Ministry of Infrastructure
and Water Management

Travelling in the Netherlands by bicycle, car and public transport

Government revenues versus the external and infrastructure costs of sample journeys

KiM | Netherlands Institute for Transport Policy Analysis
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Contents

Summary

This study examines the financial incentives that the government currently gives to different modes of passenger transport, and the extent to which these incentives align with the principle that the user, polluter and causer pay. To do so, the Netherlands Institute for Transport Policy Analysis (KiM) compared the government's infrastructure costs and the external costs with the public revenues generated from nine domestic sample journeys.

For short urban trips, travelling by bicycle results in the lowest external and infrastructure costs, whereas mopeds involve particularly high costs. In addition, the differences in external and infrastructure costs between fossil-fuelled and electric cars are generally small, because greenhouse gases and air-polluting substances account for only a relatively small share of total costs compared with, for example, traffic accidents.

The external and infrastructure costs of the sample journeys are almost always higher than the current government revenues. Only for trips made by a conventional bicycle do government revenues exceed the total external and infrastructure costs. For petrol and diesel cars, this is only the case for longer trips made mostly on motorways. For short and medium-distance car trips, government revenues are lower than the external and infrastructure costs.

If the government wishes to place greater emphasis on the principle that the user, polluter and causer pay, the insights revealed by this study could support the assessment of future financial incentives.

1 Why pass on external costs?

What are external costs?

Mobility enables us to reach our destinations, such as work, the doctor and the supermarket. However, mobility does not only generate benefits; it also produces negative external effects, such as air pollution, noise, congestion and climate change resulting from greenhousegas emissions. External effects are harms caused by an individual but borne by others. These may fall on other road users, but also on the social or ecological environment. External effects can be monetised using valuation figures; once expressed in monetary terms, they become external costs.

In this study, we consider the external costs solely in the use phase of vehicles (well-to-wheel) and not during production, maintenance or end-of-life.

‘The user or polluter pays’ principle

Passing on external costs to the mobility user through taxes and charges is consistent with ‘the polluter pays’ principle. In the case of traffic accidents, this could be framed as ‘the causer pays’ principle. The infrastructure costs of mobility can also be passed on. These include, for example, the construction and maintenance costs of the road and rail network. This is in line with ‘the user pays’ principle.

Advantages of passing on costs

Without government intervention, external and infrastructure costs are not fully reflected in the market price of mobility, resulting in market failure. The government could address this by pricing these costs through taxes and charges, a process known as the internalisation of external and infrastructure costs.

The advantage of this approach is that users take these costs into account when deciding whether to travel and which mode of transport to choose. In theory, this would increase welfare and would also generate public revenue. If external and infrastructure costs are internalised, mobility users have an incentive to reduce them by choosing different (e.g. safer or cleaner) modes of transport or by travelling less.

Key considerations when passing on costs

Passing on external and infrastructure costs reduces the number of trips and the associated external effects. However, this does not mean that external effects (such as air pollution or congestion) disappear altogether, nor that those affected by these external effects are compensated. Neither does it mean that policy objectives for reducing CO_2 emissions or lowering the number of road fatalities are automatically achieved.

Other key considerations are that passing on external and infrastructure costs may lead to undesirable distributional effects and increased pressure on the affordability of mobility.

To what extent does the user / polluter / causer already pay?

Government revenues

Revenues

- Vehicle purchase tax (bpm)
- Motor vehicle tax (mrb)
- Excise duties
- Energy tax
- EU-ETS
- Insurance tax
- Infrastructure charges
- VAT where applicable

Government expenditure, i.e. negative revenue

- Operating subsidy for bus and regional train services
- Purchase subsidy for electric cars

External and infrastructure costs

- Infrastructure
- Traffic accidents
- Delays (congestion)
- Noise
- Air pollution
- Climate (greenhouse gases)
- Environmental costs consisting of damage to nature and landscape, land use and soil and water pollution

Positive external effects or external benefits

- Health benefits

Ratio between taxes and charges and external and infrastructure costs

The aim of this study is to provide an up-to-date overview of the external and infrastructure costs of various modes for the same domestic sample journeys, and to compare these with the taxes, charges and subsidies that are currently paid or received. This is a snapshot of the situation in 2025.

In general, the purpose of taxes is to generate government revenue, and therefore not to let the polluter, user or causer pay. Moreover, government revenues flow into the general budget. Nevertheless, several price incentives embedded in current taxes touch on 'the polluter pays' principle. For example, motor vehicle tax (mrb) is differentiated by vehicle weight and fuel type, and there is a surcharge for diesel cars that emit high levels of particulate matter. There are also lower vehicle purchase tax (bpm) rates for fuel-efficient and zero-emission vehicles.

Showing the ratios between government revenues on the one hand and external and infrastructure costs on the other helps to clarify the price incentives the government currently provides for different modes. This, in turn, could support the assessment of future financial incentives.

2 Choices in sample journeys, reference vehicles and ratios

In this study, we examined nine domestic journeys that can be made using different modes of transport. For each mode, we selected a reference vehicle.

Sample journeys yield different insights than a comparison based on passengerkilometres

Sample journeys account for the different routes from A to B and therefore produce different outcomes than a comparison of external and infrastructure costs and government revenues per passengerkilometre. For instance, the distance travelled by car may be longer or shorter than by bicycle because of separate cycle tracks or the presence of motorways. The largest difference, however, occurs in public transport. Because of the structure of the public transport network, routes for some of the sample journeys are indirect. In addition, especially for train travel, passengers sometimes have to cover a considerable distance by bus for the access and egress trips.

Three short, three mediumdistance and three long sample journeys

The sample journeys consist of a mix of short (<10 km in a straightline), medium-distance (10–40 km) and long (>40 km) trips within the Netherlands, each with a varying share of urban, rural and motorway segments. Within each category, we analysed three sample journeys. In this brochure, we illustrate the study's findings using a selection of the nine sample journeys. For the full overview, we refer to the report.

The short sample journeys were made mainly on urban roads and were possible using many different modes of transport, e.g. bike, moped and motorcycle, car, public transport bus and—depending on the origin and destination—train. The long journeys were made mainly on motorways. Because of the distances involved, only the car, motorcycle, train and, in a few cases, the bus were realistic modes of transport.

Although we compared the modes on the same journeys, it is important to note that the average trip profiles of these modes differ. Conventional and electric bicycles typically make short trips (on average 3.5 and 5.5 km respectively), most of which take place on urban roads (83% of vehiclekilometres). Cars, by contrast, make longer trips (an average of 18.5 km), which run mainly on motorways (44%) and to a lesser extent on rural and urban roads (36% and 20% respectively). In other words, the sample journeys are not representative of the totality of trips actually made in the Netherlands.

Assumptions influence the results

To calculate the external and infrastructure costs on the one hand and the taxes, charges and subsidies on the other, for each mode in the sample journeys, a number of assumptions were required that influenced the final results. Assumptions were made about the reference vehicles, the year of purchase, and the annual mileage and lifespan of the various vehicles. These last two parameters were necessary to express fixed taxes as an amount per kilometre travelled.

The reference vehicles were based as much as possible on Dutch averages. This means, for example, that electric and diesel cars cover more kilometres over their lifetime than petrol cars. At the same time, for each vehicle type we selected comparable petrol and electric models to ensure that differences in outcomes were not caused by vehicle characteristics other than their propulsion systems. We therefore ignored the fact that, in practice, electric and diesel cars are often in a higher vehicle segment than petrol cars.

A number of assumptions have been investigated using uncertainty and sensitivity analyses. Some of these are explained in text boxes in this brochure.

