GCU
Glasgow Caledonian
University

University for the Common Good

Sustainable Travel Plan

27 November 2015

Contents

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Introduction

Glasgow Caledonian University's (GCU) Strategy for 2020 sets out a vision to become a University for the Common Good: improving its environmental performance by reducing impacts is therefore integral to delivering this vision.

GCU's EcoCampus Environmental Management System provides a framework for identifying and quantifying environmental impacts. Carbon footprinting is one methodology used to evaluate environmental impacts and the latest data for GCU[1] identifies commuting and business travel as significant sources of greenhouse gas (GHG) emissions for the University. Transport-related emissions are also significant at a national level, representing 20% of Scotland's emissions inventory[2].

Understanding how we travel, and what the associated environmental and health impacts are, will help us make more informed decisions about our travel options. It will also help us implement initiatives to support national efforts to reduce Scotland's GHG emissions.

This Travel Plan (TP) provides a starting point for developing our understanding of our travel options and identifying options for reducing detrimental impacts associated with how we travel (primarily to and from our campus in Glasgow). It is a live working tool which will be subject to ongoing review by GCU's Sustainability Working Group (SWG) and other internal stakeholders.

The present TP builds on GCU's first TP, prepared by the Energy Saving Trust in 2009, and which contained a number of recommendations for reducing transport-related emissions and encouraged more active, sustainable travel. Whilst the implementation of those recommendations had mixed success, the review and update of GCU's TP is long overdue.

Aims & Objectives

The aim of this TP is to deliver continual reductions, at least until 2020, of greenhouse gas emissions and costs associated with travel to and from GCU. These reductions will achieve this by:

1. Establishing a framework for measuring environmental impacts associated with travel.
2. Reporting the environmental impacts associated with travel to and from GCU.
3. Identifying sustainable travel options to and from GCU.
4. Promoting sustainable travel options to GCU students, staff, visitors and other stakeholders.
5. Raising awareness and understanding of what sustainable travel is and what opportunities are available for those travelling to and from the University.
6. Celebrating the up-take of sustainable travel at GCU.

Campus Location

Although GCU also has campuses in London and New York, their comparatively small sizes mean that with the exception of air travel between these campuses, impacts are likely to be most significant in Glasgow.

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[1] GCU – Environmental Reports: http://www.gcu.ac.uk/sustainability/reporting/ [Accessed: 1 July 2015]
[2] Scottish Greenhouse Gas Emissions 2013: http://www.gov.scot/Publications/2015/06/1939/downloads [Accessed: 1 July 2015]

As a result, GCU's Glasgow campus will be the primary focus of this TP. GCU's Glasgow campus is located in the centre of Glasgow and easily accessible by the city's transport infrastructure.

Glasgow's Buchanan Bus Station is across the road from the University, Queen Street and Glasgow Central Stations are a short walk away, as are Buchanan Street and Cowcaddens subway stations. The Colleges [Cycle] Route goes past the University on Cowcaddens Road and there are two bike hire stations close by (on Cowcaddens Road and at Buchanan Bus Station). The M8 is less than a block away and although on-campus parking is limited, there are several multi-storey car parks nearby. Glasgow Airport is only a 15-20 minute drive and a regular bus service from Buchanan Bus Station provides a frequent connection to the city centre.

A more detailed overview of GCU's accessibility, which remains broadly unchanged, is provided in GCU's first Travel Plan[3] (2009).

Existing Measures

GCU's first TP included a framework of recommendations to help develop a better understanding of travel and encourage more sustainable travel to and from the University.

Although most of the recommendations were implemented to a greater or lesser extent, many remain relevant and continue in place today. Examples of the initiatives introduced as a result of GCU's 2009 TP include:

- Extensive travel monitoring (e.g. travel surveys, bike counts and carbon reporting).
- Travel advice for staff through the Bike Station's Better Way to Work service (ceased in April 2015).
- Travel advice pages on GCU website (in the 'how to get to GCU' and 'sustainability' sections).
- Regular health and wellbeing initiatives to encourage more active travel.
- Cycle to Work scheme for staff.
- Improved cycling infrastructure and initiatives to overcome common barriers to cycling (supported by SPT, Sustrans and Cycling Scotland).
- Discounts for students and staff on City Link services.

