



UNIVERSITY OF LEEDS

University of Leeds Travel Survey

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1. Background to Survey & Implementation.

Changes to the questions asked

The content of the 2015 questionnaire was revised, with the addition of a question investigating the general views on transport in both student and staff surveys. Answers were given in a table using a Likert scale. This section merged questions on parking which had been given separate questions in previous year's surveys.

Last year's report had specific questions to investigate staff views around parking on campus, where by comparison, this year's survey had questions investigating views on car sharing. The aim of this was to see what might incentivise more staff and students to car share. The results from this will be given through qualitative analysis, which is new to the travel survey reports.

A question on why staff and students changed their main transport mode was added, along with another qualitative analysis of answers. Additionally, several minor modifications were made to existing questions which included adding travel incentives to the question investigating which travel incentives staff and students have heard of, along with the removing and merging of some questions to make the questionnaire more concise.

This year's travel survey also included some questions to help out 3 PhD students. Questions they proposed which did not make the main survey (to prevent the questionnaire being too long) were included in an optional section at the end of the survey.

How was the survey conducted?

The survey was conducted from the 20th-24th of April 2015. It was publicised in advance via the staff and student portal, and the communications team were notified in advance of the survey being distributed. The survey was circulated as an online questionnaire, with the link being provided in an all staff and student email on the 20th of April, with a reminder email sent on the 23rd. To ensure all staff had the opportunity to fill out the survey, several hundred copies of the survey were printed and distributed for those that do not work at computers.

Overview of response rates

The number of respondents for staff and students was significantly lower than the previous year. 1695 staff and 2035 students responded compared to the previous year's 2444 staff and 3338 students. The main reason was due to server issues experienced at Bristol University, where Bristol Online Surveys operate from. Suggestions as to how this can be avoided in future years are provided in the conclusions section.

Official student and staff figures for the university at the time of the survey are presented in table 1.1 below. Using these figures we can determine that the response rate to the travel survey is 22.5% for staff and 7% for students.

Table 1.1 Staff and Student Numbers

Staff	Students
7517	31906

2. Scope 3 Emissions

In order to calculate the GHG (Greenhouse Gases) a series of emission factors were required. These were obtained from DEFRA. Since the 2014 survey, DEFRA have revised the GHG emission factors (available from 10/06/2015) the difference being a slight reduction in all emission factors, a possible reflection of changes in fuel and engine technology.

Scope 3 calculations are used because the emissions are a consequence of people having to travel to the university, but are not gases released from activity within the university. The vehicles are used for the university, i.e. getting the employees to work, but the vehicles are not owned by the university.

2.1 Staff Scope 3 Emissions calculations

To calculate scope 3 emissions, information about commuting behaviour and vehicle details were needed. This was collected from the following survey questions:

- Q9: Information on commuting was obtained through this question, indicating how many trips and by which mode of transport were made during typical working week.
- Q16: The one way travel distance is required.
- Q24¹ obtained information about those that travelled by car as well as any car sharing that was undertaken.
- Q27 and Q28 took information from² car drivers on their engine size and fuel type.

Using the above information allowed the calculation of each staff member's mileage to and from work in a typical week, separated by mode.

To calculate Greenhouse gas emissions (GHG), the relevant emission conversion factors were required. These were sourced from DEFRA³, outlined in Tables 2.1 to 2.3.

All conversion factors presented here are in units of 'kilograms of carbon dioxide equivalent of Y per X' (kg CO₂e of Y per X), where Y is the gas emitted and X is the unit activity. CO₂e is the universal unit of measurement to indicate the global warming potential (GWP) of Greenhouse Gases (GHGs), expressed in terms of the GWP of one unit of carbon dioxide.⁴

¹ Used to assign responsibility for emissions, if 2 occupants then the emissions are split 50:50

² Engine size and fuel type impacted on the emission factor used in calculations.

³ <https://www.gov.uk/measuring-and-reporting-environmental-impacts-guidance-for-businesses>

⁴ Taken from DEFRA

Table 2.1 GHG Equivalent Car Emission Factors per Vehicle Mile in KG

Engine Size/Type	Petrol	Diesel	Hybrid	LPG	CNG	DK
Less than 1100cc	0.255226	0.231214	0.173825	NA	NA	0.247421
1100-1400cc	0.255226	0.231214	0.173825	NA	NA	0.247421
1401-1600cc	0.320758	0.231214	0.18942	0.293914	0.262243	0.302508
1601-1900cc	0.320758	0.282617	0.18942	0.293914	0.262243	0.302508
1901-2000cc	0.320758	0.282617	0.18942	0.293914	0.262243	0.302508
2001-2400cc	0.467901	0.362424	0.280219	0.428214	0.381656	0.391264
2400cc+	0.467901	0.362424	0.280219	0.428214	0.381656	0.391264
Don't know	0.307903	0.293416	0.207203	0.334502	0.29834	0.299901

DK= Don't know

Table 2.2 GHG Equivalent Emission Factors per Vehicle – Motorbikes

Engine Size	Emission Factors
Up to 125cc	0.141848
125-500cc	0.171299
501cc+	0.224938
Don't know	0.192574

Table 2.3 GHG Equivalent Emission Factors per Person Mile in KG

Mode	Emission Factors
Train	0.07251
Bus	0.16147
Taxi	0.39385

Bus – Emissions for local buses were used.

Table 2.4 reports the average level of GHG emissions resulting in commutes to and from work by University staff. The figures represent an average taken from the 1605 staff members who responded to the questionnaire. Each member of staff on average generated 15.94kg of GHG per week commuting to and from work. In 2014 the figure was 14.8kg, and in 16.05kg 2013.

It must be noted that individual emissions will vary greatly depending on the different modes used.