Ratio between taxes and charges and external and infrastructure costs

The ratio between taxes and charges on the one hand and external and infrastructure costs on the other can be calculated in several ways. Firstly, the existing differentiation in VAT rates between public transport and other modes can either be included or excluded as a policy instrument for passing on external costs.

Secondly, a distinction can be made between total (T) and variable (V) infrastructure costs. Under the variable perspective, only the costs directly associated with the use of the infrastructure were considered; these were mainly maintenance and operational costs. The variable-cost perspective is useful when policy focuses on making better use of existing infrastructure. The total cost perspective, by contrast, also includes enhancement and renewal costs and is therefore relevant when new infrastructure is forecast to be built.

These two dimensions result in four ways of examining the balance between revenues and costs. It is important to note that none of these perspectives represents an absolute truth; rather, depending on the policy objective, one perspective may provide a more meaningful insight than another.

	Variable infrastructure costs (V)	Total infrastructure costs (T)
Excluding VAT (Ex)	V-Ex. When the policy focus is on making more intensive use of existing infrastructure and the differentiated VAT rate is not regarded as a steering instrument.	T-Ex. When 'the user pays' principle is central and the differentiated VAT rate is not regarded as a steering instrument.
Including VAT (In)	V-In. When the policy focus is on making more intensive use of existing infrastructure and the differentiated VAT rate is regarded as a steering instrument or as a means of ensuring that the user, polluter and causer pay.	T-In. When 'the user pays' principle is central and the differentiated VAT rate is regarded as a steering instrument or as a means of ensuring that the user, polluter and causer pay.

3 The external and infrastructure costs of the sample journeys

The external and infrastructure costs of cycling are relatively low, whereas those of mopeds are considerably higher. Depending on the sample trip and the perspective applied, train travel sometimes involves the lowest and sometimes the highest external and infrastructure costs. It is also notable that the costs of different types of cars do not vary much, particularly for short sample trips.

Health benefits of cycling

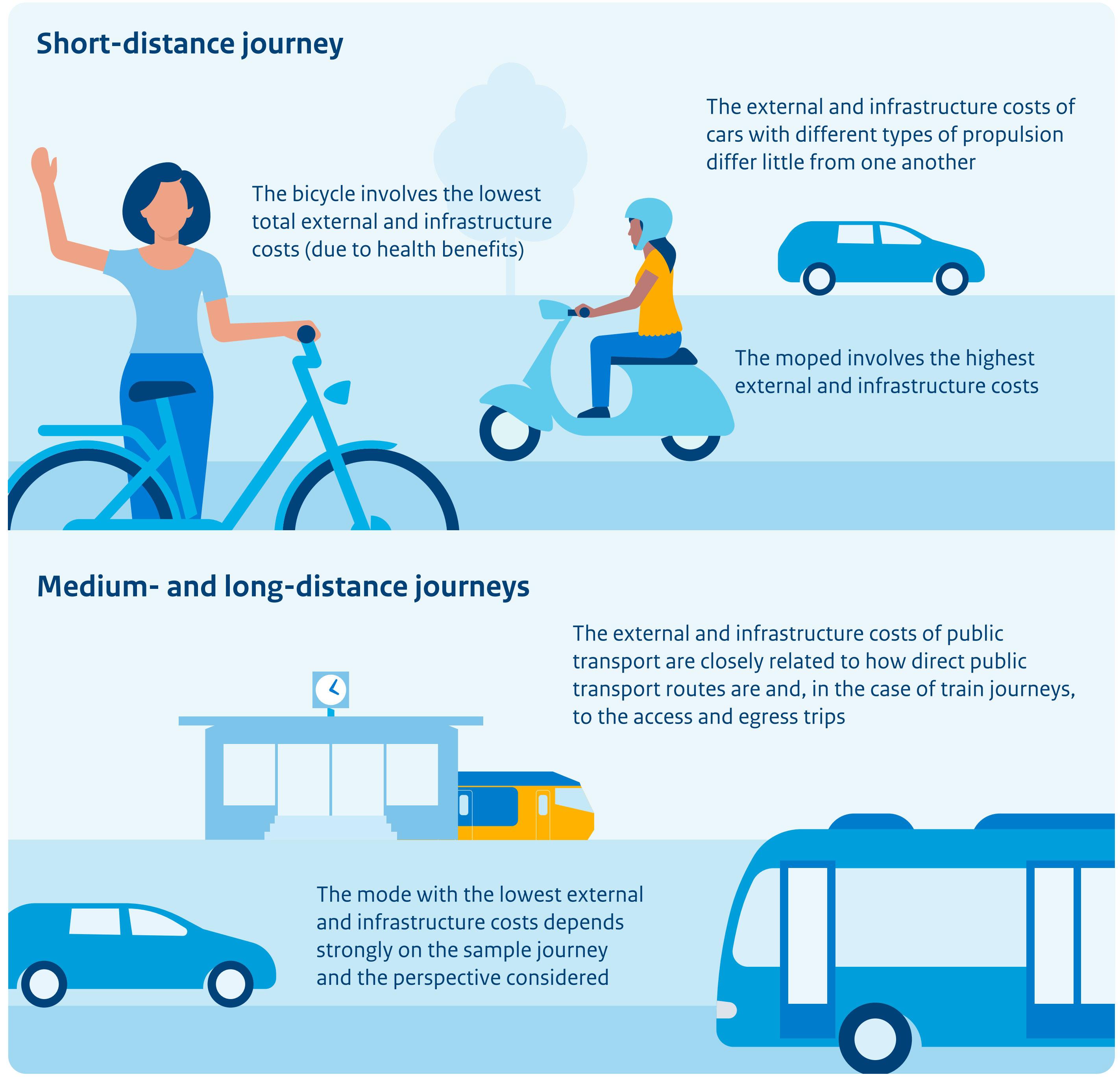
Cycling creates health benefits that offset both the infrastructure costs and the expected external costs, such as those arising from traffic accidents. As a result, cycling produces net negative external and infrastructure costs. However, cycling was only an option for the shorter sample trips. The electric bicycle also provides health benefits, though these are smaller than those associated with a conventional bicycle. They therefore do not fully compensate for its external and infrastructure costs.

Petrol-fuelled mopeds involve comparatively high external costs

Petrol-fuelled mopeds involve the highest external and infrastructure costs of all modes for the short sample trips in both perspectives (V and T). This is primarily due to the high external costs of traffic accidents and noise pollution. After petrol-fuelled mopeds, motorcycles and electric mopeds involve the highest external and infrastructure costs for the three short sample trips, largely because of their relatively high accident-related costs.

High external costs of traffic accidents and noise pollution

The expected external costs of traffic accidents form a major cost component for all private modes of transport. For the short sample trips, accident-related external costs exceed the environmental costs, which include climate impacts, air pollution, and other environmental burdens. For the medium and long sample trips, accident-related external costs are relatively smaller for private modes, but they still account for a significant share of total external costs. For every sample trip, the share of accident-related costs is higher than the climate-related costs for all types of cars, motorcycles, and mopeds. It is important to note that this study assumes identical accident-related costs for all car types, even though these costs may in practice be higher for electric cars (EV) because of their greater average weight.



