# Can e-scooters contribute to sustainable urban transport in Bristol?

## About the research

Bristol city council declared a climate emergency in 2018 and committed to be carbon neutral by 2030. 25% of Bristol's $CO_2$ emissions are from the transport sector and it's congestion is estimated to be three times the national average, costing the Bristol economy an estimated £600 million per year.

Emissions from the transport sector contribute to local air pollution, with the burden of disease caused by air pollution often heaviest on people from low socioeconomic backgrounds.

Bristol city's transport strategy aims to develop a less polluting and inclusive transport system.

This research looked at whether shared electric scooters (e-scooters) can contribute to sustainable urban transport in Bristol.

E-scooters have been hailed as a method to help reduce pollution and congestion by acting as a 'last mile' solution (i.e. connecting the destination with other public transport) or by replacing short car journeys.

This research assessed the potential environmental and social impacts of using e-scooters in Bristol under two scenarios where shared e-scooters replace (1) car journeys or (2) active travel (e.g. bicycling, walking).

The assessment criteria were: reduced $CO_2$ emissions; improved access to transport services; reduced local air pollution; reduced congestion; increased health and wellbeing; costs to e-scooter companies; political feasibility; and, administrative feasibility.

The assessment showed that if e-scooters are replacing cars then the impact is positive. If e-scooters are replacing active travel, then the overall impact is negative to negligible.

Therefore it's more important that policymakers take a holistic approach to the transport system than focussing solely on e-scooters.

## Policy recommendations

- E-scooters alone won't have substantial environmental benefits and do not provide the health benefits of active travel (i.e. cycling or walking).

- Use e-scooters as an incentive to create more segregated cycle lanes, to convert car parking spaces to e-scooter/bicycle parking spaces and to close some streets to cars

- E-scooter companies should be required to meet environmental and social sustainability goals, e.g. ensure scooters are also in less affluent areas but redistribute them only using electric vehicles.

- Require e-scooters to be docked in central areas to keep pavements clear but allow free-floating parking in other areas to ensure access to e-scooters.

# Key findings

This research studied e-scooter policies and their successes and failures in six case-study cities: Paris (France), Vienna (Austria), Baltimore, Chicago, Portland and San Francisco (USA), and also researched available published literature. Key findings were:

- CO2 emissions from e-scooters are lower than fossil-fuel cars but higher than active and public transport, with an estimated 43% of their lifetime emissions due to collection by vehicles for charging.

- In European cities, e-scooters often replaced journeys by active transport, causing an increase in emissions. In US cities, e-scooters often replaced car journeys, likely due to lower public transport availability.

- E-scooters produce no tailpipe emissions and so don't contribute to local air pollution.

- E-scooters don't provide health benefits that active travel does.

- E-scooter uptake was highest in areas with cycling infrastructure and high employment.

- Regulation that ensured e-scooters were not only supplied to affluent areas did increase equality of access, but this was often economically and environmentally unsustainable (due to e-scooter re-distribution by vehicle)

- There was increased use of e-scooters where there are segregated cycle-lanes or when road speed limits are lower.

- E-scooter parking can hinder pavement access, especially for people with disabilities.

- Requiring e-scooters to be docked, locked to existing bike infrastructure (if not limited), or parked in specific places successfully improved pavement access.

These findings were used to assess the potential environmental and social impacts of using e-scooters in Bristol under two scenarios: where e-scooters replace (1) car journeys or (2) active travel (e.g. bicycling, walking).

## Further information

- Bristol City Council. 2019a. Full Council – The Mayor's Climate Emergency Action Plan.

- Bristol City Council. 2019b. Bristol Transport Strategy: tackling congestion and making Bristol a better place for all – a vision up to 2036.

- Bristol Green Capital. 2015. The Bristol method: how to reduce traffic and its impacts.

## Contact the researcher

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