Table 2.4 GHG Equivalent Emissions for Staff Commuting

	Total miles per typical week	Average miles per week per staff member	GHG KG equivalent per typical week per staff member	GHG% of total
Bus	27,041	15.95 (16.48)	2.58 (2.14)	16.2 (14.5)
Train	57,395	33.86 (28.85)	2.46 (2.19)	15.4 (14.8)
Motorbike/Scooter	2,438	1.44 (1.27)	0.26 (0.24)	1.6 (1.7)
Car (alone)	54,763	32.3 (29.14)	8.8 (8.47)	55.2 (57.2)
Car (shared)	21,747	12.83 (10.63)	1.75 (1.62)	11 (10.9)
Taxi	379	0.22 (0.34)	0.09 (0.13)	0.6 (0.9)
Total	163,763	96.6 (86.71)	15.94 (14.8)	100

Note: Figures in brackets are 2014 values

2.2 Student Scope 3 Emissions

For students, scope 3 emissions relate to commutes between their term time address and the university. This calculation took the same format as the one for staff, with information on the mode of transport and frequency of use taken from Q9, along with distance to the nearest mile was taken from Q16. For car users, information on number of passengers was taken from Q22⁵ along with information on their engine size and fuel type from Q24 and Q25⁶ respectively.

⁵ Occupancy factors were used to calculate emissions

⁶ Engine size and fuel type impacted on emission factors used in calculations.

In response to vehicle engine size, the majority of students specified they either had a 1.1 -1.4 petrol or answered 'don't know'. Therefore an average of these two values was used as the emission factor. Table 2.5 reports the average GHG emissions resulting from commuting to and from university.

Table 2.5 GHG Equivalent Emissions for Student Commuting

	Total miles per typical week	Average miles per week per staff member 2305	GHG KG equivalent per typical week per staff member	GHG% of total
Bus	22704	9.85 (7.38)	1.19 (0.88)	29 (32.2)
Train	29511	12.8 (9.67)	0.93 (0.73)	22.7 (24.6)
Motorbike/Scooter	104	0.05 (0.1)	0.009 (0.02)	0.2 (0.6)
Car (alone)	12541	5.44 (4.74)	1.37 (0.93)	33.5 (31.1)
Car (shared)	7540	3.27 (1.49)	0.41 (0.16)	10.02 (5.4)
Taxi	1045	0.45 (0.47)	0.18 (0.19)	4.4 (6.2)
Total	73, 445	31.86 (23.85)	4.09 (2.97)	100

The average figures represent the average from the total number of students that have responded to the survey, 2305. Using this figure, each student generated on average 4.09kg of GHG commuting to and from university in an average week.

This is a 38% increase compared with the previous year's 2.7kg, but a 1.2% reduction on the 2013 values. The rise in GHG values can in part be attributed to the use of average local bus values, whereas the 2014 survey used London bus values.

3. Key Indicators and Findings

Within this section, a number of tables are presented that report the key characteristics of both the staff and student samples. Where possible both sets of data are reported in the same table, with the sample sizes for each dataset provided to add perspective to the reported percentages. The overall sample sizes for both surveys are 1695 (includes paper copies) respondents for staff and 2305 respondents for students.

3.1 Commuting

Commuting behaviour by staff and students is illustrated in table 2.1. As expected there are considerable differences between staff and student main modes of travel. This reflects differences in journey lengths, time commitments and income. The differences in the walk/jog figures (67.4% versus 16.1%) reflect a closer proximity of students to university campus.

Table 3.1 Main Commuting Mode in a Typical Week

	Staff %	Student %
Walk/Jog	15.6%	65.4%
Bicycle	9.7%	7.6%
Bus	15.8%	11.3%
Train	19%	7.7%
Motorbike/scooter	0.8%	0.1%
Car driver (alone)	25.5%	1.6%
Car share (as driver)	7.5%	2.6%
Car share (as passenger)	5.5%	1%
Taxi	0.1%	0.6%
Other	0.4%	2%

A significant amount of students use the bus (11.3%), the use of cars is much lower in students than staff. This reflects the convenience of being able to walk to campus from nearby student housing areas. To a lesser extent, the reduced car usage reflects the costs of owning a running a car, as well as competition for car parking spaces.

The dominant mode of transport for staff is the car, with a total of 38.5% of staff using a car, whether as a passenger or driver, to get to work. A significant percentage of staff use the bus (15.8%), train (19%) and walk/jog (15.6%). The lower figure for walking/jogging compared with the students is unsurprising given that a majority of staff members live more than 1 mile from campus.

Table 3.2 offers insight into how people would ideally like to travel to work, without changing their address. Comparing table 3.2 with 3.1 shows a strong desire for staff to commute to work by bicycle, 18.5% vs the actual 9.7%. The redistribution of trips comes largely from a preference to not travel by bus, 8.2% vs the actual 15.8%, and from driving alone, 18.8% vs 25.5%. It must be noted that there was no shift in preference where car sharing is concerned, which suggests that staff may have travel related commitments e.g. the school run.

The preference to walk and cycle versus the reality of people’s travelling habits may reflect a desire for people to improve their health and fitness. Obstacles to these modes of transport may be the distance from home to work and the extra time this might take. Given that the greatest difference in the real versus ideal transport mode is with cycling, obstacles to people adopting this mode of transport may be a fear or lack of confidence on the roads. The shift from car driving may reflect people's desire to travel more sustainably. The redistribution of bus trips is likely to reflect in part a frustration at bus as a mode of transport.

