

4. Groningen



4.1 Local context

4.1.1 City size and context

Groningen is the 6th biggest city in the Netherlands and the biggest city in Northern Netherlands.

About 1.6 million people live in North-Netherlands and the daily urban system of Groningen counts around 500.000 people.

Economic background:

Groningen has no big industries anymore. In the past the province of Groningen used to be called the 'grain republic'. Yet, since this type of agriculture was moved to low-wage countries, agriculture is not a big economic player in Groningen anymore. Nowadays the biggest employers in Groningen have a governmental, educational, and medial background.

Historical background:

Planned in the 1930's and introduced in 1950's, the Bodenterrein is a site (hub) where the carriers from the region parked their trucks and from where they went to pick-up goods in the city centre with their handcart. The Bodenterrein was replaced by a business park at the edge of the city in the 1970's. However, this new site never functioned never well. Nowadays the trucks are back in the city centre to deliver and pick-up goods. From the 1950's onwards the city centre of Groningen needed to be accessible for cars like every western-world city. In 1977 Groningen introduced the 'traffic circulation plan'. Cars were not allowed anymore to pass from one quarter of the inner city to another quarter. This measure against car traffic stimulated cycling and created space for pedestrians in the inner city. Twenty

KEY FIGURES

Population: 230 000 inhabitants

Area: 60 km²

Density: inhab/km²

NUTS level: NUTS 3

TEN-T corridor(s): No

ULaaDS role: lighthouse city

years later, in 1996 the 'Space for space' inner city plan was introduced. This plan focused on the design and use of public space, prioritising pedestrians and cyclists.

Since 2016 Groningen is working on the 'Space for You' inner city plan. With this plan Groningen creates approximately 20% extra space for cyclists, pedestrians and recreational activities. Main measures are taking two bus routes out of the city centre, and replacing the asphalt lane by a street wide space for cyclists, pedestrians and recreation. Measures on logistics traffic are also part of the comprehensive approach of the plan 'Space for You'. In 2014 Groningen signed the national *Green Deal Zero Emission City logistics 2025* (GD ZES 2025 in Dutch) and in 2017 set up the *Focus Group Sustainable Logistics Groningen* with representatives of all stakeholder groups. After one year all members of the Focus Group Sustainable Logistics Groningen signed the Covenant Sustainable Logistics Groningen. In February 2020 the City Board signed the Draft Sustainable Urban Logistics Plan.

Key milestones past and future are:

- March 2021: adoption of the Sustainable Urban Logistics Plan by the City Council
- 2022: Expansion of the delivery time window
- 2025: implementation of the Zero Emission Zone (ZES) for Logistics

4.1.2 Geography

Groningen is a growing city in a shrinking region. Residents of the region depend more and more on the city. Meanwhile, the residents in the city face an increasingly busy city. Its location in North-Netherlands places the city at a relatively long distance to national oriented warehouses. The distance to the warehouses of national cooperating businesses is mostly too big to be covered by electric vehicles, while most other Dutch Cities are in a feasible distance from those warehouses.

In the Northern Netherlands, the three northern provinces and the four largest cities (Groningen, Leeuwarden, Emmen and Assen) have set a joint ambition for an emission-free Northern Netherlands by 2035. For logistics, this means that everything within the sphere of influence of the government, must be emission-free by 2035. More logistics over rail and waterways can make a major contribution to this. This ambition is further elaborated in the joint Logistics North agenda.

Groningen is not connected to the TEN-T-Network. NUT level 3, NL113

4.1.3 Population

Groningen is a vibrant student city, with the youngest average age of inhabitants in the Netherlands.

