

# Travel Survey 2022 Report

**Executive Summary** 



## Introduction

Sustainable travel planning at the University of Birmingham began in 2008. From the start, the foundation of our plans has been understanding how our institution commutes. The 2022 travel survey was the fifth undertaken. Travel surveying has two main functions: to gauge current commuting behaviours and to guide future work to enable and encourage sustainable choices.

Engagement with the 2022 survey was excellent, with over **6000** responses, split equally across staff and students. We reached over a third of staff and nearly 10% of students.

The results are summarised in four sections:

- 1. How does University of Birmingham commute in 2022/23?
- 2. <u>Mapping University of Birmingham commuting</u>
- 3. What would enable staff and students to choose sustainable travel?
- 4. <u>Reducing carbon emissions from commuting</u>

## Sustainable travel at University of Birmingham

In the past 15 years the sustainable travel plan for commuting has developed to include a wide range of programmes and measures. It is a team effort: some measures are delivered by partner departments, such as Payroll and Security, and UoB enjoys a productive relationship with National Express West Midlands and TfWM. Headlines of the outgoing plan include:

- ✓ f1 bus fare for the university community city centre–Selly Oak
- ✓ Support for an independent bike repair shop on campus
- ✓ ULEV lease scheme via salary sacrifice
- ✓ Student hire bike scheme
- ✓ 25% discounts on staff bus passes
- ✓ Free D-locks for student cyclists
- ✓ Interest free loan for staff train tickets
- ✓ Cycle-to-Work scheme capped at £3000, and gateway staff loan bike scheme
- ✓ Travel advice on the intranet, via email and at key welcome and induction events

You can read more about these initiatives elsewhere on the Sustainable Travel intranet site.



# How does UOB commute in 2022/23?

The 2022 travel survey was the first post-covid. Despite the changes to work and study that the pandemic brought about, the commute is still very much a part of the lifestyle of our community. On average staff members work at UoB 3.5 days per week. Students use campus facilities more regularly—90% are on site at some point during a normal weekday. That means during the average term day there are around 35,000 staff and students on site.



University of Birmingham is overwhelmingly an institution that travels on foot. Two in three undergraduates and two in five postgraduates walk to campus. That means over half of daily journeys to and from campus are walking journeys, not to mention the uncounted strolls to the library, lecture theatre, meeting room, shop, café and more.

Mode of transport	Numbers at UoB	% of weekday population
Walking	18097	51.0%
Car as a single occupant	3657	10.3%
Shared car journey	767	2.2%
Train	5758	16.2%
Bus	4604	13.0%
Bicycle	2162	6.1%

That said, the survey shows more students are commuting by bus and train than before. Both modes are at all-time highs since the first travel survey 2008 and five percentage points higher than in 2018. In turn this suggests that students are living further afield, a hunch that merits further investigation. Similarly, student car driving has risen significantly in proportional terms, though it is still a minority mode and below historical figures.



Staff solo car commuting rebounded during the pandemic to 40%, the level last seen in 2008, mainly to the detriment of car sharing and train travel. Fewer staff walk to work—and there may be pandemic stories of moving further afield at play—but more than 10% still do. Staff cycling has nudged to a record high of 11%.



The average crow-flies commuting distance is 7 km for students and 16 km for staff. As expected the average distances by mode varies considerably. Rail journeys tend to be long distance, averaging 22 km for students and 31 km for staff. Solo car journeys are a long distance option for students at 24 km on average, but an all-round option for staff—their average solo car commute of 17 km is very close to the average commute across all modes. Cycling commutes average 3.5 km. Staff walk significantly further than students, an impressive average of 2.7 km, and they say they value the wellbeing benefits they gain from the time they commit to their pedestrian commute.

Commuting is responsible for over ten thousand tonnes of UoB carbon dioxide emissions at a conservative estimate, 59% from solo car journeys, 26% from train journeys and 10% from bus journeys. In proportional as well as these absolute terms, solo car journeys are the most polluting. The average emissions per kilometre per person when driving a car alone is four times greater than by train and 1.5 times greater than by bus.