Table 3.2 Preferred Commuting In an Ideal World

	Staff %	Student %
Walk/Jog	17.	51.8
Bicycle	18.5	18.4
Bus	8.2	6.4
Train	18.9	4.9
Motorbike/scooter	0.8	1.2
Car driver (alone)	18.8	9.3
Car share (as driver)	8.7	3.7
Car share (as passenger)	7	3
Taxi	0.3	0.6
Other	0.7	0.9

For students there is a similar preference to commute by bicycle (18.4% vs the actual 7.6%), but students differ notably from staff in that they show a desire to travel alone by car, (9.3% vs actual 1.6%). Why the real figure is so low probably represents the costs associated with owning and running a car, along with the difficulty to find parking nearby the main campus. The redistribution of travel modes comes largely from a reduced desire to walk/jog (51.8% versus actual 65.4%) and to travel by bus (11.3% vs 6.4%). The barriers preventing the idealistic cycling figures compared with the realistic may be the owning of a bike in Leeds (their bike may be at home with their parents), lack of confidence, fear of cycling in Leeds and a lack of anybody to cycle with. It is much easier to find someone to walk to university with than cycle, thus opting to cycle might remove a social element of their day.

Table 3.3 Percentage of Staff and Students that have changed their main travel mode Since Starting University

	Staff (n=1689)	Students (n=2298)
Yes	34.4%	24.8
No	65.6	75.2

Table 3.4 shows some of the main reasons for why staff and students have changed their main transport mode. For staff and students, relocation is the main reason for modal shift. A substantial number of staff changed their transport mode due to family reasons, which could include driving their partners to work, having a child or having their child reach an age where they can go to school. These reasons would favour driving a car over public transport. For students, family reasons are marginal when compared with staff. Student's main reason for changes in transport is relocation. This may be a result of moving to student housing which is further away from campus than their previous year where walking becomes too time consuming, so they opt to get the bus or cycle instead.

Table 3.4 Reasons for Change in Main Mode

	Staff % (n=581)	Student % (n=569)
Family	24	3.9
Relocation	35.5	60.7
Comparison/suggestion from others	4	7
Changes in parking provision	5.3	2.5
Subsidised transport	1.9	1.2
Other	31.5	24.2

Qualitative Analysis: Why staff and students change their main transport mode

A qualitative analysis of the “other” responses will be carried out for staff and students because “other” accounted for a high percentage of both staff and student responses (31.5% and 24.2% respectively). The responses will be categorised into main themes, determined by the number of comments made in relation to the theme and sub-themes will categorise comments into related sections. A small selection of quotes to support each theme will be provided.

It is evident from looking at the specified “other” answers that the list of options to answer the question did not consider modes as a reason for changing, but instead only considered changes in circumstances. Future questions looking at reasons for transport mode change should incorporate the two.

Staff feedback:

54 of the 193 comments were closely related to already available answers such as “Moved further away”, or alternatively answers could not be categorized.

Theme 1: Cycling. 42/146 of comments related to cycling.

Subthemes:

Taking up cycling: 31/42 comments on taking up cycling.

Most comments related to cycling were of people taking up cycling to save money, time and experience the health benefits. The cycle to work scheme and try cycling scheme appear to have facilitated the switch to cycling for some.

Supporting Quotes

“Taken up the cycle to work scheme”

“Cycle to work scheme allowed me to get a decent bike, cutting commute time by 60%”

“Realised cycling was quicker and more pleasant than the bus. Also took advantage of the cycle to work scheme”

“University’s Try Cycling scheme prompted me”

Giving up cycling: 11/42

Many comments within theme of cycling were related not to taking up cycling but giving up cycling. Looking at the comments, the main reason for this is the perceived dangers associated with cycling in Leeds and the existing cycle infrastructure.

Supporting Quotes

“Used to travel by bike, but cycle lanes are insufficient in the city centre and often

dangerous, especially at peak hours.”

“Used to cycle but due to too many people being knocked off bikes my husband asked me to stop (I’m a mum to 3 children”

“Danger of cycling”

“Used to cycle but cycling down Otley Road is not pleasant”

“Got fed up with crazy drivers cycling to work”

Theme 2: Public transport. 41/146 of comments related to public transport.

Subthemes:

Switching from public transport: 28/41

Most comments related to buses and trains were of frustration at unreliable service, and increasing costs, leading many to stop using public transport and switching to driving instead. A frustration concerning buses is that that take too long.

Supporting Quotes

“I used to get the bus but they’re so unreliable and takes so long to get to work”

“Very poor train service and changes to timetable”

“Train was becoming more expensive and taking longer”

“Bus was too time consuming so started to drive”

“Reliability of train vs cost and convenience of car”

Switching to public transport: 13/41

A number of comments were made of staff switching to public transport. The main reasons for this is that trains speed up their journey (likely that their route home via car is subject to peak time traffic) and also that it allows people to exercise in walking to and from their public transport stop.

Supporting Quotes

“Faster journey by train”

“Road congestion makes driving very unpleasant. Also it allows me to get more exercise walking to and from the station.”

“Train easier than driving”

"Taking the bus helps me get more exercise"

Theme 3: Cars 40/146 of comments related to cars.

Subthemes:

Switching to driving alone: 19/40

The main reasons for people driving alone are learning to drive, buying a car and also the ending of car sharing arrangements.

Supporting Quotes

"Learned to drive"

"Bought a car"

"Used to car share but the passenger no longer works at university"

"Colleague who I car shared with has retired"

"Earning more money, able to afford car"

Switching from driving: 13/40

The main reason staff members stop driving to work is due to frustrations around car parking on campus and having reduced access to a car.

Supporting Quotes

"Traffic congestion takes too long to drive to and from work"

"Lack of parking provision"

"Sold 2nd car and partner needs it during the day"

"Went from 2 cars to 1"

"Unable to park after 7.40am"

"Couldn't get a parking space after the school run"

Starting a car share: 8/40

Main reasons for car sharing are that partners jobs becoming more in sync with theirs to facilitate car sharing, finding colleagues they can share with and to cut costs.

