LARGER AND HEAVIER CARS:
EXECUTIVE SUMMARY

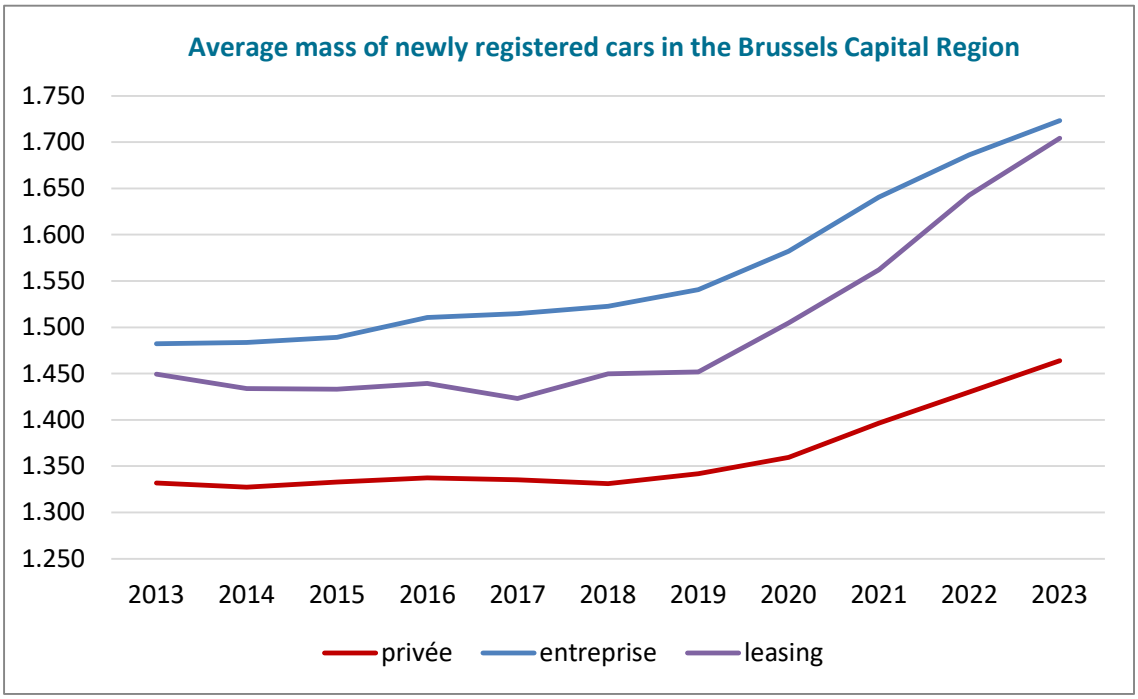
OCTOBER 2024

bruxelles environnement leefmilieu brussel .brussels

BRUXELLES MOBILITÉ
BRUSSEL MOBILITEIT
SERVICE PUBLIC RÉGIONAL DE BRUXELLES
GEWESTELIJKE OVERHEIDSDIENST BRUSSEL

EXECUTIVE SUMMARY

For several years now, cars have been systematically gaining in weight and volume. This trend is seen in Brussels, in Belgium and in Europe. Between 2013 and 2023, the mass of newly registered cars in the Brussels Capital Region (BCR) increased by 10% for private cars and by 17% for cars registered by companies (which include company cars). The latter are also much heavier (1,711 kg) than recently registered private cars (1,463 kg).



IMPACT OF THE EVER HEAVIER CARS ON THE SOCIAL AND ENVIRONMENTAL OBJECTIVES OF THE BRUSSELS CAPITAL REGION

This trend is particularly problematic because it jeopardises the Brussels Capital Region's objectives in terms of road safety, the quality of life in the city, social equity and respect for the environment:

→ Based on a statistical analysis covering the whole of Belgium, Vias recently demonstrated that heavier, taller and more powerful cars lead to "two-speed" safety. While the probability of being seriously injured or killed decreases for the occupants of a heavier vehicle, the same probability increases for the other road users, of the vulnerable variety (pedestrians, cyclists, motorcyclists) or occupants of a smaller car. Brussels Mobility has replicated Vias' analysis for the accidents that occurred in the Brussels Capital Region between 2021 and 2022. Even in our urban environment, where the 30 km/h speed limit is the norm on most of the roads, the weight of vehicles seems a major factor in accidents. For the occupants of the other vehicle involved, the effects were even greater in the Brussels Capital Region than for Belgium as a whole. The increasing weight of vehicles therefore compromises the objective of reducing to zero the number of deaths and serious injuries in Brussels by 2030.

