GCU
Glasgow Caledonian University

University for the Common Good

2015 Travel Survey Report

10 August 2016

Contents

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Executive Summary

Glasgow Caledonian University (GCU/the University) is committed to reducing its environmental impact by embedding sustainability into every aspect of its operations.

GCU's carbon footprint reports highlight commuting and business travel as having significant environmental impacts and the University is developing a travel plan to mitigate them. The 2015 Travel Survey will support the development of the travel plan by collating data and insights about travel habits and choices at the University.

Results show that a high proportion (55%) of students and staff live relatively 'close' to the University (i.e. within 10 miles) and that these individuals have the greatest potential for adopting more sustainable travel (due to the availability and convenience of options available to them). The survey captured details of journey length and duration by mode travel and distance from the University and identified that financial considerations, convenience and travel duration were common factors influencing the choice of mode of travel. Combined, these insights will help develop a case to persuade more students and staff to choose more sustainable modes of travel to commute to the University.

Whilst the Survey helped develop the University's understanding of student and staff commuting, its design did not allow comparable assessment of business travel.

Respondents were encouraged to make suggestions on how environmental impacts and costs of travel to the University might be reduced. Responses were grouped into 21 broad subject categories and included more provision of information, infrastructure improvements and discounts. These suggestions will be used to develop new Travel Demand Management options and awareness campaigns to encourage more sustainable travel at GCU.

The Survey also looked at how travel has changed since 2012 (for students) and 2009 (for staff) and although there is no significant difference between where respondents travel from and the duration of their commutes, there has been a small increase in the frequency of trips to the University. This comparison also revealed that between 2012 and 2015 there were noticeable shifts in the way students travelled to the University, with prominent reductions in car use (both single and single-occupancy) and bus use and increases in all other modes of travel, particularly train. A similar trend was noticed for staff.

Overall, sustainable travel at GCU seems to be heading in the right direction and the University should build on existing initiatives to foster further increases in the proportion of students and staff choosing sustainable travel options.

GCU 2015 Travel Survey Report

Introduction & Background

Glasgow Caledonian University (GCU/the University) is committed to reducing its environmental impact by embedding sustainability into every aspect of its operations.

To help deliver this commitment, the University uses a range of approaches to identify and quantify environmental impacts. The University's carbon footprint reports[1] highlight travel as a significant source of emissions, while its travel surveys (2009 and 2012) reveal potential for more sustainable travel to and from the University (i.e. travel with a lower environmental impact).

Since the last travel survey in 2012 there have been a number of developments at GCU which may have influenced how students and staff choose to travel and, as a result, the survey's findings may no longer reflect current travel patterns.

This report provides an overview of the choices and habits those travelling to GCU made in 2015 and explores how travel has changed since 2012 (for students) and 2009 (for staff).

Aims & Objectives

The main aim of the 2015 Travel Survey was to provide data and insights to help GCU reduce the environmental and financial burdens associated with personal and business travel to and from the University. These aims will be achieved by:

- Understanding how students and staff commute to the University and how this has changed over time.
- Determining what influences staff business travel decisions.
- Identify opportunities for promoting more sustainable/active modes of travel to students and staff (for both commuting and business travel).
- Develop metrics to monitor the impact of future travel plans.

Methodology

The 2015 Travel Survey was designed to allow for a direct comparison with results from the 2012 Travel Survey and foster a deeper understanding of factors that influenced travel choices (commuting and business) made by students and staff at GCU.

The 2015 Travel Survey included a number of questions designed to help understand:

1. How students and staff commute to the University,
2. What influences the choice of business travel for staff, and
3. Awareness levels amongst students and staff of Travel Demand Management (TDM) initiatives at GCU.

In addition to the above areas of enquiry, respondents were also given the opportunity to request information about specific TDM initiatives. A schematic of the 2015 Travel Survey questionnaire is included as Appendix A.

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[1] GCU's carbon footprint reports are available from: www.gcu.ac.uk/sustainability/reporting/

GCU 2015 Travel Survey Report

The Survey was distributed using a Google form and as hard copies to staff without computers. The survey was promoted to students and staff using a variety of internal communication and social media channels. The Survey opened at the end of September for 4 weeks, but extended for two weeks to support a travel initiative under consideration by People Services.

To elicit a high response rate, all participants were given the opportunity to enter a random prize draw (Amazon vouchers ranging between £10-£100).

Result & Analysis

This section aggregates the results of the 2015 Travel Survey and provides a basis for comparisons with results from previous travel surveys (2009 and 2012), which will be discussed later on.

Responses

A total of 508 students and staff completed the survey online and an additional 15 staff completed the survey using the paper questionnaires. During initial data verification, 22 surveys were excluded from analysis because:

- 3 were not based in Glasgow Campus (and the low number could not be used to develop an anonymous/representative understanding of travel at the respondents' locations).
- 19 did not meet distance control checks (determined using starting postcode, distance and travel time).

Following this initial verification, 501 responses were used to evaluate travel habits at the University (a breakdown of response rates is provided in Table 1).

	Number of Respondents	Proportion of Respondents
Undergraduate – Year 1 (UG1)	78	15.57%
Undergraduate – Year 2 (UG2)	55	10.98%
Undergraduate – Year 3 (UG3)	81	16.17%
Undergraduate – Year 4 (UG4)	56	11.18%
Postgraduate (PG)	41	8.18%
Staff (S)	190	37.92%
Total	**501**	

Table 1 Number of respondents by respondent category.

Based on student and staff numbers (Table 2) this represents a response rate of 2.08% for students and 11.39% for staff. Although this response rate was lower than for the 2012 survey (when the response rate was 10% for students and 40% from staff), the responses will nonetheless contribute to a better understanding of travel habits and potential to adopt more sustainable travel.

