

Mobility policy 2030





Mobility Plan 2030

Sustainable mobility at Wageningen University & Research

Wageningen University & Research

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Management summary

Sustainability is evident within the operational management of Wageningen University & Research (WUR) as well as in its education and research. In recent years, WUR has made significant strides in increasing the sustainability of its operational management. It has translated its ambition to be a leader in sustainability into action. This is clear from various sustainability rankings for higher education, such as SustainaBul and GreenMetric. The result is that WUR is one of the most sustainable institutions of higher education in both the Netherlands and the world.

Mobility is an important factor in operational management: employees and students travel to and from their workplaces and study locations and take trips for business and education. Each day, visitors travel to WUR buildings and businesses deliver goods and services. In 2017, mobility made up a substantial share of WUR's CO₂ footprint: 45%. Emissions from transport (air travel, work commute, and business trips by public transport and car) came out to 18.2 kt of CO₂, with the total WUR carbon footprint coming to 40.7 kt.

Four key aspects apply to mobility:

- **CSR/sustainability**: The health and safety of employees, students, and visitors comes first and foremost. Everyone should be able to reach WUR buildings safely, regardless of the means of transport they use. It is also important that sustainable transport be promoted, so that the production of greenhouse gases (related to climate change), particle dust, and noise (related to health and environment) is kept to a minimum.
- **Accessibility**: Easy access to all locations ensures that all traffic moves smoothly. In addition to causing less frustration for road users, less valuable time is wasted.
- Regulations: At a bare minimum, compliance with transport legislation and regulations is required.
- **Expenses**: In order to satisfy the conditions above, it is necessary to take the appropriate measures. There are usually expenses associated with these measures, but smart transport management can also save on costs.

The following order of importance is preferred as the basis for WUR's sustainable mobility policy, by analogy with the "Trias Energetica": 1) less unnecessary relocation, 2) a transition to sustainable transport, and 3) efficient, clean transport. Less unnecessary movement has a direct, positive effect on both sustainability and expenses, and may even affect accessibility if it leads to fewer traffic bottlenecks. If less movement is not possible, we will look into alternatives, such as transitioning to more sustainable transport (bicycles or public transport instead of cards and trains instead of aeroplanes). The third step is that transport will be made cleaner and more efficient by switching to sustainable fuel, electric vehicles, more energy-efficient vehicles, carpooling, and sharing.

WUR aims to use a set of measures to decrease CO₂ emissions related to mobility by 2% each year.

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1 Introduction

Wageningen University & Research (WUR) stands for sustainability in research and in education. This is reflected in the mission: "To explore the potential of nature to improve the quality of life." WUR possesses the ambition to become an even more socially responsible organisation (Strategic Plan 2019-2022) than it currently is. WUR has made great strides in the area of sustainable operational management in recent years, with the intention of remaining a leader in the field. This means that sustainability will be addressed in a comprehensive manner and this will be communicated to all stakeholders.

Mobility is an essential component of sustainable operational management at WUR. Employees and students have to travel and goods must be transported for everything that we do here. In recent years, there has been a clear increase in travel at WUR. The annual CO₂ assessments indicated that the percentage of CO₂ emissions due to transport has been increasing since 2010 (see box)¹. There has been a particular increase in the number of kilometres travelled by aeroplane and motor vehicles.

The Mobility Plan describes how WUR will handle transport in the future. Our efforts will focus on sustainable mobility.

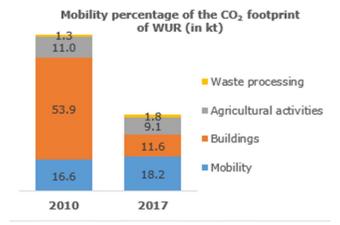
Technologies that will become available in the future (such as hydrogen-powered vehicles and the Hyperloop) and developments introduced by the government and the province (e.g. with regard to public transport, bicycle paths, and encouraging electric vehicles) serve as the framework for mobility policy.

Introduction

During the previous period (2010-2017), measures were taken that focused on making transport more sustainable. Even though these measures had an impact, they were not a component of a comprehensive mobility policy with concrete objectives. In addition to the realisation that sustainable mobility is an essential theme in the context of social responsibility, the competent authority (the municipality) also demands an integral approach to transport management. By implementing this, WUR also meets the criteria for various environmental permits (environmental protection laws and planning laws) which

Each year WUR determines its CO₂ footprint. This provides insight into our impact on climate and potential areas where our climate policy can be improved.

Transport movements are becoming an increasing part of the emissions in the CO_2 footprint of WUR. This primarily involves the CO_2 emissions from air travel, work commute, and trips taken using cars and public transport. In the reference year 2010, 16.6 kt of CO_2 was related to mobility. This was 17% of the total 82.9 kt of emissions. In 2017, the mobility percentage was 45%: 18.2 kt of the total CO_2 footprint of 40.7 kt.



Since the emissions from buildings have been progressively reduced due to energy conservation and the purchase of green power, it only makes sense that the proportion of other emissions sources would increase. However, this higher percentage is also due to a rise in the number of kilometres travelled and, in turn, a rise in emissions caused by mobility. This mainly concerns the emissions from air travel and commuting. In addition to continued internationalisation of education and research, the growth in the number of students (to roughly 15,500 in 2021) and the concentration of buildings and activities on Wageningen Campus also impact mobility at WUR.

Read more about transport and the CO_2 footprint in Section 3.3 (page 15).

¹ A summary of the CO₂ footprint has been included in the <u>Annual Environmental Report 2017</u>.

include requirements for transport management. Fuel usage for transport is also being placed under scrutiny with regard to energy management (e.g. in the European Energy Efficiency Directive - EED², BREEAM³)

Critically reviewing transport management may have a positive impact on the environment: it saves energy, contributes to improved air quality (through the reduction of fine particles, hydrocarbons, and NO_x), decreases noise pollution from traffic, and provides support in addressing the issue of climate change by reducing CO_2 emissions. Good transport management can also improve accessibility. Not to mention that by preventing or reducing transport movements and making transport more efficient, costs can be reduced as well (source: Infomili⁴). In addition to the positive effects for the environment and the climate, promoting active mobility (such as walking or cycling) contributes to the health of employees.