Whilst these initiatives provide a good foundation for promoting sustainable travel, a number of operational changes in GCU, which now include campuses in London and New York, justify a re-evaluation of how the University travels and promotes more sustainable travel.

Travel Patterns & Baseline Data

Previous evaluations of travel at GCU have provided a baseline to map and quantify the use of travel and transport at GCU. This section and the recommendations made as part of this TP are based on data from the following sources:

- Travel Plan (2009) – Energy Saving Trust
- Student and Staff Travel Survey (2012) - GCU with 1,396 students (10%) and 601 staff (40%) completing the survey.

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[3] Available on request by emailing sustainability@gcu.ac.uk

- Carbon Footprint Reports (2012-2013 and 2013-2014) – GCU
- Barriers to Cycling (2014) – Bike Station (GCU data only – not public) with responses from 162 GCU students
- Sustainable Travel Review (2015) – Energy Saving Trust
- Grey Fleet Review (2015) – Energy Saving Trust

Travel and transportation at GCU fall into four broad categories: commuting, business travel, visitors and deliveries and collections from our campuses (Figure 1).
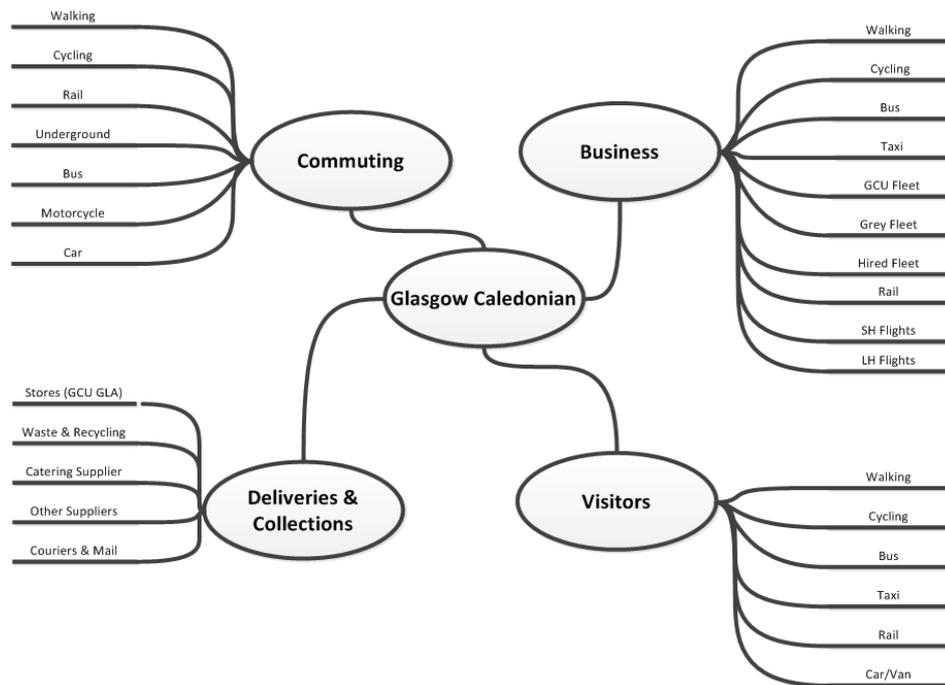

Figure 1 Main travel categories at GCU.

Whilst GCU does not have baseline data for all of the above uses of transport and travel (specifically deliveries, collections and visitor travel), data and insights from previous transport evaluations and carbon footprints will inform the development of travel measures to foster more sustainable travel at GCU.

In 2012-2013, commuting and business travel were estimated to contribute around 11,415 tonnes CO_2e to GCU's carbon footprint, whilst in 2013-2014, they contributed around 11,677 tonnes CO_2e. A complete dataset for end-of-term travel is not yet available to provide a full picture of travel at GCU, although international student travel contributes around another 6,000 tonnes CO_2e. A breakdown of available data is provided in Table 1.