	Students	Staff
Total	14976	1668

Table 2 Student and staff numbers at GCU during September and October 2015 (as provided by GCU's Strategy & Planning Office[2] and People Services[3]).

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[2] Student numbers as of 17 February 2016 (Strategy & Planning)
[3] Staff numbers as of 31 January 2016 (People Services)

Of the 501 respondents:

- 107 staff answered questions about business travel,
- 311 students and 175 staff answered questions gauging awareness and use of various Travel Demand Management options, and
- 220 students and staff made suggestions for reducing costs and environmental impacts of travel to/from the University.

The key findings from these answers are explored in the following sections, with results present (where relevant) by distance band (miles) away from the University and using mode-specific abbreviations listed in Table 3.

Mode of travel	Abbreviation
Walk	WLK
Cycling	BIKE
Subway	SUB
Train	TRN
Bus	BUS
Motorbike	MOTO
Car - shared	C_SHR
Car – single occupant vehicle	C_SOV
Other	OTH

Table 3 Abbreviations for the different modes of travel.

The full dataset for the 2015 Travel Survey (with personal information redacted) is available from the data page in the sustainability section of GCU's website[4] (as is the 2012 dataset).

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[4] Redacted survey responses are available from: http://www.gcu.ac.uk/sustainability/data/

Student & Staff Commuting

The 2015 Travel Survey sought to understand commuting habits and patterns by considering where respondents travelled from, the length and duration of their commutes, modes of travel used and factors influencing the selection of mode of travel.
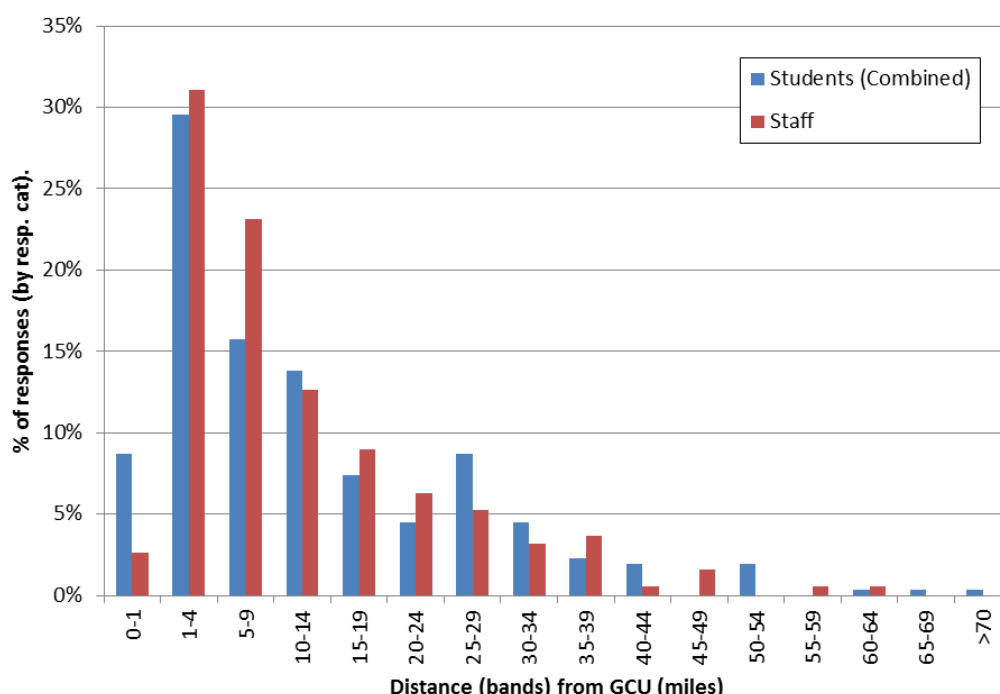

Figure 1 Proportion of respondents by distance band (miles) away from GCU.

Respondents were asked about the length of their commutes and results grouped into distance bands (in miles) away from GCU (Figure 1). The data shows that a high proportion of students and staff live relatively 'close' to GCU: 38% of students and 33% of staff live within 5 miles of the University, whilst 54% of students and 56% of staff live within 10 miles. Due to their proximity to the city centre, these individuals have the greatest potential for adopting more sustainable travel (due to availability and convenience). This potential is supported by data on the duration and length of active travel commutes (i.e. walking and cycling) as detailed in Table 1.

	Students (combined) - average		Staff - average	
	Distance (miles)	Time (minutes)	Distance (miles)	Time (minutes)
WLK	2	27	1	23
BIKE	2	17	5	24
SUB	5	28	7	40
TRN	28	49	27	57
BUS	24	65	27	71
MOTO	N/A	N/A	24	30
C_SHR	18	63	22	53
C_SOV	23	48	19	42
OTH	N/A	N/A	4	30

Table 4 Self-reported average commute distance (miles) and duration (minutes) for students and staff.