- Population 2019: 230.000
- Daily Urban System 500.000
- 140.000 jobs
- 60.000 students
- 8.000 international students

- Average age: 36.4 years

4.1.4 Area (km²)

Inner city: 1 km²

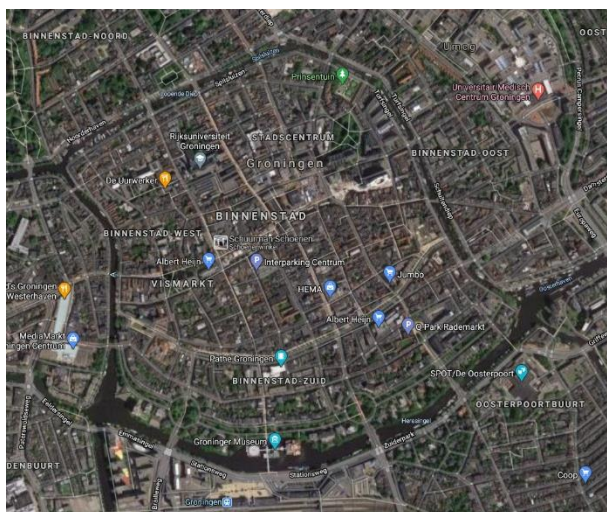


Figure 19 Inner city of Groningen

Urban area: 60 km² (radius of circa 4,5 km around inner city)

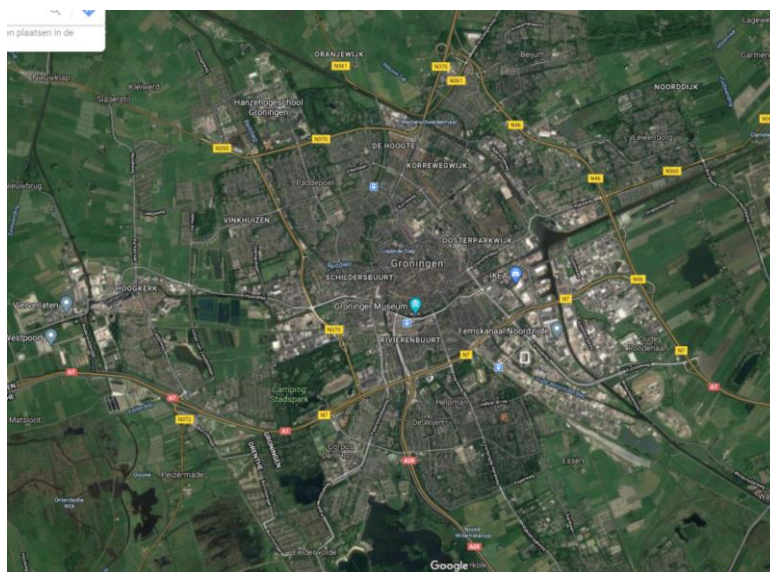


Figure 20 Urban area of Groningen

Peri urban area: 1.200 km² (30km*40 km)

