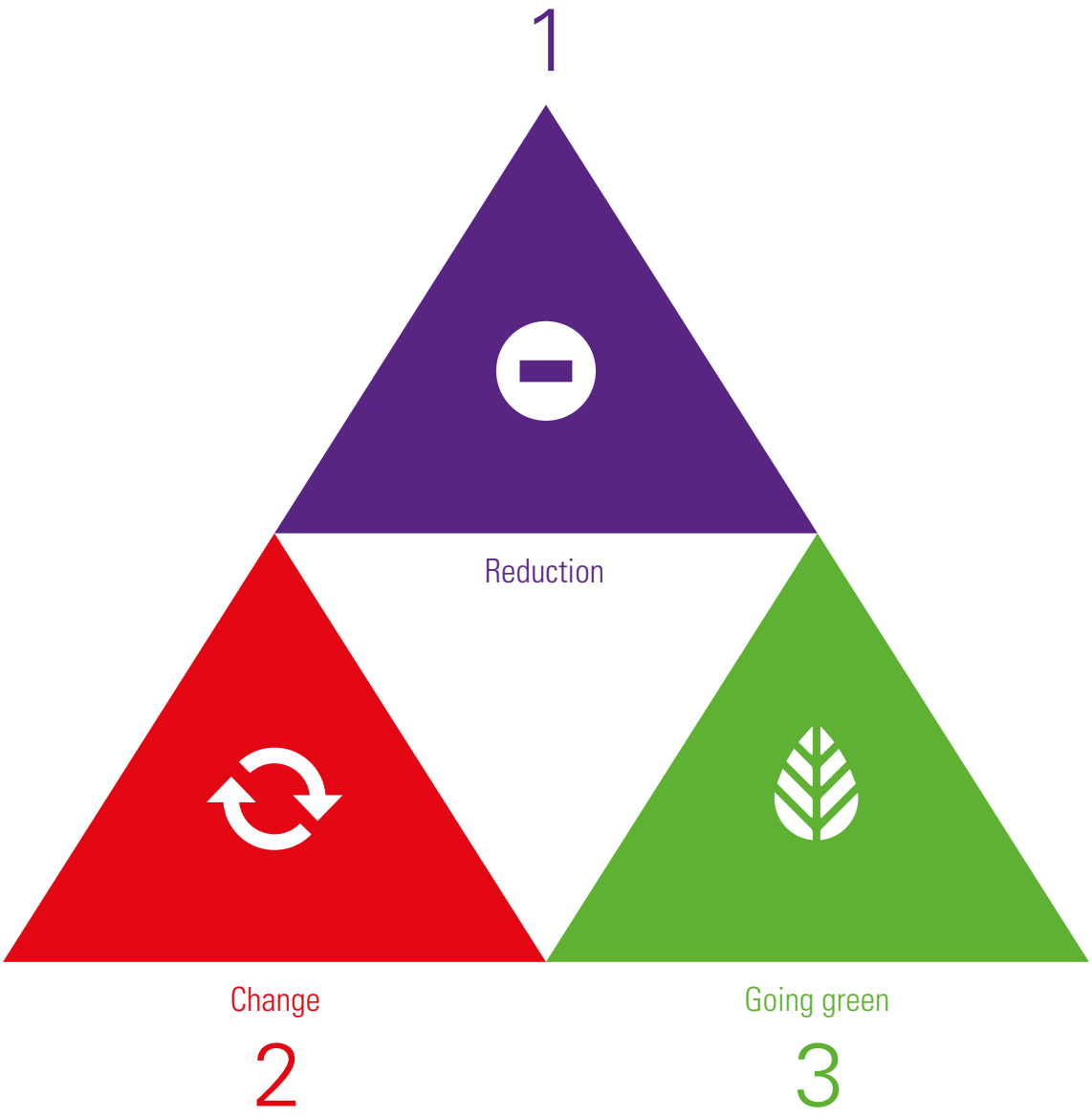
5

Towards compact, clean and healthy mobility

Being able to move around effectively is an essential part of our social, civic and economic lives. For example, good accessibility to homes, businesses, schools or shops is important. We guarantee this accessibility, but by means of modes of transport that require little space, produce zero emissions and are healthy.

Groningen wants to be an inclusive municipality that removes barriers to participating in economic, social and community life, and facilitates mobility for all. However, the unchecked increase in car-based mobility specifically also creates negative effects, such as traffic jams and congestion, less street space, traffic noise and air pollution. For this reason, we want to change our travel behaviour.

We want to initiate a transition to compact, clean and healthy transport. This means avoiding unnecessary trips, choosing more frequently to move about by walking and cycling, or using public transport, chain transport or shared mobility more often. Those who do travel in a motor vehicle will choose one powered by electricity or hydrogen.



In this, we are looking at an approach that enables us to make changes as a municipality. We will do this in accordance with the three aspects described in section 3.2: reduction, change and going green. We discuss our approach in terms of eleven themes as follows:

Reduction

1. Spatial policy (section 5.1.1);
2. Travelling less and at different times (section 5.1.2);

Change

3. Pedestrian (section 5.2.1);
4. 050 Cycling City (section 5.2.2);
5. Public transport (section 5.2.3);
6. Car (section 5.2.4);
7. Chain transport and hubs (section 5.2.5);
8. Shared mobility (section 5.2.6);
9. Logistics (section 5.2.7);
10. Traffic management and smart mobility (section 5.2.8);

Going green

11. Emission-free vehicles (section 5.3.1).

5.1 Reduction

5.1.1 Spatial policy

Where in our municipality do we make space for housing, work and amenities? These types of choices largely determine the type of mobility that emerges.

Spatial policy is the most powerful means by which we can influence mobility behaviour. By making the right spatial choices, we can keep distances in our municipality small, and the shorter the distances, the less we have to travel. This also makes it more natural to choose walking or cycling as a means of getting around. Clustering strong traffic amenities around major public transport hubs makes it easier and more logical to use public transport. In turn, we increase the use of compact, clean and healthy forms of transport.

What are our challenges?

- Remaining a compact city.
- Ensuring that amenities are close by and more concentrated.
- Applying hub development approaches.

Remaining a compact city

In Groningen, we have been working on the compact city concept for over forty years. This means that when it comes to housing, we prefer to choose infill; that is, to build within the existing area, rather than to expand. We build in high densities and strive to keep important functions and spatial developments in the city centre wherever possible. In taking this approach, we keep areas for living, working, shopping and recreation close together, which in turn allows for short travel distances. We avoid unnecessary car traffic movements and make walking and cycling the first choice as a matter of course. We will continue to take this approach.

Our Next City environmental vision states that we can accommodate most of the city's expected growth within existing urban areas, in development zones such as the Suikerzijde, De Held III, Stadshavens/Eemskanaalzone, Oosterhamrikzone, Stationsgebied, Meerstad and Reitdiepzone. We want to create attractive, mixed neighbourhoods in these area by blending residential areas, work and amenities.

Concentration and compactness are also the guiding principles regionally. Since 1996, the Groningen-Assen Region has been working together on spatial, economic and mobility issues, partly to ensure that the landscape around the city remains attractive and open. In the Woondeal (2018), we agreed with the national government to jointly develop with the region an integrated long-term strategy for living, working, accessibility and liveability: the urbanisation strategy.

Ensuring that amenities are close by and more concentrated

A large proportion of all trips in our neighbourhoods and villages are those made to daily amenities, such as shops and schools. To encourage walking and cycling, it is therefore important for these daily amenities to be nearby. This prevents people from having to or feeling compelled to drive their car more.

We view the high quality public transport (HOV) lines in the city as a spine along which new amenities can be accommodated. We add new facilities in places that are easily and safely accessible (socially speaking) by public transport. For example, it would be better to locate a new shop on the first floor along a city street on an HOV line, rather than isolated in a residential area.

In development areas such as Suikerzijde and Meerstad, new clusters of amenities of some size are desirable, combining shops and social amenities. The presence of amenities in neighbourhoods and villages means that local residents do not have to travel further afield.

Accessibility by car is more important for the villages in our municipality. Transportation flows to village centres tend to be thinner than in the city. Our focus in this instance is on strengthening the amenities that are already there. We are reluctant to add new facilities outside existing village centres. However, unlike in the city, a more customised approach is necessary here. Naturally, we continue to adhere to our policy of concentrating shops and social functions in the centres of Ten Boer and Haren.

Europapark Station with an attractive residential environment in a highly urban area.

Applying hub development approaches

We continue to apply 'hub development' approaches (also known as transit-oriented development). This is the combination of larger spatial developments around high-frequency, high-quality public transportation hubs. The basic principle is for the most important destinations and the biggest crowd-pullers to be most accessibly located.

A wide range of compact, clean modes of transport are available from these places. This cuts both ways: functions that attract large audiences benefit from good public transport, while public transport runs better when there are many travellers. So with this in mind, we want to prevent new schools, institutions and other crowd-pullers, such as shops or large offices, from being located in isolated, hard-to-reach places.

We are focusing on our existing and future stations, which also offer high-quality bus connections, to ensure that spatial densification and high-quality public transport go hand in hand.

Hoofdstation

The Hoofdstation (Main Station) is the largest public transport hub in the municipality of Groningen. Due to its excellent accessibility by public transport, this is the most attractive business location in the Northern Netherlands. The Hoofdstation is being rebuilt (Groningen Spoorzone project) so that trains from Leeuwarden, Delfzijl and Eemshaven can continue to Groningen Europapark station and beyond. New spatial opportunities are arising at the former siding on the south side. From the point of view of mobility and area development, this location is ideal for large public functions. There may be opportunities on the north side for redevelopment of the existing office buildings and forecourt.

Groningen Noord Station

With direct train services from Hoogezand, Winschoten and Veendam soon to be implemented, the importance of Noorderstation (North Station) as a public transport hub is increasing. We see Noorderstation as an important location for giving the immediate area a boost in terms of spatial development. This means that we are transforming Noorderstation into a modern station with indoor bicycle facilities and more. We believe there are opportunities for spatial densification in the immediate vicinity of the station. This provides a means for spatial development and the public transport function to reinforce each other as effectively as possible. Accordingly, in our update to the environmental vision, we have designated this area as a crucial redevelopment site.

Europapark

At Groningen Europapark station, we have already implemented hub development, but without specifically calling it that. This has resulted in a solid concentration of education, offices, retail and leisure in the area, including the soccer stadium right next to the station.

Suikerzijde

We also regard the new Suikerzijde station as an important hub for various types of transport and with higher densities and a mix of functions and amenities nearby.

These are our leading locations, but there are also other locations that unite spatial development and high-quality public transport. Examples include Kardinge, Ebbingekwartier, Reitdiep, public transport hub UMCG North, Martini Ziekenhuis and perhaps in the future, P+R Meerstad. Here, too, we are making every effort to concentrate amenities, residential, work and public transport functions as effectively as possible. These are all places that bring many things together in one location, and which attract people to the region.

