

(E)MISSION: ZERO TOWARDS ZERO-EMISSION MOBILITY IN EUROPEAN CITIES: BRUSSELS

The study

To better understand how European cities can transition to zero-emission transport by around 2030, the Clean Cities Campaign commissioned *TRT Trasporti e Territorio* to model five major European cities - Brussels, Madrid, Greater Manchester, Milan, and Warsaw - in four different scenarios.

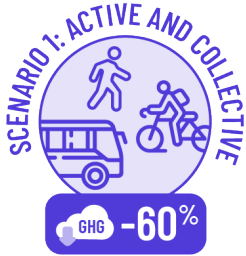
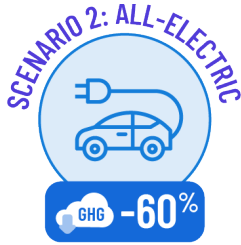
The scenarios apply different policy packages, which differ in their focus (active, shared and public transport, electrification of vehicles or a combination of both) and the level of ambition (current policies and plans vs. transformative measures).

The study is meant to inform the debate on the de-carbonisation of urban transport and to encourage cities across Europe to step up their efforts to create climate-friendly, people-centred transport systems and cities that are fit for the future.

The main findings

- ▶ All scenarios lead to significant greenhouse gas (GHG) reductions by 2030, ranging from 55% to 94% of GHG emissions from urban transport. However, only the most ambitious scenario, '(E) Mission: Zero', achieves more than a reduction above 90% and thereby brings the cities close to the objective of zero-emission mobility.
- ▶ It is very ambitious but possible, to reach close to zero-emission transport in the selected cities by around 2030, applying policies and technologies that are already available.
- ▶ Measures that encourage citizens to reduce car use and switch to cleaner modes of transport and vehicles are highly effective and therefore indispensable. They include low/zero emission zones, limited traffic zones but also the electrification of cars, buses and vans/trucks and the expansion of cycling infrastructure.
- ▶ Large reductions in GHG emissions from urban transport provide important environmental, health and economic co-benefits by improving road safety, reducing air and noise pollution and decreasing transport energy consumption. In most of the scenarios and cities, the benefits strongly outweigh the costs of the measures.





BRUSSELS



SCENARIO 1
SCENARIO 2
SCENARIO 3
SCENARIO 4

WHY ZERO EMISSION URBAN MOBILITY?

- More space for people
- Contribute to climate protection
- Fewer road collisions
- Less noise pollution
- Cleaner air
- Less congestion

HOW COULD BRUSSELS GET THERE?