Mode of transport	Aggregate annual emissions (tonnes)	Av. distance travelled (km)	Av. annual emissions per commuter (tonnes)	CO2e emitted per commuter km (kg)
Bicycle	0	3.1	0.00	0.00
Bus	1029	5.0	0.20	0.12
Car as a single occupant	6174	18.5	1.19	0.18
Metro	22	11.8	0.14	0.04
Motorcycle or moped	14	14.2	0.43	0.12
Shared car journey	502	10.0	0.54	0.18
Тахі	31	6.9	0.26	0.15
Train	2719	27.6	0.36	0.04
Walking	0	1.6	0.00	0.00
Grand Total	10491	11.5	0.26	

# Mapping University of Birmingham Commuting

Isochrones are concentric lines representing all points from which it takes a given amount of time to reach another chosen place by a mode of transport, akin to the pressure bars on a weather reports or the altitude contours on maps. The isochrones were made using the Traveltime plugin in QGIS.

Focusing solely on the main campus, the maps below show isochrones of possible commutes to Old Joe, arriving between 8 a.m. and 9 a.m. on a weekday morning in winter 2022/2023. From there, it is possible to show the percentages of staff and students that live within different commute times by mode.



## Active Travel

The proportions of staff and students with potential walking and cycling commutes of 30 minutes suggest there is a potential active travelling population of at least 30,000. Road safety and lack of infrastructure is the main brake on commuting by bike, and personal safety is a concern for commuters on foot, so making improvements to local highways and pavements, coupled with other measures to boost cycling and walking on campus, could see another 10,000 cyclists and pedestrians. The base map shows cycling infrastucture in blue and red, which is good in places, poor in others and piecemeal in the round.



### Local public transport

Over half of all staff members and four out of five students live within 45 minutes of Old Joe by public transport and a connecting foot journey. The isochrones show the limitations of the bus network in Birmingham. The main bus routes are radial and terminate in the city centre, so the quickest journeys are only available on the direct routes and so are limited to the southwest of the city. Travelling from other compass points generally requires a city-centre change, walking connection and extra time. Minor, circumferential routes connecting local centres, for example the 48 towards Bearwood and the 76 towards Kings Heath (and beyond), are less frequent and only make a quick 30 minute connection possible in narrow triangular corridors. The local rail network speeds up the journeys from certain pockets around train stations, but the lack of a denser web of commuter railways, tramlines or prioritised buses is visible in many areas where there are no 45-minute commutes available.



## Regional public transport

Two thirds of staff and seven out of eight students live within 60 minutes of campus by public transport. The shape of this zone shows where there are train stations with express services. A further 13 % of staff and 6% of live within the red zone, where there is a 60 minute train journey for anyone who can drive or get a lift to the station, and its size shows the importance of station parking facilities in outer suburbs and rural locations not covered by frequent commuter buses.



# Enabling and Encouraging Sustainable Travel

## Commuting needs

Respondents were asked to pick the three factors that decide their choice of commute. The most chosen factors show a similar profile across different segments of the UoB population. At the top end, time taken, convenience and value for money decide whether a commute works for a member of our community. The mapping analysis showed that journeys by bus and train are generally slower than by car, so there is an uphill challenge in the immediate term. A cyclist can cover nearly as much distance to Old Joe in 30 minutes as a car driver, so commuting by bike can realistically compete on time taken with local solo car journeys. The reliability and flexibility of the commute are significant factors too, the latter in particular for solo car drivers, who rate it much higher than monetary value.



## Enabling sustainable choices

Respondents then had to identify the single factor that would most enable and encourage them to take one of the sustainable commuting modes, or to continue to do so if they do already. These questions deepen our understanding of a set of questions in the 2018 survey, which allowed multiple selections. Making just one choice possible shows what really matters to our commuters and will clearly define actions for the next sustainable travel plan, but it is understood that all the options are important to some extent. Here's what the responses indicated.

## Public transport

It is a curious paradox that reduced fares are the single most important factor to encourage take up of public transport, whether amongst staff, students, train travellers or solo car drivers, because value for money was only third on the list of general factors affecting commuting choices. The one exception is current bus travellers, which shows how effectively University of Birmingham and partners have managed to reduce the cost of bus travel. Shorter journey times on public transport would encourage current solo car drivers to try it; greater service frequency and reliability are more important for current bus and train travellers. A central theme of the free responses was that public transport in Birmingham needs to improve and fares need to fall if the university is to be successful in encouraging sustainable commuting, and these results clearly show how.



