



From World-Leading Research to Operational Excellence, our Holistic Approach to a Sustainable Fleet

Monica Guise, Director of Facility Services
University of Birmingham

1. Introduction

As a world leader in fuel cell research, it is only to be expected that the University of Birmingham has developed one of the most sustainable vehicle fleets in the UK.

Combining our academic prowess with a positive operational appetite for change, our researchers and Campus Services staff have worked tirelessly to embed and encourage the use of alternative fuelled vehicles.



Fig.1: Director of Facility Services, Monica Guise, presents the University of Birmingham's sustainable vehicle fleet.

2. 'A University of Firsts'

Building on our proud history as a University of firsts, we continue to lead the way with our sustainable fleet...

- In 2007, we became one of the first UK universities to purchase electric vehicles.
- In 2008, we became the first UK university to open a hydrogen filling station on campus.
- In 2009, we hosted 5 hydrogen-powered cars on campus as part of an initial research project.
- In 2016, we leased the Hyundai ix35 Fuel Cell and we are believed to be the first University in the country to employ the technology in our day-to-day operations.



Fig.2: The University's Hyundai ix35 Fuel Cell. The vehicle is pollution free, virtually silent in operation, and is reputed to achieve speeds of 50mph and travel up to 369 miles on a full tank.

3. Rising to the Challenge

To offer a more coordinated and sustainable approach to travel, the management of all fleet vehicles was brought under one department – Transport Services. This made it easier not only to report on impacts, but also to adopt a more strategic approach to fleet management.

As the fleet services all campus and academic travel needs (including facility management, catering, student recruitment and much of the research off campus), the profile ranges in its mileage, terrain and sizes. The University's fleet includes 114 diverse vehicles, ranging from a 3.5 tonne refrigerated lorry to smaller light commercial vehicles/cars, and currently 50 of these vehicles are electric, hybrid or hydrogen-fuelled (44%).

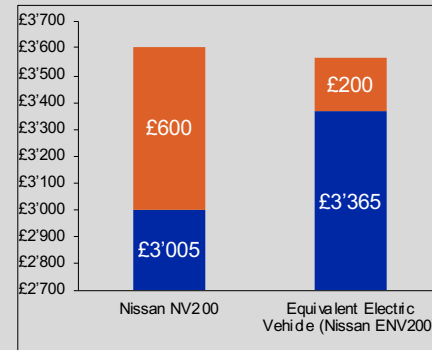


Fig.3: The Value of Electric Vehicles

On average, an electric vehicle costs 12% more. However, the savings in fuel and maintenance make them a more attractive option.

For example, a standard Nissan NV200 (based on lease hire over 60 months at 5000 miles p/a) costs £3,005 p/a. The electric version, on the same terms, costs £3,365 p/a. However, once fuel costs are factored in (estimated at £600 p/a compared to £200 p/a for electricity), it is clear that electric vehicles are not only more sustainable, but also more cost effective.

4. Celebrating our Successes

Overall, our approach has created a number of environmental and social wins, including...

- **Carbon reductions** from fleet switching and alternative travel by staff and students;
- **Less noise pollution** from quieter electric vehicles;
- **Less local air pollution** from low emission or zero emission vehicles;
- **Improved attitudes towards driving electric vehicles** amongst our staff.

In 2019, a year earlier than planned, we reached our target to ensure that 40% of our fleet comprises of hydrogen fuel cell, electric and hybrid vehicles and we are on track to achieve 50% by the end of 2020.



5. Contributing to a Wider Sustainability Strategy

Campus Services' ULEV Strategy plays a major role in the University of Birmingham's response to the UN's Sustainable Development Goals.

- The University launched a Sustainable Travel Action Plan in 2013 to support the University's wider Carbon Reduction Strategy, focussing on encouraging the University community to use more environmentally sustainable transport options.
- Staff have been encouraged to buy their own greener vehicles through a 'Fuel Efficient Salary Sacrifice' scheme, which is twinned with the installation of electric charging points across campus.

	2008	2013	2016	2018	Change from 2008
Car/Van (Single Occupant)	39.3%	34.9%	37.9%	34.5%	-4.8%
Car/Van (Shared)	9.3%	8.6%	7.3%	9.0%	-0.3%
Bus	6.6%	7.8%	7%	8.1%	1.5%
Train	24.1%	26.5%	24.5%	25.9%	1.8%
Metro	-	-	-	0.3%	-
Walk/Jog	10.3%	13.3%	14.6%	11.6%	1.3%
Bicycle	8.8%	7.9%	8.1%	10.1%	1.3%
Taxi	0%	0.1%	0.2%	0.3%	0.3%
Motorcycle/Scooter	1.2%	0.8%	0.4%	0.2%	-1.0%
Other	0.4%	0.2%	0.1%	0.1%	-0.3%

Fig.4: Staff Travel Method Trends, 2008-2018

Survey data shows that single vehicle usage has reduced by almost 5%, from 39.3% in 2008 to 34.5% by 2018, as well as a steady increase in the usage of sustainable methods of travel, compared to our 2008 baseline.

Conclusion

What started as a research focus has grown into a University-wide cultural approach to greener vehicles, fuels and sustainable travel. We have achieved a number of industry accolades, including the Transport Industry 'Green Fleet of the Year Award', and we are regularly consulted by the Department of Transport and Office of Low Emission Vehicles. We have also gained such a reputation for leading the field that manufacturers now approach the University directly to feature their alternatively-fuelled vehicles as part of our operations.

Contact

Monica Guise, Director of Facility Services
M.L.Guise@bham.ac.uk

Lydia Dutton, Sustainability Manager
L.Dutton@bham.ac.uk