Reducing access of fossil-fuelled vehicles in parts of the city



Low- and zero-emission zones

Promoting active, shared and electric transport



Zero-emission deliveries



Electrification of buses



Working from home



Expanding walking & cycling networks



SCENARIO 4

GHG -91%

- WINNER! -

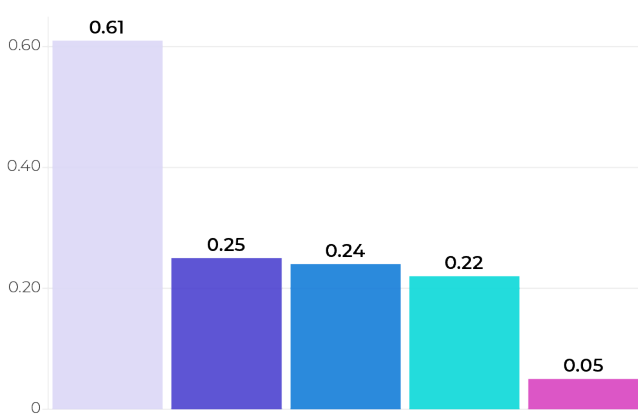
GHG -60%

GHG -60%

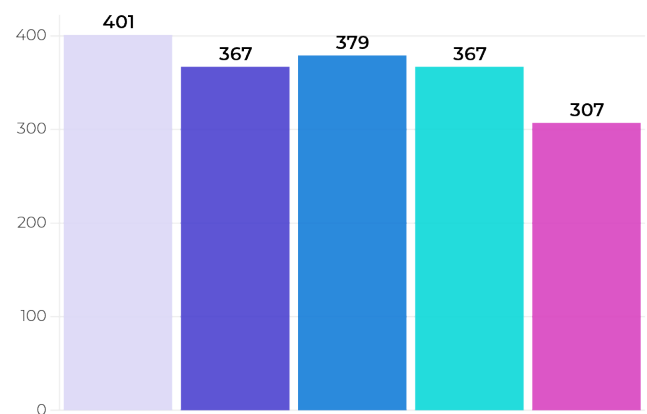
GHG -65%

The results for Brussels in a nutshell

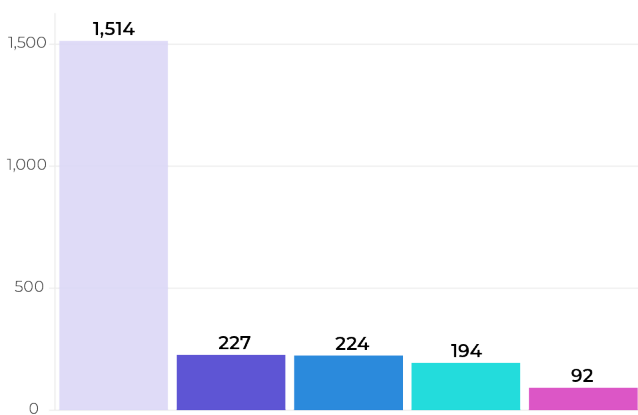
Per capita t CO₂-eq from urban transport



