



Mobility Report 2023

Summary of main findings




Summary

In this **Mobility Report**, we discuss developments in mobility and related effects in the period 2012-2022. We use various sources for this. In addition, we look ahead to the short term (2023 and 2024) and the medium term (2028). Below we summarize the most important insights per theme.

Mobility of people

The total **distance travelled** by residents of the Netherlands aged 6 years and older on Dutch territory increased in 2022 compared to 2021, but remained below the level of 2019. The distance travelled in 2022 also remained below the level of 2012. In 2022, an average of 10,500 km per year was travelled (28 km per day).

- o **Public transport:** the distance travelled by public transport (train, bus, tram and metro) in 2022 was still clearly below the level of 2019. A strong growth in working from home among public transport commuters since the COVID-19 pandemic is one of the explanations for this.
- o **Car:** the distance travelled by car drivers and car passengers also remained below the level of 2019 in 2022. In 2022, the distance travelled as car driver or as passenger were also still below the level of 2012 (-9% and -17% respectively).
- o **Bicycle:** the distance travelled by bicycle in 2022 was around the level of 2019. In recent years, we have seen a clear increase in the share of the e-bike (from around 5% in 2012 to 37% in 2022).
- o **Walking:** despite the fact that people walked slightly less in 2022 than during the COVID-19 pandemic, the total distance travelled by foot in 2022 exceeded the levels of 2019 and 2012.
- > The share of workers **working from home** for at least 1 hour per week in 2022 was about the same as in 2021 (44% and 45% respectively) and at a *higher* level than before the COVID-19 pandemic (33% in 2019). The share of people who leave the house on an average day was slightly higher in 2022 than in 2021, but lower *than in 2019* (80% in 2022 versus 82% in 2019).
- > In 2022, the distance that Dutch **people fly** showed a strong growth compared to 2021, but stayed clearly below the level of 2019. The level in 2022 was around that of 2016.

Mobility of people	Total	Car driver	Car passenger	Train	Bus, tram, metro	Bicycle	Walk	Aviation
	Distance travelled on Dutch territory (bn km)							Distance travelled by the Dutch (bn km)
2022	174,4	87,9	32,7	14,1	4,3	17,9	7,2	87,3
2022 compared to 2021 (%)	+12%	+10%	+8%	+52%	+40%	+13%	-11%	+132%
2022 compared to 2019 (%)	-14%	-14%	-14%	-29%	-24%	0%	+41%	-17%
2022 compared to 2012 (%)	-10%	-9%	-17%	-21%	NA	+8%	+45%	+19%

NA = data not available

¹ The total distance travelled and the distance travelled by car driver, car passenger, bicycle and walking separately in this table are based on the CBS trend model; the distance travelled by train and bus, tram and metro (btm) comes from CROW-KpVV/NS. The total distance travelled is therefore not entirely equal to the sum of the distance travelled by the individual modalities.

Freight transport

- > The total **transport performance** (in tonne-km) on Dutch territory decreased slightly in 2022 (-3.7%) compared to 2021. However, the level in 2022 was higher than in 2012 (+4.4%). The **weight lifted** (in tonne), including throughput at airports and seaports, also decreased slightly in 2022 (-0.8%) compared to 2021.
- > Between 2021 and 2022, a decrease in transport performance is visible for most modes (road transport, inland waterways, pipelines), with the exception of rail transport (unchanged). Developments as a result of the war in Ukraine, high energy prices and inflation may have had an impact on this.
- > In 2022, the majority of transport performance on Dutch territory was delivered by **road**. Since 2012, road transport has also seen the strongest increase; Rail transport also shows a clear increase over this period. The transport of goods by **pipeline** (international) was clearly lower in 2022 than in 2012, but has been increasing again since 2018. Inland **waterway transport** was also at a lower level in 2022 than in 2012.