5.1.2 Travelling less and at different times

A lasting shift in travel behaviour can make a crucial contribution to the goals of this Sustainable Urban Mobility Plan.

For years, traffic jams in the Netherlands have only become longer, bike lanes busier, trains and important buses more crowded. This is despite all the investments made in expanding and improving infrastructure and public transport capacity. That is, until the coronavirus outbreak. All of a sudden, there were barely any traffic jams and overcrowded trains and buses any more, because many people were now forced to work from home. Even after the economy picked up some momentum once again, traffic jams remained largely absent. The coronavirus crisis has touched a nerve. We have set up our mobility system to accommodate two short peak periods per day, while the system is mostly adequate during other periods. This applies to our car network, public transport system and the busiest of our bicycle lanes.

Bearing in mind a horizon of 2040, this Sustainable Urban Mobility Plan assumes a situation in which COVID-19 is no longer at large. Travel, work, study and recreation will no longer be affected by restrictive measures. We also assume that normal public transport operations will resume.

However, as far as we're concerned, this doesn't necessarily mean we will return to traditional patterns. There are many benefits to the idea of finding a new balance in which we travel less or at different times. After all, a trip not taken does not need to be made more sustainable and does not take up public space. Our roads will be less likely to become congested, buses and trains won't become crowded as quickly during rush hour, and there'll be more space on the bicycle paths.

What is our challenge?

- Encouraging people to adopt alternative travel.

Spreading commuters throughout the day to prevent overcrowded trains, from Assen for example.

Encouraging Alternative Travel

We want to take advantage of the sudden and necessary increase in working and studying from home, and encourage 'Alternative Travel'. This creates opportunities for keeping our municipality accessible, and enabling us to possibly manage with smaller investments in infrastructure and public transport. We can also increase the efficiency of public transport operations. For this reason, we are making agreements about this with our stakeholders through the Accessible Groningen (Groningen Bereikbaar) collaboration. The Groningen Timetable is a good example of this, in which businesses, the government and educational institutions had jointly agreed on working and teaching times during the coronavirus outbreak, so that public transport use could be distributed as evenly as possible.

In this, we realise that there are also disadvantages to working and studying from home. Information transfer and collaboration are sometimes less effective when done online. Extensive digitalisation of our lives can lead to the widening of the digital divide in society. And working online is not always possible in some industries, such as logistics, manufacturing and healthcare. We are not looking for black and white solutions, but instead want to create more flexibility in working and studying at home.

5.2 Change

5.2.1 Pedestrian

We want to embrace and accommodate pedestrians in this Sustainable Urban Mobility Plan. They contribute to our goals and ambitions in multiple ways.

Walking is the most natural, sustainable, healthy and least stressful way to get around. It also helps to reduce traffic congestion and improve road safety. And lots of pedestrians passing by means more business for local entrepreneurs. Walking is healthy too.

If more people choose to walk, this will reduce pressure on public space and provide more opportunities for making our living environment more appealing. The converse is also true. By making the living environment more attractive, more people choose to travel by foot. Up until now, this insight has not received enough attention in our mobility policy.

Moreover, walking is by far the most popular choice before and after public transport journeys. Public transport functions better with an effective and attractive pedestrian network. This makes it essential for bus stops and bus and train stations to be easily accessible on foot. We are therefore striving towards the strong growth of attractive and logical walking routes within our municipality.

In short, more space for pedestrians not only contributes to the goals of our mobility policy, but is also thoroughly intertwined with other ambitions such as a healthier society, inclusiveness and strengthening our local economy.

What are our challenges?

- Encouraging walking through spatial policies.
- Improving walking routes and facilities at public transport stops.
- Developing a 050 walking culture.

Providing space for pedestrians at the Akerk.

Encouraging walking through spatial policies

We hope that the Public Space Guidelines will provide inspiration and offer a quality framework for a different way of designing public space. In doing so, we are explicitly challenging ourselves to accommodate pedestrians in the way we design our public spaces. To encourage walking, we focus on proximity, attractiveness and accessibility.

Proximity

In our compact city, many distances can easily be covered on foot. Walking time is affected by barriers such as canals and railway lines, as well as busy roads that are difficult to cross. We are therefore opting to create a dense network of routes and crossings that give pedestrians priority wherever possible, and short waiting times at intersections and traffic lights.

Attractiveness

People are more inclined to choose to walk when the public space is inviting. The new Public Space Guidelines provide concrete steps for reclaiming space and provide a new balance that prioritises the pedestrian. Public space can be made more attractive by the addition of a greater variety of activities, functions and amenities. Substantially redesigning public space has by far the greatest effect, but small gestures, such as installing benches, also contribute to increasing the appeal of a walking route. Social safety also contributes to the attractiveness of walking routes. Investing in a better, more diverse, socially safe, and attractive public space with more room for recreation, sports and socialising represents a direct investment in the pedestrian's interests.

Accessibility

We want to enable as many people as possible to participate independently in society and aim to design our public spaces accordingly. Public space must therefore be accessible to all pedestrians, including those with strollers or wheelchairs, and people who are blind or visually impaired.
In any case, this means keeping the pedestrian space as clear and open as possible. The available space for pedestrians is sometimes shared with terraces, retail displays, bicycle parking and street furniture. The busier the area, the less space usually remains for pedestrians. This puts accessibility under pressure. We will need to design public spaces to ensure that pedestrians are not crowded out, and to prevent excesses.

During the design process, we take into account those target groups with reduced mobility, by making conscious choices about materialisation, colours and the application of guide lines for those with visual impairments. We actively involve this target group in the design process. Proper management and maintenance, such as addressing potholes, loose tiles and protruding tree roots, also improves accessibility. And during works as well, we pay close attention to the accessibility of the public space for all target groups.

Improving walking routes and facilities at public transport stops

Public transport passengers often arrive at the public transport stop on foot or continue their journey on foot.
To encourage public transport use, excellent walking routes are essential. We will therefore be improving existing walking routes to public transport stops and creating new ones where necessary. We will ensure that the stops are easily recognisable and in logical locations along existing or new walking routes. We will also provide sufficient and safe crossings to enable pedestrians to reach the stops.

Developing a 050 walking culture

We would like walking to become as firmly embedded in Groningen as cycling is, and with this in mind, we will be promoting it more. We are going to position ourselves more explicitly as a municipality that encourages walking and embraces and accommodates pedestrians. In this, we can draw inspiration from our experiences in promoting bicycle use. By actively communicating the idea that the pedestrian occupies an important position in our municipality, we can create a positive spiral.

5.2.2 050 Cycling City

Groningen is the Cycling City. To maintain this position, we need to go the extra mile.

Our Groningen Cycling Strategy 2015-2025 (Fietsstrategie Groningen 2015-2025), drafted in 2015, opens with the words 'The people of Groningen are cyclists down to the bone'. Dozens of bicycle projects have since been implemented or are underway. For example, we are greatly improving the quality of existing bike paths and constructing new bike paths. We're very proud about this. Together with the province and the Groningen-Assen Region, we have created regional bicycle routes to and from our municipality. We will continue with this, focusing on continuing these routes into urban areas. This process fully embeds the bicycle in our thinking and in the way we act.

Bicycle use continues to increase, and we want the proportion of bicycles to keep growing too, over longer distances as well as in combination with other types of transport such as public transport and cars via Park + Bike. Bike lanes are reaching their capacity limits more often, with e-bikes, speed pedelecs and cargo bikes on the rise. This means that in the limited space on bike routes, the differences in speed and mass are also becoming greater. Traffic is expected to increase even more with the rise of shared electric motor scooters and cargo-bikes (electric cargo bikes used for freight purposes). Certain groups of vulnerable cyclists, such as the elderly and young children, are at risk of dropping out as a result. We want to avoid this, because we believe that an inclusive municipality means that everyone should be able to ride their bike everywhere.

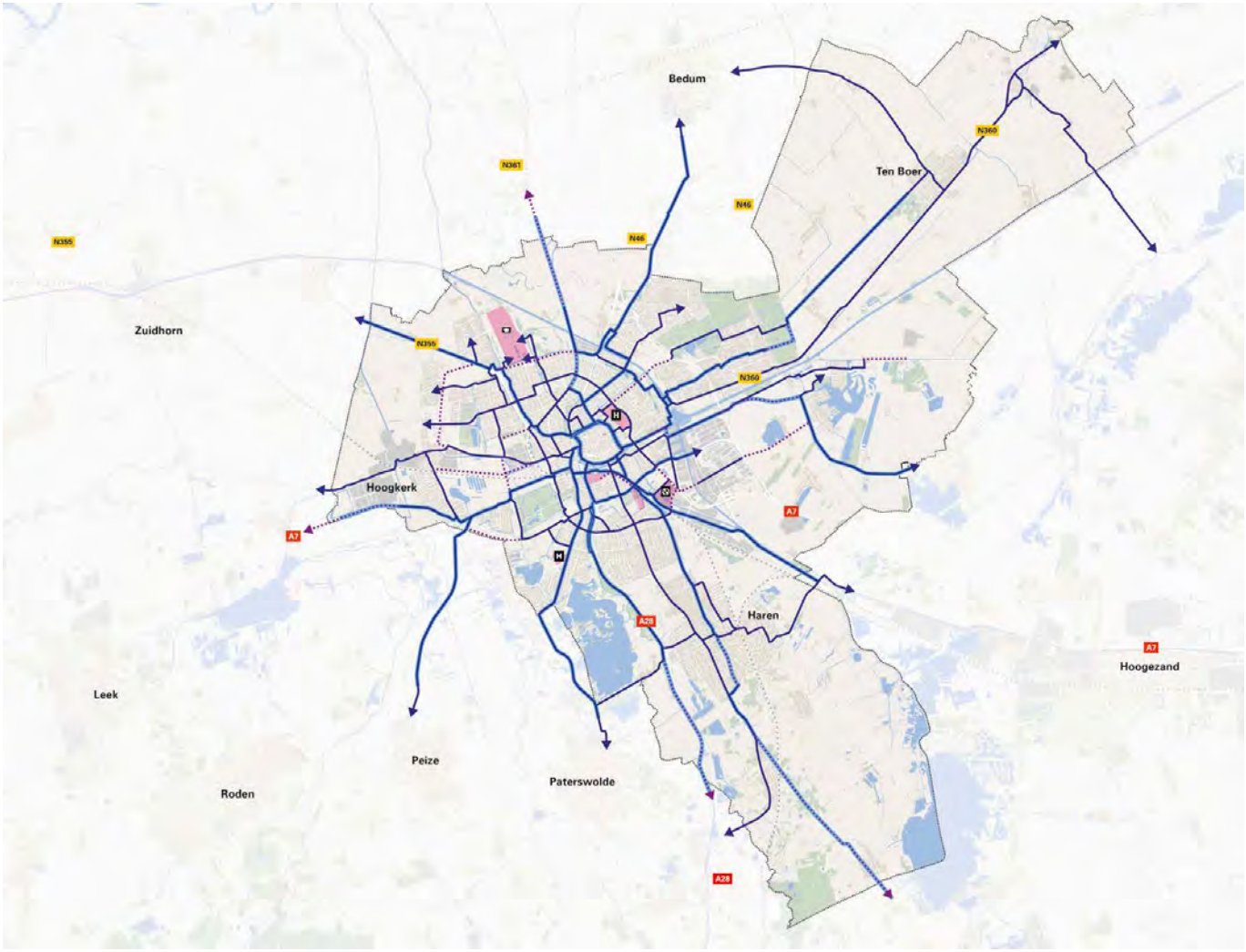
We are also noticing that there are areas in our community in which pedestrians and cyclists are competing for the same crowded space, such as on Saturday afternoons in the core shopping area. Because pedestrians are a high priority for us, we can't always ensure that cyclists will be given the shortest route. At peak times, cyclists must give way to pedestrians. An essential point in this regard is for alternative cycling routes, such as the Diepenring, to be designed to be very bicycle-friendly.