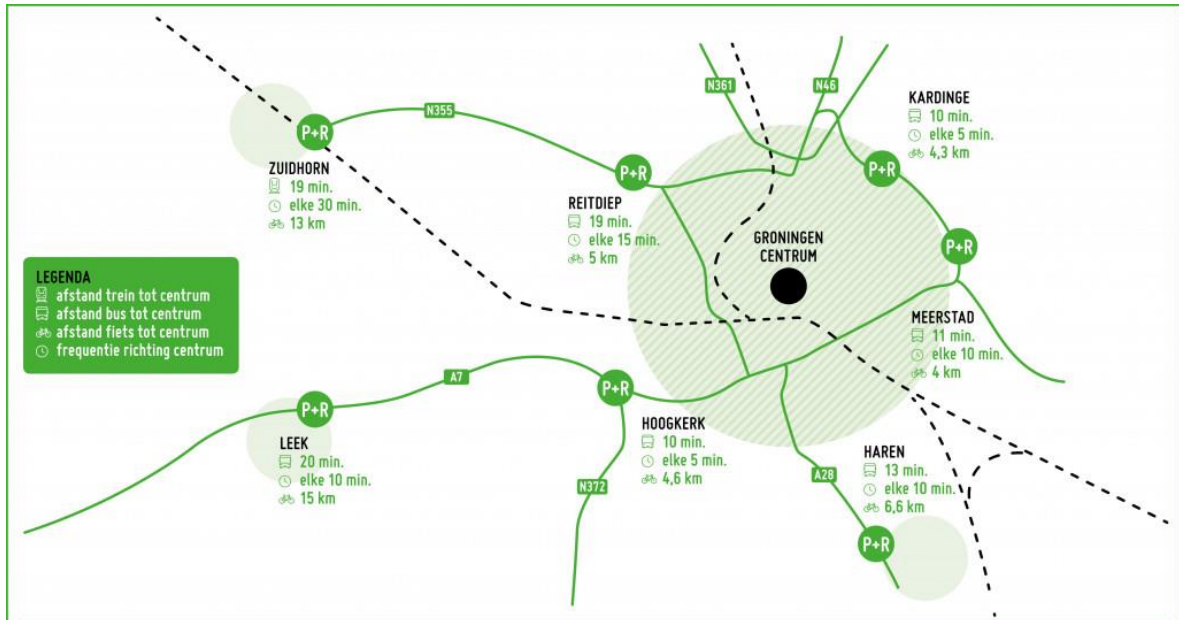
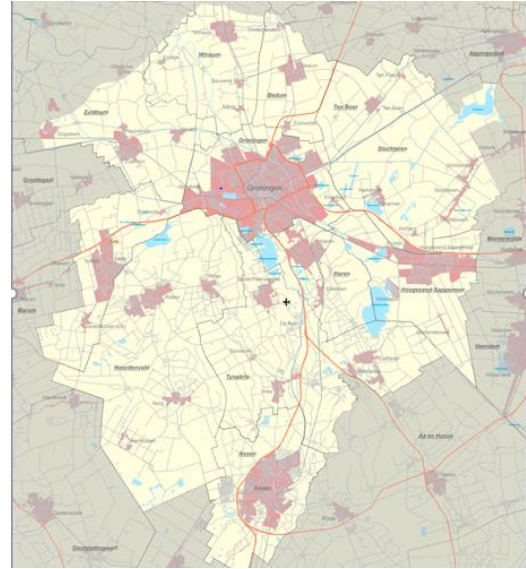


Figure 21 Groningen’s transport network

The peri urban area is home to about 500.000 inhabitants and is connected to the city of Groningen by road and by a public transport network of trains and busses. Park & Rides are located in the outskirts of the city of Groningen for commuters to leave their car and take the bus to different locations in the city.

4.1.5 Modal split

Passenger transport

Table 5: Passenger transport in Groningen.

	All movements (inside, towards and from the Gemeente Groningen) (2014- 2017)	Movements towards and from the Gemeente Groningen (2014-2017)	Movements inside the Gemeente Groningen (2018-2019)
Passenger car	37,4	68,1	22,8
Driver	27,4	51,8	15,6
Passenger	9,9	16,2	7,2
Public transport	9,0	21,6	2,9
Train	4,9	13,7	
Bus	4,0	7,9	
Bicycle	35,2	6,5	47,2
Other categories	18,5	3,8	27,1
Walking	15,5		25,3
Other	3,0		1,8
Total	100%	100%	100%

Source: Groningen

Logistics

The number of and the ratio between transport vehicles and passenger vehicles in the inner city (with numbers on a daily base on 9 separate locations, not covering all traffic in the inner city)

Table 6: Logistic transport in Groningen.

TOTAL of vehicles in 9 locations of the inner city	passenger vehicle	transport vehicle	van	box truck without trailer	box truck with trailer	truck and trailer	total
Number of vehicles	14572	6246,8	4297	1802	58	90	20819
Percentage	70%	30%	21%	9%	0%	0%	100%

Source: Groningen

4.2 Sustainable Urban Logistics Strategies and Initiatives

4.2.1 Logistics ecosystem

In our city many logistic flows are moving by road, water and rail. Most logistics movements in Groningen take place by road. With the reconstruction of all crossings of the ring road in recent and coming years, we ensure that there are good and direct connections to our business parks. Freight transport by water and rail is relatively marginal within the municipality.

The city of Groningen attracts many visitors, companies and tourists, and therefore also a lot of logistics operators. These logistics companies are usually located at locations in the outskirts of the city of Groningen, but we also see many smaller logistics companies spread across the city. At the Westpoort business park, space is still available for new large-scale companies in the logistics sector. This space is also badly needed for the transition towards sustainable, future-proof logistics.