## Cycling

There is a clear priority for encouraging cycling: making roads safer and adding cycling infrastructure. Forty percent of potential cyclists say so and, tellingly, 60% of current cyclists do too. Improving campus facilities with secure cycle storage and showers and changing facilities are significant for staff; being able to buy a good-value bike is important for would-be student cyclists.



## Walking

Personal safety is most important for students with 44% saying that they would walk more if there was a lower risk of harm. Over a third of staff who could walk said the same. Students selected 'other people to walk with' in large numbers, which is likely motivated by personal safety concerns, and suggests community-based solutions. Road safety is key for both groups, especially staff, and over 22% of colleagues who could walk would like to see better facilities in their building, just like their cycling counterparts.



### Carpooling

The most important thing to enable colleagues to carpool is having the right person share with, whether on a personal or practical level. It is essential therefore to attract as many staff as possible to join a lift sharing scheme to raise the chances of making compatible carpools. Other factors, notably financial incentives and back up options, are secondary, though they can help make a scheme attractive.



# Reducing carbon emissions from commuting

Our most polluting journeys are our longest ones, even though they are fewer in number. Threequarters of carbon emissions are from places with further than one hour's public transport commute to UoB. That is not to say that local travel is unimportant, far from it. First, all journeys finish at our door, affecting the local road system and air quality. Second, nearly 35,000 members of our community live within one hour's bus or train ride of campus and commuting is a major part of the university life for all.

Encouraging all car drivers within 30 minutes' cycle of campus to commute by bike would save nearly 400 tonnes of carbon emissions per year; enabling those in the 60 minute public transport zone to take the train and bus would save over 300 tonnes; and helping those beyond 60 minutes to car share and take the train would save over 3100 tonnes, all for a total of over 3800 tonnes yearly— 37% of UoB commuting emissions.

Train or car journeys are the main choices for the third of our staff and over 13% of our students who live further than 60 minutes on public transport from their front door to Old Joe. Enabling and encouraging lift sharing and making rail journeys more attractive will make the difference for these sizeable populations and give them the opportunity to reduce the carbon impact of their commute.

This analysis showed nearly 50% of staff live within a 30 minutes' cycle to campus and two-thirds could travel 60 minutes on public transport from their front door to Old Joe. Yet solo car driving is still the most popular mode of transport amongst these groups, which means that there is still progress to be made, and that there are opportunities to make it, by following the priorities identified above.

The following table estimates the marginal carbon reduction of 100 commuters moving down the ladder of carbon-intensive commutes from the most to the least: solo car journeys, to shared car journeys, to bus travel, to train travel to cycling to walking, as appropriate for the distance.

	Less than 30 mins' cycle: 100 fewer solo car drivers and 25 more cyclists, bus travellers, train travellers and pedestrians each	More than 30 mins' cycle and less than 60 mins' public transport: 100 fewer solo car drivers and 50 more bus travellers and train travellers each	More than 60 mins' public transport: 100 fewer solo car drivers and 50 more train travellers and car sharers each
Overall emissions reduction (tonnes)	-14.9	-24.0	-156.3
Current no. of solo car drivers	1769	1056	2360

UoB will not decarbonise its commute alone—to take one mode as an example, bus companies need to upgrade to zero-emission buses, and national planners need to assure the transition to renewable energy for that to happen. The Department for Transport is striving towards the objectives of more local active travel, stronger public transport networks and electrification.<sup>1</sup> As an employer and education establishment, UoB's role is to make its facilities for active travel first-rate, set a variety of relevant policies, lay on sustainable travel programmes and assistance and positively influence and support the development of the local transport network towards the future just outlined.

The survey results and free responses highlighted time and again that access to a private vehicle is the glue currently binding many busy, pressured lifestyles, and it is important not to demonise individual choices. Rather, the broad support amongst our community for increasing the share of sustainable commutes to UoB is to be celebrated. The reasons for doing so start with the climate emergency of global heating and encompass road congestion, civic equity, air quality, placemaking, public health and population wellbeing. University of Birmingham is in the rare position of having good knowledge of its commuting and being able to make an informed and positive impact on these major challenges of our time.



<sup>1</sup> Decarbonising Transport – A Better, Greener Britain (publishing.service.gov.uk)