Supporting Quotes

“Husband changed jobs so he drops me off on his way to work and picks me up after”

“Our job starting times are now in sync”

“To save money on fuel”

Main theme 4: Health. 23/146

Many responses given for health were unclear whether the change of mode was for the benefit of health, or whether poor health and limited their options of travel. For example:

“Health reasons”

“Health”

However other responses can be categorised into reaping health benefits and health complications

Subthemes:

Health benefits:

“I thought the exercise would be good for me”

“Fitness and wellbeing”

“Concern for my cardiovascular fitness”

“Wished to get healthier”

Health complications:

“Became disabled”

“Medical condition”

“Illness”

Student feedback

Students living arrangements and commitments are on the whole less complicated than those of staff members. Consequently many of the student responses fall into a narrower selection of categories: Cycling and finance. However it must be noted for future variations of this question that travel modes should be considered as reasons for a change, not just circumstances. Many of the 144 responses are related to answers already available in the question, mainly answers relating to relocation.

Main theme 1: Cycling 38 comments related to cycling

Subthemes:

Taking up cycling 24/38

“Decided cycling was easier than the bus”

“I got a bike”

“Now I live further out I prefer to cycle”

“received a bike”

“Roads in Leeds aren’t safe to cycle”

Giving up cycling 14/38

“Bike was stolen in first semester”

“Bike stolen”

“Almost crashed bike, have been too nervous to cycle since”

“Bike crash”

Main theme 2: Financial – 23 comments related to finances

Many students noted that they changed their mode of transport due to financial reasons.

Financial savings:

“Fuel cost”

“Saving money”

“Can’t afford to run a car”

“Parking is expensive”

“Financial reasons. Walking is free”

Main theme 3: Driving – 14 responses related to driving

Both taking up driving and giving up driving are the two main categories of responses which refer to driving, with most comments making referencing to taking up driving, with a small selection who have given up driving.

Subthemes:

Taking up driving 10/14

“Bought a car”

“Got insured on car”

“Purchased a car”

Giving up driving 4/14

“Don’t have my car in Leeds”

“University parking”

3.2 Distance of commute and mode of travel

The relationship between distance of commute and mode of travel is outlined for both staff and students in tables 3.5 and 3.6 respectively. Walking is the dominant mode of transport for staff and students with distances less than a mile, however as the distance increases other modes of transport become more popular, with high rates of cycling across distances of 1-5 miles for staff, and 1-3 miles for students. High percentages of staff and students use the bus between 1-10 miles, and for staff high percentages travel by car for all distances over 3 miles.

This data identifies areas where intervention might be possible. For instance Table 3.2 showed a desire to cycle at the expense of traveling by bus and driving alone. Table 3.5 shows that there are significant numbers of staff who travel by bus and by car across distances of 1-5, also shown to be the most cycle friendly distances.

Therefore it may be possible that intervention may encourage some of these drivers and bus travellers to cycle to work. Specific interventions are suggested in the Conclusions, Issues and recommendations sections.

Table 3.5 Staff percentage of mode of transport within distance group

	Distance Group (% of all staff)					
	Up to 1 mile (8.2%)	1-3 miles (21.6%)	3-5 miles (16.9%)	5-10 miles (20%)	10-20 miles (18%)	20+ miles (13.3%)
Walk	82	37.4	4.2	0.3	0	0
Cycle	7.2	20.9	14	9.1	2.3	0
Bus	5	22.8	31.1	17.4	7.9	1.9
Train	0	0.0	3.1	13	44.9	51
Motorbike/Scooter	0	0.0	0.3	1.2	2	1.2
Car (alone)	1.4	10.2	29	37.2	30	35.5
Car share (driver)	0	4.7	8	14.2	9.3	5.4
Car share (passenger)	2.2	3.8	9.1	7.7	4.3	4.6
Taxi	0	0.0	0.7	0	0	0
Other	2.2	0.3	0.3	0	0.3	0

Similar is the case for students, in that many bus users are within cycle friendly distances. What would be considered a cycle friendly distance appears to differ between staff and students, with many staff cycling 3-5 miles, whereas not many students opt to cycle this distance (14% vs 5.9%) However, the percentage of staff living 3-5 miles away is greater than that of students, 16.9% vs 4.4% which may account for the difference in cycling numbers over 3-5 miles.

Table 3.6 Percentage of mode of transport within distance group – Students

	Distance Group (% of all students)					
	Up to 1 mile (54.1%)	1-3 miles (26.4%)	3-5 miles (4.4%)	5-10 miles (4.9%)	10-20 miles (4.8%)	20+ miles (5.4%)
Walk	90.2	56.3	22.5	8.8	4.5	1.6
Cycle	5.2	15.8	5.9	6.2	1.8	0
Bus	2.7	20.9	43.1	32.7	12.6	3.2
Train	0.2	0.2	2.9	24.8	52.3	68.5
Motorbike/Scooter	0	0.2	1	0.9	0	0
Car (alone)	0.2	0.8	6.9	8.8	10.8	5.6
Car share (driver)	0.4	2.7	11.7	7.9	10.8	5.6
Car share (passenger)	0.3	1.7	1	5.3	1.8	2.4
Taxi	0.3	0.7	2.9	0	0.9	0.8
Other	0.6	1	2	4.4	4.5	12.1

3.3 Car sharing

By adding up the percentages of drivers with passengers we can see that table 4.1 shows that around 38% of staff and 48% of students currently car share at least once per week in their journey to university.

Table 3.7 Number of people travelling in car to university

	Staff % (n=745)	Student % (n=316)
Drive (alone)	61.9	52.2
Driver +1 passenger	28.5	32
Driver +2 passengers	7.5	9.5
Driver +3 passengers	2.1	3.8
Driver + more than 3 passengers	0.3	2.5

Car sharing can take several forms, as shown in table 3.8. There is a notable difference between student and staff car shares in that significantly more students travel with friends than staff members. This is likely a result of shared student

housing and living with friends, whereas staff are more likely to live with partners and family, reflected in the high percentage of car sharing with family / partners.