Travel emissions (excluding end-of-term travel) in those years, accounted for over 44% of reported emissions in 2012-2013 and 47% of emissions reported in 2013-2014. Although the increasing range of reported emissions means that these proportions are not on a like-for-like, they nonetheless represent a significant proportion of GCU's reported emissions.

Reporting Year	Tonnes CO_2e			
	Staff Commuting	Student Commuting	Business Travel	Total
2012-2013	1,273	8,844	1,298	11,415
2013-2014	1,138	8,735	1,804	11,677

Table 1 Carbon emissions from travel at GCU. NB totals do not include emissions from end-of-term travel.

GCU's 2012 Travel Survey provided modal distribution data for both student and staff commuting and a previous Travel Survey provided data for staff commuting in 2009 (Table 2).

Mode of Travel	Students 2012	Staff 2012	Staff 2009
Walk	17.68%	8.13%	7%
Cycle	1.83%	4.61%	2%
Rail	26.39%	34.69%	28%
Underground	4.07%	4.24%	N/A
Bus	33.53%	24.35%	26%
Motorcycle	0.00%	0.55%	N/A
Car (single occupancy)	12.03%	12.55%	31%
Car (shared)	4.48%	10.89%	
Other	N/A	N/A	6%

Table 2 Commuting modal distribution for GCU students and staff.

Since the 2009 TP was produced, there has been a shift towards more sustainable travel amongst staff (no comparable data is available for students), as shown by Figure 2.
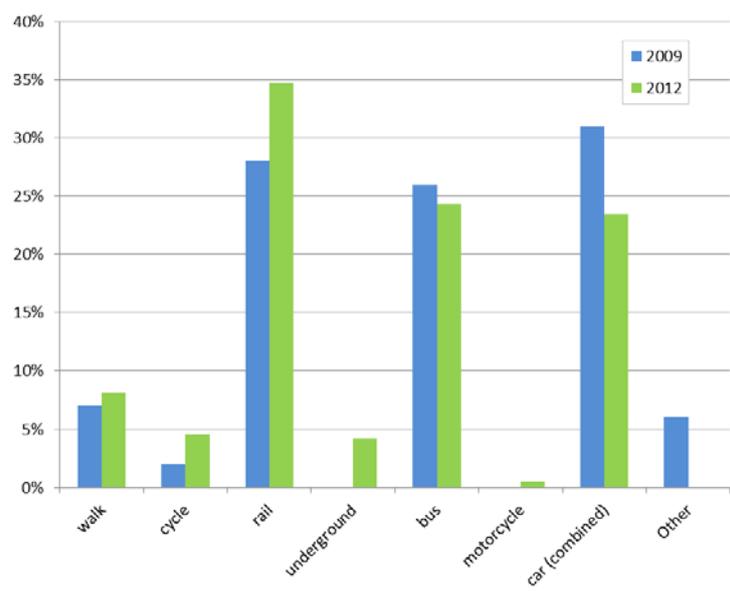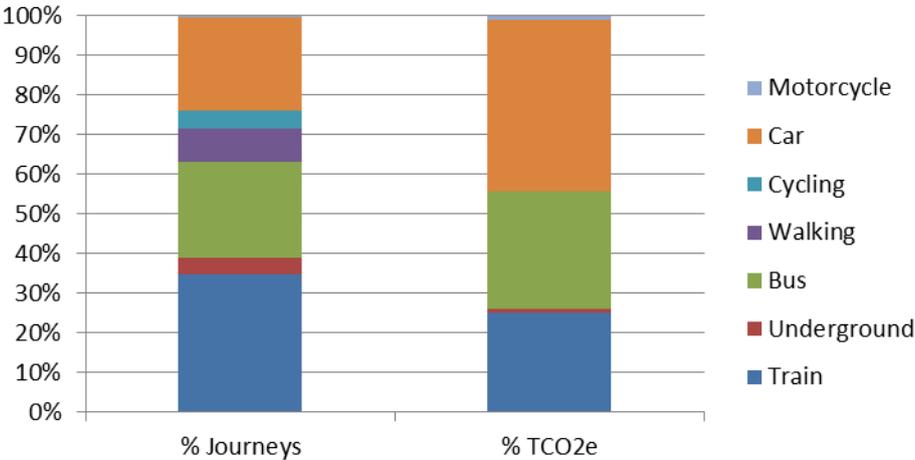

Figure 2 Modal distribution for staff commutes to GCU (2009 and 2012 Travel Surveys) shows a slight uptake in more sustainable modes of travel.