Freight transport	Carriage of goods on Dutch territory	Road (excl. delivery vans)	Inland navigation	Track	Pipeline (international)
Transport performance on Dutch territory (bn tonne-km)					
2022	126,4	62	44,5	7,2	12,7
2022 compared to 2021 (%)	-4%	-4%	-4%	0%	-4%
2022 compared to 2019 (%)	-1%	-1%	-4%	+1%	+6%
2022 compared to 2012 (%)	+4%	+18%	-4%	+17%	-19%

Note: Preliminary data are in grey and

Accessibility


- > The **(potential) accessibility** of jobs, education and shops (measured in the total number of jobs, study places in MBO, HBO, WO, and retail jobs that can be reached within acceptable travel time, respectively)² has increased on average for Dutch people in the period 2010-2022. This is mainly due to an increase in the *number* of jobs, study places and retail trade jobs in that period (*volume effect*). The accessibility of jobs has improved in particular in the urban regions of Amsterdam (including Almere) and Rotterdam-The Hague. In the development of the accessibility of education and shopping, no clear regional pattern is visible.
- > The accessibility of jobs is relatively high on the Amsterdam-Eindhoven axis; According to the indicator, accessibility of education is better in the Randstad than elsewhere. For shopping accessibility, the G4 stands out. By way of comparison, when people are asked about the extent to which they (in their own words) experience barriers in reaching jobs, educational locations and supermarkets (as a measure of **perceived accessibility**), people living in metropolitan areas appear to experience slightly more barriers.

² We use the geographical accessibility indicator as developed for the Integrated Mobility Analysis (IMA-21). When calculating the accessibility of jobs, education and shops, we take into account accessibility by car, public transport and bicycle.

Accessibility 	Jobs within acceptable travel time	Education within acceptable travel time	Shops within acceptable travel time
	Number		
2022 compared to 2018 (%)	+3%	+5%	+2%
2022 compared to 2010 (%)	+18%	+26%	+14%

Note: Preliminary data are in grey and italics

- > **Traffic performance** and **travel time loss** were higher in 2022 than in 2021, but below pre-corona levels (2019). However, the level of both traffic performance and travel time loss in 2022 exceeded that of 2012.
- > Despite a clear growth in **rail traffic** in 2022, the distance travelled by trains remains below the level of 2019. The overall delay of passengers by train continues to show a downward trend.


Accessibility 	Total road traffic	Road traffic main road network	Loss of time for the main road network	Rail traffic main rail network	Average delay per rail passenger
	Million vehicle-km	Million hours	Million train-km	Minutes	
2022	136,3	67,4	58,1	110	1
2022 compared to 2021 (%)	+8%	+6%	+117%	+4%	-23%
2022 compared to 2019 (%)	-3%	-8%	-18%	-7%	-41%
2022 compared to 2012 (%)	+4%	+4%	+26%	NA	NA

NA = data not available

Note: Preliminary data are in grey and italics


Road safety

- > In 2022, 745 people died in road accidents, 163 more than in 2021 and the highest number since 2009. The number of road injuries is also on the rise (but data for 2022 are not yet available).
- > The largest increase in the number of **road deaths** occurred among cyclists (+83 deaths, 40% more than in 2021). The number of cyclist fatalities rose relatively sharply among the over-70s in particular (+80 deaths).
- > With 290 **cyclist fatalities** in 2022, cyclists were the *largest* group of road casualties. Of these, most were killed by collision with a vehicle (206 bicycle deaths). Car occupants were the second largest group of road deaths in 2022, with 221 road deaths.
- > The **risk of death**, or the number of road deaths per distance travelled, was 40% higher among cyclists aged 70+ in 2022 than in 2021. For cyclists aged between 30 and 59, the risk of death increased more sharply between 2021 and 2022, but the number of cyclist fatalities was much lower (26 in 2021 and 44 in 2022).