Table 3.8 Percentage of staff and students travelling with family and friends

Staff	% (n=221)	Students	% (n=86)
Friends/colleagues	17.2	Course mates/friends	47.7
Family/partner	82.8	Family/partner	52.3

Table 3.9 confirms the above.

Table 4.3 supports the assumption that many of these car sharers have people dependent on them for their journeys, which according to the dataset is due to school runs.

Table 3.9 Percentage of staff car sharing with dependents on transport

Dependents on transport	Staff friends/colleagues (n=183)
Child/Children	71.6%
Spouse/Partner	28.4%

Table 3.10 indicates that nearly 24% of staff and 28% of students would be happy to car share. This is an increase over last year's figures and could be an opportunity to explore how these prospective car sharers can be converted into reality.

Table 3.10 Percentage of staff prepared to car share

	Staff% (N=781)	Students% (N=338)
Yes	23.8	27.8
No	64	48.8
I already car share	11.9	23.4

Qualitative Analysis: Why staff and students car share

Staff: 166 responses

Responses to why staff car share can be broken down into 3 main categories: Family/partner, financial savings/convenience and environmental benefits.

Travelling with partner/ family was the most frequent answer. Here are some supporting quotes to illustrate this:

Theme 1: Family/Partner

"Both husband and I work at uni and child at bright beginnings"

"Travel with husband"

"Family school drop off"

"I car share with my partner"

Theme 2: Financial savings/convenience

"To reduce travel costs"

"Share travelling and costs"

"Saves money on petrol and can make better use of permit"

"Keep costs down, better parking"

"It's better for the environment"

Theme 3: Environmental benefits

"It's better for the environment"

"Environmental issues"

"Makes sense, environmentally"

"I think I should have a greener agenda"

Students: 133 responses

Students appear to have less family commitments which is reflected in less comments made around travelling with partners and children compared with staff. Instead the main reasons for student car sharing are saving money, environmental benefits and social reasons

Theme 1: Financial saving

Similar to staff, high numbers of students car share to benefits from reduced petrol costs.

“Cheaper and more convenient”

“To save money”

“More economic”

“To make it cheaper”

“Cheaper and easier”

“Share fuel costs”

Theme 2: Environmental

Many students car share due to environmental concerns. No staff answers specifically mentioned the environment, whereas some students specified that they will benefit the environment by reducing carbon emissions.

“Helps with reducing carbon emissions”

“It’s better for the environment”

“Reduce traffic”

“It’s a good way to reduce environmental impact and it reduces the number of car parking spaces taken up onsite”

“Reduces carbon footprint”

Theme 3: Social Reasons

Whereas many staff reasons for car sharing were centred around family commitments and dropping their partners off at work, many student responses mentioned the social aspect of car sharing, which was not mentioned in staff responses.

“It makes the journey more fun, you have someone to talk to”

“Share the journey with friends”

“More sociable than travelling alone”

“I only car share with friends”

“Social aspect, and it’s easier”

Table 3.11 Ways to encourage car sharing

	Staff % (n=682)	Student % (n=270)
A university scheme listing members of staff /students who are willing to car share	13.9	13
Getting to know the person you would car share with	19.9	35.2
An incentive from the university e.g. subsidised breakdown cover	12.9	21.9
A clear understanding of savings	6.5	10
Support for flexible working hours	24.9	
A university scheme that would allow sharing with members of staff		4.4
Other	21.8	15.6

For staff and students that said they would not be prepared to car share. Table 3.11 shows the mixture of responses to ways in which car sharing might be encouraged. For staff, the main reason car sharing is not a viable option is due to the lack of flexibility in their working days. Many of the comments made in “Other” are related to

varying working hours and how a car share would not fit with their schedules. Getting to know the person you would car share with was the most popular answer for students, and a popular answer for staff. The university could provide incentive for prospective car sharers, e.g. a “car sharers lunch”, where the lunch is paid for at the refectory where two car share matches meet up for an informal lunch. University incentives for car sharing is an area to be explored, suggestions are made in the Conclusions, Issues and Recommendations section

3.4 Public Transport

The majority of staff and students travelling by public transport reach their public transport stop by walking. Although only a marginal 4.7%, the number of staff cycling to their first public transport stop has nearly doubled compared to last year’s figures. The combination of modes is likely to be for staff and students catching the train rather than the bus.

Table 3.12 Percentage breakdown of how staff and students reach their first public transport stop

	Staff % (812)	Student % (879)
Walk	82	90
Cycle	4.7	1.5
Drive	11.6	4.9
Get a lift	0	3
Other	1.7	1

Table 3.13 looks at public transport payment methods used by staff and students. For staff, seasonal tickets account for 62% of payment methods, for students this accounts for 44%. This suggests that there are high numbers of staff and students who are either not aware of available seasonal tickets or that they do not travel enough by bus or train to justify buying a seasonal ticket. Particularly for students, this may be reflecting the fact that many are not at university every day of the week.

Table 3.13 Percentage of how staff and students pay for travel tickets

	Staff % (n=730)	Students % (n=746)
Annual Season Ticket	30	17.7
Monthly Season Ticket	18.7	13.7
Weekly Season Ticket	13	6.2
Term Season Ticket	0.5	5

Single/day/return ticket	37	54.3
Other ticket	3.7	3.4

3.5 Car parking and car sharing

The previous year's survey and report investigated staff views on car parking permits and whether people would consider giving them up if suitable public transport was available. Parking continues to be a prevalent issue on campus; therefore the travel survey was used as an opportunity to investigate staff views into car sharing in relation to parking permits.

Table 3.14 shows that 75% of staff agree that there should be an increased priority for permits for those that car share into work. The response rate to this question accounts for almost the whole sample size of staff who responded to the questionnaire. 75% is a much greater figure than the percentage of staff car sharing, so we can rule out that it is only the staff that car share that have this opinion. Given the ongoing issues around the limited number of parking permits and the long term goal to increase car sharing, the results from this question propose a method in which car sharing can be incentivised.