In the city centre of Groningen, we see that city logistics is often accompanied by congestion, unsafe traffic situations for pedestrians and cyclists, noise nuisance and air quality issues. That is why we are committed to reducing and making logistics flows more sustainable.

4.2.2 Decentralised warehouse(s) / distribution centre(s) description

There are various depots in Groningen from which logistics are organised. Parcel services such as PostNL and DHL, for example, have small and larger hubs spread across the city. Moving companies and food wholesalers also function as a 'hub'.

4.2.3 Existing urban logistics solutions

Table 7: Existing urban logistics solutions in Groningen

	Total	Description
Cargo bike schemes	6	<ul style="list-style-type: none"> - Governmental: Cargo Bikes have free access to the city centre outside the time windows frame. - Governmental: Express service between buildings owned by the municipality are done by cargo bikes - Governmental + commercial: warenhuis.groningen.nl (online platform for 200+ local shops). Deliveries are done by cargo bikes within the municipality. - Governmental: the city offers two cargo bikes for bringing bulky waste to the waste depots. - Commercial: Stadswerkplaats offers rental cargo bikes for consumers and companies. - Semi-governmental: Groningen Bereikbaar offers free testing of cargo bikes for local businesses.

		- Commercial: several local businesses organise their own transport and deliveries via cargo bikes.
Electric cargo bikes	20	Gemeente Groningen (2) DHL (5) CityE (3) Dropper (3) Cool Blue (2) Dolmans (cleaning company) (5) (non-exhaustive number)
Mobility Hubs	10	Stadlogistiek Groningen Dropper Cycloon PostNL DHL AZ-Express Foodhubs: Hanos, Bidfood Zernike-hub(University) UMCG (hospital) hub
Bicycle couriers	4 companies	Cycloon (40 bicycles) Dropper (private couriers) Go Fast (3 bikes, staff of 4) CityE (2 bikes)
E-vans		Koopmans Transmission DHL PostNL Cycloon Gemeente Groningen CWS Boonstra (Probably more)
Smart Lockers	1	Decathlon / PostNL
Others (please specify and add as many lines as you wish)		Grokaalbox Bezorgbakkie (fresh food market deliveries)

Source: Groningen

4.2.4 Supporting policies for sustainable urban logistics

SULP. The Municipality has drawn up their strategy to reduce freight and delivery traffic in the inner city centre in a concept plan - 'Ruimte voor Zero Emissie Stadslogistiek' (Space for Zero Emissions City

Logistics)¹¹. The overall goal is to improve air quality and the liveability of the city, thereby creating more space for people, pedestrians and cyclists. Together with the transport sector, businesses and retail organisations, Groningen's authorities have designed a strategy to significantly decrease congestion caused by deliveries, particularly in the narrow streets of the historic centre. The plan functions as a Sulp and was approved by the City Council in Q1 in 2021.

SUMP. Groningen has also worked on a mobility vision which was presented as a SUMP in 2021.¹²

Vision Space for Zero Emission City Logistics: in the coming years, Groningen will focus on the transition to more efficient and cleaner city logistics. In 2014, the city already expressed its support for emission-free city logistics by 2025, by signing the *Green Deal Zero Emission City Logistics* and gave substance to this with the *Vision Space for Zero Emission City Logistics*. The following measures are central to the vision.

The following key deliverables will be described in our approved document for urban logistics:

- 1a. Expanding the time-window area in 2022
- 1b. Introducing a Zero-Emission zone for urban logistics in 2025
2. Introducing digital enforcement in 2022
3. Smart and strict exemptions policy in 2022

