

PLEASEM: a tool to measure PPlace-based Estimated Advantages of Shared Electric Mobility

Supplementary information

Co Wheels is a national car club operator, with a fleet of 450 vehicles located in over 250 villages, towns and cities across Britain outside London. Analysis of the utilisation data they shared as part of this project indicated that their average annual mileage per car is almost a third greater than the private fleet.

Table 2 summarises a number of data sources used to calculate the reduction in car ownership and increase in EV uptake. The details of these data sources and why they were chosen is described below.

The reduction in car ownership due to car clubs is usually calculated from survey data (Jochem et al., 2020; Shaheen et al., 2019). CoMoUK, the industry trade association for shared mobility operators in the UK, run an annual survey of car club members nation-wide. Data in the first three columns of the table comes from their most recent survey reports (<https://www.como.org.uk/documents/car-club-annual-report-uk-2023>, <https://www.como.org.uk/documents/car-club-annual-report-scotland-2023>) and is broken down by Scotland, London, and the rest of England and Wales. This report also describes ‘infrequent drivers’ as car club users with five or fewer bookings per year (p12). However, respondents living in cities dominate the CoMoUK survey even if London is excluded. Therefore, the authors sought to validate the rate of car ownership reduction, especially in more rural areas.

Using the Built Up Area (BUA) size classification from the ONS as a guide (<https://www.ons.gov.uk/peoplepopulationandcommunity/housing/articles/townsandcitiescharacteristicsofbuiltupareasenglandandwales/census2021>), approximately 60 of the Co Wheels vehicles were determined to be in towns or villages with populations of 20,000 or less. Co Wheels comprehensive, anonymised bookings data for November 2023-October 2024 included unique account IDs. The mean and medium number of frequent users – those with 6 or more bookings annually (the reverse of CoMoUK’s infrequent definition) is derived from this data – and for more rural car clubs may yet increase, as these are on average newer installations than most urban car clubs.

Finally, the lead author supported Oxfordshire County Council in their multi-operator electric car club trial in the county’s rural towns and villages between April 2023 and October 2024 (<https://www.tsu.ox.ac.uk/project/sharing-knowledge-about-sharing-evs-policy-pursue>). The mean and median number of frequent users was calculated from the final year of data from Co Wheels (5 cars) and local startup, Zimbl (6 cars) – which were both operating for the entire 18 months. As part of this trial, some users did provide feedback to the operators, council or lead author that they had given up a car as a result of the car clubs, but the sum of this feedback could not be verified at the present time. Similarly, the lead author was provided with some data and discussed car ownership reduction at length with the independent community car club operators in the village of Hook Norton, Oxfordshire. Although this data and feedback is not included in the above paper, it confirms that the chosen conversion factor of nine vehicles is both realistic and conservative.