All in all, we need to take a new jump in scale for cyclists. We need to take a different view of bottlenecks where the current infrastructure is no longer adequate now or for the future. In many places, our bicycle infrastructure is becoming too cramped to be able to provide a safe and comfortable environment for all types of cyclists; not only on bike paths and the road, but also at intersections. This calls for the cycling infrastructure to be designed differently.

What are our challenges?

- Distributing bicycle traffic throughout the networks.
- Constructing and improving regional bicycle transit routes.
- Constructing secondary bicycle routes between neighbourhoods.
- Accelerating investment in the quality of existing bicycle connections.
- Providing more space for cyclists and reducing the dominance of cars.
- Giving cycling a prominent position in the development of locations.

Main bicycle network
Network 2040



LEGEND

- Existing connections
- New/improved connection
- Bicycle transit route

We can distribute cyclists more effectively across the city by means of the bicycle transit route.

Distributing bicycle traffic throughout the networks

Bicycle accessibility in our municipality is based on the main bicycle network, mostly consisting of separate bike lanes. The available physical space is insufficient in many parts of this main bicycle network, and the construction of separate or wider bicycle facilities is not possible. For this reason, we now tend to look for solutions that distribute bicycle traffic so that the main bicycle routes are available to those who can or must move quickly.

We therefore want to invest in the underlying urban bicycle network, offering vulnerable cyclists, such as children and the elderly, an attractive and traffic-free alternative. The underlying bicycle network is not a separate network, but consists of all the streets, paths and crossings used by our cyclists. Behavioural measures such as the Smart Routes (Slimme Routes) have proven to be very effective in spreading out cyclists more and reducing crowding. This is why we're not only focusing on improving the infrastructure, but also on changing behaviour.

We are constructing the missing links in the bicycle network (see the 2019-2022 Bicycle Implementation Programme), as they contribute to improving and refining it.

Constructing and improving regional bicycle transit routes

Users of e-bikes and speed pedelecs are willing to travel long distances, so we will continue to build new regional bicycle transit routes. These investments will contribute to an increase in regional bicycle use. When it comes to the already existing regional bicycle transit routes, we are investing in quality improvement. These routes are already well used and we want to further increase the number of users. In addition, we will improve the arrival of these routes in the city by investing in our urban main bicycle network and the realisation of secondary neighbourhood routes.

Constructing secondary bicycle routes between neighbourhoods

With the regional bicycle transit network and the main urban bicycle route network, we have mainly invested in 'radial bicycle connections' in recent decades. In other words, bicycle connections to the city and city centre. Because these bicycle routes are becoming busier, we want to spread cyclists out more, and for this reason we are constructing secondary bicycle routes between neighbourhoods, such as between Iepenlaan and Park Selwerd along the northern ring road. We will upgrade existing secondary routes, such as the one connecting the De Held and Hoogkerk neighbourhoods.

Accelerating investment in the quality of existing bicycle connections

Many bike paths and bike lanes were built 20 to 30 years ago. The quality of the bicycle connections in our municipality does not always meet our current requirements for the width and type of paving, for example. We will therefore look for opportunities where we can combine major maintenance with improving the bicycle infrastructure in a smart way.

Providing more space for cyclists and reducing the dominance of cars

On some busy bike routes, the current road layout does not allow space for widening the bike lane. If the safety of cyclists is seriously at risk, then they receive a prominent position on a mixed carriageway with motor traffic, and the speed of the motor traffic is reduced. For example, the road can be designed as a bicycle street in which the car no longer takes priority. It goes without saying that the safety of all road users is paramount in these considerations. A solution such as this usually requires less paved traffic space, so we can use this space for other functions, for example as green space.

Giving cycling a prominent position in the development of locations

When it comes to new spatial developments, we always give the bicycle a prominent place throughout the infrastructure. We provide major connecting routes that allow cyclists to move quickly.

5.2.3 Public transport

Public transport plays a crucial role in journeys for which walking and cycling are not viable alternatives. Public transport is compact and sustainable.

In our city, most travel takes place primarily by bicycle, walking and car. However, when it comes to mobility to and from the municipality of Groningen, public transport accounts for 20 percent of trips and therefore represents an important alternative.

Over the past decade, we have worked hard with our partners to improve public transport. Among other things, this has led to the introduction and roll-out of the Q-link network, the construction of the western high-quality public transport (HOV) axis (Hoogkerk-Hoofdstation bus lane), the expansion of P+R sites and other hubs, extra trains to Assen, Winschoten and Leeuwarden, and the expansion of Groningen Europapark station. There are also new measures in the pipeline, such as the renovation of Groningen Hoofdstation (including relocation of the bus station and construction of a bus tunnel), the interconnection of regional trains and the construction of the UMCG-North public transport hub.

Despite these improvements, we are noticing that the public transit system is almost reaching its capacity. This means that we must make clear systemic choices, especially for connections within our urban area.

What are our challenges?

- Enabling growth in public transport usage.
- Connecting Groningen nationally and internationally. Drawing train connections deep into the city.
- Strengthening the bus network.
- Providing demand-responsive transport.
- Balancing bus transportation with quality of life.
- Making public transport more efficient.

Enabling growth in public transport usage

The increase in residents and visitors calls for a similar growth in public transport. We want to enable this growth. We also wish to increase the share of public transport as a form of travel, in order to curb the pressure from cars. We can only develop the future of public transport in our region together with the provinces and other partners. This Sustainable Urban Mobility Plan outlines our own views, but when it comes to public transport, we work with partners such as the provinces of Groningen and Drenthe and the Groningen Drenthe Public Transport Agency. In 2022, we will be releasing a joint Public Transportation Roadmap 2040 (Routekaart Openbaar Vervoer 2040).

Connecting Groningen nationally and internationally

As the sixth-largest municipality in the Netherlands, accessibility to Groningen is not only important for the region, but also nationally. To maximise the development potential of the Netherlands, it is important for the agglomerations with the greatest development power, which include our region, to be linked by fast, high-quality public transport connections. These public transport connections with other agglomerations strengthen our position and guarantee it for the future. We also want to be less dependent on the car for long-distance travel and develop alternatives to air travel (within Europe).

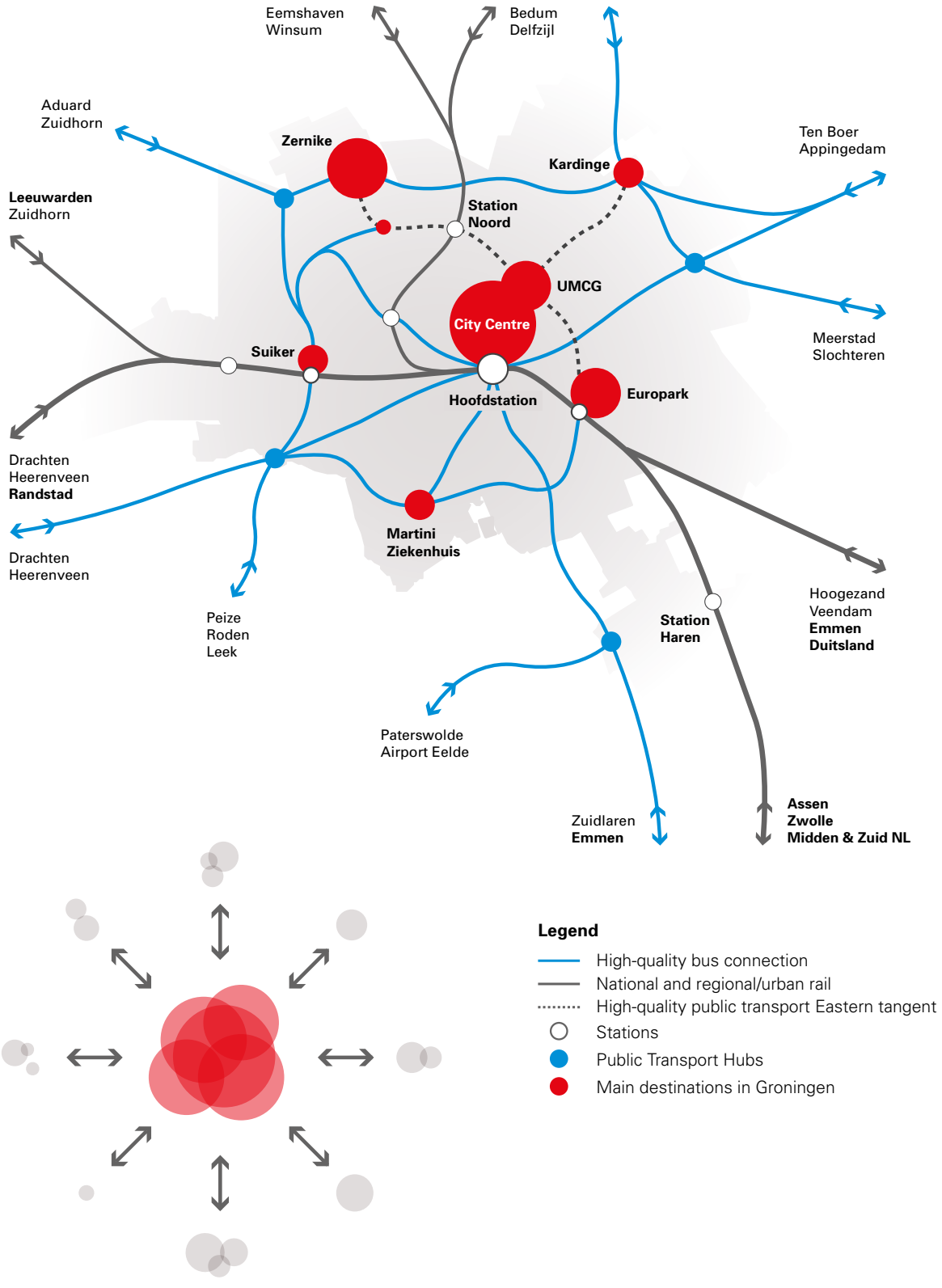
On an international scale, there is great potential for the gradual achievement of a direct, high-speed connection between Paris, the Randstad and the northern Netherlands. We also need a good connection to northern Germany and northeastern Europe. We are therefore committed to the Lelyline and are reserving the planning space for it. This high-speed rail link will greatly reduce travel times with other parts of the country as well as within our region. In addition, this new connection will make the accessibility of our agglomeration less vulnerable to disruptions, given that we are currently dependent on the rail connection via Zwolle.