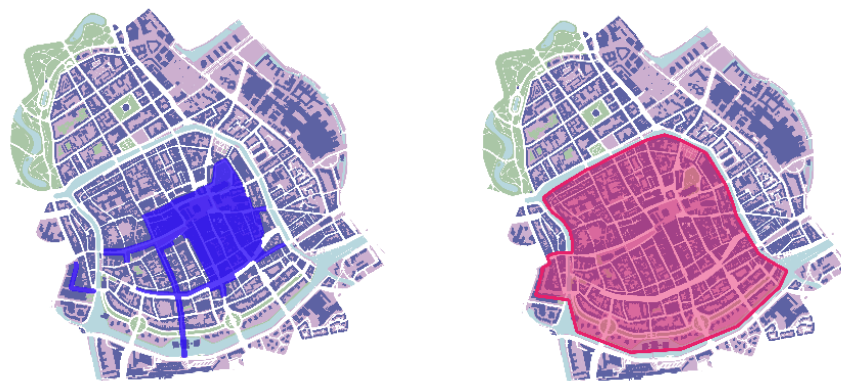


Figure 22 The current (left) and future (right) time-window area for logistics

In addition to ensuring zero-emission logistics, Groningen also wants to act upon the amount of logistics vehicles in and around the city centre. The city will take a critical look at who is allowed to

¹¹ Groningen 'Ruimte voor Zero Emissie Stadslogistiek' (Space for Zero Emissions City Logistics) 2021. (In Dutch) <https://gemeente.groningen.nl/sites/default/files/Ruimte-Voor-Jou-visiedocument-2021-aanpassing-27-oktober.pdf>

¹² Groningen SUMP, 2021. <https://gemeente.groningen.nl/sites/default/files/Mobiliteitsvisie---Groningen-goed-op-weg-English.pdf>

access and when. With the help of a new logistics traffic enforcement system, the city can provide very targeted access to parties. Groningen aims for a balance between supply traffic and a pleasant living environment for residents and visitors to the city centre.

In recent years there has been considerable growth in smaller forms of logistics transport, partly because more private individuals and companies are opting for online store purchases. This growth is increasingly putting pressure on space availability in the city. To reduce this pressure, Groningen is looking, together with logistics businesses, for more efficient logistics solutions, such as central collection points.

By 2035, Groningen wants all logistics transport flows within the municipality to be zero emissions. The city administration is exploring which measures in shopping centres, residential areas and villages have the potential to stimulate and accelerate the transition to zero emission logistics in these areas. This is done by making wider use of measures that will be implemented for the city centre in the coming years and by introducing new business models for high-volume logistics and supply. New urban areas will be designed in such a way that heavy logistics, for supermarkets and catering, for example, do not have to pierce the neighbourhood deeply.

Groningen sees that logistics service providers itself want to contribute to this transition. However, it is too early to give the market a free hand. The control over which alternatives to allow and not to allows in the city centre is crucial. This is done by:

- Connecting: bringing different parties from the "logistics chain" together, look for suitable locations together with logistics businesses and make it possible to create new, efficient concepts.
- Boosting: helping set up logistics hubs that act as transshipment centres for goods delivered by large long-distance vehicles into small, clean vehicles such as cargo bikes and light electric transport vehicles. In the short term, this requires an active role from the city; in the long term we think we will take a step back and leave initiatives to the market.
- Supporting: helping businesses with the introduction of sharing platforms for logistics vehicles.

Finally, the Focus Group for Urban Logistics convenes three to four times a year under the chairmanship of the City of Groningen. It includes representatives from the Groningen City Club, Koninklijke Horeca Nederland (organisation representing the hospitality industry), market vendors (CVAH), business associations TLN and Evofenedex, TopDutch Logistics, VNO-NCW MKB Noord, the University of Groningen and EnergyExpo. The focus group reflects on policy and projects and liaises with members.

4.2.5 SUMP/SULP at a glance

Table 8: Groningen SUMP and SULP at a glance

City	GRONINGEN
Type of strategy	SUMP, 2021 Space for Zero Emissions City Logistics (SULP, April 2021)

Goals	<ul style="list-style-type: none"> • Reclaim public space and reduce obstacles for pedestrians • Ensure that city logistics fit the size, scale and use of the city’s streets and squares in the city centre, with as little traffic as possible and the shortest possible duration of stay. • Create space for zero emission city logistics by 2025 • Ensure all logistics transport flows within the municipality are zero emissions by 2035
Transport measures (with potential impacts on logistics)	<ul style="list-style-type: none"> • Ensure city centre is free of motorized vehicles between twelve and six • Restrict buses from running straight through the city centre • Provide attractive, clean and safe public spaces, such as streets and squares • Design new urban areas ensuring that heavy logistics do not have to pierce the neighbourhood deeply
Logistics measures	<ul style="list-style-type: none"> • Expand the <i>time-window</i> area for logistics in 2022, and potentially use Automatic Number Plate Recognition • Introduce a Zero-Emission zone for urban logistics in 2025 • Introduce digital enforcement in 2022 • Implement smart and strict exemptions policy in 2022 • Ensure communication and participation of all stakeholders