Reading guide

Chapter 2 outlines the mobility plan of WUR. Chapter 3 describes the current transport situation and issues. Chapter 4 discusses the objectives and measures for the next five years, including descriptions of **what** we are going to do and **why**. In conclusion, Chapter 5 briefly explains how WUR will ensure that these objectives are realised: **how** transport management will be anchored in the organisation.

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² See: www.rvo.nl/onderwerpen/duurzaam-ondernemen/energie-besparen/europese-energie-efficiency-richtlijn (in Dutch)

³ See: www.breeam.nl (in Dutch, see for English: https://www.breeam.nl/content/breeam-nl-english)

⁴ See: www.infomil.nl/onderwerpen/duurzame/vervoermanagement (in Dutch, see for English: https://rwsenvironment.eu/)

2 Sustainable mobility plan

What does WUR aim to achieve in the area of sustainable transport management? How will mobility at WUR look in 2030? How many kilometres will we be collectively travelling? How many employees will be driving their cars to work? How often will we travel by aeroplane for work and study?

2030 has been chosen as a prospective "checkpoint" for this mobility plan, with the goal of outlining a path towards more sustainable transport in the future. Important developments in the area of sustainable transport include the increase in electric vehicles (both cars and bicycles) as well as initiatives for smart mobility, but these developments are advancing slowly and their impact is difficult to predict. The decision to use a specific type of transport to commute to and from work is personal. As such, human behaviour is a crucial factor when striving to achieve sustainable mobility.

WUR and mobility in 2030

Everyone who lives close to where they work or study rides their bicycle. There are appealing, safe, high-speed bicycle paths to residences or stations and every WUR building has spacious bicycle parking facilities. An increasing number of people who live a bit farther away have been making the choice to ride a bicycle (including electric) to work or the university for a few days a week. The ability to telework has also made it easier to work from home for part of the week. It is completely normal for staff members to work at a location and time that suits them best.

More people are travelling by public transport. At the station, they opt to take a bus or a bicycle: whichever is the most convenient for them at the time. Nearby cities and large urban centres offer people direct bus connections to Wageningen Campus. People are satisfied with public transport: it takes less time, they always find a seat, and they don't have to wait long for their connection. Public transport is also extremely sustainable: NS (a Dutch railway company) switched over to wind energy entirely. The percentage of buses using sustainable power is increasing as well. Public transport is the best option for business trips: the NS-Business Card will get you practically anywhere. International travel by train is also extremely appealing. Travel times are shorter and you can work in peace while in transit.

International projects are important for WUR. Employees and students travel to distant destinations by air. However, we do look into potential alternatives before those trips are booked. People consciously choose the best transit option and are assisted in doing so by the travel agent, who recommends the most sustainable option by default. An increasing number of airlines now offer tickets for more sustainable flights.

Car access to areas on the WUR campus are restricted as much as possible. The campus is bright and green: great for a stroll or laying out on the grass. The number of parking spaces has been reduced, simply because less people are travelling here by car. However, there is always a parking space for visitors close to their destination building. Self-driving electric vehicles (similar to the WEpods) are used as shuttles between the larger car parks on the outskirts of campus and the buildings on campus.

Suppliers will make deliveries more efficiently, which translates to fewer large delivery vehicles driving around. Large delivery vehicles that still make deliveries on campus will be powered by electricity or green gas.

Students, employees, visitors and nearby residents are very pleased: the campus is easily accessible and there is more room for the natural environment. To top it all off, CO_2 emissions due to mobility have dropped substantially.

2.1 Mobility goals

The box above outlines a potential future scenario. Some of these aspects can be impacted by WUR directly, but many elements are partially or totally outside of our sphere of influence. The question now is what will happen if we continue addressing transport in the same fashion. That means more roads and parking spaces would be required to keep the flow of traffic in good order. If we remain dependent upon motor vehicle transport (cars and other large vehicles), this will result in more air pollution (greenhouse gases, fine particles) and noise. Due to increasing traffic, accessibility will decrease and it will take longer to drive to work and study locations. As such, it is currently difficult to exit the Wageningen campus by car at the end of the work day. Bike traffic will ultimately increase as well. Since bicycles and cars are in competition with each other, measures (some of which are expensive) must continuously be taken to prevent traffic jams and accidents.

What can we do?

Aiming for **less** transport movement is an essential step. This has a direct, positive effect on sustainability and simultaneously results in financial savings. Of course, we will always depend on

transport: how would we get from A to B otherwise? The word **otherwise** is key when addressing the next step: switching to a more sustainable mode of transport. We can switch from cars to bicycles and public transport or, if possible, taking the train instead of flying. Finally, we can opt to use more efficient and economical methods of transport.

These three steps are a part of the Trias Mobilica, also called the three S's⁵. The Trias Mobilica, by analogy with the Trias Energetica, provides a useful structure for the approach to making transport more sustainable. Translating these key principles into a mobility policy means that WUR will be working on the following objective:

WUR aims to use a set of mobility-related measures to decrease the associated CO_2 emissions by 2% each year.

Table 1 contains a list of potential measures for each step. This list is not exhaustive and can be modified if conditions change or new insights are discovered (state of technology). Each measure will be assessed based on its expected effect, expenses, and feasibility. This plan contains a proposal for the set of measures that serves as a

The three S's of the Trias Mobilica

Scale down: This can be done by adapting spatial planning, but also by encouraging concepts such as new working methods and smart logistics.

Switch: Mobility cannot always be avoided, but you can often switch your mode of transport. For example, encouraging the use of public transport, bicycles, or shared cars.

Sustain: Mobility can be made more sustainable, e.g. by using different vehicles. Activities include promoting sustainable mobility purchases (more efficient vehicles, vehicles powered by different fuels), organising purchasing grants, or encouraging the use of available national, provincial, and local funding schemes and tax incentive schemes.

guide for the mobility policy in the 2018-2030 period (see Chapter 4). Since some of the mobility aspects fall outside of WUR's sphere of influence, it is difficult to get a complete grasp on this policy area. For example, new technologies may become available in the near future. Potential options are also impacted by the national government, the provinces, and the municipalities. For these reasons, measures will primarily focus on facilitating and encouraging sustainable mobility. Wherever possible, the policy will be better defined and enforced.