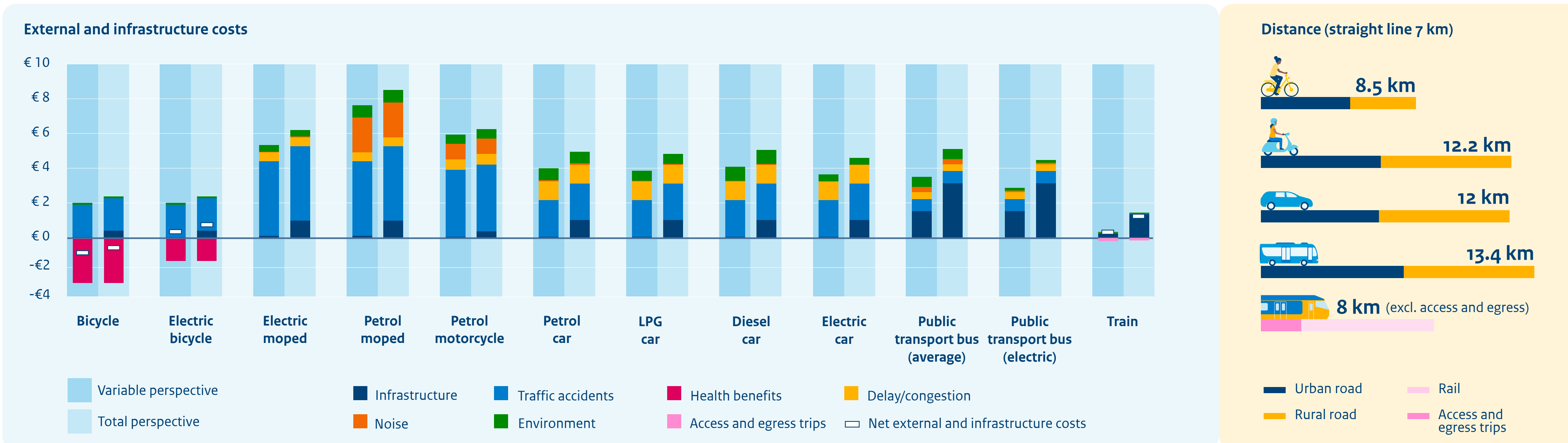
For longer sample trips, the mode of transport with the highest external costs varies

When mopeds are not an option—which is the case for all long sample trips and for two out of three medium-distance trips—the mode with the highest external and infrastructure costs varies by trip and by perspective. In some cases this is the motorcycle, in others the average public transport bus, and in others the train. The average public transport bus involves relatively high infrastructure costs per passengerkilometre, driven by a combination of high axle loads and a low average occupancy rate. When enhancement and renewal costs are included (perspective T), infrastructure costs are high for trains.

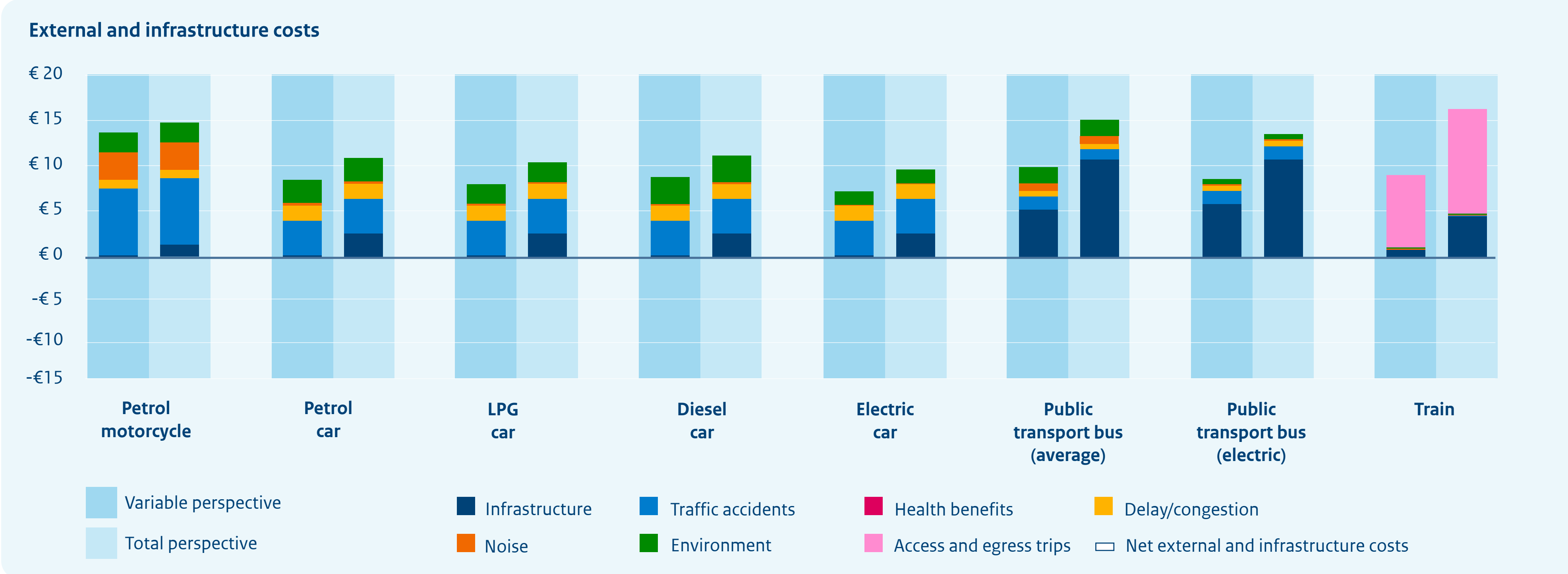
Trains or electric cars involve the lowest total external and infrastructure costs for long-distance trips

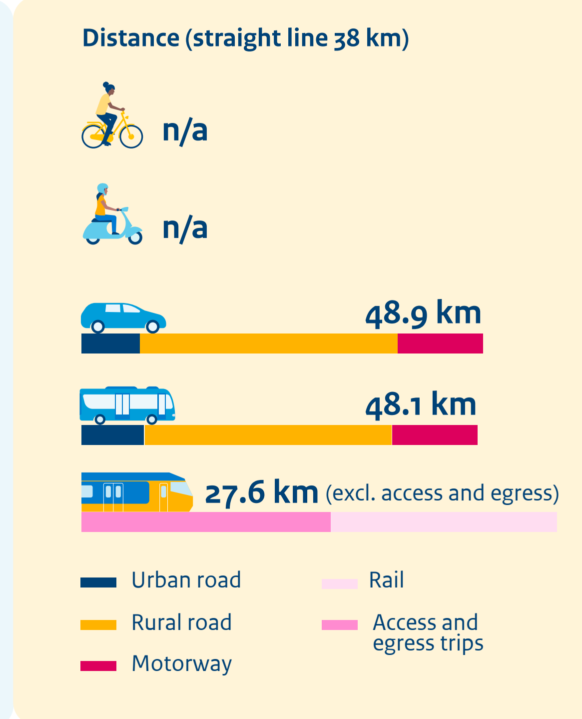
When longer sample trips are considered—where the (electric) bicycle is not an option—the mode with the lowest external and infrastructure costs also varies by trip. Trains involve low external costs in the variable cost perspective when they run relatively directly and when a bicycle is used for access and egress trip, or when it requires only a short access or egress trip by bus. Bicycles involve very low external and infrastructure costs, whereas these costs are relatively high for the bus. When the access and egress trips involve a long distance travelled by bus, and the train does not provide a direct route, the electric car is the mode with the lowest external and infrastructure costs.