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Respondents were also asked about how they travel to the University and the resulting modal distribution (Figure 2) shows that a higher proportion of students walk, use the bus, train or subway, whilst staff tend to cycle or drive more than students.
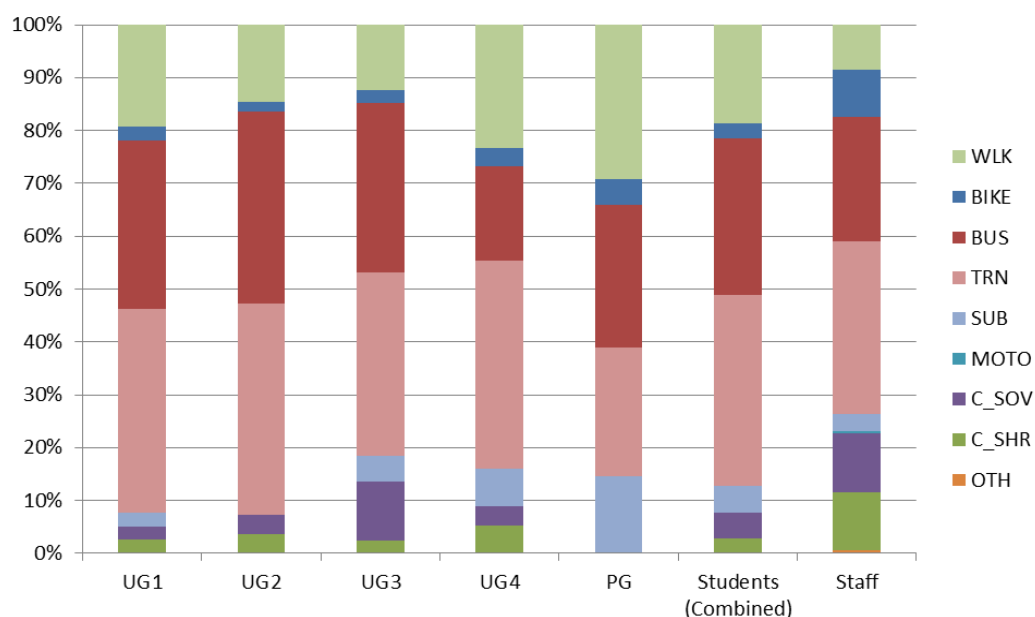

Figure 2 Modal distribution (%) by respondent type.

These trends are maintained when modal distribution is considered by respondent type and distance band (miles) away from the University (Figure 3).
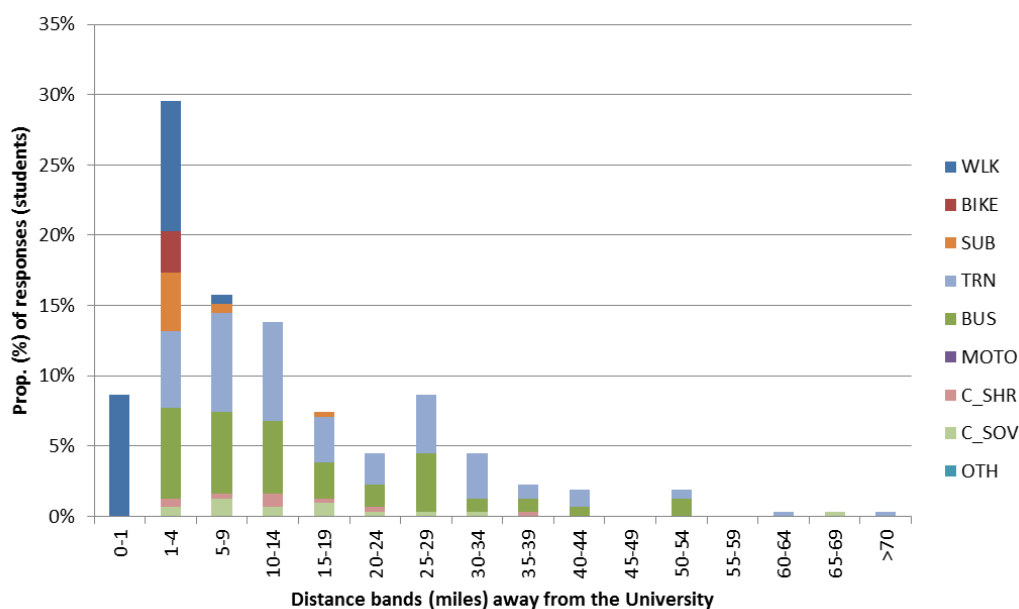

Figure 3 Modal distribution for students by commute distance (miles) from the University.

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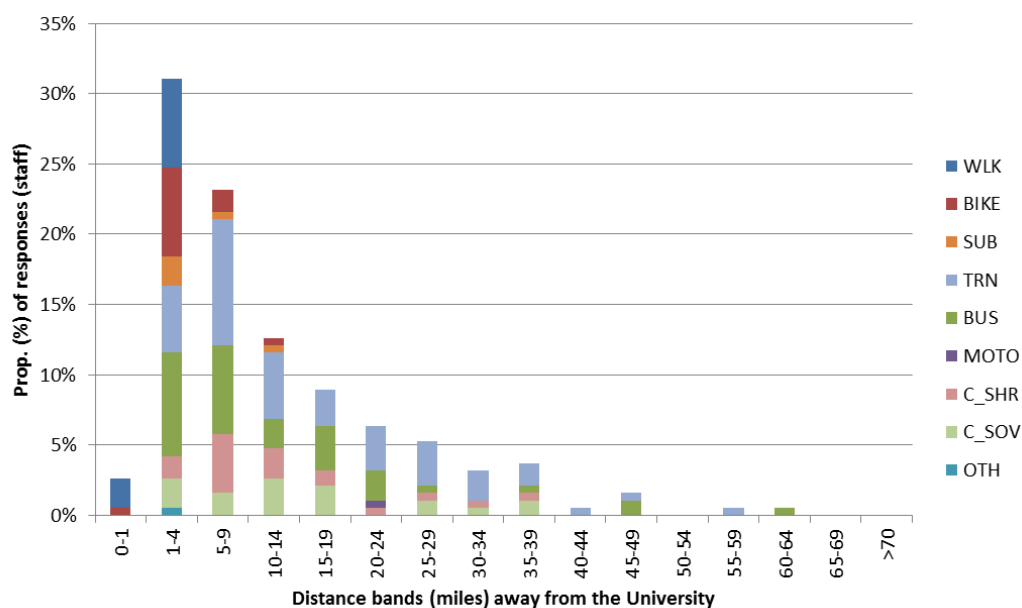Version: 2 (FINAL)
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Figure 4 Modal distribution for staff by commute distance (miles) from the University.