→ Even though the modal share of care use and the percentage of car ownership per household decreases in Brussels, cars are taking up more and more space in public areas. New cars registered in Belgium since 2018 are on average more than 180 cm wide. Vehicles of this size do not fit into many parking spaces on and off the street, at a time when public space needs to be reallocated in favour of active transport methods and public transport. Ever-expanding cars are also an obstacle to the recreational use of public space and the creation of green areas in it, even though this is imperative if we are to adapt to climate change.

The weight of vehicles is a major factor in accidents

→ The increasing weight of vehicles also jeopardises the ambition of a just transition. The heaviest and largest vehicles are also more expensive to buy and run. Yet this is a market segment favoured by the car industry to the detriment of lighter, more affordable vehicles. This trend is clearest in the electric car market. However, the emergence of a market for lighter, cheaper electric vehicles is essential to accelerate the electrification of the Brussels car fleet. Furthermore, this trend is likely to have repercussions on the second-hand market in the long term, severely straining the budgets of the poorest households.

→ The air quality in Brussels has improved in recent years, in particular thanks to the low-emission zone. To further reduce the fine particle emissions produced by road traffic, it is also important to limit the non-exhaust emissions (wear of the tires, the brake pads, the road surfaces, etc.). These are emitted regardless of the type of engine, and they are strongly correlated with vehicle mass.

The increasing weight of cars has almost or entirely wiped out the reduction in CO2 emissions brought about improvements in engine efficiency.

→ The increasing weight of diesel and petrol cars has almost or entirely wiped out the reduction in CO_2 emissions brought about by improvements in engine efficiency. The increased weight also reduces the energy efficiency of electric vehicles. This makes it more difficult to achieve the region's climate and energy efficiency objectives.

→ Furthermore, from the production stage onwards, a heavier vehicle emits more CO_2 than a lighter vehicle because of the additional resources required to make it. This link is even more marked for electric vehicles, as heavier electric cars require larger batteries to ensure equivalent range. This more intense need for resources implies more mining and exacerbates the environmental degradation and the negative social externalities associated with it. Yet the Brussels Capital Region is also striving to reduce its indirect environmental and social impact.

The heaviest and largest vehicles are also more expensive to buy and run.

THE FACTORS BEHIND THE EVER HEAVIER CAR FLEET

Several factors explain why private cars in Belgium and Europe are systematically getting heavier:

→ European regulations on CO_2 emission standards for new cars do not induce manufacturers to reduce the mass of their cars, since mass is an adjustment variable in the name of market diversity.

→ Car manufacturers have adopted a strategy of maximising the profit per car sold. And profit margins are much higher in the heavier and more luxurious vehicle segments.

→ Linked to the previous point, car manufacturers have financed and continue to finance advertising campaigns that promote higher-emission, heavier and more luxurious vehicles. This is particularly true for SUVs (Sport Utility Vehicles), which are, on average in Brussels, heavier (+12%), more powerful (+14%) and produce more direct (+8%) and indirect CO_2 emissions than other car models.

Advertising campaigns mainly promote the more emitting, heavier and more luxurious vehicles.