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⁵ See: https://lokaalklimaatbeleid.nl/thema/mobiliteit/ (in Dutch)

Table 1. Matrix of measures for more sustainable transport

1. Scale down	2. Switch	3. Sustain
Reducing transport movements: - Sharing cars - Carpooling - Flexible working (HNW - the new working method) - Teleworking - Video conferencing - Smart flying (combination) - Combining goods traffic Reducing distance: - Living closer to work - Purchasing locally	Transport alternatives: - Mobility management - Mobility budget - Financial incentives: Public transport and bicycle - Substantially improving public transport options - Clean two-wheeled vehicles (e- bikes/scooters)	Cleaner transport: - Electric cars - Green gas - Hydrogen - Sustainable fuel blend - Fuel-efficient cars - Zero emissions Efficiency: - Improving traffic flow - Less traffic - The new driving method - Optimum tire pressure

2.2 **Policy framework**

2.2.1 Social responsibility

WUR feels that sustainability and social responsibility is extremely important. WUR's mission statement "To explore the potential of nature to improve the quality of life" results in philosophy of active sustainable development. In addition to implementing sustainable development in education and research, WUR considers sustainability to be a key component of its operational management.

For WUR, Corporate Social Responsibility (CSR) means to "do good" and to contribute to a better world. In the Strategic Plan 2019-2022, the ambition for sustainability and CSR is formulated as follows: we use the One Wageningen approach in everything we do in order to create an upward spiral. WUR will continue incorporating CSR in operational management into its agenda. Sustainable mobility is one of the areas of focus⁶.

Since 2015, WUR has been working based on a CSR agenda containing 21 topics that are important to us and our stakeholders. The theme of sustainable mobility is primarily linked to the topic of "Emissions", with the goal of minimising the negative environmental effects resulting from our activities as much as possible. There is also a link to the topics "The health and safety of employees and students" and "Compliance with environmental legislation and regulations".

By working on the CSR agenda, WUR contributes to the Sustainable Development Goals (SDG) of the UN. SDG 11 "Sustainable cities and communities" and SDG 13 "Climate action" are relevant for mobility policy. At the same time, WUR's mobility policy contributes to reaching the goals of the Paris Agreement.

⁶ See memorandum: Next Level CSR; Summary and background note. The Strategic Plan for 2019-2022 was approved at the end of 2018, see also: https://www.wur.nl/en/About-Wageningen/Strategic-Plan/SP 2019-2022.htm

2.3 Legislation and regulations

The combination of European and national policies forms the framework for CO₂ reduction and mobility policy.

During the UN climate summit in Paris (COP21) in 2015, the Netherlands agreed to the UN Climate Agreement, which aims to keep the global temperature increase well below two degrees Celsius. This agreement enters into force in 2020. In order to comply with the UN Climate Agreement, the Netherlands is working on a new climate act, which will establish how much the Netherlands will cut back on the percentage of its CO₂ emissions in 2030 and 2050. The bill was submitted in June 2018. At the same time, work is also being done on the Climate Agreement. The primary objective of the Climate Agreement is to cut back on greenhouse gas emissions in the Netherlands by 49% in 2030 (with 1990 as the reference year). The agreement contains arrangements with the sectors (electricity, industry, urban environment, transport, and agriculture) regarding how the climate objectives can be achieved. The full version of the Climate Agreement is expected to be ready by the end of 2018.

In addition to the climate arrangements, the agreements pertaining to promoting sustainable energy and energy conservation are relevant. Mobility is one of the pillars of the Energy Agreement from 2018 (SER), with the goal to reduce CO_2 by 17% in 2030 (with 1990 as the reference year). The CO_2 reduction objective in the mobility sector for 2050 is 60%, in accordance with the corresponding European objective.

Along with all other Dutch universities, WUR is taking part in the MJA-3 (multi-year agreement) for energy. The MJA-3 requires that an energy supply system be put into place and that an energy efficiency plan (EEP) be drafted every four years. Over the last few years, more attention in energy management has been directed towards fuel usage for the transport of people and goods as a result of the European Energy Efficiency Directive (EED). Dutch universities that are part of the Association of Universities in the Netherlands (VSNU)⁷ will contribute to the Climate Agreement objective (49% reduction in 2030). In decades to come, the universities will continue working on decreasing CO₂ emissions by aiming for climate neutrality.

In addition to the UN Climate Agreement and European Energy Efficiency Directive, WUR must also comply with the *Wet milieubeheer* (Wm - environmental protection act) and the *Activiteitenbesluit milieubeheer* (activities decree). Based on these laws, WUR has a duty of care to prevent any negative effects resulting from transport as much as possible.

2.4 Stakeholders

The starting points for the mobility policy are the wishes and requirements of WUR's stakeholders. Table 2 shows the main stakeholder groups and their interests in transport (sustainable or otherwise). In order to properly respond to these differing wishes and requirements, it is essential to look at transport as a whole.

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⁷ The VSNU has prepared a roadmap for Dutch universities regarding their contribution to the Netherlands climate agreement.