Drawing train connections deep into the city

There is a strong connection between the city of Groningen and the region in terms of economy, education, culture, health care, and more. Good regional mobility is a prerequisite for maintaining connectedness. Within the city, there are major regional and supra-regional facilities in various locations. There is no single ‘city of Groningen’ destination. We are committed to bringing public transport passengers more and further into the city in order to provide more direct connections between the region and facilities in the city and vice versa. The existing rail structure must be better utilised in order to achieve this. In addition to the important interchange at the Hoofdstation, we want to see more major bus and train interchanges in our municipality. This will make the train connections between region and city more attractive and will lead to less pressure on the Hoofdstation from public transport passengers who only transfer there.

The rail structure in our municipality will be further developed by extending the regional trains to beyond the Hoofdstation. We are strengthening the four existing stations (Hoofdstation, Groningen-Noord, Groningen Europapark and Haren), with Groningen-Noord station in particular facing a major challenge with respect to new spatial development.

Daily Urban System Public Transport

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We would also like to welcome three new stations:

- Suikerzijde: as a driver for the development of the De Suikerzijde residential area and as an interchange hub for travellers on the west side of the city;
- Hoogkerk: as a suburban stop from the west;
- Friesestraatweg: as a suburban stop and for a better public transport connection to the northwestern city neighbourhoods.

Of these, the highest priority is a new station for the new De Suikerzijde district to be developed, and this will be realised first.

This includes a higher frequency and greater differentiation of train traffic between these stations and the residential centres in the region. A higher frequency will require modifications such as additional tracks, and the elimination of level crossings will also be an issue. These are costly ambitions that will require lobbying at the national and provincial levels and will take a long time to achieve. We do take this into account when designing traffic structures and new areas. In the future, there are also opportunities for increasing train frequency by means of self-driving trains. We are setting this goal now so that we can achieve it in close cooperation with the provinces, the national government and ProRail.

Strengthening the bus network

Public transport is strongest when the different types of transport are combined effectively. Successful bus concepts such as Q-link and Qliner have shown this. Our municipality views the existing Q-link connections as a benchmark that stands for high quality, high frequency, reliability and short journey times. We want to further improve the existing Q-link connections, while other bus connections will either be converted to Q-link or brought up to Q-link quality standards. This will ensure that public transport remains an attractive and competitive option for large groups.

We apply a greater distance to the stop than we have done in the past. Where possible and not yet implemented, we will 'stretch' the Q-link connections and regular bus connections to reduce the number of stops and create more direct routes. Experience has shown that travellers are willing to travel a greater distance to a stop if there are more destinations and more frequent buses. On balance, this leads to more public transport passengers. Over the past decade, we have been gradually stretching the bus network in our municipality to achieve a new optimum consisting of more direct public transport connections, higher frequency buses, and stops at logical locations in districts and villages.

For the relatively small group for whom a greater distance to the bus stop is a barrier, we offer small-scale transport solutions wherever possible. This also helps to make public transport more efficient and therefore affordable.

Like the trains, Qliners more often connect residential areas in the region directly to core areas in the city. This distributes passenger flows better so that not all of the traffic passes through the Hoofdstation. Intermediate hubs and neighbourhoods in the city benefit as much as possible from these connections.

Through the Qliner and Q-link, we have improved the quality of bus transport.

There are four focus areas for strengthening the urban public transport network

Hoofdstation

The Hoofdstation remains an important national/international arrival point and location for transfers between national, regional and urban public transport. The Hoofdstation is currently the largest public transport hub by far. We want to prevent overburdening of the public transport system around Groningen by more efficiently distributing travellers at an earlier stage (with transfer nodes in and around our city) and by improving and designing public transport tangents. This will reduce the intensity of public transport in the neighbourhoods immediately surrounding the Hoofdstation and in and near the city centre.

In order to take maximum advantage of the regional train interconnection, the Q-link network has good interconnection with train services and other Q-links at the Hoofdstation and other stations. We are transforming the most important public transport hubs into hubs where, in addition to public transport, there are commercial and other facilities and a wide choice of shared and other mobility options and pre- and post-transport solutions.

City Centre

To achieve the necessary improvement of quality for pedestrians in the city centre, we removed the bus routes along Brugstraat and the Grote Markt. This will make the Gedempte Zuiderdiep stop the most important public transport stop for the city centre, with over 10,000 people boarding and alighting from the bus each day. All P+R sites around the city are also directly linked to the Gedempte Zuiderdiep stop. More than 20,000 people travel daily along Gedempte Zuiderdiep to all kinds of destinations in the city such as the UMCG and many other destinations in the area. The challenge is to design the Gedempte Zuiderdiep bus route and stops to accommodate the low speeds appropriate for the environment with its many pedestrians and cyclists, while at the same time facilitating virtually unimpeded traffic flow for the more than 1,000 buses per day.

Increase in scale on the east side of the city

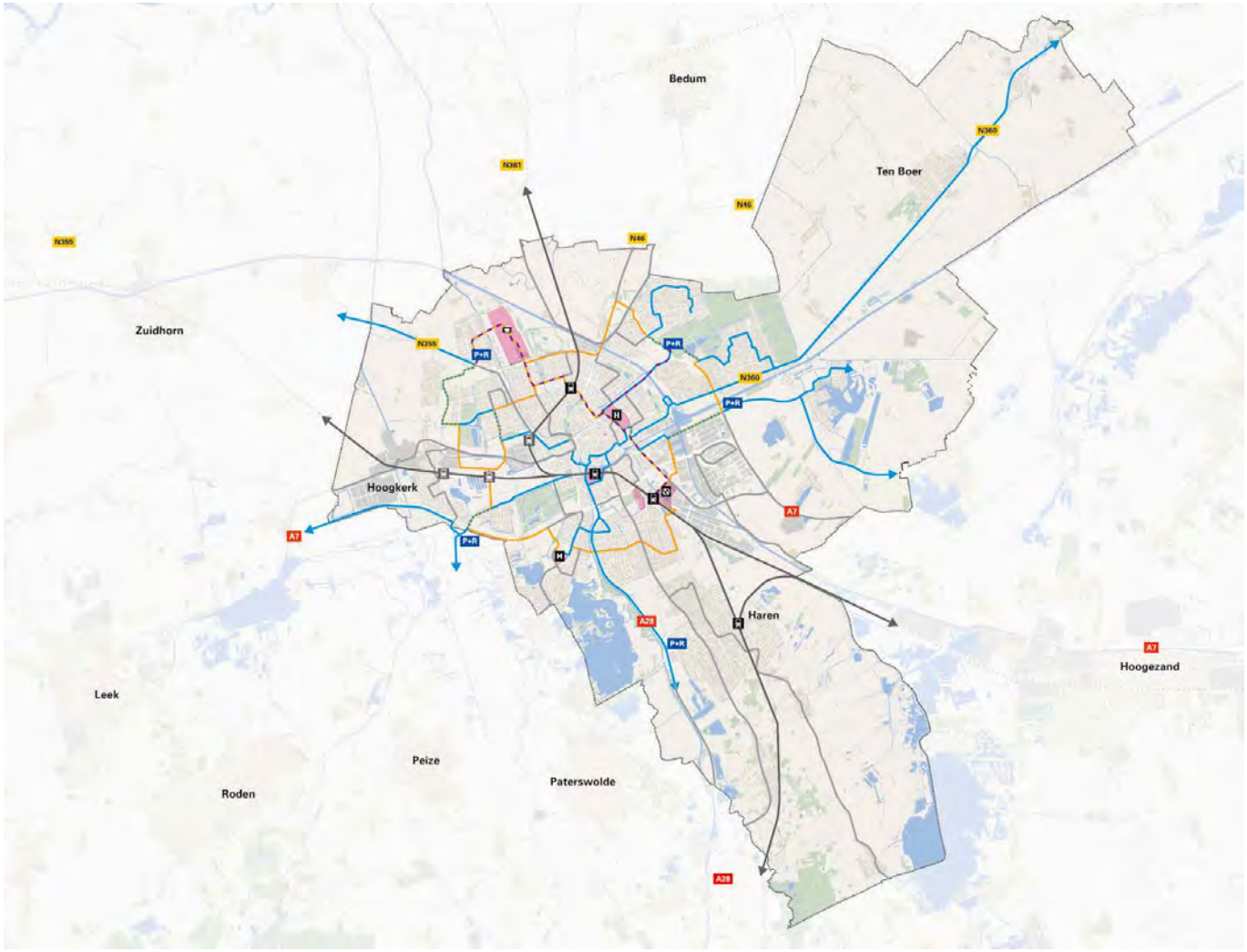
There are no railways on the east side of the city of Groningen, but robust and large-scale public transport is needed. In the first instance, Q-link has the task of providing high-quality public transport access here. However, we believe that this needs to be scaled up in the future, such as by means of a streetcar or some other innovative transport concept. This applies especially to the Europapark - UMCG - Noorderstation - Zernike corridor and the corridor towards Kardinge. We will reserve enough space for this, thereby preserving reserved space and property purchases made about 10 years ago for the streetcar route envisioned at the time. Exploring options for the eastern tangent is a crucial part of the Public Transportation Roadmap 2040.

Zernike Campus

Tens of thousands of people work at the Zernike Campus, which means that excellent public transport access is a priority. In the national Public Transport Vision 2040 (OV-toekomstbeeld 2040), the national government recognises the importance of and opportunities inherent in upgrading public transport access to Zernike. Possibilities currently under consideration include a train to Zernike via Noorderstation, as well as high-quality bus options. However, we believe the best opportunities entail combined transport for Zernike along with surrounding urban neighbourhoods. This will enable these other neighbourhoods to benefit from high-quality public transport, as well as distributing transport demand more widely, which is beneficial for operations.

For this reason, we want to transform the overburdened Hoofdstation-Zernike transport cluster into multiple, adequately serviced transport clusters. We are creating an excellent public transport connection between Noorderstation and Zernike as part of the high-quality eastern public transport tangent. The future western public transport tangent that will serve the new Groningen Suikerzijde station is also part of the bigger picture.

Supporting Public Transport Structure



LEGEND

- National and regional/urban rail
- Axial high-quality public transport (HOV)
- Mixed axial/tangential
- Tangential high-quality public transport (HOV)
- Other public transport
- HOV upscaling
- Station
- Park + Ride (P+R)

The WelMobiel in Vinkhuizen is a good example of small-scale demand-responsive transport.

Providing demand-responsive transport

Mobility is important to everyone. As a municipality, we believe that adequate small-scale demand-responsive transport, guaranteed for the long term, is essential. We offer good demand-responsive transport (public transport that the traveller must request themselves) to travellers who are less self-sufficient.