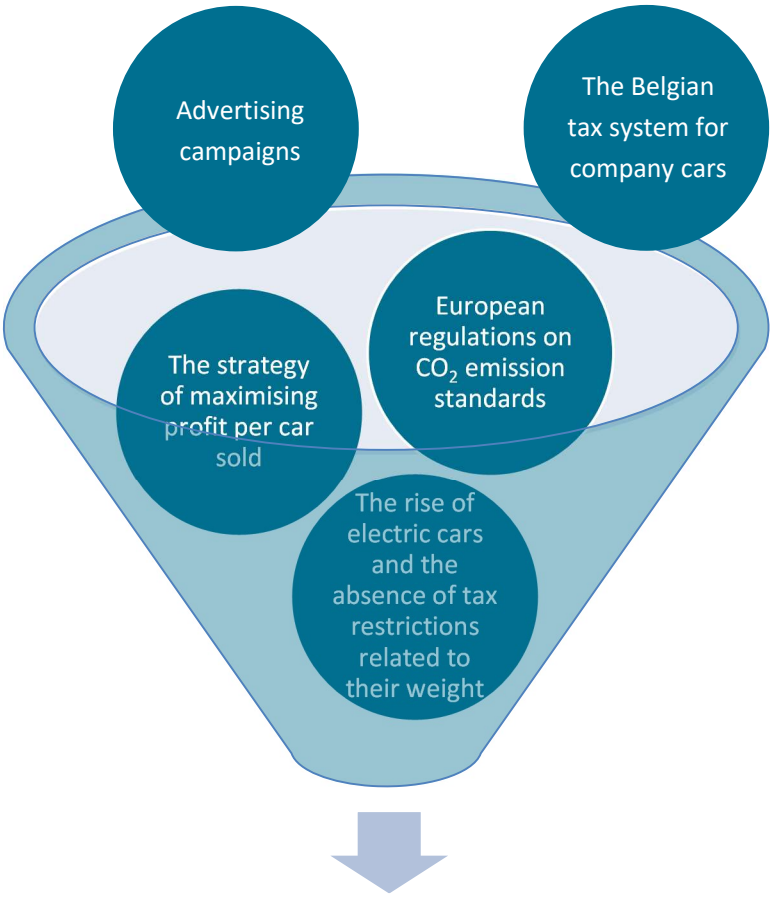
→ The Belgian company car tax regime encourages the use of particularly heavy top-of-the-range cars. This Belgian specificity explains why the cars that drive around in our country are heavier on average than in most other European countries. This effect is even more marked for electric cars, which are 14% heavier than the EU average.

→ Because of the structure of the Belgian and European car market and because of the advertising hype in their favour, SUVs are very much in vogue today. SUVs are becoming an ever bigger part of traffic in Brussels: in 2023, more than half of all new car registrations were cars of this type. The generalisation of SUVs illustrates the current trend towards heavier and larger vehicles.

→ The current rules for car taxation favour electric cars. However, they treat all electric cars in the same way, regardless of their power or mass, unlike the tax system for internal combustion cars, which includes variables linked to power or emissions, namely technical criteria that are at least partially correlated with mass. As a result, there are currently no tax measures to slow the increase in the weight of electric vehicles.

The higher weight of electric cars can only be explained in part by the weight of the battery.

→ The recent electrification of the vehicle fleet is also contributing to its heavier weight. Electric cars recently registered in Brussels weigh on average 570 kg more than new petrol and diesel cars. A first explanation for this difference is the weight of the batteries – an electric vehicle weighs about 200 to 400 kg more than its internal combustion counterpart – but it is also due to the over-representation of top-of-the-range models among the electric cars registered in Brussels. Therefore, electrification alone does not explain the increase in vehicle weight.


Advertising campaigns
The Belgian tax system for company cars
European regulations on CO_2 emission standards
The strategy of maximising profit per car sold
The rise of electric cars and the absence of tax restrictions related to their weight
Growing weight of the vehicle fleet