Short-distance sample journey: Haarlem – Zandvoort

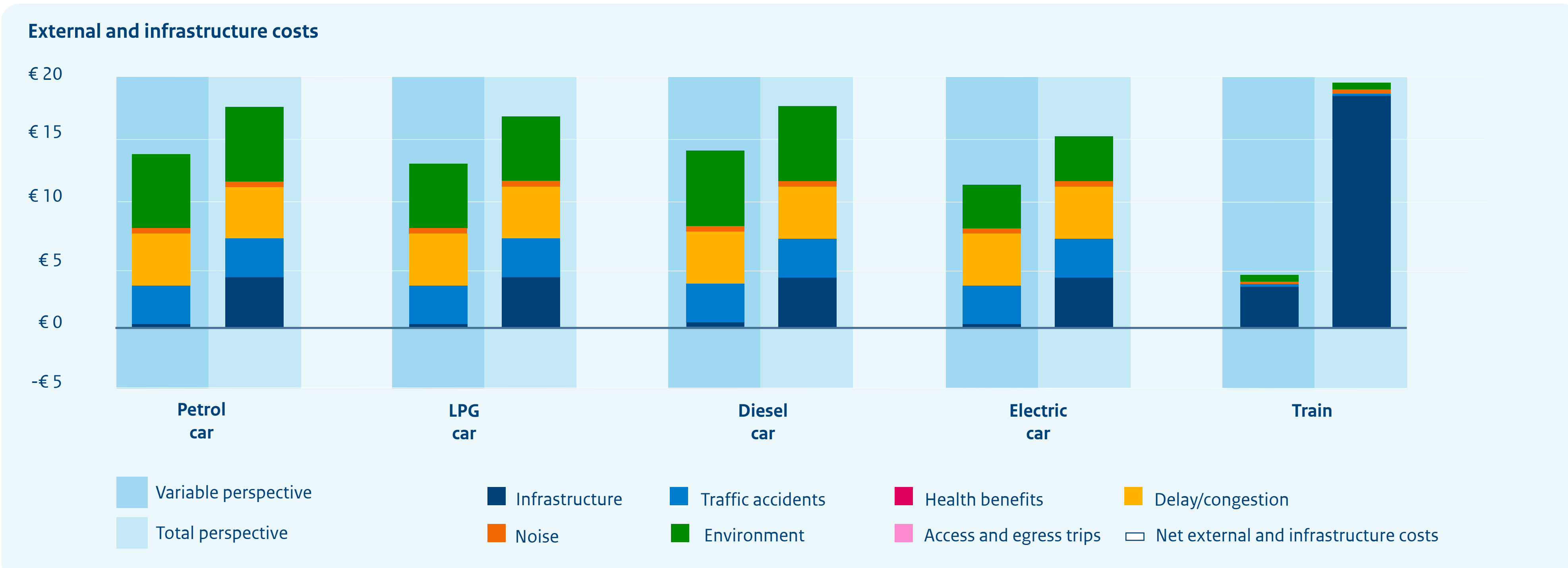


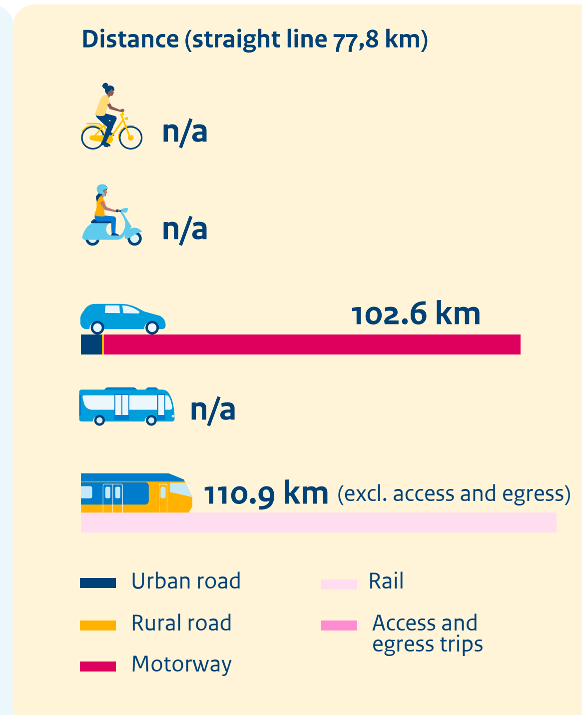
Medium-distance sample journey: Buinerveen – Groningen





Long-distance sample journey: Best – Maastricht





Access and egress are very significant in the case of public transport

In some cases, the external and infrastructure costs of access and egress of the public transport journey are greater than those of the main mode itself. For the medium-distance sample trip between Buinerveen and Groningen, the access and egress trips travelled by bus together are almost as long as the rail segment (29 km versus 28 km), with the bus accounting for nearly 90% of the total external and infrastructure costs of this sample trip. This means that the public-transport routing has a major influence on the results.

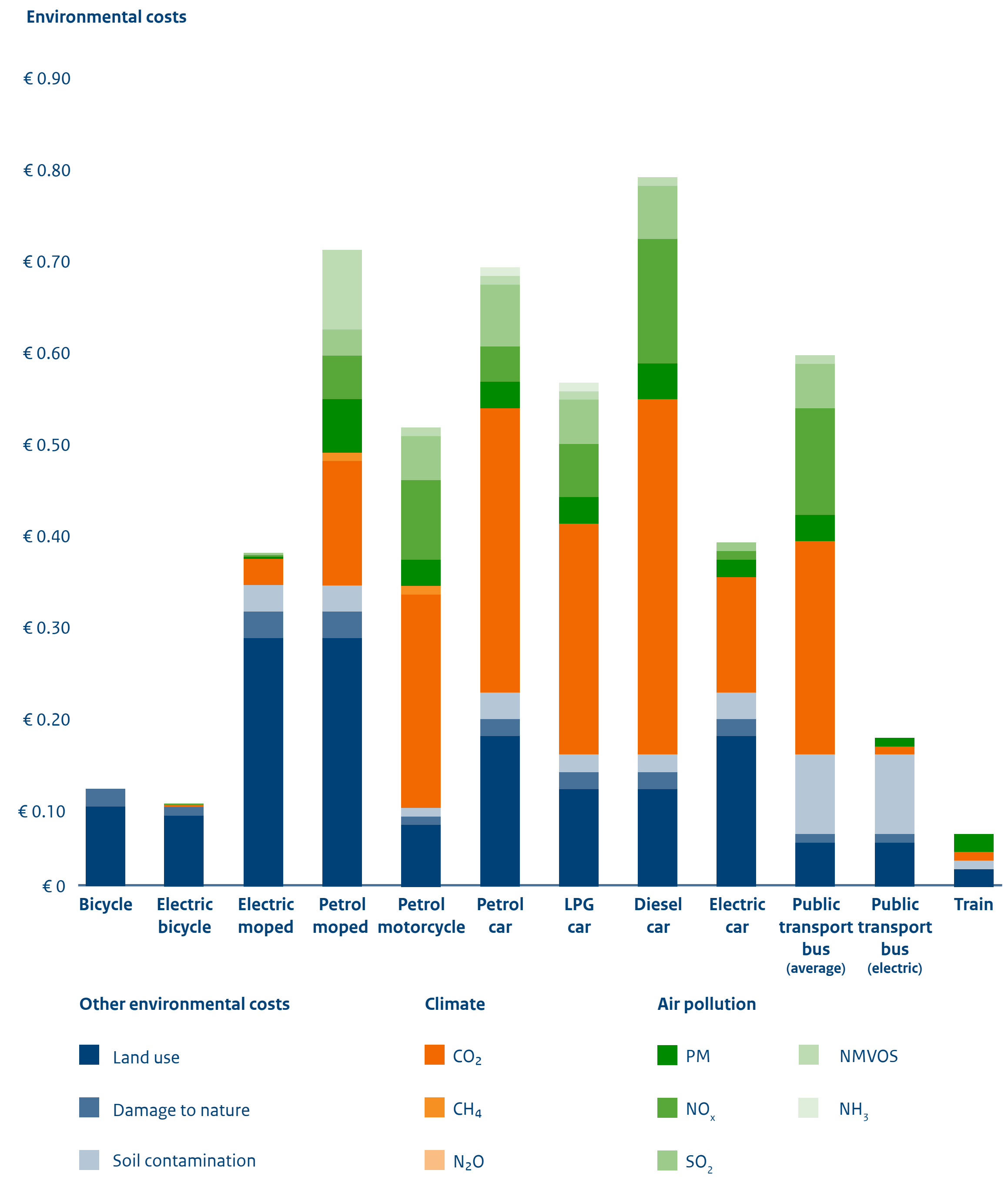
Small difference between electric and fossil fuel cars

For the short sample trips, the differences in external and infrastructure costs between the various types of cars are small. The diesel car has the highest total external and infrastructure costs and the electric car the lowest, but the gap between diesel and electric is only 5–10% across the three short sample trips. This is because traffic-accident and congestion costs make up a large share of total external costs.