The survey also gave respondents the opportunity to elaborate on what influenced their choice of mode of travel, with responses allocated one or two of 16 common themes. Table 5 details the most common themes for each mode of travel. For both students and staff, financial considerations, convenience and travel duration were the most common factors influencing choice of travel.

	Students (combined)	Staff
WLK	Financial: 40% Proximity to the University: 31% Convenient: 22% Exercise/healthy: 22%	Quickest: 25% Enjoyable: 25% Exercise/healthy: 25%
BIKE	Quickest: 70% Financial: 70% Enjoyable: 40%	Financial: 59% Exercise/healthy: 41% Quickest: 35%
SUB	Convenient: 56% Financial: 38% Quickest: 38%	Quickest: 50% Convenient: 33% Financial: 33%
TRN	Quickest: 54% Convenient: 48% Financial: 31%	Quickest: 55% Convenient: 53% Financial: 18%
BUS	Financial: 70% Convenient: 55%	Convenient: 58% Financial: 50% Limited options: 19%
MOTO	N/A	Quickest: 100% Financial: 100%
C_SHR	Financial: 55% Quickest: 55% Convenient: 33%	Financial: 55% Convenient: 50%
C_SOV	Convenient: 47% Financial: 33%	Convenient: 47% Child + other care arrange. : 33%

Table 5 Main factors influencing choice of mode of travel (based on responses from 312 students and 178 staff).

The list below elaborates on the range of topics included in each of the main reasons for travel (included in Table 5):

- Financial – mode of travel offers a financial benefit compared to other options available to respondent.
- Quick – the mode of travel offers a shorter journey than other options available to the respondent.
- Convenient – the mode of travel allowed for fewer changes in the respondent's commute: enabled the respondent to start their journey closer to home or finish closer to the University; and/or was deemed easy to use.
- Exercise/healthy – the mode of travel was deemed to provide exercise opportunities and/or to have health benefits compared to other modes of travel.
- Proximity to the University – the respondent considered that they lived sufficiently close to GCU that other modes of travel were not really feasible.
- Enjoyable – the respondent enjoyed the particular mode of travel.
- Child and other care arrangement – the respondent had to plan journeys around a range of care commitments.

While the factors influencing the selection of mode of travel tend to be journey specific, they still provide an insight into the perceived benefits associated with that mode of travel and, combined with insights about typical journey lengths and times, could be used to encourage more active/sustainable travel to GCU.

Business Travel Choices

The University's annual carbon footprint reports include comprehensive datasets for business travel and the 2015 Travel Survey provided an opportunity to develop an understanding of what influences the selection of different modes of travel for business travel.

The 2015 Travel Survey categorised business travel as local (within Glasgow), regional (within Scotland) and the rest of UK and internationally. 107 respondents answered questions about local/regional travel and 103 about national/international travel (amongst these, however, around 14% said they didn't travel).

Responses about factors that influence the choice of travel were grouped into 18 categories in an attempt to understand the broad factors that most often influence the selection of mode of travel for business travel (Figure 5). However, the survey did not capture information about business travel destinations and, as a result, it was difficult to derive any meaningful insights from these responses.
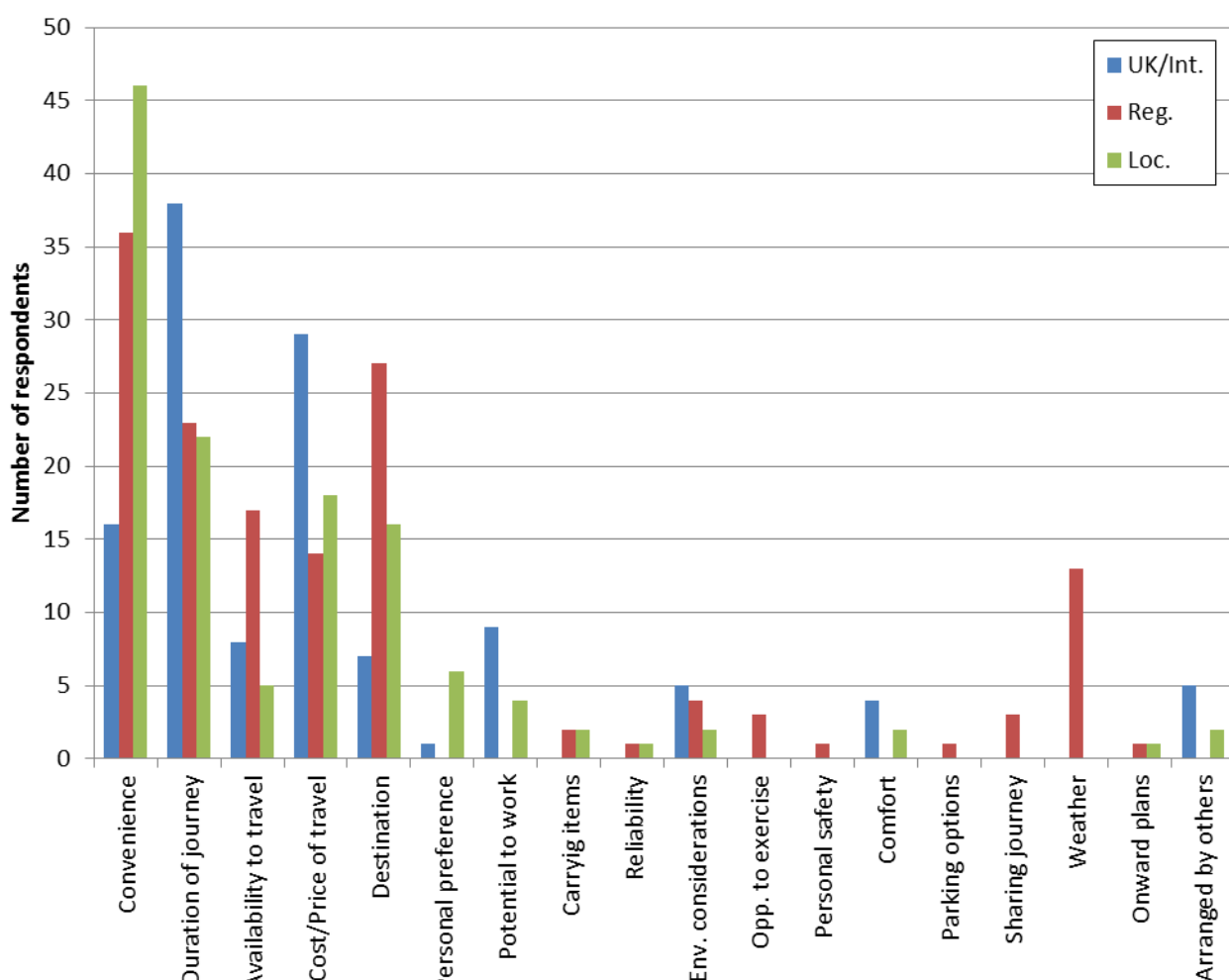
Figure 5 Reasons influencing choice of business travel.