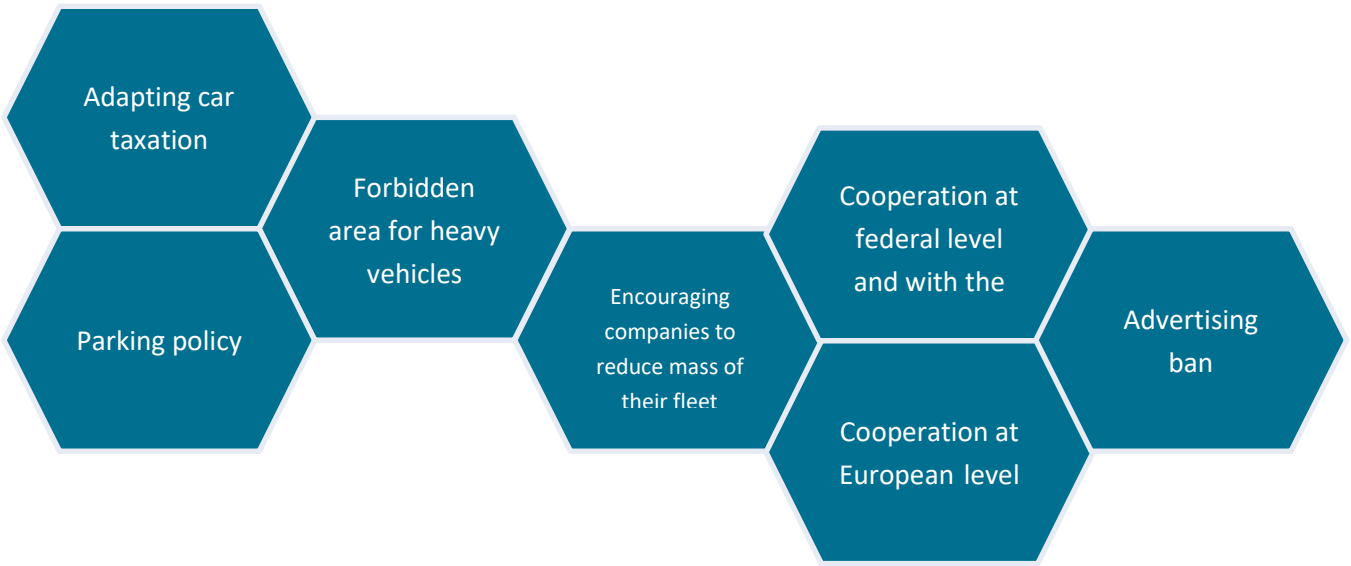
PROPOSED MEASURED TO LIMIT THE INCREASING WEIGHT OF THE CAR FLEET

Given the negative impact with regard to road safety, a just transition, the public space and the environment, it is important to curb the increasing weight of the car fleet and to promote cars that are better suited to an urban environment. Based on examples from other cities and countries, a series of measures have been identified to counteract the problematic evolution of the car fleet.

Various technical criteria with regard to the vehicles might regulate this evolution: the car power, measured in kW, the Ecoscore, the bonnet height, the width, etc. **However, mass seems the most relevant parameter, seeing as it is strongly correlated with both energy efficiency and vehicle dimensions.** This parameter makes it possible to influence both the environmental externalities (impact on air quality, direct and indirect CO_2 emissions, etc.) and the societal externalities of vehicles (road safety, use of public space, etc.).

> If electric cars continue to be taxed at the minimum rate, tax revenues could be down 70% by 2035.

To guide and calibrate the various measures set out below, we propose a classification of cars based on their mass, in 200 kg increments, ranging from vehicles that are “very well adapted to an urban context” (< 1,000 kg) to “totally unsuitable” (>= 2,000 kg), with an additional margin of 300 kg for electric vehicles. Granting large families, who tend to have heavier cars than the rest of the population, an additional mass allowance or tax benefits, is also worth considering.



ADAPTING CAR TAXATION

At present, car taxation consists of the annual road tax (RT) and the tax on entry into service (TES). These taxes are based on fiscal horsepower (cubic capacity), kW (engine power) and the age of the vehicle (on a sliding scale, and only for the TES).

In recent years, the Brussels Capital Region has studied the possibility of introducing a smart pay-per-kilometre toll system to replace the existing tax system (except for the TES for very powerful vehicles or vehicles with very high fiscal horsepower). The drafted legal text, submitted for first reading in 2021, provided for the tax amount to be determined based on the number of kilometres travelled and the fiscal horsepower of the vehicles. Electric cars would pay the minimum tariff, regardless of their mass.

For this pay-per-kilometre toll system, it would be wise to:

- **replace the fiscal horsepower criterion with that of mass (or kW for internal combustion vehicles);**
- **apply this criterion to both internal combustion and electric cars, albeit in a differentiated way (additional margin for electric cars);**
- **provide for more progressivity in mass-related tariffs, so as to ensure a degree of social equity and also to have a real effect on the type of cars that are put on the road.**
- **maintain the TES for all cars (with a marked progressivity in tariffs), so as to maintain a strong signal at the time of the vehicle purchase, which is the only moment to weigh on the evolution of the car fleet.**

The current car taxation system needs to be modified urgently. If electric cars continue to be taxed at the minimum rate, as is the case today, **tax revenues could be down 70%** by 2035. Consequently, even if the pay-by-kilometre toll system does not see the light of day, it will still be necessary to revise the current taxation system (RT and TES) so as to include the mass parameter in it.

In addition, **an cooperation agreement between the different Belgian regions is essential to modify the RT and the TES of cars registered by leasing companies.** Such an agreement is crucial, seeing as most of the newly registered cars in the Brussels Capital Region fall into this category. It is also the segment with the biggest increase in terms of mass.

For instance, mass has recently been included among the parameters used to calculate the TES in the Walloon Region. Several European countries, such as France and the Netherlands, have also included mass as a criterion for modulating car taxation.