4.2.6 Regional or national frameworks

There is a Dutch national framework for zero-emission zones for logistics. The Dutch National Climate Agreement sets the goal zero-emission zones in the 30 to 40 largest Dutch cities. The Urban Logistics Implementation Agenda (Uitvoeringsagenda Stadslogistiek) is a further elaboration of the National Climate Agreement (2019). The Implementation Agenda contains further agreements between municipalities, the Ministry of Infrastructure and the Environment, Stichting Natuur & Milieu and sector organisations to jointly work towards zero emission city logistics from 2025. Dutch cities are working with the National government in the Expert Pool on Urban Logistics (SPES) partnership on uniform schemes for the zero-emission zones. On a regional level the three Provinces and four largest cities of the Northern Netherlands set the joint goal for zero-emission logistics in the whole Northern Netherlands by 2035. In terms of work coordination at the regional level together with other cities and provinces in the Northern Netherlands information on logistics, policies and ongoing projects are shared and presented via a digital platform: www.logistieknoord.nl

Finally, on the national level the Collaborative Project by the Expert Pool on Urban Logistics (SPES) was set up by the Green Deal for Zero-Emission Urban Logistics and the Netherlands Ministry of Infrastructure and Water Management in order to support local authorities with the introduction of zero-emission zones for urban logistics. SPES focuses on preparing for, and managing, the municipal decision-making process for gradually introducing zero emission zones for urban logistics. As part of the SPES project, Groningen is working together in the Northern Netherlands with the Groningen Assen region, the three northern provinces (Groningen, Friesland and Drenthe) and the local authorities of Assen and Leeuwarden. Many of the problems affecting these cities are comparable, and the various parties share their knowledge as much as possible. In Groningen, SPES has been implemented for a project involving businesses on Oude Kijk in’t Jatstraat. The city is exploring ways

together to make this vibrant street, lined with shops, bars and restaurants, an emission-free logistics zone from 2025.

4.3 Relevant projects

Groningen takes part in several projects in the domain of sustainable urban logistics, such as:

SURFLOGH: *Smart Urban Freight Logistics Hubs (Interreg)*. Core challenge of the project is to achieve a more efficient cargo distribution in urban areas, and thereby maintain efficiency in long distance transport. To promote efficient logistics sustainably, the focus is on optimising the interaction between hubs and urban logistics systems in smaller and medium-sized cities and city networks.

FCCP: *Fuel Cell Cargo Pedelecs*. Due to the constantly and rapidly increasing e-commerce, more and more goods are delivered in small quantities to individual postboxes instead of the consolidated transport of huge volumes to large shopping centres. Therefore, the project partners from logistic services, online retailers, research institutes and currently four partner cities (Aberdeen, Groningen, The Hague and Stuttgart) develop together a logistic concept, which is tailor made for the requirements of today's "Last Mile"- deliveries and the performance specifications of the fuel cell technology.

SMILES: *Shared connectivity in Mobility and Logistics Enable Sustainability (NWO, TKI Dinalog, Ministerie van Infrastructuur en Waterstaat)*. Societal challenges such as the greenhouse effect and an increasing population invite us to rethink logistics systems. In this project we focus on open-sharing networks based on the architecture of the 'Physical Internet'. In such systems, stakeholders can share tasks (transport orders), resources (vehicles, personnel, 3D printers), information (data, algorithms), space (infrastructure, buildings) and responsibilities (contracts, risks, rights, liabilities) depending on their preferences and their business.