The difference between the cars lies mainly in the environmental costs. A breakdown of these costs for the short sample trip from Haarlem to Zandvoort is shown in the figure on the right. What stands out is that the diesel car has the highest environmental costs, with CO_2 emissions forming a major cost component for vehicles running on fossil fuels. Also for the electric car, this cost component is not negligible due to energy production, but it does not exceed the costs associated with land use.

For the long sample trips, the external and infrastructure costs of the electric car are approximately 15–20% lower than those of the diesel car.

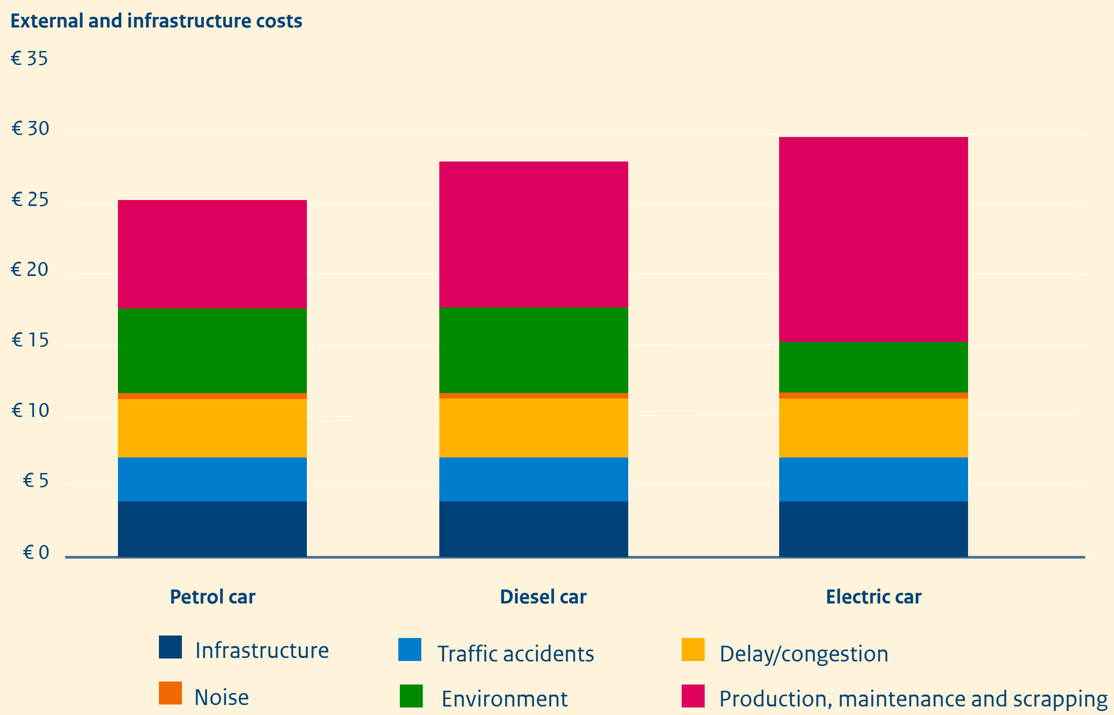
Short-distance sample journey: Haarlem – Zandvoort



External production costs are not negligible

In our analyses, we have so far looked at the external effects of vehicle use (well-to-wheel). However, vehicles also need to be produced, maintained, and eventually scrapped. The external effects associated with these stages are known in less detail; only for cars are initial estimates available. When we include these for the long sample trip from Best to Maastricht, we see that this changes the ranking of the different types of cars. The electric car no longer has the lowest external costs, but the highest. This is mainly due to production-related emissions.

Long-distance sample journey: Best – Maastricht



4 Taxes, charges and subsidies

Government revenues per trip can be calculated using assumptions about vehicle mileage and lifespan. Buses and regional trains receive net public funding through operating subsidies, while the other modes of transport pay net taxes. Compared with the other modes of transport, diesel and petrol cars are subject to higher taxes and charges.

Negative government revenues for buses and sometimes for trains

Operating subsidies for buses result in negative government revenues for this mode of transport. Regional train transport also receives operating subsidies, which means that this mode of transport likewise sometimes has negative net government revenues. In addition, for some sample trips (such as Buinerveen – Groningen), taking the train automatically means the access and egress involve a considerable distance travelled by bus. For these train journeys, government revenues are also negative. It is important to note that this study disregards the societal benefits of public transport and operating subsidies.

VAT is the only source of revenue from bicycles

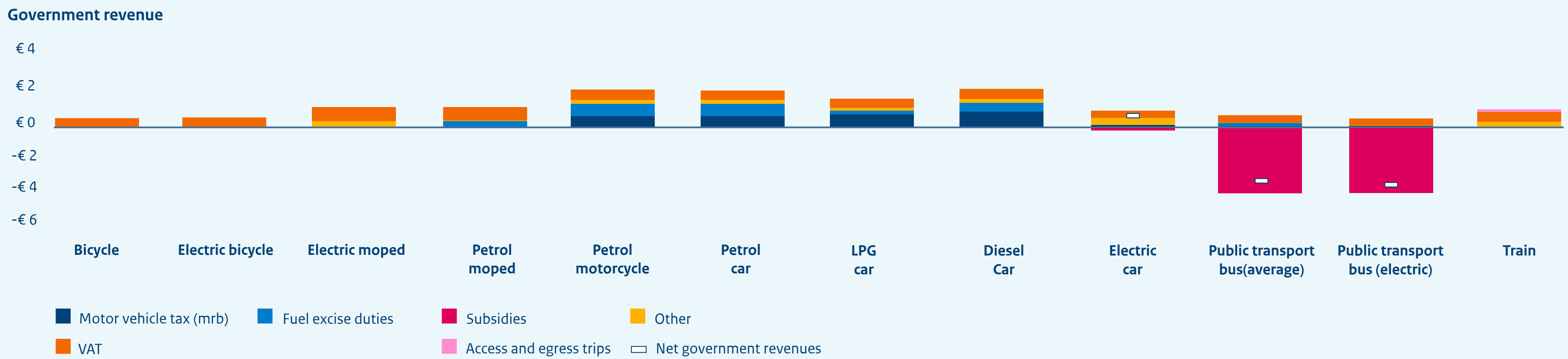
Government revenues from the conventional bicycle consist entirely of VAT on purchase and maintenance. For the electric bicycle, a small amount of energy tax and VAT on electricity is added. However, the differences in government revenue per kilometre—and therefore per trip—between these two modes are small, because VAT on the higher purchase and maintenance costs of the electric bicycle are spread over a higher total mileage.