The factors listed most frequently (convenience, duration of journey, personal availability to travel, cost of travel and location of destination) should be used, as far as possible, to encourage the adoption of more sustainable travel options for business travel (although it is recognised that the amount of information captured by the Survey was not significantly detailed).

Awareness & Use of Travel Demand Management Options

The 2015 Travel Survey also sought to understand students' and staff's awareness and use of existing travel demand management (TDM) initiatives (i.e. initiatives that could either reduce the demand for travel or encourage either group to choose more sustainable travel options).

Table 6 details the extent of awareness and use of a range of TDM initiatives. Commuting TDM options were presented to students and staff, whilst business travel TDM options were only presented to staff.

TDM	Staff		Students (UG + PG)	
	Aware	Use	Aware	Use
Skype	51%	27%	N/A	
VPN (remote working)	57%	30%	N/A	
Video Conferencing	63%	18%	N/A	
City Car Club	31%	0%	13%	0%
Cycle Forum	73%	15%	46%	2%
Nextbikes	59%	4%	24%	1%
Cycle to Work	85%	11%	N/A	
Liftshare	20%	1%	N/A	
CityLink (discount)	44%	5%	24%	4%

Table 6 Awareness and use of various travel demand management (TDM) interventions amongst students and staff.

Table 6 suggests that a higher proportion of staff are aware of, and use TDM options available to them and that there is an opportunity for raising awareness and increasing uptake of TDM options amongst students and staff.

Suggestions for Cheaper & More Sustainable Travel

Respondents were also asked for suggestions on how to help reduce the costs and environmental impact of travel to/from GCU. Table 7 summarises responses from students and staff and grouped into 21 categories (for ease of interpretation).

Suggestion	UG Students	PG Students	Staff
Electric Car Charging Points			3
Car Sharing – info	9	1	1
Compact Timetabling	6		
Cycling - better cycle lanes	1	1	1
Cycling – lessons	1	1	
Cycling - more parking	3	1	1
Cycling – other	7	2	1
Discounts - better promotion	7		1
Flexible [home] working – staff			9
Car - parking - discounts	9	1	2
Car - parking - more/better	4		7
Car - parking – reimbursement	1		
Staff discounts - inc. season ticket loan			34
Student discounts - various	47	3	
Student discounts – mature	3		
Student discounts - monthly tickets	4	1	
Student discounts - peak times	4	1	
Student discounts - reimbursement	1		
Video conferencing – dedicated facility			5
Walking routes	1		
Other	12	3	9

Table 7 Key suggestions for reducing costs/environmental impact of travel (business and commuting) at the University.

These suggestions will have the potential to inform the development of additional TDM options and awareness campaigns to encourage more sustainable travel at CGU.

Changes in Travel

The 2015 Travel Survey provided the opportunity to explore whether travel habits and patterns had changed since 2012 and, as data was available, also since 2009 (for staff).