	Road deaths
	Number
2022	745
2022 compared to 2021 (%)	+28%
2022 compared to 2019 (%)	+13%
2022 compared to 2012 (%)	+15%

Living environment

- > The **GHG emissions** of the mobility sector³ according to the IPCC calculation method decreased slightly from 29.6 Mt CO₂ equivalents in 2021 to 29.3 Mt CO₂ equivalents in 2022. Compared to 1990, emissions from mobility were 12% lower in 2022. The target for 2030 (based on the IBO climate) is 21 megatons of CO₂ eq
- > uivalents. IPCC emissions from road traffic (in table) were 24.3 megatonnes of CO₂ equivalents in 2022. This was 1.2% lower than in 2021 and 16% lower than in 2019 (and 9% lower than in 1990).
- > In general, there has been a decrease in **air pollutant emissions** in road traffic in recent years. Road traffic emissions of NO_x and PM₁₀ from combustion were 4% and 6% lower in 2022 respectively than in 2021, while emissions of PM₁₀ from wear and tear increased (+6%).
- > In 2021, mobility contributed 13% to the average **nitrogen deposition** in the Netherlands, of which road traffic contributed almost half (6 percentage points). Dates for 2022 are not yet known.
- > The number of (**active**) **passenger cars** grew by 1% in 2022 compared to 2021, to a total of 8.92 million. Of these, 78% were petrol cars and 10% were diesel cars. The number of cars sold in full-electric and plug-in hybrid cars increased by 35% in 2022 compared to a year earlier. Their number has now passed half a million (515 thousand). Their share of the total car fleet was 5.8% at the end of 2022.

Environment 	Greenhouse gases for road traffic	NO _x road traffic	PM ₁₀ combustion of road traffic	PM ₁₀ wear and tear on road traffic	Passenger cars
	Emission (Mt CO ₂ -eq)	Emissions (million kg)			Number (thousands)
2022	24,3	54,9	0,8	0,5	8917
2022 compared to 2021 (%)	-1%	-4%	-6%	+6%	+1%
2022 compared to 2019 (%)	-16%	-21%	-27%	-2%	+4%
2022 compared to 2012 (%)	NB	NB	NB	NB	NB


NA = data not available

Spending on mobility

- > In 2022, Dutch households (consumers) and businesses together spent nearly 149 billion euros **€ on mobility** (price level 2022). The majority of this concerns corporate spending. Spending has risen over the past 10 years. (Also) the growth is mainly attributable to companies.
 - o **Consumers** collectively spent around €60 billion on mobility in 2022. The average expenditure per person (aged 6 and over) per year on mobility was therefore almost 3600 € (or approximately 10 € per day) in 2022. Most of this goes to the use of private vehicles (e.g. fuel and maintenance). Incidentally, around 10% of MPN respondents aged 18 and over indicated in July 2023 that they were cutting back on other things to be able to pay for travel.

³ Emissions from maritime shipping are not included in the IPCC system; inland shipping and aviation emissions are only included insofar as they concern journeys with origin and destination within the Netherlands; moreover, aviation only concerns emissions during take-off and landing.

- o **Companies** spent a total of around €90 billion on mobility in 2022. Relatively speaking, companies incur the most costs for the purchase of transport services (e.g. services to have goods transported by an external party).
- > The total **time spent** on travel in 2022 was almost back to the same level as in 2019.
 - o In 2022, Dutch **residents** (aged 6 years and older) spent a total of approximately 7.3 billion hours travelling for commuting and other motives on Dutch territory. This amounts to approximately 438 hours per person per year. The time spent travelling for these motives in 2022 was about the same as in 2019.
 - o In 2022, a total of 271 million hours were spent **on business** travel on Dutch territory (excluding air travel). Time spent on business travel was higher than in 2021, but clearly lower than in 2019. One of the explanations for this is that digital meetings with external parties have become more common.