Table 2: The main WUR stakeholder groups

Stakeholder	Interests (wishes and requirements)
group	
Employees	The main concern for employees is commuting from home to work. They choose the option that is the most useful/logical for them, with travel distance and time being key factors. Expenses, physical activity, and the environment also come into consideration. We cannot ignore the fact that some colleagues choose cars as their mode of transport. In addition to commuting, employees take business trips domestically and abroad.
Students	Students live in rented rooms near their educational institution or at home. There are many international students. Students living at home have an interest in a high-level of accessibility via public transport. Cycling is an important means of transport for students living in rented rooms; they also use public transport (during the weekend).
Visitors	Visitors are a diverse group. Clients are also considered to be visitors (separate group). In this instance, we are referring to occasional visitors to events such as open days, PhD graduation ceremonies, meetings, conferences, and field trips. Some facilities also draw their own audiences, such as Impulse and the Bodemmuseum. WUR welcomes a relatively large number of international visitors.
Clients	Clients are a unique group of visitors. They come to WUR for business purposes.
Partners	WUR collaborates with various partners, e.g. on projects. We also consider businesses in the WUR vicinity to be partners.
Suppliers	Suppliers may provide goods or services. It is in their interest to be able to access WUR easily. WUR sets sustainability requirements for its suppliers with regard to transport.
Local residents	Local residents may experience issues with WUR transport movements, such as their own interests being opposed to those of WUR with regard to accessibility. At the same time, local residents benefit from WUR facilities (such as hiking areas, the art trail, and cycling routes).
Local	The government has its own ambitions in the field of energy and will make
government bodies	arrangements with WUR using agreements, legislation and regulations for CSR as well as sustainability. The Municipality of Wageningen aims to become fully climate neutral by 2030. For mobility: "Reduced usage of cars (that generate pollution) and promotion of alternative methods of transport, such as public transport and bicycles, certainly contribute to this."
WUR	WUR itself (represented by the Executive Board and the management councils of the organisational divisions) will benefit from a positive image, lower operational costs, and good accessibility. The sustainable use of resources, including climate and clean air, is a part of WUR's raison d'être.

3 Mobility in 2010-2017

In order to determine the desired 2030 situation, it is helpful to describe the current state of affairs. The primary issue to address here is what the successful developments were in the 2010-2017 period and what has been achieved in recent years.

3.1 Developments and measures in 2010-2017

During 2010-2017, WUR has better defined and conveyed its vision of sustainability, not only in education and research, but also in its own operational management. WUR scored high in sustainability and CSR rankings, such as SustainaBul, GreenMetric, and the TransparantieBenchmark. Mobility has progressively become a more significant sustainability theme in these rankings.

WUR has more than 40 locations in the Netherlands. Wageningen University has buildings and property in Wageningen as well as in its nearby surroundings. In addition to its buildings in Wageningen, Wageningen Research also has a large number of locations spread out across the Netherlands. An overview of all our locations is available on our <u>website</u>.

Development of transport streams is contingent on developments in the size and work methods of WUR. The following are the primary developments in the past few years:

- Growing student numbers: more transport movements, longer opening hours, and schedule adjustments (e.g. lectures in early morning/evening).
- The concentration of activities on Wageningen Campus: more employees working in Wageningen, more employees with longer commuting distances, more transport movements in relation to visitors and suppliers.
- Partners (third parties) setting up locations on Wageningen Campus. However, there is also concentration occurring in Lelystad and Leeuwarden.

During this period, there has been continuous work on making transport more sustainable and various measures have been taken. Mobility policy during this period was primarily focused on:

- 1. Facilitating cycling (including electric)
- 2. Encouraging the use of public transport
- 3. Discouraging the use of cars for commuting and business trips
- 4. Encouraging the use of more sustainable transport options
- 5. Improving physical accessibility

For an overview of these measures, see Table 3.

In order to gain better insight into employee and student travel behaviour, mobility measurements were taken in 2012 and 2015. The results of these measurements are explained in greater detail in Section 3.2.

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Table 3: Sustainable mobility measurements taken in 2010-2017.

Ası	pect	Ме	asures
	Facilitating cycling	_	Employees are able to purchase a bicycle (including electric) with a
	(including electric)		tax benefit.
	(melading electric)	_	Providing company bikes, bike pumps/repair kits, and showering
			facilities.
		_	Constructing well-lit bicycle parking areas with charging stations for
		-	electric bikes and scooters.
		-	Realising an effective cycling network to and from Wageningen
			Campus, including the installation of a separate bike path along the
			northern stretch of campus.
		-	Improving bicycle safety on campus.
2.	Encouraging the use of	-	For business trips in the Netherlands, employees must use public
	public transport		transport as much as possible instead of their personal vehicles ⁸ .
		-	Employees can use the NS-Business Card (for public transport,
			public shared bikes, and shared cars).
		-	WUR has invested in high-quality public transport (financially as well
			as in terms of land and maintenance). Bus line 84 runs between the
			Wageningen bus station and the Ede-Wageningen train station.
		-	Participation in municipal and provincial policy programmes for
			better campus accessibility by public transport, such as increasing
			the bus frequency and creating fast bus connections.
3.	Discouraging the use of	-	WUR uses a scheme in which commuting from home to work can be
	cars		reimbursed for up to 30 km. Note: for kilometres travelled over 30
	(commuting and business		km, employees can use a work expense scheme in which gross/net
	travel)		wages can be generated.
		_	New employees who are moving closer to work can claim relocation
			reimbursement ⁹ .
		_	For business trips made using public transport, travel expenses will
			be fully reimbursed (including taxis from the train station, OV-
			bicycles, or shared cars). Expenses for business trips made using a
			personal vehicle will be partially reimbursed (€0.28 per km) ⁸ .
		_	Flexible working hours and teleworking are both possible to a certain
			extent.
		_	Improving the use of central parking spaces (P1-P4; minimising
			parking near the buildings).
		_	The number of parking spaces on campus will be kept as low as
			possible (despite the growth of WU and of third parties).
4.	Facilitating alternatives		In principle, all business trips will be taken using public transport,
-7.	to air travel and other	-	unless the destination is difficult to reach by train and the travel time
	business travel methods		is twice as long as it would be if the employee's own mode of
	business traver methous		, ,
			transport were used ⁸ .
		-	Taking the train more often for business trips within Europe to get to
			destinations that are easy to reach by train (e.g. Brussels, Paris,
			Frankfurt) ¹⁰ .
		-	Pricing agreements have been made for train tickets to destinations
			within Europe.
		-	Facilitating and encouraging teleconferences and video conferences.
5.	Encouraging sustainable	-	There are currently 24 charging stations for electric cars on
	transport options.		Wageningen Campus, which are frequently used.
		-	In our purchasing programmes, transport requirements have been
			established for suppliers with regard to sustainability.
		-	Introducing central vehicle fleet management.
			<u> </u>