Term-time Residency & Average Commute Distance

With a few minor exceptions, there appeared to be no significant difference in where students and staff lived in 2012 and 2015 (Figure 6 and Figure 7, respectively) nor the average length of their commutes (Table 8). The statistical significance of these differences was not tested.
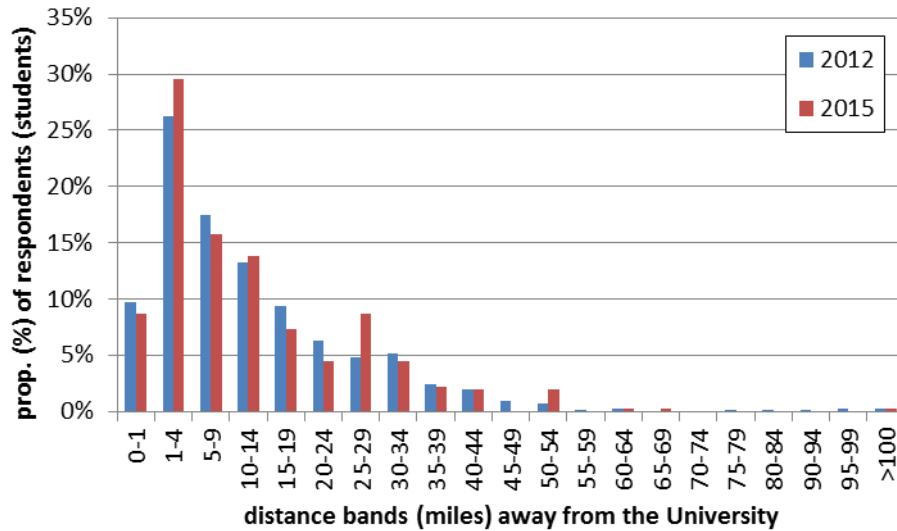
Figure 6 Comparison of students' commute distance in bands (miles) in 2012 and 2015
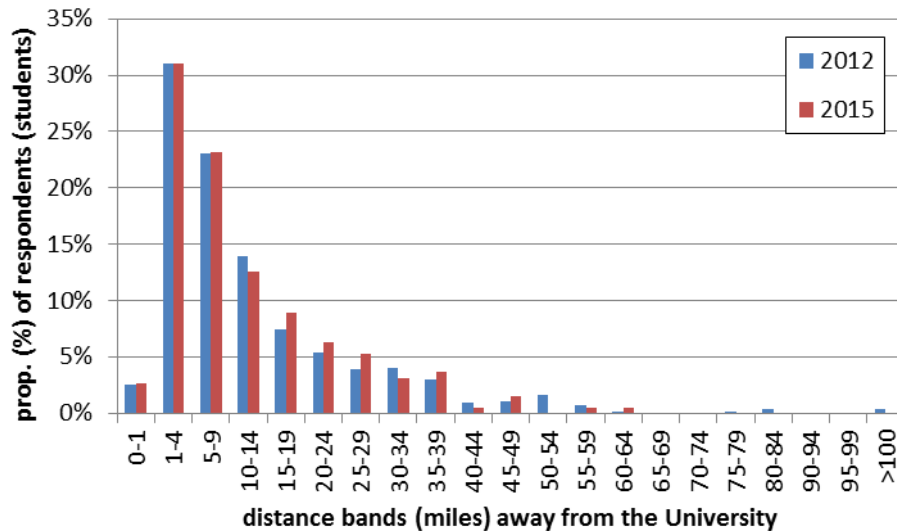
Figure 7 Comparison of staff commute distance in bands (miles) in 2012 and 2015

Year	UG1	UG2	UG3	UG4	PG	Staff
2012	12.94	11.76	13.93	13.77	11.49	12.89
2015	14.24	11.77	13.90	11.22	10.67	11.86

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Table 8 Average self-reported commute distance (in miles)

Frequency of Travel

Whilst changes in where the majority of students and staff lived and the length of their commutes were not apparent, there appears to be a minor increase in the frequency that most students travel to GCU (Table 9). Again, the statistical significance of these differences was not tested.

Year	UG1	UG2	UG3	UG4	PG	Staff
2012	3.9	3.8	3.5	3.4	3.7	4.7
2015	4.1	3.9	3.5	3.7	3.9	4.7

Table 9 Average number of trips in a week that different groups of respondent make to the University

Modal Distribution

The 2015 Travel Survey was designed to allow for a direct comparison of travel habits in 2015 with those in 2012. Figure 8 illustrates changes in modal distribution for students between 2012 and 2015, whilst Figure 9 shows modal distribution changes for staff between 2009, 2012 and 2015.

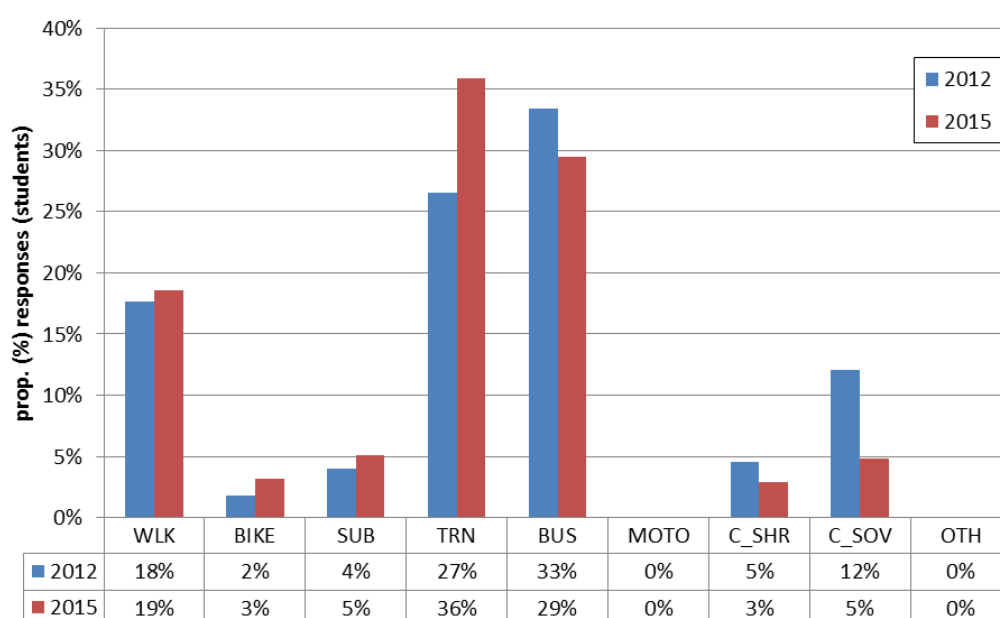|	WLK	BIKE	SUB	TRN	BUS	MOTO	C_SHR	C_SOV	OTH
2012	18%	2%	4%	27%	33%	0%	5%	12%	0%
2015	19%	3%	5%	36%	29%	0%	3%	5%	0%

Figure 8 Changes in student modal distribution between 2012 and 2015.

Figure 8 shows that between 2012 and 2015 there were noticeable shifts in the way students travelled to the University, with prominent reductions in car use (both single and single-occupancy) and bus use and increases in all other modes of travel, most noticeably in train use.