Electric cars are subject to lower taxes than fossil fuel cars

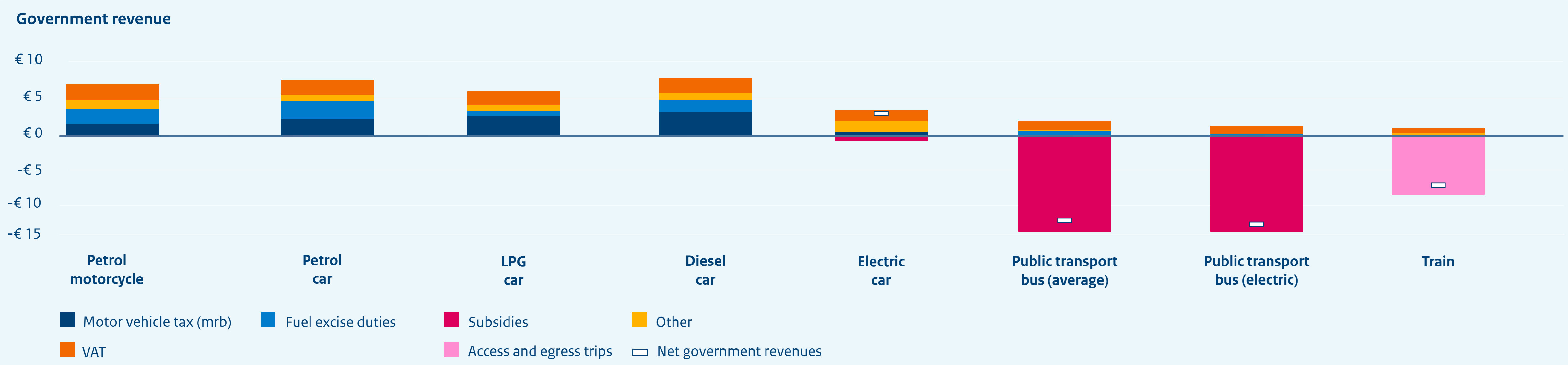
For an electric car with an average annual use (18,000 km), taxes are roughly 60–65% lower than for a petrol car with an average annual use (11,000 km) on the sample trips analysed. This is because, for an electric car purchased in 2020, no vehicle purchase tax (bpm) was due, a purchase subsidy was granted, and electric-car owners currently also pay lower motor vehicle tax (mrb).

Among fossil-fuel cars, LPG cars generate the lowest government revenues (around 20–25% lower than petrol cars), mainly because LPG is subject to lower excise duties than petrol or diesel.

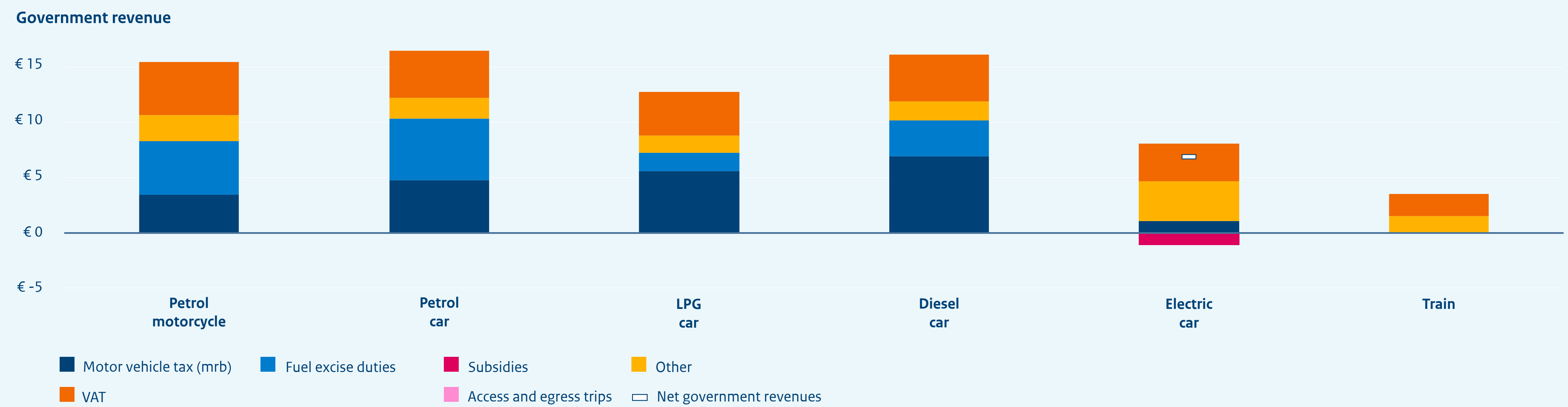
Short-distance sample journey: Haarlem – Zandvoort



Medium-distance sample journey: Buinerveen – Groningen



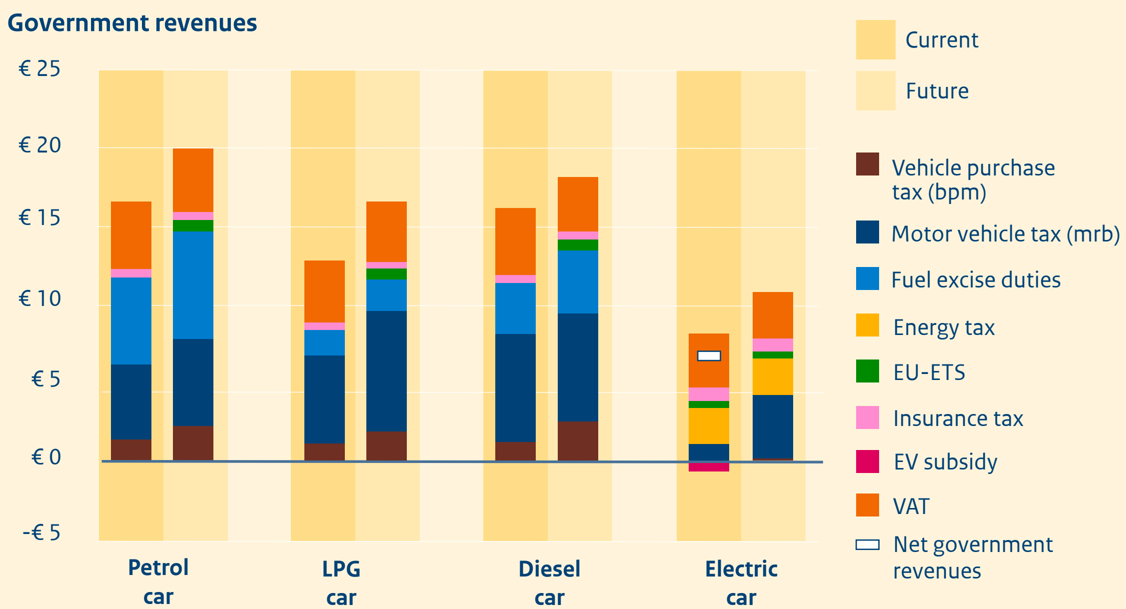
Long-distance sample journey: Best – Maastricht



Electric cars will continue to benefit under the future tax regime

We assumed the tax rules in force in 2025 for all analyses so far, except for vehicle purchase tax (bpm), VAT and EV purchase subsidies, for which we applied the rules valid in the year of purchase. For fossil-fuel vehicles this was 2014, and for electric vehicles 2020. In a sensitivity analysis, we estimate government revenues under the proposed 2028 policy (with 2025 as the purchase year). Under the proposed policy, EV users would pay 50–60% more tax than under the current regime for the long sample trip from Best to Maastricht. Users of internal-combustion vehicles will also face higher taxes, but the increase is smaller: roughly 15% for diesel, 20% for petrol, and 30% for LPG vehicles. The result is that EV users will still pay less tax than users of other vehicles.