Hive.Mobility is the innovation centre in the field of mobility in Northern Netherlands. Here we work together on the development of smart and green solutions in the field of mobility for passenger and freight transport. One of the spearheads of hive.mobility is organising (city) logistics differently. This requires more cooperation between the business community, government and consumers. This is done, among other things, within the Green Deal Zero Emission City Logistics (GDzes). Within GDzes it has been agreed that by 2025 the city centres will be served by emission-free vehicles. This is in anticipation of European legislation that states that by 2050 only emission-free vehicles may enter the city. The aim is to reduce CO₂, NO_x and particulate matter emissions from city logistics to zero and to limit traffic noise.

ANPR

In 2019 and 2020 Groningen was running a pilot project involving electronic enforcement using ANPR (Automatic Number Plate Recognition) surveillance cameras in three inner city streets. The results have been promising; the technology performs well and the software is easy to use for employees. Before we can actually start enforcing the new rules, we will need to determine where the cameras will be located, how many cameras are required, who will be responsible for management and maintenance of the cameras and data, and, finally, the changes in the operating processes for exemptions and enforcement.

4.4 Success factors and enabling conditions

Communication and networking activities as well as meetings are key when working on urban logistics. There are many different stakeholders within the logistics chain and it's important to bring them together to develop a shared ambition. The focus group on Urban Logistics in Groningen has worked really well for us. Not only in creating the content of our draft plan but also by involving them in further developing the various deliverables. The Focus Group has been requested to comment on the plan for decision-making purposes, so that the Council will have an objective idea as to the position and interests of the various parties that are and will be faced with the transition to zero emission urban logistics. The members of the Focus Group have been asked to actively share all information with their stakeholders. In conjunction with the members of the Focus Group, the city authorities will be organising several meetings to address in greater depth the content of the draft plan, as well as discuss the ramifications for local businesses, residents and visitors.

On the website www.logistieknoord.nl, up-to-date and useful information regarding Zero-Emission Urban Logistics in Groningen are shared. The website is an initiative of the cities of Groningen, Assen and Leeuwarden together with the provinces of Groningen, Drenthe and Friesland and contains information about 'trailblazers', relevant projects, policy goals and news items. 'Trailblazers' are businesses working with zero emission vehicles or involved in pilot projects designed to create new, smart and effective concepts for sustainable urban logistics.

Last but not least, it's very important to clarify the cities goals and to make freight operators and actors aware of the city's societal goals and long-term sustainability objectives.

4.5 Challenges and barriers

- Availability of affordable zero emission vehicles
- Shortage of investment possibilities, due to the pandemic.
- Uncertain and unclear future perspective
- Lack of technical knowledge / repairs

4.6 ULaaDS solutions

The schemes that will be trialled in Bremen are highlighted in bold.

Table 9: ULaaDS schemes that will be trialled in Groningen

Solution	Scheme
1) Collaborative delivery models to enhance logistics efficiency and multimodal mobility in cities	<ol style="list-style-type: none"> 1. Containerised urban last mile delivery 2. Logistical network integration of crowdsourced bike couriers

	3. City-wide platform for integrated management of urban logistics
2) Effective integration of passenger and urban freight mobility services and networks (Cargo hitching)	4. Location and infrastructure capacity sharing 5. Transport vehicle capacity sharing

4.6.1 GRO.01 Sharing platform for logistics – All solutions and schemes

Description

The city of Groningen (GRO) together with the Groningen City Club (GCC) will join forces in the development and rollout of a platform for the on-demand supply of shops and delivery to consumers. The goal is to develop and promote a platform for shared (zero-emission) vehicles to enable collaborative delivery models for shopkeepers and other entrepreneurs in the city. The main goal is to stimulate a platform that:

- can organize the delivery of orders from multiple shops in the city centre to consumers in the city and its neighbouring peri-urban and rural areas. The deliveries may include possibilities to deliver via mobihubs/parcel lockers, parking garages, offices, hotels etc.
- provides access to multiple zero-emission vehicles for shared use by local shopkeepers and entrepreneurs.