Planning	Impact	Effort	Budget	Feasibility
Medium term for the pay-per-kilometre toll system (RT/TES: possible in the shorter term)	(Very) high	High	Positive budget	Relatively easy to introduce the parameter of mass into regional car taxation. The challenge is greater when it comes to the coordination between the Belgian regions to modify the taxation of leasing cars.

PARKING POLICY

Several European cities have recently decided to use their parking policy to combat heavy and imposing cars by introducing progressive or differentiated parking fees based on mass.

It is also possible to strengthen controls on vehicles parked on pavements or over the white line.

Planning	Impact	Effort	Budget	Feasibility
Short/Medium term	High	Limited	Positive budget	Varies based on the measure.

FORBIDDEN AREA FOR HEAVY VEHICLES

This measure consists of banning the heaviest cars from circulating either in part or in the whole of the Brussels Capital Region, in the same way as the low-emission zone, which restricts the circulation of the most polluting vehicles. The measure would be phased in over time, with increasingly stringent thresholds. For greater acceptability, there could also be a transitional period in which the measure would only apply to new registrations of new and used vehicles, leaving a longer period for the cars that are already on the road.

Planning	Impact	Effort	Budget	Feasibility
Medium term	High	High	Neutral	This is an instrument that has never been used before and that requires a legal analysis as well as an impact study.

ENCOURAGING COMPANIES TO REDUCE THE MASS OF THEIR FLEET

Taking action on company vehicles is a relevant lever for action to counter the increasing weight of cars in Brussels. The region could impose a new compulsory measure, via the company mobility plans, which would involve limiting the weight of new company cars offered to staff members of these companies to a certain level.

Planning	Impact	Effort	Budget	Feasibility
Short/Medium term	High	Limited	Limited	Uncertain: the measure encroaches on the federal jurisdiction with regard to income tax.

COOPERATION AT FEDERAL LEVEL AND WITH THE OTHER REGIONS

The Brussels Capital Region can also focus on cooperation to make progress on issues outside of its competencies. For instance to obtain a cooperation agreement to reform the tax on leased cars and to include mass as a differentiating criterion for the level of deductibility of company cars.

Planning	Impact	Effort	Budget	Feasibility
Unpredictable	(Very) high	Very limited	Very limited	Lobbying can be implemented easily, but there is no guarantee of results.

COOPERATION AT EUROPEAN LEVEL

The Brussels Capital Region could take a stand on certain European legislation likely to limit the problematic development of the car fleet. In particular, the following texts could be revised:

- Regulation (EU) 2023/851 to include energy efficiency requirements or mass thresholds;
- Regulation (EU) 2018/858 to exclude the possibility of placing pick-up trucks on the market.

Planning	Impact	Effort	Budget	Feasibility
Unpredictable	(Very) high	Very limited	Very limited	Highly uncertain outcome.

ADVERTISING BAN

The Brussels Capital Region could limit advertising for the heaviest and most imposing cars in Brussels: either across the board, by banning this type of advertising in all public spaces via an ordinance, or in a more limited way, by banning this type of advertising via management contracts, in particular that of the STIB/MIVB (Brussels public transport company).

A complementary but more complex approach would be to ban this type of advertising through town planning regulations. However, these regulations do not apply to advertising content. This would mean restricting all commercial advertising in public spaces.

A number of cities and regions, for instance in the Netherlands and in the UK, have changed their advertising regulations in line with their health and climate ambitions.

Planning	Impact	Effort	Budget	Feasibility
Short term	Limited	(Very) limited	Limited	Adjusting the management contracts would be easier than a ban.

The above-mentioned measures can be implemented on their own or in combination. It is important to introduce them in such a way that they contribute not only to limiting the size and mass of cars, but also more generally to aiming for a modal shift, reducing dependence on the car and vehicle emissions, as well as improving road safety and the quality of life in the region, while taking the social impact into account.

Written by: Brussels Environment: Chris Roorda, Gaston Bastin, Nele Sergeant, Vera Van Thuyne, Sarah Hollander

Brussels Mobility: Fanny Mertz, Mathias De Meyer, Korneel Debaene

Responsible editors: Brussels Environment · Avenue du Port 86C/3000 · 1000 Brussels · Brussels Mobility · Place Saint-Lazare 2 · 1035 Brussels

Legal deposit: D/2024/5762/03

The full report can be downloaded from the websites belonging to Brussels Environment and Brussels Mobility.