Table 3.14 Percentage breakdown of staff responses to car parking priority to car sharers

1= Strongly disagree, 2=Disagree, 3=Somewhat disagree, 4=Somewhat agree, 5=Agree, 6= Strongly agree

	Staff % (n= 1641)
Yes - Strongly agree	20
Yes - Agree	27.9
Somewhat agree	27.4
Somewhat disagree	12.6
No - Disagree	6.2
No - Strongly disagree	6

4. Conclusions, issues and recommendations

The 2015 University of Leeds Travel survey was run for the sixth consecutive year, with 1695 staff and 2305 students responding, 22.5 and 7% respectively. This is down from 32.5% and 14.6% from last year. The main reason for this decline in response rate was due to server errors at Bristol University, which in turn affected Bristol Online Survey. With both staff and students receiving many emails on a daily basis, receiving a website link that repeatedly times out has resulted in many potential responders to give up.

This leads to the first recommendation for future travel surveys. The reliance of the travel survey on Bristol servers has this year proven to be a flaw. In future it is recommended to either A) use another survey provider, such as Google surveys, or Survey Monkey. Or B) provide an alternative link for alternative survey provider should the Bristol online survey link ever fail again in the future. Perusing option B would result in a more time consuming collaboration of data, however this additional time is worth it when compared with the alternative of having reduced response rates.

Scope 3 recommendations:

In this and previous travel survey reports, average GHG emissions are calculated by dividing the total number of miles travelled with a particular mode of transport by the total number of respondents to the travel survey. The resulting figure is then multiplied by the relevant emission factor from the DEFRA guidelines. The issue is that it does not provide a true reflection of average staff emission factors within each mode of transport. For example there are nearly 25% of staff and 67% of students who either walk or cycle to university as their main mode of transport. To include these high numbers of staff and students who emit no emissions into in the average calculations, for example of car emissions, is providing average emission values which are lower than they should be.

Future calculations could consider the average emissions categorised by mode of transport. For example the average GHG emission for car drivers or train users. The overall averages, as given in this survey, are still useful, but they should not be the only figures used in GHG calculations. The suggestion to provide additional averages, determined by mode and their users, is made due to a concern that the average GHG values for motorised vehicles are being diluted by the high numbers of staff and students whose journey have no carbon emissions.

Suggestions around cycling:

There is a high desire to cycle from students and staff. 18.5% of staff would like to cycle, vs the actual 9.7% and 18.4% of students would like to cycle, vs the actual 7.6%. Tables 3.5 and 3.6 indicate that distances of 1-5 miles are optimum for cycling, before other modes of transport are considered. The same tables also show many staff and students opting to use the bus or drive these distances. Of course commitments must be taken into account, such as school runs and car share arrangements, but there may be room for intervention in converting some of these commuters to cyclists. Around 30% of staff have not heard of the cycle to work salary sacrifice scheme or the bike hub, and around 40% of students have not heard of student bike hire or the bike hub. In the qualitative analysis (section 3.1) which looked at reasons why staff and students have changed their main mode, numerous staff and students attributed the bike hub for their main reason for changing transport mode. The bike hub already serves as a valuable asset to the university, and could be made even more valuable through increasing staff and student awareness of its facilities, particularly for staff through rectifying a common misconception that the bike hub is simply a space for student bike hire. Widening awareness could be achieved through simple branding of the bike hub in places with high footfall such as the student union, or its existence made more obvious on the university website and introductory hand-out material for both staff and students.

With cycling still in mind, a common theme extracted from the qualitative analysis on changes in transport mode is that cycling in Leeds is dangerous. There is certainly some merit to this point, but the right information and guidance might be enough to change the travel behaviour of some staff and students. For example, information on alternative routes are available, and the university should ensure this information is available through university web pages, along with information on free cycling training and free bike trials in an attempt to bridge the gap between those who want to cycle and those who actually cycle.

Car sharing suggestions:

Table 3.10 indicates that nearly 24% of staff and 28% of students would be happy to car share. This is an increase over last year's figures and could be an opportunity to explore how these prospective car sharers can be converted into reality. Responses in Table 3.11 indicates that a university incentive would encourage around 13% of staff and 20% of students who have said they would not use a car into potentially car sharing. Table 3.14 provides an avenue to explore in terms of incentivising car sharing. The majority of staff in this survey (75%) agreed that those who car share should have priority on parking permits. The issue of parking permits is an on-going issue at the university and it is likely that the demand for permits will continue to vastly exceed those available for years to come. In order to increase levels of car sharing, and convert some of the staff who have indicated they would be happy to

car share, then a system where permits are prioritised for car sharers could be implemented.

Student car share

In the qualitative analysis of why students car share, a common reason for car sharing was the social benefits. This could be used to advertise future car sharing schemes, along with the financial savings which are also likely to be appealing to students.

Electric cars

In table A18, looking at fuel type, not a single member of staff or students claimed to use an electric vehicle. Given that there are now 4 electric charging points on campus, their existence should be made common knowledge so that if any staff or students were considering getting an electric car, they would know the university is able to cater for their travel choice. In future surveys it is hoped that the number of electric car users increases.

Question amendments

On the question concerning cost of travel tickets (Q28 in student survey, Q31 in staff), answers should revert back to the previous year's method of selecting a range of prices. This year each respondent was able to input the exact amount their ticket costs. This was done for the benefit of a PhD student, and in theory to make the data more accurate. However it makes tabulating the data more difficult and time consuming, and the information on individual prices paid are not useful unless each participant is being considered separately, which was not the case in this report.