Demand-responsive transport can either be used for the entire journey, or as a means of connecting to other public transport, at hubs for example. Our hub taxi is an existing system in place for those parts of our municipality that lack public transport. Naturally, student transport and the WMO (social support) taxi also come under public transport.

In some neighbourhoods and villages in our municipality, residents and organisations have taken the initiative in creating a local transport concept. We are happy to facilitate these initiatives. Specifically, there are several aspects to the social impact of the initiatives. For example, they contribute to increasing social interaction in neighbourhoods and reducing social isolation, and drivers can participate under reintegration programmes. It also creates an opportunity for our WMO transport to connect via public transport, which enables more efficient, cost-effective operations. Naturally, we also take into account that people counting on volunteer-based concepts should also always be guaranteed back-up transport through professional transport concepts.

In the future, self-driving (autonomous) shuttles may also be used for this purpose, for example, as a means of transport to and from hubs.

Balancing bus transportation with quality of life

If we want to make the area within the ring roads car-free, we need to provide alternatives to the car, such as competitive public transport. It is important that this public transport flow smoothly and be unimpeded in its operation. On the other hand, we also want to boost the quality of life in some locations, which means that public transport should run a little slower. We need to deal with this dilemma by making choices relating to reliability and speed.

Our aim is to base the whole bus infrastructure on the idea of reliable public transport. For roads along major public transport corridors, we aim for a speed of 50 km/h and higher where possible. There are great opportunities in certain places to enhance liveability by modifying the road profile. We will set a lower speed limit in these areas, which will also apply to public transport. This means that we must ensure high reliability (i.e. as little delay as possible) on routes where buses travel at 30 km/h. In Network Development 2040 (Uitwerking Netwerken 2040), we specify the characteristics of each infrastructure type for the handling of public transport.

Making public transport more efficient

Public transport is not covering costs and our government funding is not increasing. Maintaining the public transport system is already quite a financial challenge. The fare recovery ratio has declined somewhat in recent years due to bottlenecks in traffic flow, especially in and around the city. Buses are taking longer to travel their routes due to the increase in traffic.

To keep public transport affordable, it has to operate more efficiently. One way to do this is to improve traffic flow and reliability. As the road authority, we realise that we can influence this and will take responsibility for doing so. Stretching more bus routes and providing demand-responsive transportation can also help. This is the only way we can guarantee the social role of public transport in neighbourhoods and villages into the future. Finally, we are committed to smoothing out the morning and evening rush hours by means of 'Alternative Travel'. If this leads to less deployment of additional vehicles and staff, it could greatly improve the operation of public transport.

5.2.4 Car

We want to reduce the dominance of cars within the city and village centres, while also remaining aware of the fact that cars are sometimes essential for the mobility of residents and visitors. Many residents in our sparsely populated region are dependent on cars for transport.

Good access by car to the city, and especially to those economic areas in which cycling and public transport are not viable alternatives, is necessary for the economic vitality of our municipality, which in turn is important for quality of life.

Reducing the dominance of cars does not mean that they are no longer welcome anywhere. For our car network, we are aiming to find a balance between reducing the dominance of the car in the city and villages, and good regional accessibility by car. It is important for main roads, such as the ring road, and the roads connecting to them to flow well. After all, these main roads are the alternative to the city centre roads on which we are trying to discourage car traffic wherever possible. The main roads are also necessary for keeping our neighbourhoods, villages and business parks accessible by car. This car network will enable us to focus on and respond to car use, car traffic routes and car driver behaviour in public spaces.

While we will provide good parking options to commuters and visitors who come to our city by car, we want to minimise the number of cars on the street and in the innermost city areas. For this reason, visiting motorists can make use of the P+R facilities at the edge of the city and parking garages at the edge of the city centre. These are not only cheaper than parking on the street, there is also almost always space available in a garage or at a P+R site. Pricing and the availability of parking are the means by which we hope and aim to decrease the amount of traffic in the city.

What are our challenges?

- Achieving excellent traffic flow on the ring road and main roads.
- Encouraging drivers to park in the right places.

In the city centre within fifteen minutes, by public transport from P+R Hoogkerk.

Achieving excellent traffic flow on the ring road and main roads

The ring road is the main distribution road for the city and the city centre. For the ring road to properly perform this function, it has to become a flyover. Within the municipality, the carriers of the car network are the A7 and A28 highways (national and international traffic) and the ring road and provincial roads (regional traffic). The latter are also essential for providing good access to all neighbourhoods and villages while preventing traffic from passing through them. We have already dealt with the northern and eastern ring roads in recent decades. Once the approach to the southern ring road is complete, only the western ring road will remain. Because we also want to transform this completely into a flyover, this means we will have to tackle the level intersections at Friesestraatweg, Metaallaan, Pleiadenlaan/Siersteenlaan, Edelsteenlaan and Hoogeweg.

Encouraging drivers to park in the right places

P+R sites on the outskirts of the city

We want to expand the use and functionality of the P+R sites on the outskirts of our city. We want to encourage visitors to the city to park at the edge of the city by providing them with up-to-date information. They can reach the city centre from the P+R by bus, or choose another form of transportation, such as a shared bike. The residents of our city are beginning to take less for granted the idea of having their own car parked in their own street. Having a shared car in your own neighbourhood is a potential solution, but

Excellent parking garages at the edge of the city centre.

we are exploring whether our residents are also prepared to use a shared car from our P+R sites. This will increase the importance of the P+R sites as one of the links in chain mobility.

In consultation with our regional cooperation partners, we also want to encourage visitors to the city to preferably park their cars at a P+R further away from the city, for example at Zuidhorn, Leek or Gieten. This will prevent a car trip to the city. Our main goal with the P+R sites is to prevent extra strain being placed on the already busy public space in the city.

The introduction of paid parking in larger parts of the city will make the free parking at P+R sites much more attractive.

Parking garages on the outskirts of the city centre

For those who still want to drive to the city centre by car and are willing to pay more for parking than at the P+R, we encourage the use of a parking garage at the edge of the city centre. We will provide enough spots in parking garages that are clean and safe. This means we will also be able to avoid having cars moving through the city centre, while keeping it adequately accessible for motor traffic. The distribution ring for the parking garages at the edge of the city centre will become the ring road. At the moment, the Diepenring still performs this function.

5.2.5 Chain transport and hubs

By providing hubs and encouraging the use of chain transport, we can do away with the idea of using a car for the entire trip, while ensuring that mobility is available for all.

Not every journey can be made solely on foot, by bicycle or by public transport. Ommeland residents are actually quite dependent on the use of a car. However, this doesn't mean that everyone should be able to drive their car all the way into our urban areas. There is too little space for this, which is why we encourage the use of chain transport.

Chain transport is the use of various transport types within one journey, such as bicycle, public transport, car, demand-responsive public transport, shared bicycles and shared cars. In this way, we offer our residents, commuters and visitors ample travel options. Chain transport contributes to a compact, clean and healthy transport system.

The greatest opportunities for encouraging the use of chain transport exist in the places where different transport networks come together. We facilitate chain mobility in these places by constructing high-quality transfer points called 'hubs'. The more extensive the range of transport options at a hub, the more attractive chain mobility becomes.

For travellers, a hub is first and foremost a high-quality public transport stop with many and frequent buses or trains. It also provides sufficient high-quality bicycle parking spaces and bicycle lockers, stops for the hub taxi or other types of demand-responsive transport, taxi ranks and other types of shared mobility, such as shared cars, shared bicycles and shared motor scooters. Some stations and, of course, all P+R sites offer high-quality parking.
We provide excellent charging stations for electric cars in these parking areas.

Using the shared motor scooter to continue your journey from P+R Hoogkerk to your destination.

Wherever possible, we aim to provide P+R locations with solar roofs. In doing so, we can make icons of these entrances to our city, achieve dual use of space for parking and solar power generation, and provide parked electric cars with sustainable power directly from the source. There are also facilities that make the transfer and stay more comfortable, such as benches, a kiosk, a toilet, a water tap, Wi-Fi or online shopping collection points.

Hubs are not new to our region. The provinces of Groningen and Drenthe already have nearly 60 hubs, ten of which are in our municipality, located at stations and P+R sites. We would like to build on and expand these.

What are our challenges?

- Continuing hub development in the municipality.
- Establishing a route map for the municipal hubs.

Continuing hub development in the municipality

- We distinguish between three types of hubs:
- Train stations
- P+R sites
- Neighbourhood and village hubs

Train stations

Our new and existing train stations will provide even more opportunities to travel by public transport, both within our municipality and to the region and beyond. We want to concentrate the spatial and economic functions in and around the stations so that they become focal points for all kinds of urban activity, and not just mobility. We also want to expand the range of transport services to include shared mobility.

We are committed to ensuring that all stations in Groningen are equipped with sufficient, attractive and comfortable bicycle parking facilities, close to the platforms and bus stops. Haren Station already has a high-quality bicycle parking facility. A new, high-quality bicycle parking facility is being built at the Hoofdstation as part of the Groningen Spoorzone project. There will also be additional bicycle parking capacity at the Groningen Europapark and Groningen-Noord stations to accommodate the increased number of passengers. We consider excellent bicycle parking facilities to be an unconditional prerequisite for future stations too.

The Hoofdstation and Haren and Groningen Europapark stations have P+R facilities. Given the location of these stations in the middle of the urban area, we will not be seeking to substantially increase the number of parking spaces there. After all, this might well attract additional car traffic.

P+R sites

Our P+R sites historically started out as locations on the edge of the city that were intended to capture as much car traffic as possible. Thanks to the high-frequency bus connections from the P+R to the most important work and education locations, this is proving to be very successful.

P+R is the most car-oriented hub type within our hub system. The traditional P+R role of transferring motorists to public transport will remain the basis for future developments. At the same time, however, we are witnessing our P+Rs increasingly being used as a transfer point from car to bicycle. We are fostering this development by expanding the bicycle storage facilities when demand requires it. But above all, we want our P+Rs to grow into hubs that offer a wide range of mobility and shared mobility services. We will also add social and economic functions where we can, such as collection points for online shopping. In doing so, we will further strengthen the appeal of these hubs.

Neighbourhood and village hubs

In addition to stations and P+Rs, we believe there are opportunities for developing hubs in our neighbourhoods and villages. These neighbourhood and village hubs could be important transfer points between regular public bus transport (important public transport hubs) and demand-responsive transport, such as the hub taxi and smaller scale district and neighbourhood transport initiatives. We also want to provide a wide range of different mobility and shared mobility services here. Car parking, however, will play a secondary role at these hubs.

A major strength of neighbourhood and village hubs is that they encourage walking as a means of getting to and from them, because they are located in the middle of a residential area. There are opportunities for neighbourhood and village hubs to further develop into socio-economic hubs serving the immediate surroundings. Examples include hospitality venues or package collection points. This makes linking neighbourhood and village hubs with existing neighbourhood and village centres an obvious option.