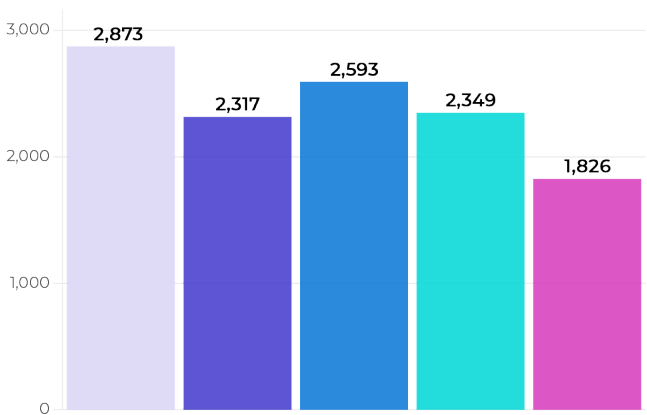
Passenger cars per 1,000 inhabitants



NO_x emissions from urban transport in g/capita

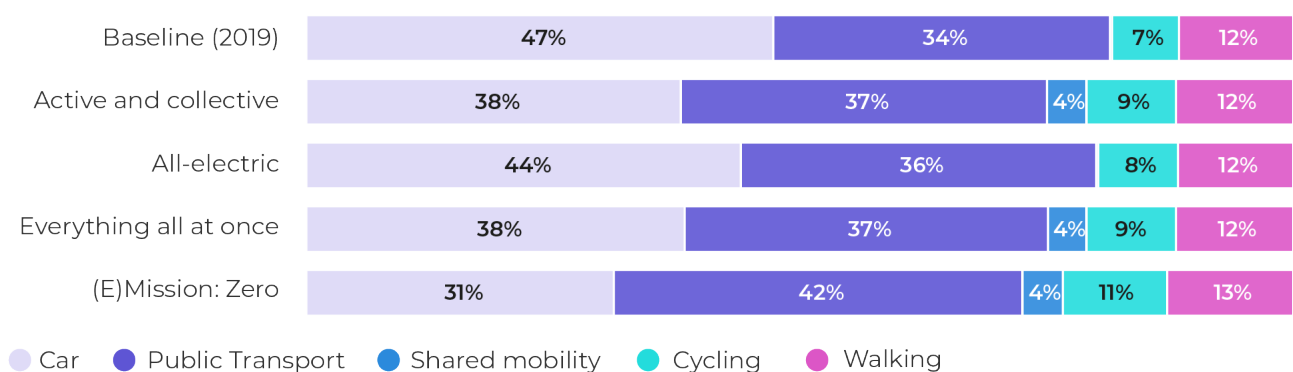


Million vehicle-kilometers by passenger car



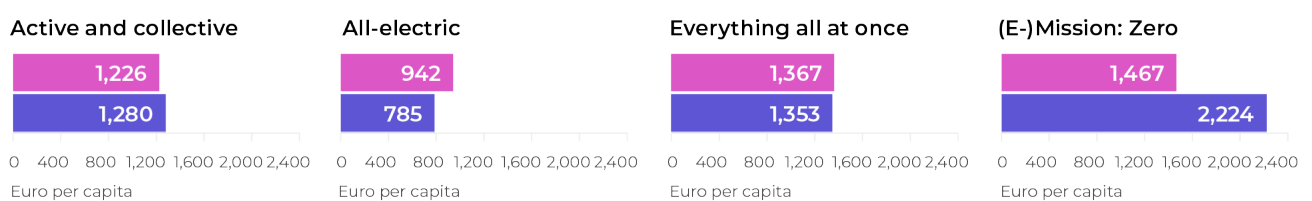
● Baseline (2019) ● Active and collective ● All-electric ● Everything all at once ● (E)Mission: Zero

Modal split based on distance travelled (pkm)



● Car ● Public Transport ● Shared mobility ● Cycling ● Walking

Monetized costs and benefits per scenario



● Costs ● Benefits

Cumulated (2019-2030) and discounted (3%) costs and benefits compared to the business-as-usual scenario

The policy recommendations

- ▶ Provide leadership and planning security by adopting and communicating a clear vision and implementation plan to fully transition to zero-emission transport by the early 2030s.
- ▶ Introduce new or step up existing (ultra) low-emission zones to curb emissions and support modal shift, and announce a stepwise transition to zero-emission zones.
- ▶ Review investments plans to prioritise the provision of reliable, affordable and climate-friendly alternatives to the use of cars, vans and trucks (e.g. walking and cycling infrastructure, public and shared transport, cargo bikes and logistics hubs).

5 no-regret measures to implement

In line with conclusions from other research, this study confirmed that a number of policy measures, when properly implemented, have a particularly strong impact on GHG emissions from urban transport and can thus be recommended as no-regret measures for Brussels:

- ▶ Low-/Zero-Emission Zones (LEZ/ZEZs): Gradually transform the existing low-emission zone into a zero-emission zone and phase out internal combustion engines in the 2030s to reduce toxic air pollution and to curb GHG emissions from transport in cities.
- ▶ Limited traffic zones (LTZ): Reduce through-traffic on the local road network thanks to the creation of more traffic-calmed neighbourhoods and the strengthening of existing ones.
- ▶ Electrification of cars, buses, vans and trucks: Electric vehicles produce, on average, around three times less GHG than fossil-fuel vehicles over their entire life cycle, thus reducing emissions from urban transport.

- ▶ Expanding cycling networks and facilities: The availability of a cohesive, direct, safe, comfortable and attractive network of cycling infrastructure encourages cycling, which reduces GHG emissions. Extend the local and regional cycling network and improve the quality of the existing network.
- ▶ Working from home: Working from home reduces the need to travel to work and thereby reduces GHG emissions, even when taking into account existing rebound effects.

Find out more

- ▶ Technical report: The full results and further details for Brussels can be found in the accompanying [technical report](#) produced by TRT Trasporti e Territorio, a specialised transport consultancy.
- ▶ Briefing: The Clean Cities Campaign [briefing](#) '(E-)Mission: Zero. Towards zero-emission mobility in European cities' presents the study methodology, its main results, conclusions and policy recommendation and can be found on the CCC website.
- ▶ Dashboard: A [dashboard](#) on the Clean Cities Campaign website visualised the main results of the study for each of the modelled cities.

About us

The Clean Cities Campaign (CCC), hosted by Transport & Environment, is a European coalition of almost 100 civil society organisations. Together, we aim to encourage cities to transition to zero-emission mobility by the 2030s and to become champions of active, shared and electric mobility for a more liveable and sustainable urban future.

www.cleancitiescampaign.org

Acknowledgments

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