In future surveys, available answers to the follow-up question "What led to the change in transport mode?" (when looking at why people changed their main mode, Q12), should be expanded to include modes of transport as reasons for a change in travel behaviour. In this year's survey, only changes in circumstances such as relocating were given as options, yet many of the reasons specified in "other" were related to starting/stopping of driving, taking up cycling etc.

In future car share questions it should specify whether driving children to school counts as a car share or not as there was some uncertainty around this judging by some of the comments that were given in the survey.

Appendix: General tabulations

Tables which have not been included in the report.

Characteristics of staff and students

Table A1: Full or part time staff and students

	Staff	Students
Full time	77.8	95.3
Part time	22.2	4.7

Table A2: Staff position

	%
Academic-lecturer	15.7
Research	11.4
Academic-related	21.3
Clerical	32.6
Technical	9.6
Ancillary	2.4
Other	7

Table A3: Gender, staff & students

	Staff %	Student %
Male	36.5	34.1
Female	62.5	65

Table A4: Faculty, staff and students

	Staff %	Student %
Arts	5.7	15.7

Biological Sciences	6.3	7
Business	4.9	10.2
Cross-Faculty Centre	0.7	0.1
Education, Social Sciences and Law	4.9	10.6
Engineering	5.9	11.9
Environment	6.4	9.8
Mathematics and Physical Sciences	5.6	10
Medicine and Health	22.3	15.7
Performance, Visual Arts and Communications	2.9	4.5
Administration and Services	24.5	0
Other	9.8	4.6

Table A5: Age, staff & students

	Staff	Students
Under 21	32.7	30.9
21-24		41.6
25-34	27.3	21.3
35-44	29.6	4.3
45-54	23.1	1.4
55+	14.6	0.5

Table A6: Disability

	Staff %	Student %
Yes	97.5	2.5
No	98.7	1.3

General travel statistics

Table A7: Frequency of modal use in a typical week commuting to university –
Staff

Times used	1	2	3	4	5	6	7	8	9	10+
Walk/jog	31	71	25	58	61	55	17	88	10	363
Bicycle	12	40	13	37	7	31	0	42	5	71
Bus	56	79	26	48	61	22	10	35	13	175
Train	24	34	6	21	19	35	4	40	1	189
Motorbike/scooter	3	3	1	4	0	1	0	3	0	6
Car (alone)	29	80	33	51	46	70	4	65	4	201
Car share with colleagues/friends (as driver)	8	16	3	8	2	2	0	0	0	6
Car share with colleagues/friends (ass passenger)	17	14	6	7	4	2	0	1	0	5
Car share with family/partner (as driver)	14	20	13	20	22	17	4	14	1	25
Car share with family/partner (as passenger)	32	39	18	13	28	21	1	14	6	23
Taxi	19	6	1	3	1	0	0	0	0	0
Other	2	1	1	2	1	0	0	0	0	3

Table A8: Frequency of modal use in a typical week commuting to university -
Students

Times used	1	2	3	4	5	6	7	8	9	10
Walk/jog	54	151	34	88	106	98	54	149	19	1179
Bicycle	20	71	12	36	10	26	5	28	1	100
Bus	114	145	41	78	52	37	13	40	11	129
Train	33	44	4	25	12	17	1	21	1	78
Motorbike/scooter	4	4	0	2	0	1	0	0	0	0
Car (alone)	18	58	16	32	13	20	0	10	0	30
Car share with coursemates/friends (as driver)	14	26	6	3	3	1	0	2	0	1
Car share with coursemates/friends (as passenger)	35	31	5	7	2	2	0	1	0	4
Car Share with family/partner (as driver)	5	7	3	3	1	2	0	1	0	6
Car share with family/partner (as passenger)	22	16	8	10	7	2	0	3	1	4
Taxi	68	34	12	8	3	3	2	0	0	1
Other	2	4	2	1	1	1	0	1	0	1

Table A9: Available modes of transport for commute

	Staff (%)	Student (%)
Car	62.5	41
Bicycle	29.3	37.2
Moped	0.4	1.2
Motorbike	1.4	0.6
Other	6.4	20

Table A10: Percentage of staff and students with someone relying on them for a lift

	Staff	Student
Yes, my spouse/partner	7.1	1.7
Yes, my children	20.4	2.8
Yes, my parents	0.3	0.4
Yes, my flat/housemates	0.2	1
No	71.9	94.1

Table A11: One-way commute distance to nearest mile: Staff & students

Distance (miles)	Staff %	Students %
1 or less	8.2	54.1
2	11.1	19.3
3	10.5	7
4	8.3	2
5	8.6	2.4
6	6.3	1
7	3.8	0.6
8	3.2	0.7
9	2.3	0.4
10	4.4	2.2
11-20	18	4.8
21-30	9.1	2.4
31-40	3.6	0.7
41-50	1	0.7
51-60	0.7	0.2
61-70	0.6	0.2
70+	0.9	0.6

Table A12: Number of days a week commute to a university site – Staff & students

Frequency (days)	Staff %	Student %
0	0.7	0.8
1	1.2	3
2	2.4	3.9
3	9.5	7.9
4	14.7	14.9
5	68.7	48.6
6	1.9	13.3
7	0.8	7.7

Table A13: Number of days a week normally work from home – Staff

Number of days work from home	Staff %
0	83.5
1	10.9
2	3.4
3	0.8
4	0.4
5	0.7
6	0.2
7	0.2

Table A14: Usual time of arrival at university site – Staff & students

Time	Staff %	Student %
Before 8.00	18.9	2.3
8.00-8.30	22.7	5
8.31-9.00	.04	19.7
9.01-9.30	14.3	14.2
9.31-10.00	4.4	11.2
10.01-12.00	1.9	10.4
After 12.00	0.8	2.1
Varies	6.7	35.1