Establishing a route map for the municipal hubs

We will establish a route map in 2022 to enable a structured approach to the development of the hubs. The future neighbourhood and village hubs, together with our stations and P+Rs, will form a comprehensive network of transport interchanges in our municipality. In addition to their importance in chain mobility, we explicitly consider hubs to be spatial design challenges. In particular, the introduction of neighbourhood and village hubs is new and needs to be carefully thought out.

5.2.6 Shared mobility

Shared mobility as a transport option has been on the rise in recent years, and increases freedom of mobility for everyone.

We are observing a transition from owning a means of transport to simply using it. We are embracing this development, as shared mobility contributes to the transition to more compact, clean transport. It also increases the range of transport options, and can provide a solution for residents who cannot afford their own transport.

Shared mobility is still in the development phase, nationally and internationally. There are many innovations in this area, and we provide space for them if they contribute to our sustainable transport goals. All the more reason to adopt shared mobility as a worthy mobility theme from now on.

What are our challenges?

- Increasing the supply and use of shared cars.
- Setting up systems for shared bicycles and motor scooters.
- Supporting shared logistics initiatives.
- Providing direction on shared mobility.
- Preparing a shared mobility implementation programme.

Increasing the supply and use of shared cars

We want to significantly increase the supply of shared cars and encourage their use. The availability of shared cars can lead to the disposal of private cars and prevent new purchases. Car sharing also leads to more mindful (and therefore less) car use. On the other hand, shared car users who have not previously owned a car are somewhat more likely to travel by car. However, this tendency does not outweigh the reduction in car use by former car owners. Deploying shared cars also lowers the demand for on-street parking. Because shared cars provide transport to locations that are difficult to reach by bicycle or public transport, they create greater freedom of mobility.

When allocating parking spaces, we give priority to shared cars over owner-occupied cars. They will be given prominent parking spaces in residential areas and our villages, including in areas where parking pressure is high. We are also committed to electric car sharing, for which we need to create enough public charging spots. Thanks to new technologies, shared cars no longer always need to be in fixed locations in a neighbourhood. Alternatively, residents can share their own cars in an increasingly user-friendly way. We want to support and facilitate initiatives in this area wherever possible. In these cases, the provider may be given a licence for a defined area. This is a means of offering residents an alternative to car ownership, particularly in areas with high parking pressure. In the future, when there are enough shared cars around and there are so many charging spots that a spot for shared cars is guaranteed, they will no longer need fixed parking places.

For new construction projects, we apply low parking standards for developers if they provide a realistic alternative with shared cars. We are also exploring ways of using shared cars in our villages where public transport and cycling are less viable, and car dependence is greater.

Finally, we want shared cars to be available at P+R sites and future mobility hubs, so that we can increase the range of mobility options available at these important transfer locations.

The supply of shared electric cars is increasing (in the Hortus neighbourhood).

Setting up systems for shared bicycles and motor scooters

Shared bicycles and motor scooters are of added value for the first and last parts of a door-to-door trip. They increase the competitiveness of public transport over the car and have the potential to make the use of P+R sites and hubs more appealing. Shared bicycles and motor scooters offer visitors and commuters the opportunity to move flexibly and sustainably within our municipality, so that coming to Groningen by car will no longer seem like the obvious choice. We feel that it is very important to explore and utilise the sustainable transport opportunities that shared bicycles and motor scooters part-two wheels offer.

Shared bicycles

The shared bicycle aligns perfectly with Groningen Cycling City (Fietsstad Groningen). We are committed to establishing a clear, affordable and user-friendly shared bicycle system that is regulated by us. This shared bicycle system is becoming a prominent feature at stations, P+R sites and mobility hubs and connects to the major work locations and public hotspots. To prevent any nuisance caused by parked shared bicycles, we will designate regulated and demarcated transfer places in certain areas. This means that shared bicycles may not simply be left at any place within these areas. We will also establish requirements about the number of shared bicycles and how providers can guarantee that their customers park the bicycles appropriately.

Shared motor scooters

Shared motor scooters are a viable alternative for journeys for which public transport is not a realistic option or the distance is too great for a bicycle (shared or otherwise). We are committed to ensuring that shared motor scooters become an added value alternative to the car without making them compete with walking or cycling. Just as with shared bicycles, we will also establish requirements about the number of shared motor scooters and how providers can ensure that customers park the motor scooter appropriately. These requirements may actually be more stringent to an extent, since shared motor scooters occupy a larger portion of public space and are therefore more likely to be a source of nuisance.

Supporting shared logistics initiatives

We facilitate the initiators of sustainable shared logistics solutions. From 2025, supply transport to the city centre, within the Diepenring plus Westerhaven and surroundings, will be emission-free. A significant portion of the city centre supply chain does not go through regular carriers. Some business owners use their own cars to stock their shops or restaurants. Sustainable shared vehicles are a solution for this group.

They will no longer need to invest in a new or additional vehicle, and they will not have to worry about maintenance. For individuals, too, an accessible supply of shared cargo bicycles could help avoid trips that would otherwise require a car.

Providing direction on shared mobility

All forms of shared mobility that take place in public spaces are subject to licensing. This gives us a powerful tool for directing the creation and operation of shared mobility concepts, thus ensuring that shared mobility grows. This also includes allocating and facilitating parking and changing places and promoting shared mobility, in close cooperation with the market parties that offer it.

At the same time, we have the means to minimise unwanted side effects, such as nuisance caused by shared bikes or motor scooters parked in public spaces. We can establish requirements for providers in this respect. We are seeking to create added social value, and an unrestricted number of providers operating in our public space is not appropriate to this. We will be limiting the number of providers and setting requirements for the concepts.

We are seeing a rising trend in the use of electric micro vehicles such as electric kick scooters, which are also being used as shared vehicles. When this occurs, we will weigh up the added value compared to the total offer of shared mobility at that time, including any undesirable side effects.

Each shared mobility provider has their own concept, marketing and specific apps. We believe that it's important to move towards a single platform on which our residents and business owners can find, book and pay for all shared vehicles. We support initiatives that integrate subsystems into a single national platform. This will enable us to integrate shared mobility efficiently and conveniently into the city's mobility system.

Preparing a shared mobility implementation programme

We are making shared mobility a fully recognised part of our policy. We choose to shape the interaction between market and government in order to enable shared mobility to make the best possible contribution to the transition to sustainable mobility. We lay the foundation for this in this Sustainable Urban Mobility Plan. Based on these outlines, in 2021 we will explore the best route to a shared bicycle system and work out an implementation programme for shared cars.

5.2.7 Logistics

Logistics traffic must also contribute to our ambitions.
We have agreed that city centre logistics will be emission-free by 2025.

The city of Groningen attracts many visitors, businesses and tourists, and therefore also a great deal of logistics traffic. These logistics companies are mostly located at the business parks on the edges of the city of Groningen, but there are also many smaller logistics companies scattered throughout the city. There is still space available at the Westpoort business park for new large-scale companies in the logistics sector. This space is also sorely needed for the transition to sustainable, future-proof logistics.

By far the majority of logistics movements in Groningen take place by road. Transforming the ring road into a flyover will create effective, direct connections to our business parks. Our municipality has relatively little freight transport by water and rail.

In the Groningen city centre, city logistics is often coupled with congestion, unsafe traffic situations for pedestrians and cyclists, noise pollution and problems related to poor air quality. We are therefore committed to reducing logistics flows and making them more sustainable.

Space for ZES: Zero-Emission Urban Logistics Vision

In 2014, we already stated our goal for city logistics to be emission-free in 2025.
The Space for ZES: Zero-Emission Urban Logistics Vision (2021) (Visie Ruimte voor Zero Emissie Stadslogistiek (2021)) further develops this theme. The vision prioritises the following measures:

- Expanding the time-window area in 2022.
- Introducing a zero-emission zone for urban logistics from 2025.
- Implementing camera enforcement in 2022.
- Tightening the exemptions policy in 2022.
- Imposing logistics conditions on new businesses and functions in the city centre.

What are our challenges?

- Managing logistical flows.
- Guiding the transition to zero-emission logistics.
- Finding solutions for small logistics flows.
- Encouraging rail and waterways logistics.

Managing logistical flows

We want to better control the amount of logistics traffic in and around the city centre (the area within the Diepenring and Westerhaven). We are going carefully examine who we give access to and when. With the help of a new enforcement system for logistics traffic, we can provide targeted access. This will enable us to steer the city centre towards a balance between supply traffic and a pleasant residential climate for residents and visitors.

The city centre is also subject to traffic consisting of construction logistics and servicing, assembly and repair services. These target groups could potentially use hubs, collective services, cargo bikes and light-electric freight vehicles. We are going to collaborate with the sector to find concepts that minimise traffic and make it more sustainable.

Initiatives for sustainable logistics are developing rapidly.

Guiding the transition to emission-free logistics

The logistics service provider market is willing to contribute to the transition to zero-emission logistics in the city centre. However, it is too early to give the market a free hand in this. We want to determine for ourselves which options we will and won't allow in our city centre. Our approach can be summarised by the keywords connecting, boosting and supporting.

- *Connecting:*
  We unite various parties from the logistics chain, search for suitable locations together with market parties and facilitate new, efficient concepts.

- *Boosting:*
  We help establish logistics hubs that function as transshipment centres for goods delivered by large, long-haul vehicles. At the hubs, goods are transferred to small, clean vehicles such as cargo bikes a nd light electric transport vehicles. This requires us to play an active role in the short term, but in the long term, we believe we should take a step back and leave the initiatives to the market.

- *Supporting:*
  We will help market parties to introduce sharing platforms for logistics vehicles and the combining of freight flows.

In 2035 we will go a step further, with all logistical transport flows on municipal roads requiring to be emission-free. We are exploring which measures are appropriate for encouraging and accelerating zero-emission logistics in neighbourhood centres, residential areas and villages, by broadening the use of measures that we are implementing for the city centre in the coming years. In addition, we are introducing new business models for zero-emission logistics and provisioning. We will design new urban, mixed commuter areas to ensure that the heavy logistics, for example for supermarkets and catering, do not have to drive far into the neighbourhood.

Finding solutions for small logistics flows

In recent years, there has been considerable growth in smaller forms of logistics transport, partly because more individuals and businesses are opting for online store purchases and home delivery. This growth places increasing pressure on the scarce space in the city. We are collaborating with the market to find more efficient logistics solutions, such as central collection points, possibly in combination with other neighbourhood facilities and hubs.

Encouraging rail and waterways logistics

The three northern provinces and the four largest cities in them (Groningen, Leeuwarden, Emmen and Assen) have a joint goal for the northern Netherlands to be emission-free by 2035. This means that logistics must also be emis-sion-free by 2035. Encouraging rail and waterways logistics can contribute significantly to achieving this.

As a municipality, we welcome more logistics by rail and waterways, but this can only be accomplished by regional cooperation. At the scale of the Northern Netherlands, strategic locations for this are being considered.
Good opportunities may arise for logistics by water and rail within the municipality of Groningen. We are currently working on a new strategic approach for our work locations in which we provide greater clarity on the prospects for water and rail transport in Groningen.