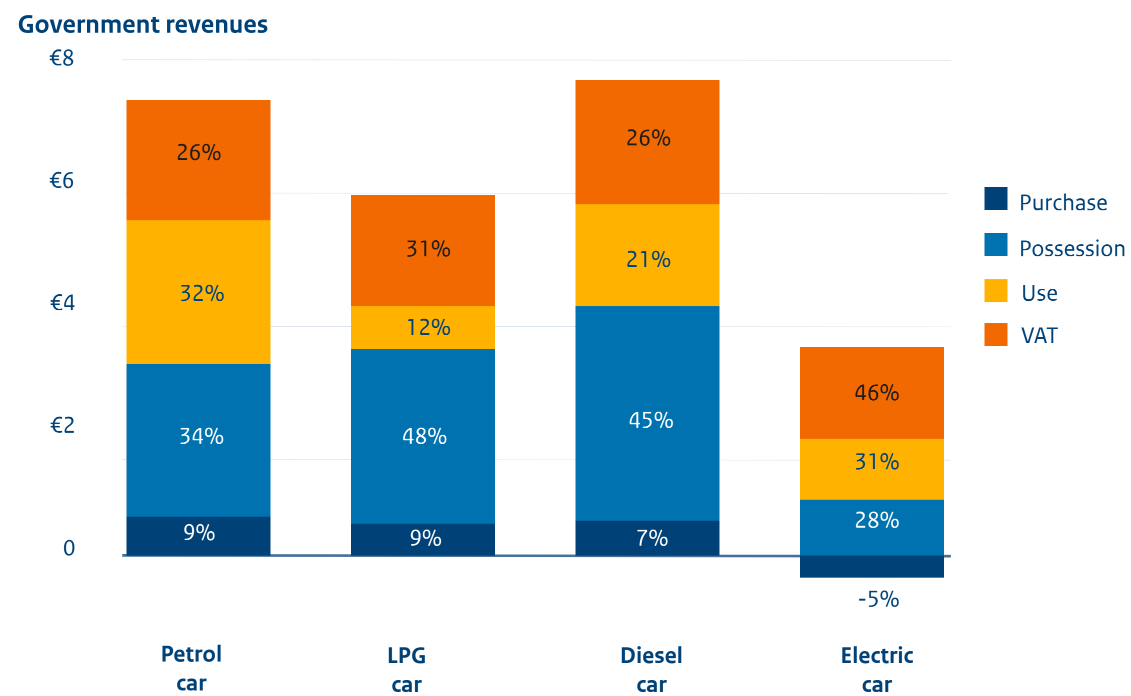
Long-distance sample journey: Best – Maastricht



Users of petrol cars pay taxes mainly on use, whereas users of diesel and LPG cars pay taxes mainly on ownership

Total government revenues from petrol and diesel cars are broadly similar across the various sample trips, but their composition differs. Users of petrol cars pay a relatively large share of taxes on use compared with other fossil-fuel vehicles. For diesel and LPG cars, taxation falls mainly on ownership and less on use. For all fossil-fuel cars, the tax share related to purchase is below 10%, whereas for electric cars this share is negative due to the purchase subsidy.

Sample journey: Groningen – Buinerveen



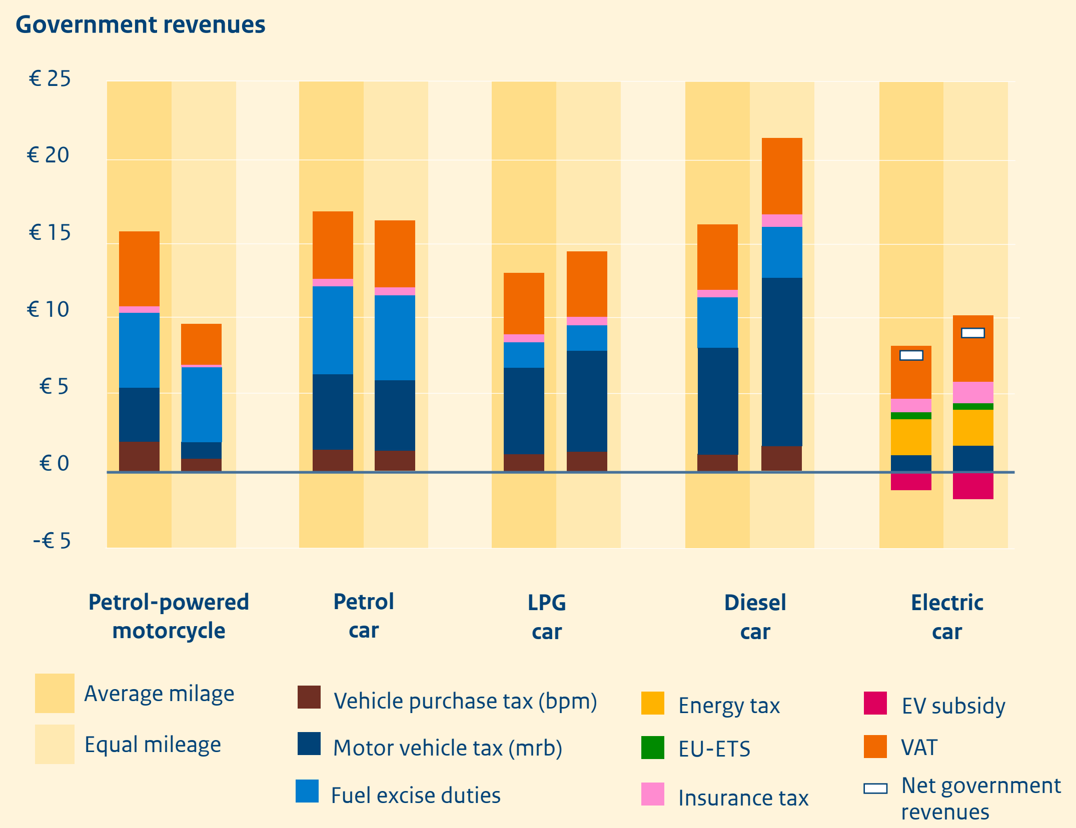
Taxes, charges and subsidies vary little by road type

The shares of different taxes, charges and subsidies is strikingly similar across all sample trips, regardless of whether the trip is short or long. The differences in government revenues between the various sample trips are far smaller than the differences in external and infrastructure costs. This is because taxes, charges and subsidies depend much less on the type of road used. A large share of these taxes is linked to vehicle ownership, such as insurance tax, motor vehicle tax (mrb) and vehicle purchase tax (bpm). In our calculations, these are allocated across the distance travelled based on assumptions about annual mileage (and lifespan), without taking the type of road into account.

Equal annual mileage

In our analyses so far, we have used the average lifetime mileage that each mode of transport covers over its full operational life. In this sensitivity analysis, we test what changes when all vehicles are assumed to drive the same total mileage. For the sample trip Best – Maastricht, we assume that all cars and the motorcycle drive 11,700 km per year and roughly 230,000 km over their lifetime. In that case, government revenues are highest for the diesel car. Government revenues from electric vehicles also increase, because fewer kilometres are driven overall. This results in higher motor vehicle tax (mrb) and insurance tax per passenger-kilometre for example. However, government revenues for this sample trip remain significantly lower for electric cars than for fossil-fuel cars.

Long-distance sample journey: Best – Maastricht



5 Ratio between government revenues and external and infrastructure costs

The ratio between taxes and charges on the one hand and external and infrastructure costs on the other gives an insight into the extent to which government price incentives align with the external and infrastructure costs of the different modes of transport. This ratio is over 100% for bicycles. For the other modes, only petrol and diesel cars show ratios above 100% for some of the longer sample trips, but only in the variable perspective including VAT (V-in). For shorter trips, in other perspectives, and for other modes of transport, external and infrastructure costs exceed government revenues.