3.2 Commuting developments

The methods that employees use to travel to work are regularly assessed. The last survey (2015) showed that many (55%) WUR employees that work on campus travel by bicycle. This is very high when compared to the national average (22%). Of all these employees, 34% only travel by car, 5% carpool, and 6% use public transport. The latter figure is related to the average level of campus accessibility by public transport. 91% of the employees who live within 7.5 km of the workplace travel by bicycle. 30% of employees who use cars live between 7.5 and 30 km from the workplace. It is precisely in this demographic that there is still room for improvement, e.g. by encouraging the use of e-bikes even more. The percentage of employees using public transport to commute is low. However, the use of public transport for business trips in the Netherlands is rather high, roughly equal to travel by car, which is in

⁸ *Uitvoeringsregeling Dienstreizen* WUR (Implementation Regulations for WUR Business Travel)

⁹ WUR Implementation Regulations for Relocation Expenses

¹⁰ Wageningen University & Research Travel Policy

part thanks to implementation regulations for business trips and the NS-Business Card. See Appendix 1 for a summary of the mobility measurements taken in 2010 and 2015.

3.3 CO₂ footprint

Since 2010, WUR has calculated its CO₂ footprint each year. This has resulted in better insight into WUR's impact on climate. In 2010, emissions were primarily determined based on energy usage from buildings, but in recent years, the percentage of emissions from transport movements has increased.

During the 2010 reference year, 20% of emissions were related to mobility, which increased to 45% for 2015-2016. In 2017, the total CO_2 footprint was roughly 50% smaller than in 2010. The energy percentage (specifically for buildings) dropped substantially thanks to our successful energy policy and decision to purchase green electricity (from 2011). As a result, the mobility percentage of the CO_2 footprint increased by default. However, when only expressed in kt, the CO_2 emissions from "mobility" grew as well due to an increase in the number of kilometres travelled, specifically with regard to air travel and commuting. The differences between the CO_2 footprints from 2010 and the 2015-2017 period can be clearly seen in Figure 1.

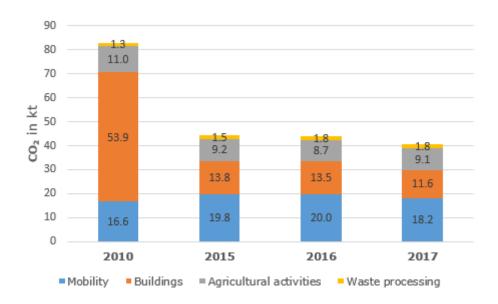


Figure 1. Mobility percentage in the CO₂ footprint of WUR.

3.4 Accessibility

Accessibility and mobility are closely related. The issue of how to encourage sustainable transport in turn raises the issue of how to improve accessibility. The fact that accessibility is a sore point was evident from comments that employees and students made during the mobility survey in 2015. In Wageningen, there has been heated discussion regarding improved accessibility through the construction of a ring road. Various stakeholders have taken diametrically opposed positions in the matter: local residents have complaints about busy roads and do not want a ring road near their homes; road users do not want to get stuck in traffic; businesses want to be accessible in the future as well; and nature conservation organisations are concerned about the loss of natural land and biodiversity.

Accessibility in terms of this road is not something that WUR has much influence over: the responsibility for good roadways lies with the province and the municipality. WUR's interest is in being easily accessible for students, visitors, and employees, as well as for businesses located on WUR property, regardless of the transport option that they choose.

Wageningen in particular has accessibility problems. During the 2010-2017 period, various measures were taken to improve accessibility for bicycles, public transport, and cars. On Wageningen Campus, existing bicycle paths were widened and new paths were constructed. In addition, the bus lane for the

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high-quality public transport line was completed. Finally, in 2017, the second entrance to the campus (from the north) was improved through the construction of a separate bicycle lane, making it safer for cyclists to ride along the Bornesteeg and easier for drivers to access the campus.

3.5 Supply of goods and services

Sustainable transport for deliveries has been considered more consistently during purchasing processes. During the procurement process, we always request that the CO_2 footprint be kept to a minimum for any products and services provided. Depending on the purchasing process and the type of delivery, mobility-related wishes and requirements are considered during the call for tender, such as:

- The inclusion of deliveries in all existing routes
- The use of special route planning software in order to minimise transport
- Cutting back on the frequency of deliveries by reducing orders (e.g. for office supplies, fruit in the workplace, chemicals, hygiene products, etc)
- Receiving deliveries outside of peak times

The effects of transport on the environment and surrounding areas are particularly considered for specific "transport contracts", such as the contracts for leased cars, rental cars, and coaches, as well as for the contract with the travel agent for international trips.

4 Objectives and measures for 2018-2030

4.1 Strategy

WUR aims to use a set of mobility-related measures to decrease the associated CO_2 emissions by 2% each year.

In doing so, WUR expects to contribute to:

- Energy conservation: lower fuel consumption, less dependence on fossil fuels
- Lower CO₂ emissions
- Better air quality
- Better accessibility for WUR properties and the immediate vicinity
- A positive effect on welfare and health of employees and students

4.2 Starting points

In the years to come, WUR will maintain the facilities that have already been implemented (see Section 3.1). Where necessary, existing projects will be adjusted and new projects will be started. Some important principles:

- Options for making transport more sustainable will always be considered when making any changes to infrastructure.
- The ambition to create consistency and cohesion between the Energy Efficiency Plan (EEP) and the mobility plans. Using the MJA-3 and the EEP, we are looking more closely at fuel usage for transport.
- Sustainable construction: requirements are currently being set for transport, including the sustainability certifications for buildings, such as BREAAM. For example, BREAAM involves facilities for cyclists, proximity to public transport and basic facilities, cyclist and pedestrian safety (including during deliveries), limiting parking, and providing transport alternatives.
- Supply chain responsibility: WUR requests that its suppliers take verifiable measures regarding sustainable mobility. During the purchasing process (call for tender), the product or service to be purchased will be assessed based on specific questions regarding transport (reduction, alternatives) and CO₂ impact.
- Contributing to better accessibility for Wageningen Campus regarding all types of transport, in collaboration with partners and neighbouring businesses.
- WUR will maintain its good relationship with the local competent authorities and comply with legislation and regulations.