The main Lemmer-Delfzijl waterway runs through the middle of our municipality along the Van Starkenborghkanaal and the Eemskanaal. This waterway opens up the provinces of Groningen and Fryslân for inland shipping and connects northern Germany with the ports of Amsterdam and Rotterdam. The waterway is a major pillar for both the Dutch and the Northern Netherlands economy. The business activity for our municipality that is directly related to this specific waterway is currently relatively small.

The Staande Mast (Standing Mast) Route also passes through the city and is the only inland waterway route accommodating fixed-mast vessels between Lemmer, Lauwersmeer and Delfzijl. Both recreational and charter shipping use this route, contributing to the municipality's tourism industry.

We believe it is important for shipping traffic to be able to pass through our municipality. In the central urban environment, we are always seeking the best balance between the interests of transiting vessels and the interests of cyclists, public transport and car traffic in a reliable, comfortable and dense network. Spatial integration is also an important consideration. Wherever road, water and rail transport intersect, we have to determine how to deal with priorities between these different modes of transport, in terms of both bridge design and traffic management.

5.2.8 Traffic management and Smart Mobility make it possible

Traffic management is the influencing of traffic flows to improve the way traffic is dealt with. Based on current data, other travel behaviour options arise. Technical developments offer us more and more opportunities to achieve our goals.

Methods for influencing travellers are shifting from dynamic roadside information boards to apps and traffic information systems in cars or on phones. This provides numerous opportunities to proactively use these new technologies to achieve the goals set out in this Sustainable Urban Mobility Plan by enabling the proper use of the available roads and encouraging the use of compact, clean vehicles. One example is adjusting traffic lights so that cyclists or public transport vehicles get a green light more frequently.

The new techniques can also help motorists who are driving to Groningen. In the future, they will have to choose their route earlier than they do today, due to the elimination of the Diepenring as a distribution and parking ring for cars and the discouragement of direct car traffic between neighbourhoods. We will not be replacing the current roadside Parking Route Information System (Parkeerroute Informatiesysteem, PRIS) displays once they have been decommissioned. Thanks to car-based apps, up-to-date information on parking occupancy is now much more readily available than through roadside signs. This will prevent many unnecessary traffic movements in the city centre and help to better distribute parked cars.

The development of smart apps for planning, booking and paying for travel is essential for stimulating the use of chain transport options (section 5.2.5). These apps work with up-to-date travel information, some of it originating from us, such as the number of available P+R parking spaces and bus times.

What are our challenges?

- Making traffic data available and sharing it.
- Continuing to develop a traffic management system.

Choosing a travel option from a single app without the burden of vehicle ownership.

Making traffic data available and sharing it

As road authorities, we make data available about such things as parking facilities, bridges, rules of use for roads and parking lots, traffic control systems, and temporary closures due to roadwork and events. Based on this and other information, travellers can receive targeted travel recommendations that enable them to travel faster, smarter and healthier. This in turn provides benefits to society, such as less congestion, less unnecessary travel, more efficient use of roads, less traffic searching for parking in neighbourhoods and villages, increased road safety and greater use of alternatives to the car.

In the coming years, we are going to make our share of data available in a reliable and timely manner. We will also focus on developing frameworks for data collection, sharing and deployment. The direct interests of the market or the individual traveller do not always align with the public interest. For example, providing the shortest car route from A to B may be undesirable from a quality of life perspective. These kinds of developments may also make it easier to use the car, while we would actually like to promote quality of life by encouraging people to cycle more. Naturally, we are always mindful of not violating the privacy rights of road users.

Continuing to develop a traffic management system

We want to further develop our traffic management system. Every traffic light in our municipality that needs to be replaced will become a 'smart' traffic light. An intelligent traffic control system (intelligente verkeersregelinstallatie, iVRI) collects and transmits information about traffic. Because iVRIs are interconnected, an iVRI 'knows' better than a conventional traffic control system how much traffic is coming and what type of traffic it is. Road users can be personally informed by the data that an iVRI transmits. The iVRI can also recognise specific vehicles and give them priority sooner. With the current traffic control systems, this is only available to the emergency services, and to public transport at some intersections.

The iVRI network gives us more options for regulating traffic based on our goals for transitioning to compact, clean and healthy transportation. We affect the entry and flow of traffic along various and longer routes by means of multiple traffic lights. Smarter and more proactive management of specific traffic situations can be implemented, for example at FC Groningen matches or the Bloemetjesmarkt (Flower Market).

Rain sensors on our current traffic lights enable us to favour cyclists when it rains. With iVRIs, we will soon be able to do even more. The guiding principle is for all traffic participants to be served in an equitable manner. It goes without saying that emergency services responding to a call-out will be given priority. However, we also explicitly want to allow more preferential space for cyclists, pedestrians or public transport. This will reinforce the use of more compact, clean transport.

In addition, we are exploring the possibilities for informing cyclists in various ways about travel time, roadworks or, for example, bridge openings. While motorists receive this information through in-car traffic information systems and public transport passengers can look on their phones, cyclists cannot. We are also investigating how linking up-to-date bridge opening data with our iVRIs can contribute to smarter traffic flow around bridge openings.

5.3 Going green

5.3.1 Emission-free vehicles

Electric vehicles are becoming more commonplace. In the municipality of Groningen, we want to transition to zero-emission transportation.

Electric driving will become the norm in the future. The time span within which a wide range of clean vehicles in all price categories will become available is primarily the responsibility of vehicle manufacturers. This transition will be accelerated by national and European rules on which vehicles may be sold in the Netherlands and Europe and by incentive tax conditions for buyers and users. As a municipality, there are many ways in which we can help to drive this transition to zero-emission vehicles.

What are our challenges?

- Providing sufficient public charging infrastructure and hydrogen filling stations.
- Establishing rules for the use of infrastructure.
- Setting a good example ourselves.

Providing sufficient public charging infrastructure and hydrogen filling stations

We want to encourage the adoption of electric transport in our municipality by providing sufficient charging points and hydrogen filling stations. At all times, we want to prevent the situation in which a potential electric vehicle driver foregoes the purchase of an electric car due to a lack of public charging infrastructure, and continues to drive a fossil fuel vehicle instead.

Charging stations

Since 2013, the number of all-electric cars in the Netherlands has increased from 4,000 to over 196,000 (August 2021, source: RVO (Netherlands Enterprise Agency)). Nowadays, one in four new cars sold is a 'plug-in car' (fully electric or plug-in hybrid). We expect about 16,000 electric vehicles to be driving around the municipality by 2025, and this number will only continue to increase.

In our Vision for Public Charging Infrastructure Groningen 2025 (Visie Openbare Laadinfrastructuur Groningen 2025), we describe how we will proactively increase the number of charging stations in residential areas in the near future. We aim to increase to about 850 stations in residential areas by 2025. In our ultimate vision for 2040, it's conceivable that there will be approximately 6,000 public charging stations in our municipality. With the public charging infrastructure zoning map, we have determined specific locations for potential public charging points based on effective integration. In addition, we closely monitor innovations that could potentially lead to space-saving and smart methods for meeting charging needs instead of the usual charging stations. Charging spots for zero-emission vehicles may come at the expense of regular parking spots, even if there is paid parking. In the long term, when the majority of cars are zero-emission, the rules for limiting parking pressures will naturally also apply to clean vehicles.

In addition, we see opportunities for implementing an extensive network of public rapid charging stations outside residential areas. Specifically, we will be focusing on village centres, locations that attract visitors, P+R sites and urban hubs. To take a decisive approach in setting this up, we are looking for a structure that enables us to own, operate and maintain the public charging stations in our residential areas, but hire a market party to carry out the implementation. We are also looking at whether we can combine this with energy from our own solar parks and wind turbines.

Hydrogen filling stations

We are also working on implementing new hydrogen filling stations. These are primarily for our own fleet and the hydrogen buses operating in our municipality. By 2025, the city of Groningen is projected to have a fleet of 20 hydrogen-powered trucks. Before 2022, 32 hydrogen buses will be operating within the provinces of Groningen and Drenthe. We encourage the establishment of public hydrogen filling stations as well, and are drawing up an action plan for this purpose.

New safety issues

The transition to electric and hydrogen vehicles also poses specific new safety risks. One example is that extinguishing electric car fires is substantially different from extinguishing a fossil-fuelled car fire. The transition to electric and hydrogen vehicles therefore also entails a transition in the regulations, prerequisites and design of our systems to ensure the safety of our residents. This includes building and vehicle regulations and requirements regarding the positioning of loading, parking and maintenance locations within our municipality. We will be collaborating with the safety region to formulate process and content frameworks and work on pilot projects within this framework.

Establishing rules for the use of infrastructure

We are going to make access to our roads and public spaces partially dependent on emissions. Vehicles with polluting emissions will then no longer be welcome in certain areas. This will improve the immediate quality of life for our residents in these areas, as well as encouraging the transition to emission-free vehicles. Of course, we will do this within a fair time frame, allowing society sufficient time to switch to zero-emission modes of transport.

From 2030, it will no longer be possible to sell new cars powered by petrol or diesel in the Netherlands. By 2050, all fossil fuel vehicles will have disappeared from our roads. We are raising the bar for urban distribution in the city centre, which will be emission-free as early as 2025. We are also intent on accelerating this transition to clean options for other vehicles within our municipality. Between 2030 and 2035, the availability of electric vehicles will enable all vehicles in the Groningen city centre to be completely emission-free. In this respect, we regard the Groningen city centre as a broad area.

From 2025, no new petrol-powered lightweight mopeds may be sold in the Netherlands. The national goal is for this to also apply to motor scooters starting in 2030. Older petrol-powered mopeds and scooters will still be around for a while after that, but in the long run they will disappear from our streetscape. By prohibiting fossil fuel-powered mopeds and scooters from travelling on various bicycle paths in the coming years, we will boost the transition to fossil-free types within our municipality in the short term. We will also implement this in the city centre by prohibiting fossil fuel-powered mopeds and scooters from entering various streets and squares.

We are going to explore whether we can establish emission-free zones in more places, for example the Zernike Campus and the centre of Haren. We are also investigating how to impose emission requirements when granting taxi licenses, as well as how to encourage the use of zero-emission vehicles through the issuing of parking permits.

Setting a good example ourselves

As a municipality, we can set a good example ourselves. For example, we have a direct influence on some of the vehicles and mobile equipment that pass through our municipality, such as our own fleet and public transport vehicles. In this respect, we can establish requirements when issuing concessions. Emission-free vehicles are already the norm here.

The municipal vehicle fleet (including passenger cars and sweeper and garbage trucks) must be emission-free by 2035. By 2025, the city of Groningen will have 160 electrically powered vehicles, more than 70 charging stations around the municipal buildings, and around 20 hydrogen-powered trucks. The machinery fleet (sweepers and mowers) is also gradually switching over to electricity or hydrogen.

When procuring and tendering civil engineering works or services (such as catering and cleaning), we also impose emission requirements where possible, for example on the means of transport used by suppliers and contractors. An example is the contractor replacing the yellow bricks in the city centre, who is operating completely emission-free.