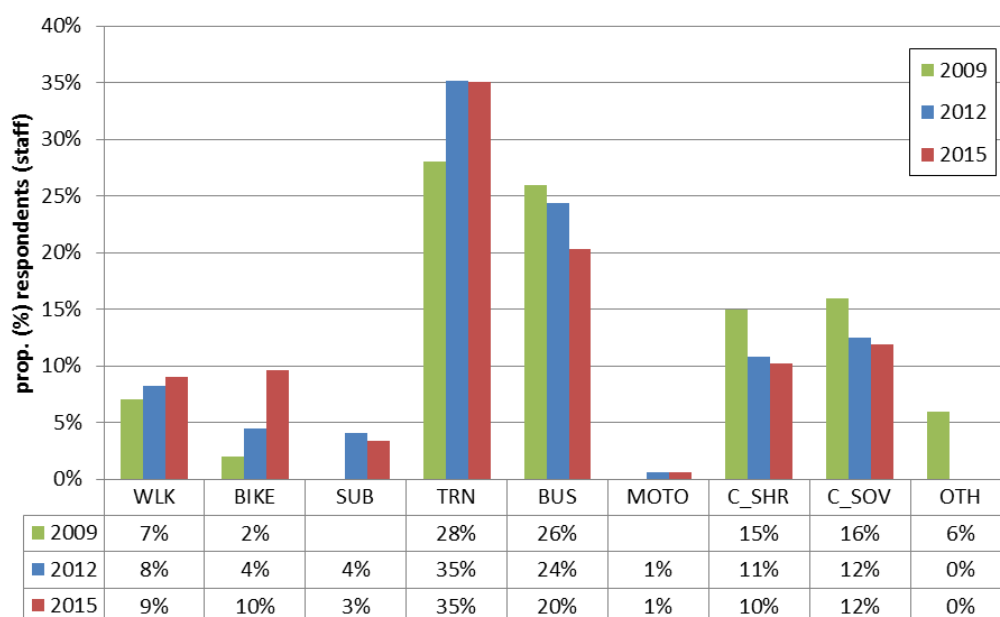|	WLK	BIKE	SUB	TRN	BUS	MOTO	C_SHR	C_SOV	OTH
2009	7%	2%		28%	26%		15%	16%	6%
2012	8%	4%	4%	35%	24%	1%	11%	12%	0%
2015	9%	10%	3%	35%	20%	1%	10%	12%	0%

Figure 9 Changes in staff modal distribution between 2009, 2012 and 2015.

Although modal distribution for staff travel is available for a longer period of time, with the first staff travel survey having been carried out in 2009, the trend is similar as that observed for students, with decreases in car and bus use (although less pronounced) and increased in walking, cycling and train use. There was also a small reduction in the proportion of staff using the subway.

These comparisons confirm that the changes in (commuting) modal distribution at GCU are heading in the right direction and that the University should continue to pursue TDM that encourage more sustainable travel.

Overall Findings

Whilst the 2015 Travel Survey helped develop the University's understanding of student and staff commuting, its design did not allow comparable assessment of business travel.

To address this knowledge gap, consideration will need to be given to the type and range of questions that would potentially provide the level of detail required to understand business travel and whether the Travel Survey is the right mechanism for making this type of evaluating.

For commuting, the 2015 Travel Survey revealed that since 2012 (and 2009 for staff) there has been a shift towards more sustainable travel at GCU. It also provided a number of insights about factors that influenced the choice of travel and how these might be used in encouraging more adoption of sustainable travel.

Another area of improvement is the promotion of existing TDM options, where the survey highlighted low levels of awareness and uptake. Improving awareness and uptake of TDM will encourage more sustainable travel and the survey provided a list of contacts which could help pilot the promotion of existing and new TDM options.

Overall, sustainable travel at GCU seems to be heading in the right direction and the University should build on existing initiatives to foster further increases in the proportion of students and staff choosing sustainable travel options.