Spending on mobility 	Money spent by companies	Money spent by consumers	Time spent by business/business	Time spent by consumers
	Bn € ₂₀₂₂	Bn € ₂₀₂₂	Bn hours	Bn hours
2022	89,7	59,2	0,3	7,3
2022 compared to 2021 (%)	+2%	+4%	+8%	+5%
2022 compared to 2019 (%)	+3%	-3%	-31%	0%
2022 compared to 2012 (%)	+31%	+2%	NA	NA

NA = data not available

Future scenario's until 2028

An uncertain future:

- > The future is, by definition, uncertain. That is why we make some of the uncertainties explicit and, where possible and useful, outline developments through 3 scenarios: a 'basis' (base) scenario, a 'minder' (less) scenario and a 'meer' (more) scenario. **The scenarios** differ in uncertainties, including economic and demographic developments, transport capacity (such as expected public transport timetables) and structural corona effects (e.g. due to working from home). Assumptions that are favourable for mobility growth are grouped in the meer-scenario, while the assumptions that are less favourable for mobility growth are grouped in the minder-scenario. The base scenario is roughly in the middle.
- > For public transport and road traffic, we work with 3 scenarios. For bicycles, aviation and freight transport, we estimate one scenario.

Road traffic:

- > According to the **base and meer-scenario**, the distance travelled by road traffic on the main road network is still expected to be slightly below the 2019 level in 2023. It will continue to grow in 2024.
- > For 2028, we estimate a growth in the distance travelled on the main road network of 10% (baseline scenario), 15% (more scenario) and 4% (less scenario) compared to 2019. The estimates for total road traffic on Dutch territory are almost the same as those for the main road network.
- > In the baseline scenario, **the loss of travel time** in 2028 is 14% higher than in 2019. In the meer-scenario, the loss of travel time increases much further (+38%). In the minder-scenario, the loss of travel time remains 4% below the level of 2019.

Public transport:

- > In the meer-scenario, **rail traffic** will exceed the 2019 level in 2026 measured in terms of distance. For the other train scenarios (basic, minder) and all scenarios for **bus, tram and metro** (minder, basis and meer), the use will remain below that of 2019 until 2028. We cannot predict how demand will develop after 2028.
- > In 2028, the distance travelled by train will be 2% lower than in 2019 (baseline scenario); In the minder-scenario, this is -16%. The meer-scenario leads to a growth of 7% compared to 2019.
- > According to the baseline scenario, **bus, tram and metro traffic** will be 15% below 2019 levels by 2028. In the minder-scenario, this is -23%; Also in the meer-scenario, BTM will be 4% below 2019 levels in 2028.

Bicycle:

- > Bicycle traffic already returned to 2019 levels in 2022.
- > In 2028, we estimate a growth of 20% compared to 2019, measured in distance travelled. In particular, the use of electric bicycles is growing strongly (in 2028 +132% compared to 2019); the use of regular bicycles is showing a decrease (in 2028 -15% compared to 2019).

Freight transport:

- > Transport performance (tonne-km) was already above the 2019 level in 2021, but in 2022 it was (again) slightly below the 2019 level. For 2028, we estimate a decrease of 1% compared to 2019.
- > In the (baseline) scenario, road transport will decrease by 0.5% in 2028 and **inland waterway transport** will decrease by 5% compared to 2019. **Rail freight transport** will grow by approximately 18% in the period 2019-2028.
- > For **international freight transport**, we expect a decrease in the transported weight (-2%) for 2028 compared to 2019.

Aviation:

- > The number **of air passengers** is expected to exceed 2019 levels again around 2028. For 2028, we estimate a growth in passenger numbers of 6% compared to 2019. Of these, approximately 76 million passengers will travel via Schiphol in 2028 (+6% compared to 2019) and 10.2 million via regional airports (+8% compared to 2019).

Future scenario's	Road traffic main road network	Loss of travel time on the main road network	Bicycle	Train	BTM	Freight transport	Aviation
2028 vs. 2019	Distance travelled (vehicle km)	Time (hours)	Distance travelled (km)	Distance travelled (passenger-km)	Distance travelled (tonne-km)	Distance travelled (tonne-km)	Passenger movements (million)
Minder-scenario	+4%	-4%		-16%	-23%		
Basis scenario	+10%	+14%	+20%	-2%	-15%	-1%	+6%
Meer-scenario	+15%	+38%		+7%	-4%		

Colophon

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