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The question that was proposed by us is “Have the people of the University of Bath started switching to more eco-friendly types of transportation in accordance with the net-zero carbon emission by 2040 for the university’s “keep it green” mission [1]?”

As the carbon emissions have reached an all-time high [2], and transportation accounts for 4% of carbon emissions [1], this would prove catastrophic in the long run as this will cause an increase in temperature of the earth causing global warming. What we want to check is if the people at the university are abiding by the university’s mission of net-zero carbon emissions by 2040.

We've selected additional data for the project, focusing on the eco-friendliness of vehicles, and we gathered the date of the vehicle’s registration based on their license plate.

The eco-friendliness of the vehicle was judged by:

- Bicycles and E-Scooters are considered eco-friendly as they have no carbon emissions.
- Particular U1 and U2 buses with registration after the year 2016 have been deemed to account for “30% improvement in fuel efficiency and a 30% reduction in vehicle carbon emissions”. [3]
- Motorcycles produce lower carbon emissions when compared to cars for example. [4]
- Hybrid cars have lower carbon emissions than diesel or petrol cars as they have dual engines, electric and petrol. The batteries are charged by regenerative braking and the internal combustion engine. These were identified using:
    - The tag that stats “hybrid” on the back
    - And as the university road has a speed limit of 20mph, these cars would be functioning mainly on the electric motor which can be identified by sound.
- Electric cars have zero-carbon emissions. These can be identified using:
    - The sound of the engine.
    - Common characteristics of electric cars include [5]:
        - There would be a label on the back of the car stating that it is electric. These include electric, EV etc.
        - They do not have exhaust pipes or radiator grills.

The date of the vehicle on the other hand was collected in order to help with identifying if the vehicle is eco-friendly. For buses for example, this helped show if the buses were registered after the article [3]. It has also been shown that newer cars which were manufactured after 2014, have impressively lower carbon emissions from newer cars [6], this in turn helps answer the question regarding lower carbon emissions. To capture the date of the car the 3rd and 4th digits of the license plate were used to correspond to the date of registration of the car.

References:

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[4] *Are motorcycles better for the enviornment? - scottoiler UK/international*. [Online]. Available: https://www.scottoiler.com/are-motorcycles-better-for-the-enviornment/.

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