Appendix A – Questionnaire Structure
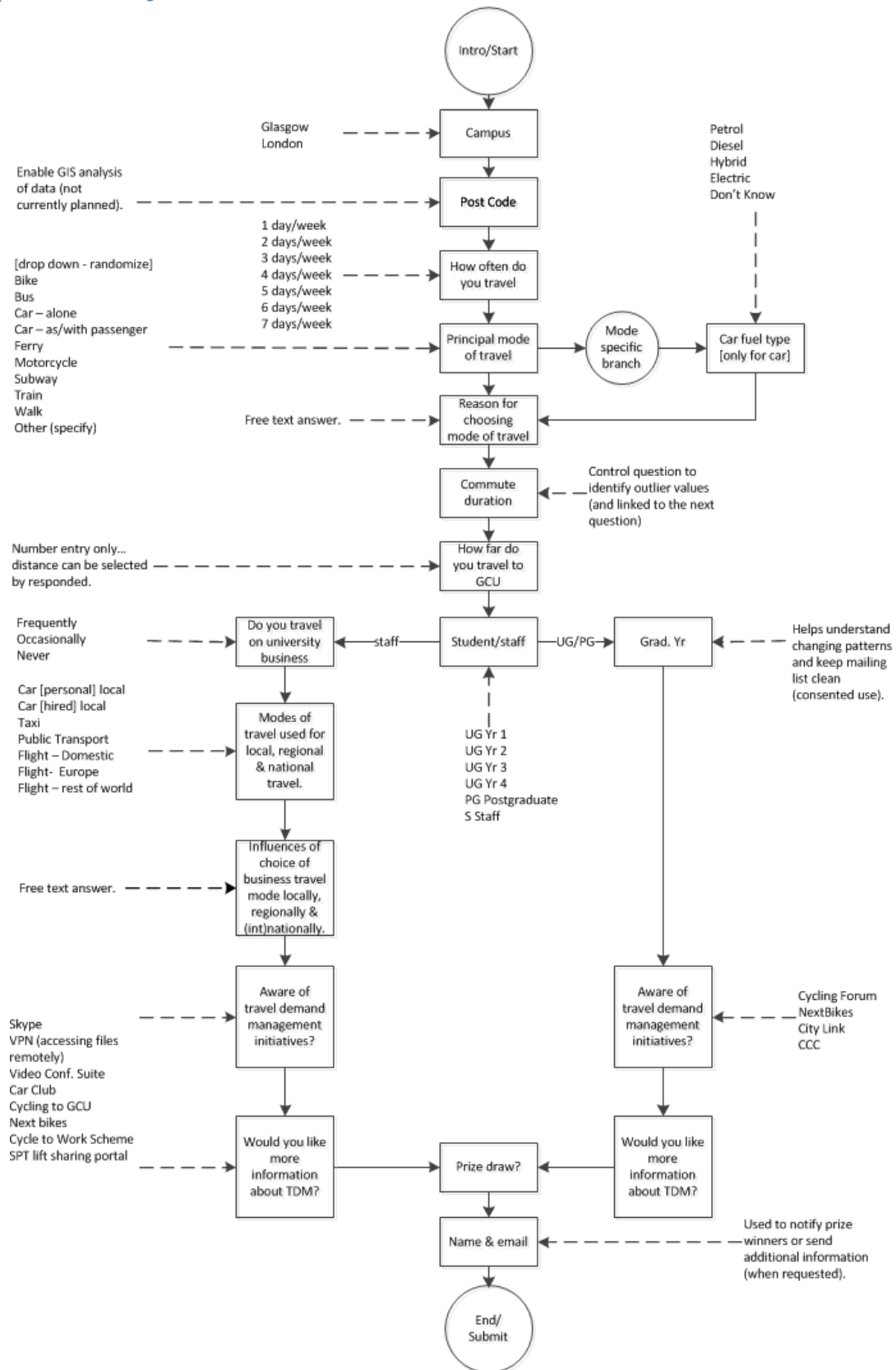
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Appendix B – Average Commute Summary

Tables summarising average commute distance and duration by band (miles) and mode of travel for students and staff. The main reasons influencing the choice of travel are also included.

Students (combined)	0-1	1-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	[reason]
WLK	10 mins 0 miles	26 mins 2 miles	45 mins 5 miles														Financial: 40% Proximity to the University: 31% Convenient: 22% Exercise/healthy: 22%
BIKE		17 mins 2 miles															Quick: 70% Financial: 70% Enjoyable: 40%
SUB		26 mins 3 miles	30 mins 7 miles														Convenient: 56% Financial: 38% Quick: 38%
TRN		22 mins 3 miles	33 mins 7 miles	34 mins 11 miles	42 mins 16 miles	46 mins 21 miles	56 mins 26 miles	54 mins 31 miles	67 mins 37 miles	59 mins 41 miles		65 mins 50 miles		60 mins 60 miles			Quickest: 55% Convenient: 53% Financial: 18%
BUS		27 mins 3 miles	39 mins 6 miles	41 mins 12 miles	58 mins 16 miles	53 mins 22 miles	65 mins 26 miles	68 mins 31 miles	89 mins 36 miles	88 mins 41 miles		121 mins 52 miles					Quickest: 54% Convenient: 48% Financial: 31%
C_SHR		18 mins 4 miles		38 mins 10 miles		75 mins 22 miles			120 mins 35 miles								Financial: 55% Quick: 55% Convenient: 33%
C_SOV		23 mins 3 miles	29 mins 7 miles	30 mins 13 miles	31 mins 17 miles	45 mins 24 miles	50 mins 25 miles	90 mins 31 miles							90 mins 67 miles		Convenient: 47% Financial: 33%

Staff	0-1	1-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	[reason]
WLK WLK miles	10 mins 0 miles	36 mins 2 miles															Quick: 25% Enjoyable: 25% Exercise/healthy: 25%
BIKE BIKEmiles	4 mins 1 miles	21 mins 3 miles	26 mins 6 miles	45 mins 10 miles													Financial: 59% Exercise/healthy: 41% Quick: 35%
SUB SUBmiles		29 mins 3 miles	50 mins 7 miles	40 mins 12 miles													Quick: 50% Convenient: 33% Financial: 33%
TRN TRN miles		25 mins 3 miles	36 mins 7 miles	47 mins 12 miles	34 mins 15 miles	58 mins 22 miles	61 mins 25 miles	61 mins 32 miles	75 mins 35 miles	75 mins 40 miles	60 mins 48 miles		90 mins 55 miles				Quickest: 55% Convenient: 53% Financial: 18%
BUS BUS miles		36 mins 3 miles	38 mins 7 miles	48 mins 11 miles	57 mins 16 miles	63 mins 21 miles	75 mins 28 miles		75 mins 36 miles	100 mins 40 miles	95 mins 47 miles			120 mins 60 miles			Convenient: 58% Financial: 50% Limited options: 19%
MOTO MOTO miles						30 mins 24 miles											Quickest: 100% Financial: 100%
C_SHR C_SHR miles		25 mins 5 miles	29 mins 7 miles	40 mins 11 miles	58 mins 19 miles	60 mins 20 miles	40 mins 25 miles	60 mins 34 miles	75 mins 35 miles	90 mins 40 miles							Financial: 55% Convenient: 50%
C_SOV C_SOV miles		20 mins 3 miles	28 mins 7 miles	30 mins 11 miles	36 mins 16 miles		70 mins 26 miles	50 mins 33 miles	60 mins 36 miles								Convenient: 47% Child + other care arrange. : 33%

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Glasgow Caledonian University
Cowcaddens Road
Glasgow, G4 0BA
Scotland, United Kingdom

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