Table A15: Usual time of departure from university site – Staff & students

Time	Staff %	Student %
Before 15.00	2.7	3.9
15.00 - 15.30	1.5	3.6
15.31 - 16.00	3.3	3.9
16.01 - 16.30	12.4	8.1
16.31 - 17.00	19.3	10.8
17.01 - 17.30	28	11.8
17.31 - 18.00	10.7	6.9
After 18.00	10.9	11.3
Varies	11.2	40

Car Travellers

Table A16: Parking Location

	Staff %	Student %
University car park for which I have a permit/day ticket	37	
University car park without a permit	31	
On-street under 1 mile from university	33.7	50.6
On-street over 1 mile from university	6.8	5.5
Public off-street car park	5.7	5.7
Other	13	29.1

Table A17: Car Engine Size – Staff & Students

	Staff %	Students %
Less than 1100cc	11.9	14.9
1100 - 1400cc	32.6	32.6
1401 - 1600cc	18.8	8.7
1601 – 1900cc	10	11.5
1901 - 2000cc	10.7	5.9
2001 - 2400cc	3.5	
More than 2400cc	1.8	1.7
Don't know	10.7	24.7

Table A18: Fuel Type

	Staff %	Student %
Petrol	65	76.4
Diesel	62.8	17.5
LPG	0.4	0.3
Hybrid	0.8	0.7
Don't know	0.9	4.5
Other	0.1	0.7

Public Transport

Table A19: Usefulness of Available Information when Planning a Trip Using an Unfamiliar Bus Route. Values as Percentage.

1= Not useful, 5=Very useful

	1	2	3	4	5
When the bus will arrive at the bus stop	6.7	4.6	9.6	17.8	61.2
When the bus will arrive at destination	6.8	6.9	17.6	23.6	45.2
Where is the bus stop	5.3	6.2	7.3	20.1	61.1
Which bus line/number	5.3	6.2	6.5	19.6	62.4
What is the cost	10.4	13.2	24.2	23.5	28.6

University Travel Plan Initiatives

Table A20: Which University Transport Plan Initiatives Aware of - Staff (% rows)

	Not Aware	Aware but not used	Used
Discounted Metrocard	23.4%	59.1	17.5
Interest free loan for annual public transport tickets	52.1	43.4	4.6
Cycle storage and shower facilities	13.7	71.6	14.6
Cycle to work salary sacrifice scheme	28.6	62.4	9
Cycle mileage allowance	71.7	28	0.9
Utravelactive Project	69.4	26.5	4.2
Velocampus Bike Hub	27.1	63.3	9.6
Cycling and walking map	34	50.9	15.1
Emission-related car parking charges	58	29.4	12.6
City car club	44.3	52.5	3.2
WYcarshare.com	65.9	32.1	2.1
Car sharing network	58.6	39.3	2.1
Travel Guide	59.4	34.2	6.4
Mymetro.com	33.2	38.8	28
Firstgroup App	61.9	28.9	9.2
University of Leeds App	65.7	24.9	9.4
MCard	40	47.7	12.3

Table A21: Which University Transport Plan Initiatives Aware of - Students (%rows)

	Not aware	Aware but not used	Used
Cycle storage and shower facilities	35.8	54.8	9.3
UTravelActive Project	87.6	10.3	2.1
Velocampus bike hire	37.7	58.3	4
Velocampus Bike hub	40.2	51.9	7.9
City car club	78	21	1
WYcarshare.com	90.1	9.7	0.2
Travel guide	74	19.3	6.7
Cycling and walking map	48.7	29.8	21.4
"Put yourself in my shoes" safety campaign	90.2	8.9	0.9
Wymetro.com	59	17.5	23.4
Mcard	60.5	33.2	6.2
Student seasonal ticket	42.2	42.4	15.4
First group journey planner	58.1	24.9	17
University of Leeds App	26.6	18.7	54.7

Table A22: How much do you agree or disagree with the following statements - Student

	Strongly Disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly agree
Driving to university is convenient	24.3	22.1	14.4	16	12.4	10.8
Driving in general gives pleasure	11.5	12.5	15.6	25.1	22.3	13
Driving gives the feeling of control	8.8	9.4	14.6	27.8	26.3	13.1
Driving saves a lot of time	7.6	9.8	15.5	24.2	24.2	18.6
Car sharing reduced flexibility	5.3	13.2	21.3	31.6	20.7	7.9
People who car-share should get increased priority for car parking	4.8	8.4	13.3	26.8	30.2	16.4
Public transport is unreliable	5.3	18.6	20.2	25.9	19.1	10.8
Public transport is difficult to use in bad weather conditions	6.6	20.8	19.7	23.1	19	10.8
Riding a bike is good for health	3	1.8	2.2	10.2	31.3	51.5
Using a car is bad for the environment	2.6	5.6	11.1	24.4	27.5	28.9

Table A23: How much do you agree or disagree with the following statements - Staff

	Strongly Disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly agree
Driving to university is convenient	13.7	11.5	7.4	11	17.6	38.9
Driving in general gives pleasure	17.3	16.3	19.4	21.5	15.7	9.8
Driving gives the feeling of control	9.7	11	13.6	24.3	26.2	15.2
Driving saves a lot of time	10.8	12.1	12.2	18.1	18.6	28.2
Car sharing reduced flexibility	3.9	7.7	13.8	28.4	28.6	17.5
People who car-share should get increased priority for car parking	6	6.2	12.6	27.4	27.9	20
Public transport is unreliable	4.9	15.3	16.1	26.8	18.5	18.3
Public transport is difficult to use in bad weather conditions	7.4	19.4	17.9	21.1	17.7	16.5
Riding a bike is good for health	2.6	2.5	3.4	11.7	31.2	48.6
Using a car is bad for the environment	2.9	4.8	10.8	27.6	27.3	26.6
I would like to see car parking permits reviewed on annual basis	7	4.6	11.5	18.9	21.4	36.6