4.3 Mobility Implementation Agenda 2018-2022

The mobility plan contains WUR's broad vision of mobility management: where will we be in 2030 on our journey to sustainable and CO₂-emission-free mobility? The proposed roadmap is further detailed in the Mobility Implementation Agenda for 2018-2022. The detailed agenda contains mobility policy for the next five years.

Some of the measures from the implementation agenda apply to all WUR locations. This specifically concerns policy (such as travel and purchasing policy) and the regulations and schemes for travel expenses and business trips that apply to all employees. Most of the measures pertaining to facilities (e.g. infrastructure and accessibility) will largely be focused on Wageningen Campus. This is a logical approach given the concentration of activities in Wageningen.

The implementation agenda details the set of measures that will lead to an annual CO_2 reduction of 2% for the upcoming period. Table 4 shows an overview of the measures that could be included in the implementation agenda.

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Table 4: Objectives and measures for sustainable mobility 2018-2022

Objective	Measures
More cycling	- Expanding the number of bicycle parking areas: well-lit with charging stations for
(including	electric bicycles.
electric)	 Expanding facilities for cyclists: spacious, easily accessible, and partially enclosed bicycle parking areas with charging facilities for e-bikes and scooters.
	- Encouraging the use of e-bikes, e.g. by holding test days and offering loan
	options.
	- Expanding bicycle loan options (including e-bikes for cycling between locations as
	well as to the B&S park and the city).
	 Strengthening our local portion of the bicycle network, such as the Cykl network¹¹.
	- Broadening the bicycle reimbursement option in Optare: higher reimbursement
	amounts for purchasing e-bikes and the addition of a repair budget for all
	bicycles.
	- Increasing the reimbursement of travel expenses (commuting) for employees
	who live near the workplace (up to 25 km away).Introducing a cycling app: recording bicycle use with a reward system.
	- Offering cycling courses for international students and employees.
	offering cycling courses for international stadents and employees.
Increased usage	- For business trips in the Netherlands, employees must use public transport as
of public	much as possible instead of their personal vehicles.
transport	 Employees will use the NS-Business Card for business trips (for public transport, OV-bicycles, and shared cars).
	 Participation in municipal and provincial policy programmes for better accessibility
	by public transport, such as increased bus frequency and fast connections.
	- Strictly adhering to arrangements with suppliers regarding sustainability (in the
	mobility contracts).
	 Stricter enforcement of compliance with policy and contract agreements for more sustainable transit via the organisational divisions.
	- Better facilitation of public transport for business travel in conjunction with
	sanctions and monitoring the public transport use during these trips.
	- Making public transport subscription tickets available for commuting to and from
	work (at employee expense) as well as business travel (easy to claim).
	- The use of buses to and from locations that are currently difficult to reach by
	public transport, preferably with other large employers such as FrieslandCampina, Unilever, and Menzis.
	- For the long term, we will look into new public transport options.
Decreased use of	- WUR uses a scheme in which commuting from home to work can be reimbursed
cars	for up to 30 km New employees who are moving closer to work can claim a relocation
	reimbursement (under certain conditions).
	- For business trips made using public transport, travel expenses will be fully
	reimbursed (including taxis from the train station or OV-bicycles). Expenses for
	business trips made using a personal vehicle will be partially reimbursed.
	- The number of parking spaces on campus will be consistently maintained at the
	2019 level, despite the expected growth at Wageningen University and among third parties.
	- Improving the use of central parking spaces (P1-P4; minimising parking near the
	buildings).
	- Flexible working hours and teleworking are both possible to a certain extent.
	- Continuing to encourage carpooling for commuting and business trips.
	 Encouraging flexible work: meeting at central locations, teleworking, and working while in transit.
	- Hiring policies: encouraging new employees to live closer to the workplace.
	- Taking targeted measures (reimbursements) to encourage employees to choose
	bicycles and public transport for their commutes if these are realistic options for
	them.
	- Promoting the residential policy for knowledge workers in Wageningen and its
	surroundings Smart vehicle fleet management and encouraging the use of shared cars.
	 Expecting an active contribution from suppliers of goods and services to reduction
	of transport movements.
	

¹¹ See: https://www.cykl.nl/

Objective	Measures
Reduced air travel	 In principle, all business trips will be taken using public transport, unless the destination is difficult to reach by train and the travel time is twice as long as it would be if the employee's own mode of transport were used. Taking the train more often for business trips within Europe to get to destinations that are easy to reach by train (e.g. Brussels, Paris, Frankfurt). Pricing agreements have been made for train tickets to destinations within Europe. Facilitating and encouraging teleconferences and video conferences. Strictly adhering to arrangements with suppliers regarding sustainability in the mobility contracts for international travel. Stricter enforcement of compliance with policy and contract agreements for more sustainable transit via the organisational divisions (travel policy). Establishing a limit in the travel policy for air travel from destinations (in terms of distance and time) which would ordinarily be travelled to using public transport.
More sustainable transport	 In our purchasing programmes, transport requirements have been established for suppliers with regard to sustainability. Central vehicle fleet management. Encouraging electric-powered transport: for regular suppliers (for gardeners, catering, etc.) and our own vehicle fleet (for IT support on campus, etc.) Replacing our vehicle fleet with electric alternatives. Making our leasing policy more stringent (electric alternatives). Improving the use of electric and energy-efficient rental cars. Refining sustainability-related agreements with suppliers (in the mobility contracts: rental cars, leased cars, and rental coaches). Stricter enforcement of compliance with policy and contract agreements for more sustainable transit via the organisational divisions (lease and rental policy). Further expansion of charging stations for electric cars (based on monitoring). Exploring the option of a car park as a city transfer location during weekends. Please note this includes modifying bus lines accordingly. Exploring the option of collaborating with other businesses/organisations in Wageningen on the use of shared cars (including electric). Sustainable vehicle fleet: only purchasing cars with energy labels A and B and smart management. Internal competition based on fuel consumption. Expanding facilities for sustainable car use (e.g. charging stations, checking tyre pressure). Air travel policy focused on reducing CO₂ emissions, potentially through the use of a CO₂ budget. Facilitating sustainable transport for large events on campus (e.g. conferences, PhD graduation ceremonies, etc.). Selecting airlines that specifically work towards reducing their CO₂ emissions. Expect an active contribution from suppliers for the use of sustainable modes of transport and for the reduction of transport kilometres.