Figure 23 Cargo delivery in Groningen

Objectives

- Increasing the use of cargo bikes and other zero emission vehicles (and decreasing the use of polluting vehicles)
- Increasing the efficiency/use of transport vehicles

- Increasing liveability and safety because of the use of smaller, silent, and clean vehicles
- Giving more target groups the opportunity to use electric vehicles
- Reducing CO2 emissions

Timing

Preparation phase: started in November 2020

Piloting phase: started in January 2022

4.6.2 Urban Logistics as a Service for commuters – Solution 2, schemes 4 and 5

Description

In this trial Groningen will add urban logistics services to the Park and Ride (P&R) location Hoogkerk, just outside the city. This P&R location is used by commuters to park their car and take the bike, bus or taxi to the city centre. The ULaaDS trial focusses on two logistics services:

A. Parcel lockers at the hubs in the peri urban region

1. Commuters travel from the city centre to the multimodal hubs by public transport or bicycle
2. At the hub the parcel will be picked up from the lockers by the commuter
3. The parcel is taken home by car / bicycle by the commuter



Figure 24 Park and Ride (P&R) location Hoogkerk in Groningen and parcel lockers

B. A collective service for delivery of goods for inner-city entrepreneurs who will no longer be allowed to enter the inner city with their own car (2025).

1. The shop owner drives from home to the hub, delivers their goods and parks their car
2. The shop owner travels to their shop by bicycle or public transport

3. The goods of different shops are bundled and delivered (with zero emission transport) from the hub to the shops
4. The service also applies to the "first mile" (goods sent via e-commerce from shops in the inner city to customers)

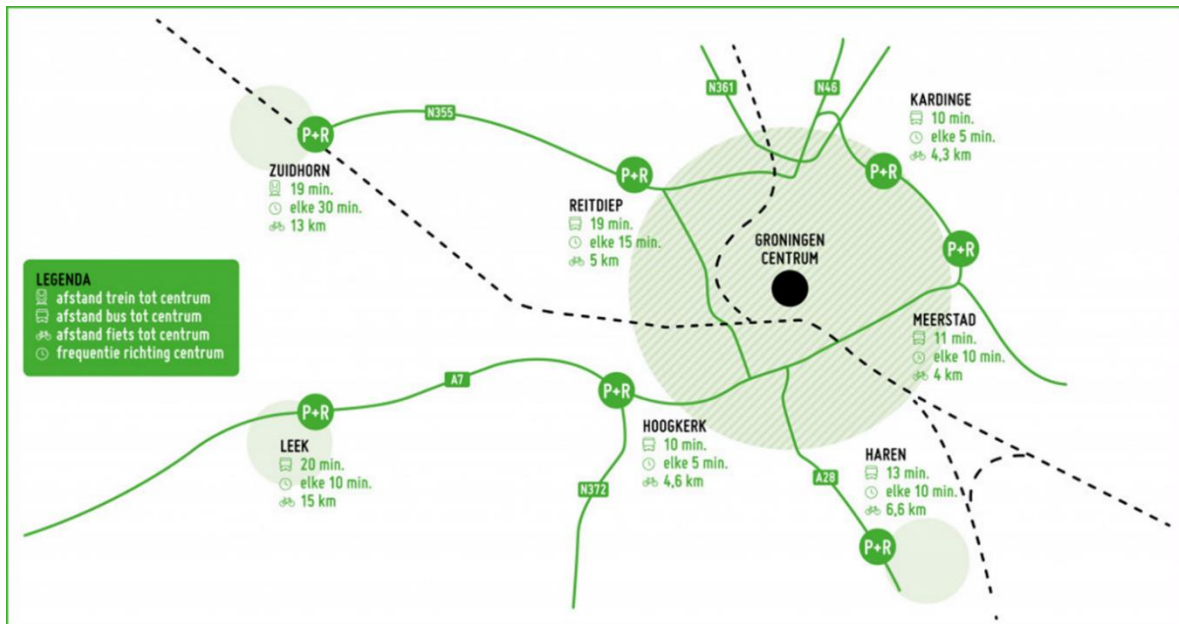


Figure 25 Park and Ride sites distribution in Groningen

Objectives

- Increasing the use of existing multimodal hubs by adding logistics services
- Increasing the satisfaction of people using the multimodal hubs
- Increasing liveability and safety in neighbourhoods by decreasing of the amount of delivery vans in neighbourhoods
- Reducing of CO2 emissions

Timing

Preparation phase: started in November 2020

Piloting phase: starts in January 2022