The revenue-to-cost ratio for bicycles is more than 100%

Only for the trips made by a conventional bicycle that we analysed is the ratio between government revenues and external and infrastructure costs above 100%. This is mainly due to the positive health benefits, which exceed the costs of infrastructure, traffic accidents and other external costs.

Buses generate negative government revenues

Operating subsidies for buses result in negative government revenues. Buses also involve external and infrastructure costs. This leads to a revenue-to-cost ratio below 0%.

The same applies to train trips in which a large part of the journey is made by bus: their revenue-to-cost ratios also fall below 0%. It should again be borne in mind that the societal benefits of operating subsidies are not included in this study. Reducing subsidies would lower the quality and usage (occupancy) of bus services, which in turn would increase external and infrastructure costs per passengerkilometre.

Long trips yield higher revenue-to-cost ratios than short trips made with private vehicles

Private vehicles yield a higher revenue-to-cost ratio for long sample trips than for short ones. This is because the long trips take place largely on motorways, where external costs—particularly those related to traffic accidents—are lower per unit of distance than on rural and urban roads.

External and infrastructure costs exceed government revenues for most modes of transport

Alongside bicycles, petrol and diesel cars involve external and infrastructure costs that are comparable to government revenues for several of the longer sample trips, provided that infrastructure enhancement costs are excluded and VAT is included in government revenues (Vi-n). For the other perspectives (V-ex, T-ex, T-in) and for the other modes of transport, external and infrastructure costs exceed current taxes and charges for the sample trips we analysed.

Construction costs for travel by rail are high and play a significant role in the revenue-to-cost ratio

For some modes of transport, the way in which the ratio between government revenues and external and infrastructure costs is defined has a strong influence on the results. For rail, the distinction between the variable and total perspectives is particularly important, as rail enhancement and renewal costs are relatively high. When only variable infrastructure costs and external costs are included, some train trips show a high revenue-to-cost ratio. In addition to the choice of perspective, the ratio for rail is also strongly affected by the length of the access and egress trip, the mode of transport used for access and egress, and whether the rail route is direct.

Choosing whether or not to include VAT is particularly important for the electric bicycle

For electric bicycles and to a lesser extent for mopeds, the choice of whether or not to include VAT as government revenue is particularly important. Without VAT, the revenue-to-cost ratio for these modes and the sample trips we analysed is below 10%, whereas including VAT raises the ratio for electric bicycles to over 55% when all infrastructure costs are included, and even above 90% when only variable infrastructure costs are taken into account.

Variable infrastructure costs incl. VAT (V-In.)

Government revenues / external and infrastructure costs

Total infrastructure costs excl. VAT (T-Ex.)

Government revenues / external and infrastructure costs

Parking charges and the tax-exempt commuting allowance are tripdependent, but their impact is considerable

Parking charges and the tax-exempt commuting allowance were excluded from the main analysis because they are highly trip-dependent. However, they have a substantial impact on the ratio between revenues and external and infrastructure costs. Parking charges can increase government revenues—and thus the resulting ratio—by several tens of percentage points. Including the tax-exempt commuting allowance has the opposite effect. It significantly reduces government revenues across the various modes, causing net government revenues from bicycles (including electric bicycles) and electric cars to become negative for the sample trip considered.

6 Policy levers

The internalisation of external and infrastructure costs is not currently an explicit policy objective, although related principles such as ‘the polluter pays’, ‘the user pays’, or ‘the causer pays’ are frequently mentioned in political debates and policy documents. The system of Dutch taxes, charges, and subsidies by mode of transport has developed over many years. The general purpose of these taxes is to generate government revenue to finance a wide range of public tasks. Their aim is therefore not to ensure that the polluter, user, or causer pays.

The current tax regime does, however, contain price incentives that encourage the purchase of fuel-efficient cars and discourage the ownership of more polluting vehicles. Below, we outline several policy levers that, if desired, could bring the price incentives of different modes more in line with their external and infrastructure costs. In theory, this would increase overall welfare and reduce external and infrastructure costs. We also outline possible measures that could reduce external costs directly. Given that the analyses and results are based on the situation in 2025, the policy levers discussed here focus on the present and the near future.

When mobility is viewed from another perspective than that of ‘the polluter pays’ ‘the causer pays’, or ‘the user pays’, different policy options emerge. Some of the policy options arising from this study will support certain policy objectives, while they might work against other objectives.

→ Currently, the expected external costs of traffic accidents per trip are, in general, higher than the external costs of climate change. If the policy objective is to reduce total external costs, measures to improve traffic safety should not be overlooked. We have not examined the extent to which price measures would be effective for this. On the one hand they could help encourage a shift towards safer modes of transport, but on the other hand generic pricing is unlikely to discourage unsafe behaviour such as speeding.

→ For short urban trips, external and infrastructure costs are relatively high. However, with the current set of tax instruments it is difficult to apply different price incentives to short trips on predominantly urban roads than to longdistance trips mainly on motorways. New instruments would therefore be required, such as an congestion charge, a cordon charge, or road-pricing differentiated by location.

→ The external and infrastructure costs of electric cars are lower than those of petrol and diesel cars. However, government revenues from electric cars are much lower, which means that the ratio between government revenues and external and infrastructure costs for electric cars is lower than for petrol and diesel cars. If the aim is for electric cars to make a ‘fairer contribution’, taxes could be increased further, although this may at the same time negatively affect the achievement of CO_2 targets.

→ The external and infrastructure costs of LPG cars are slightly lower than those of petrol and diesel cars. LPG cars receive tax advantages at an average annual mileage in the form of relatively low excise duties, although this is offset by a relatively high motor vehicle tax (mrb). From the perspective of ‘the polluter pays’ principle, it would be preferable to raise excise duties and align motor vehicle tax (mrb) for the various fossil-fuel cars.

→ The external costs of mopeds and motorcycles are relatively high. Improving and enforcing limits on noise emissions and traffic safety has considerable potential to reduce the external costs of these modes.

→ For mopeds, the ratio between revenues and costs is relatively low. In addition, there are relatively few forms of (and differentiations within) the current price incentives. Increasing taxes on mopeds, ideally linked to usage, would help bring government revenues more in line with their external and infrastructure costs. This may, however, negatively affect the use of scarce urban space if people switch to cars. This risk could be mitigated through accompanying measures such as lowcar zones or parking policies.

→ When only variable infrastructure costs are included, trains have low external and infrastructure costs. If reducing the external and infrastructure costs of mobility is a policy objective, further improving the utilisation of the rail network becomes an attractive option.

Acknowledgements

Methodology
In this study, we mapped the external and infrastructure costs of nine different sample trips based on various modes of transport. We then compared these with the taxes, charges, and subsidies that each mode pays or receives. This provides insight into the extent to which external and infrastructure costs in 2025 are already being passed on to the mobility user.

More information on the research approach, sensitivity analyses, assumptions, and knowledge gaps can be found in the background report, which also includes the results for the other sample trips.

Background report
For more information about the methodology used and the results obtained, we refer to the following background report, which can be downloaded from the website www.kimnet.nl.

Knoope, M.M.J., den Hartog, T. (2026), Op binnenlandse reis met fiets, auto en openbaar vervoer. De overheidsinkomsten versus de externe en infrastructuurkosten van binnenlandse voorbeeldreizen [in Dutch]. Background report. The Hague: KiM Netherlands Institute for Transport Policy Analysis.

Colophon

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