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In order to gauge the effect of the measures, key performance indicators (KPIs) will be established. A proposal has been included in Table 5 for the various ambitions.

Table 5: Key performance indicators for sustainable mobility

Table 5: Key perform	le 5: Key performance indicators for sustainable mobility					
Ambition	KPIs	Proposed goal (2030)				
More cycling (including electric)	The number of employees that travel to work by bike (including electric)	55-60% of the employees are cycling to work (commute)				
Increased usage of public transport	Number of employees that take public transport to work	10-18% of the employees are taking public transport to work (commute)				
	Percentage of business trips using public transport	65-70% of business trips are taken using public transport				
Decreased use of cars	Number of employees that take cars to work	25-30% of employees drive their cars to work (commute)				
	Number of employees that use carpooling	8-10% of employees carpool to work regularly				
	Number of employees that regularly work from home	Of the employees who drive to work, 70-75% work from home at least one day a week				
	Percentage of business trips taken by car	30-35% of business trips are taken by car				
Reduced air travel	Number of business trips taken by air travel within Europe; public transport usage and video conferencing	25% less kilometres travelled by air within Europe (reference year 2017)				
More sustainable transport	CO_2 emissions calculated for each transport option	25% less CO ₂ emissions from transport (commuting, business trips, and suppliers)				

5 Anchoring mobility policy within the organisation

If WUR aims to make mobility more sustainable, sustainability policy regarding mobility must be anchored within the organisation. Since the majority of the work will be performed by WUR Facilities and Services (FB), FB will be tasked with taking the reins of the mobility policy. For issues related to employee regulations, FB will engage in collaboration with Corporate Human Resources (CHR). The organisational divisions will be asked for their assistance in drawing attention to mobility policy. Much like the measures in the field of energy, the organisational divisions will also be given the opportunity to apply their own measures for promoting sustainable mobility. This will also be coordinated with the relevant external parties, such as the municipality, the province, and the businesses in the area.

WUR has been working with an energy management system within the frameworks of the MJA-3 and EEP for some time. This system applies the Deming circle (Plan-Do-Check-Act) and the corresponding roles (tasks, responsibilities, and authorisations) are described. It is suggested that the existing work method with regard to energy be followed as closely as possible. Mobility-specific measures from the various mobility plans will be monitored, during which a link will be established between energy monitoring (ERBIS) and the annual calculation of the CO₂ footprint.

Parties involved

Various parties are involved in the mobility policy and the associated measures to be taken:

- Facilities & Services: the Real Estate & Housing departments (particularly the Safety & Environment and Real Estate Policy divisions), Integrated Facility Management (park management), Location Services (vehicle fleet management), and Purchasing.
- Corporate Staff: Human Resources (employment conditions and health policy) and Communication & Marketing (communication services).
- Organisational divisions: directors of operations and health, safety and environment coordinators (BOKAM).

A core group of employees from the Safety & Environment and Real Estate Policy divisions will be tasked with coordinating activities. Collaboration will be sought out with CHR employees and the health, safety and environment coordinators for each organisational division. A steering committee with representatives from the various departments will be created. The core group will present recommendations on steps and measures to be taken to the steering committee for approval. The proposed measures will then be presented to the CSR group and (depending on the nature of the measure) to the meeting of the directors of operations (DBO).

Monitoring

Accurate, complete and reliable information is necessary to maintain a grasp of the effects of the measures for encouraging sustainable mobility. Existing monitoring systems will be incorporated as much as possible, such as those for energy management and the CO_2 footprint. Specific, recurring mobility measurements will be used to assess the extent to which the measures are effective and what points in the mobility policy must be adapted.

Communication

Good communication is essential for keeping all stakeholders informed of and involved in the mobility policy. A communication plan will be drafted in order to streamline all information, both internal and external.

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Appendix 1: Mobility measurement results

In 2012 and 2015, mobility measurements were taken, specifically to follow developments in commuting behaviour and to say something about the modal split: the distribution of transport methods used for commuting from home to work.

1. Results of the 2012 baseline measurement

In March/April 2012, 569 WUR employees participated in the mobility management baseline measurement in the WERV region¹². This measurement was specifically focused on WUR locations in Wageningen.

The results of this measurement indicated that in 2012, a significant percentage of employees typically cycled to work (57%). A relatively large number of employees live less than 7.5 kilometres away. Specifically those who live between 0 to 15 kilometres away from the workplace often cycle. Even at greater distances, the number of cyclists is well above average. The percentage of drivers among WUR employees was 32%, 3% of whom carpool. Public transport was rarely used (7%).

Of the various transport options, accessibility by bicycle was rated highest by employees (average score of 7.7). The employees who regularly cycled rated this accessibility even higher at 8.8. However, there were complaints over dangerous situations for cyclists on and around campus and a desire was expressed for bicycle parking spaces close to the workplace. Accessibility by car was rated as 7.1. The primary area of concern was the flow of traffic in and around Wageningen and the campus. Accessibility by public transport was rated the lowest, with an average score of 4.7. In particular, the absence of a train station in Wageningen played a part in this rating. The bus line between the Ede-Wageningen station and the campus was deemed unreliable and overcrowded.

In terms of business trips, roughly half of employees indicated that they travelled for work. They primarily used cars (alone or shared) and the train. Half of employees drove cars and indicated that they travelled more than 1000 km per year. In roughly a quarter of these instances, the drivers were using company cars. This questionnaire did not ask about international travel.