6

Moving forward together

We are faced by substantial challenges that require collaboration in order to tackle them. We will follow up by preparing implementation programmes and including the proposals in our annual Long-term Traffic and Transportation Programme (Meerjarenprogramma Verkeer en Vervoer).

6.1 Collaboration

We will not be able to achieve the goals in this Sustainable Urban Mobility Plan alone. We will be seeking collaborations with government partners, other organisations and, of course, our residents.

We have direct influence on how we develop areas and where amenities are located. Naturally, we also have influence over our own municipal roads and places for parking. However, the mobility transition requires collaboration with government partners, major employers, businesses, educational institutions and, of course, our residents and entrepreneurs.

6.1.1 Collaborating with government partners

Mobility, by definition, transcends municipal boundaries. There are always links with surrounding areas and the main infrastructure therein, such as main and regional roads and regional bicycle routes. We work together with the provinces of Groningen and Drenthe and surrounding municipalities as part of the Groningen Assen Region collaboration.

For example, in 2020 a mobility strategy was drawn up for the Groningen Assen Region, focusing on the joint core ambitions of interconnection, increasing sustainability and improving smart solutions. The themes and ways of thinking that we address in this Sustainable Urban Mobility Plan are in line with our regional partners' perspective on the challenges. We will cooperate with the state where our responsibilities intersect with respect to major waterways, railroads and highways, but will also consider urbanisation and the economic structure.
Railroad management company ProRail also plays an important role in relation to our ambitions.

Regional policymaking

Deze visie sluit aan op het Regionale Mobiliteitsplan dat de provincie Groningen opstelt in het kader van het Klimaatakkoord 2019. Gezien de geografische ligging van onze gemeente is ook samenhang met het Regionale Mobiliteitsplan van Drenthe essentieel. Voor de grote ambities trekken wij op met deze regionale overheidspartners. Samen voeren we gesprekken en maken we afspraken met het Rijk en de EU over hun betrokkenheid bij mobiliteit-sprojecten binnen onze regio.

In the Woondeal (2019), we agreed with the national government to jointly develop with the region an integrated long-term strategy for living, working, accessibility and liveability: the urbanisation strategy. This needs to be developed into an urbanisation agreement, as an elaboration of the National Environmental Vision (Nationale Omgevingsvisie). Among other things, the urbanisation strategy will address the effects of urbanisation on the business climate, mobility and landscape in the Groningen-Assen region. The greatest urgency concerns the 2020-2030 period.

We also look ahead to the 2030-2040 period. To tackle the challenges, we must develop a strategy that enables the construction of sufficient and suitable housing, and that serves the broader development of the region.

Public transport

When it comes to shaping public transport with new or changing train and bus services, we will collaborate with our partners such as the provinces of Groningen and Drenthe and the Groningen Drenthe Public Transport Agency. The train services operate on behalf of the province. The Groningen Drenthe Public Transport Agency is the carrier's client for the bus services. This organisation has the specialised knowledge and development power necessary for continued, successful improvement of the public transport system. This way of working together has already yielded many benefits.

In this Vision, we outline the way in which we want to strengthen public transport connections between major destinations in our municipality and region(s). We provide our own perspective on this, with the focus being on what is needed within our own municipality. We realise that committing to more public transport use in the daily commute between region and city is just as dependent on choices made in the region as within our city.
We will further explore this interplay of choices with the region.

Traffic management and smart mobility

Smart mobility systems, including intelligent traffic lights, are in a specialised field. In addition, traffic management is a matter that transcends our municipal boundaries in a unique way. This combination of factors means that we can only work successfully on smart mobility together with the other road authorities. At the moment, this is partly covered by Accessible Groningen (Groningen Bereikbaar), the Groningen Assen Region and ourselves. We will work together with the other governments to find a suitable organisational structure for this. We are thinking of a set-up in which the governments set the frameworks and a regional cooperation organisation bears the day-to-day responsibility, just as with public transport and Alternative Travel.

The intelligent traffic light gives priority to public transport and emergency services vehicles.

Sustainable mobility

Naturally, electric or hydrogen vehicles are not restricted to the municipal boundary in their use. We take responsibility for rolling out sufficient charging stations and hydrogen filling stations within our municipality, but do so in close coordination with our regional partners. This is the only way to achieve a network that covers the region effectively.

6.1.2 Collaborating with businesses and educational institutions

The transition to other mobility types requires changes to the travel behaviour of commuters, visitors, schoolchildren and students, as well as different logistics flows. There is much to be gained here.

Alternative Travel, a lasting change to this travel behaviour within our municipality, can only be achieved in conjunction with employers, educational institutions, as well as our hospitals, which also generate a lot of traffic. Many of these parties are willing to make a structural shift towards increased working and studying from home. In adopting this approach, we will strive to make area- and sector-specific agreements on matters such as work schedules, working hours, work facilities at home, facilities in offices for hybrid meeting formats, business travel and financial incentives for employees. Through Accessible Groningen (Groningen Bereikbaar), we are working on a covenant to record such agreements and the roles and responsibilities of all parties involved.

In recent years, this collaborative organisation has achieved a great deal in this area. A good example of this is the agreements on working hours made by healthcare institutions, other employers and educational institutions in the 'Groningen Timetable', created during the coronavirus outbreak in 2020. We greatly value this form of cooperation both among governments and between governments and our major stakeholders, and we want to perpetuate it in the future.

We are also working more frequently and intensively with other cities in the Netherlands and Europe. This enables us to learn from each other and remain as up to date as possible in the search for new and better mobility and urban development solutions. Within hive.mobility, we are working closely with knowledge and educational institutions, governments, businesses, entrepreneurs and non-profit organisations to create a safe, pleasant and easily accessible Groningen. By taking this approach, we combine as many of the forces in our region as possible, united in striving for the same goal: to make the transition to compact, emission-free and healthy transport.

6.1.3 Working with residents, entrepreneurs and other stakeholders

As previously mentioned, in creating this Sustainable Urban Mobility Plan, we engaged with residents and business owners about their perspectives on mobility in the future.

Naturally, setting down a vision is only half of the battle. We will continue to promote our vision for mobility and stay alert to signals from our residents, business owners and other stakeholders concerning mobility and its role in quality of life. In making the transition to a society that is gradually increasing the sustainability of its mobility, it's important to keep communicating about the background to the policy and the real impact of measures. Wherever possible, we embrace and accommodate local neighbourhood initiatives that contribute to the vision.

We see a growing awareness among our residents about the impact that our way of travelling has on the immediate living environment as well as in relation to climate change. People are making different choices now than they did twenty years ago. The effects of personal choices on the environment and living conditions are becoming more widely known, and people are increasingly choosing to act accordingly. We are strongly committed to welcoming these choices and boosting them in order to achieve a sustainable and liveable world.

We work together on our public spaces.

6.2 Next: implementation programme

With this vision, we have set clear goals for where we want to be in 2040. In doing so, we have detailed the aspects on which we want to work structurally and consistently in the coming years.

We have deliberately chosen the duration of almost twenty years. Redesigning the motor traffic network and transforming public spaces is a long-term and costly process. The Sustainable Urban Mobility Plan, particularly the detailing of the foredable city, is the framework indicating which roads may change traffic function. This will be accomplished by means of a phased and adaptive implementation, starting at those locations where the need is greatest from a quality of life perspective. In doing so, we align with the specific reasons or opportunities for redesigning the roads. These often stem from spatial projects with a quality of life aspect to them. By taking this approach, we will gradually arrive at the desired network.

Our future vision of a robust public transport system also requires a long-term approach. This also applies to committing to increasing chain mobility by creating a consistent network of hubs.

This vision also includes proposals that we can begin working on relatively quickly, and to which we are fully committed. Examples include proactively embracing shared mobility.

Sometimes implementation is clear right away, and sometimes it needs further elaboration first. There are some major design challenges, for example. We will incorporate the manner in which we will implement all of the proposals in the Sustainable Urban Mobility Plan, as well as the timeline, in implementation programmes. We already have some of these, such as the parking vision and bicycle strategy, and we will be developing others in the coming period. In doing so, we will bear in mind the most effective sequence of plans. For example, the ring road needs to be complete before we start strongly downgrading urban roads.

Each year, the implementation programmes will be translated into the Long-term Traffic and Transportation Programme (Meerjarenprogramma Verkeer en Vervoer), which provides a rolling plan for carrying out the programmes. In the long-term programme, we monitor progress with respect to the achievement of the goals. We determine whether more energy and time needs to be invested in particular components or whether our goals might need to be adjusted.

This vision sets out the direction we want to take, but we realise that developing it and translating it into plans is not an inflexible process, and will require ongoing tailoring and adaptation.

Roadworks on the Weg der Verenigde Naties.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GLOSSARY

Alternative travel
Het maken van keuzes ten aanzien van tijdstip, locatie en/of vervoerswijze of kiezen voor alternatieven waardoor verplaatsingen worden voorkomen (zoals thuiswerken), waardoor spitsen worden afgevlakt en uitstoot vermindert.

Experience location
The point in a route at which there is a lot of bustle and numerous pedestrians for example, and at which motor traffic adapts over a short distance along the route, taking second place to the other traffic. The atmosphere experienced by cyclists and pedestrians takes priority at this location.

Reliable public transport
The degree to which the traveller can count on their journey proceeding as scheduled.

Neighbourhood street
A street with a combined function for the neighbourhood and in which cars adjust their speed to improve quality of life. These streets have a speed limit of 30 km/h.

Corridor
Transport axis along which highways, railroads, and waterways connect cities.

Daily urban system
The entire network of the city and its surroundings within which the main daily commutes take place.

Shared mobility
The use of various vehicles by multiple people and/or families as an alternative to owning these vehicles.

Bicycle transit route
Direct bicycle routes between Groningen and the surrounding villages along which cyclists can ride comfortably, safely and with little delay.

Supporting public transport
Network of major public transport connections that facilitate public transport to the greatest extent possible. Reliability and speed are of great importance along these routes.

Free-floating
Without a fixed parking spot; operating according to a system in which there are no fixed pick-up or drop-off locations.

High-quality Public Transport (HOV)
High-quality Public Transport has higher requirements in terms of traffic flow, comfort and appearance.

Hub
Boarding and transfer locations at which different transport types connect and from which you can travel quickly and frequently to major destinations, always by public transport.

Stretching public transport
Combining and relocating public transport lines from residential streets in the neighbourhood to main roads.

Transit-oriented development
A planning and design strategy in which urban development is concentrated around public transport hubs. This development is characterised by compact construction, a variety of amenities and a pleasant residential environment for pedestrians and cyclists.

Connecting road
A roadway required for motor accessibility and providing a connection between areas and/or destinations that are part of the main road network.

District main road(s)
Connecting road with the primary function of connecting a neighbourhood to main roads.

Residential street
A road primarily focused on residential use.

Colophon

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Tot ziens in
tadsgroen