Based on the results, the following were concluded to be the biggest challenges for WUR:

- Making Wageningen Campus more attractive to cyclists
- Facilitating cycling as much as possible: safe bicycle paths and routes as well as enough space in the bicycle parking areas
- Encouraging employees to cycle more through consistent or incidental incentives

The total response from 9% of all WUR employees (6500 employees in 2012) was sufficient for drawing reliable conclusions about the work and travel behaviour of all staff members at WUR:

- For every five employees, roughly three (57%) typically travelled to work by bicycle. 7% used public transport. The percentage of cars used for commuting was 33%, including employees that carpool.
- Despite the relatively low car use, there was potential for encouraging "smart travel". This primarily pertained to the group of employees who lived between 7.5 and 20 km away from work. Depending on the travel distance, car usage among this group was between 33% and 64%.

2. Results of first measurement in 2015

In December 2015, a survey was conducted among employees and students regarding the ways in which they travelled to the workplace or study location. In addition to questions about commuting, this survey also assessed general satisfaction with transport options, parking options, accessibility, and alternative modes of transport. Questions were also asked about travelling abroad for work or study. In total, 1019 WUR employees and 852 students participated in this evaluation. 11.8% of all employees and students

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¹² Wageningen, Ede, Rhenen, and Veenendaal

participated. This response was sufficient for drawing reliable conclusions about the travel behaviour of all staff members and students at WUR.

The results of the first measurement (2016 report) were that over one half (52%) of WUR employees travelled to work by bicycle. 39% travelled to work by car and 6% took the train or bus. 72% of students cycled to their study location, 22% took public transport, and 5% drove their cars. Of the employees who cycled, 4.5% used an electric bike; this was 0.5% for students. 4.6% of employee car users and 1.1% of student car users reported that they carpooled. Car usage was tested by counting parking usage (conducted in November 2016). This indicated that on the busiest day with bad weather, roughly 37% of employees came to work by car (double usage for carpooling was not included).

In 2015, bicycles were again rated as a better mode of transport compared to cars or public transport. However, employees were generally less satisfied with cycling than in 2012: the figures reported in 2015 were 6.7 and 7.1 for bicycles and e-bikes respectively. Drivers were the most critical of the accessibility situation. They rated accessibility by car with a 5.7 (both for solo drivers and those carpooling). Compared to 2012, public transport was rated much better by employees: an average of 5.8 for the train and 6.2 for the bus. The main area of concern was the flow of traffic in and around Wageningen and the campus for both cars (campus access) and bicycles (bicycle traffic and dangerous intersections on campus). Employees mentioned accessibility, frequency, and connections as the biggest issues for public transport. Just as in 2012, the lack of a train station in Wageningen was met with dissatisfaction.

Using the reports from the mobility measurement, it was concluded that, even though employee car usage for commuting was relatively low (39%), there were "smarter" travelling options. There was a different, realistic transport option available to 22% of employees who came to work by car. Progress can also be made by promoting cycling (including electric) for commuting. As a result, the primary recommendation from the report was as follows: "There is plenty of potential to encourage the use of bikes and e-bikes. A logical approach would be to make parking less appealing (for cars) while making the use of alternatives, such as bicycles and public transport, more appealing."

Employee commuting

The modal split¹³ for WUR as a whole: the majority of employees (52%) cycled. 39% travelled to work by car and 7% used public transport. For Wageningen Campus: 55% came to campus by bicycle, 37% by car, and 6% by public transport. See also Figure 1.

WUR employees were present on site for an average of 4.3 days. 51.5% of employees indicated being present on site 5 days per week. The busiest days were Monday, Tuesday, and Thursday. The largest group of employees (57%) arrived between 8:00 and 9:00, with 52% leaving between 17:00 and 18:00.

The average commute in one direction was 30 minutes for employees (30 minutes to work, 31 minutes back). They found travel times of 35 minutes to work and 33 minutes back from work to be acceptable. Employees travelled an average of 21.8 km each way: cyclists averaged 5.2 km on regular bicycles and 10.8 km on electric ones. Drivers travelled an average of 41.3 km in one direction. The average for public transport was 55.2 km.

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¹³ This modal split provided insight into which mode of transport employees chose for long-distance commutes.

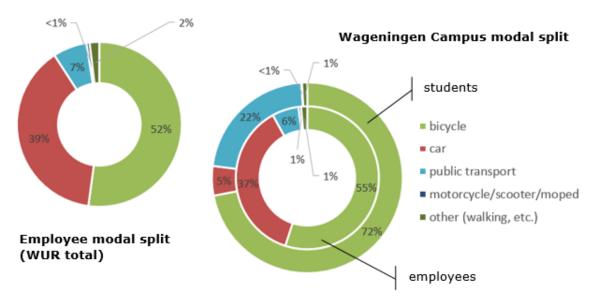


Figure 1. Modal split for commuting to WUR in 2015

Student commutes from home

The majority of students travelled to Wageningen University by bicycle: 72%. 22% travelled by public transport, while only 5% used cars.

Students were present on site for an average of 4.4 days a week. 68.7% of students indicated being on site 5 days a week, even though attendance was somewhat lower on Fridays. 50% of students arrived between 8:00 and 9:00 and 44% left campus between 17:00 and 18:00. Student arrival and departure times were spread out a bit more, but the peak times were roughly the same as those for employees.

The average commute in one direction was 25 minutes for students (25 minutes to campus, 26 minutes back). They found 29 minutes to be an acceptable average travel time in both directions. Students travelled an average of 15.9 km each way: cyclists averaged 7.5 km on regular bicycles and 18.4 km on electric ones. Drivers travelled an average of 43.8 km in one direction. The average for public transport was 39.4 km.

Business trips

At WUR, leased cars, shared cars, and rental cars can be used for business trips. In theory, public transport should be the most common option used for taking business trips. If that is not possible, a car can be rented, but typically personal vehicles are used.

The majority of employees (54.1%) indicated that they did not go on business trips. 33.4% of employees took 1-4 business trips per month. In 45.3% of cases, cars were used to take business trips. 43.6% of business trips were taken using public transport.

Air travel was used for 8.9% of business trips. Of that percentage, 63% of the employees went to a location within Europe.

Student air travel

17.7% of the students reported having taken a flight in 2015. On average they made 2.1 trips by aeroplane each year. 56% of these trips were taken within Europe.