Whilst this modal shift is in the right direction, some of the less sustainable modes of transport continue to make a disproportional contribution to GCU's GHG emissions (Figure 3).

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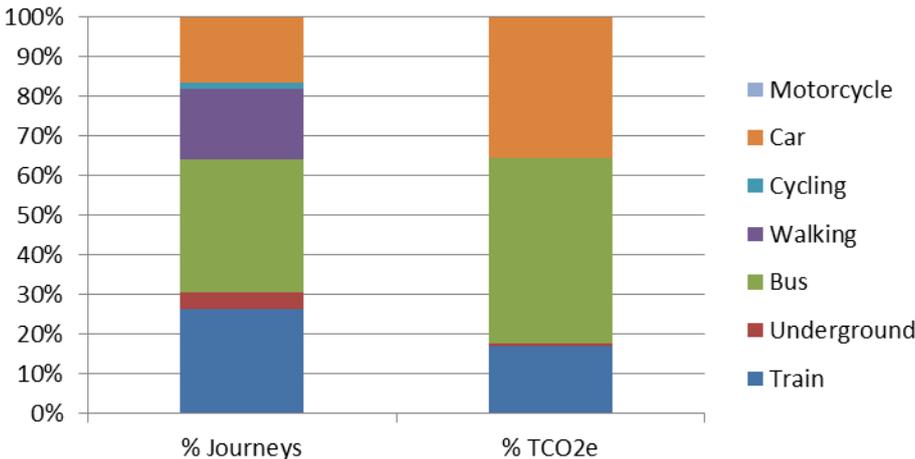Author: Paulo Cruz
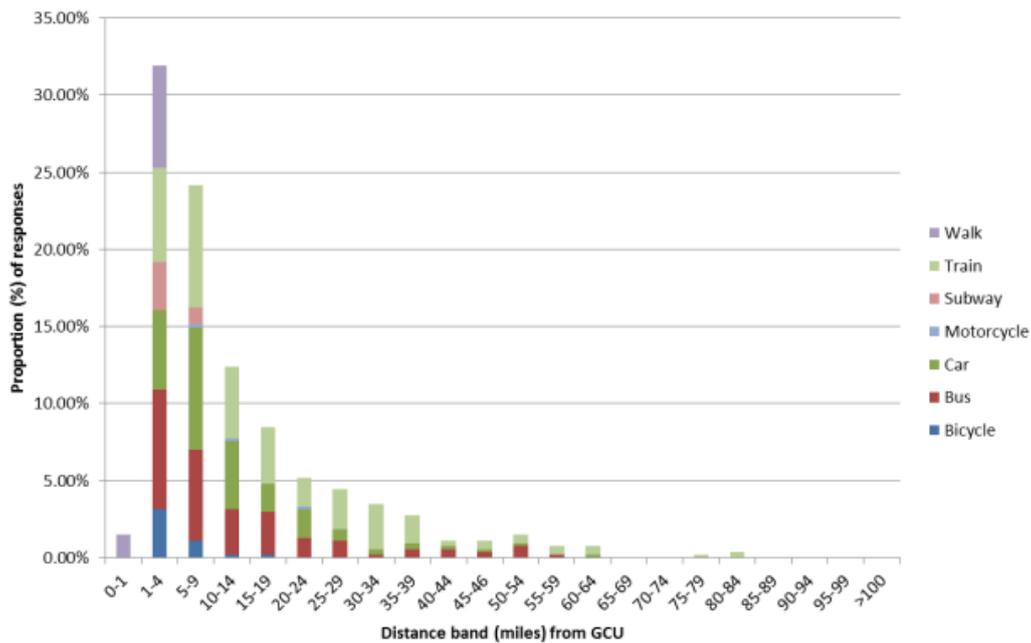
Staff

Students

Figure 3 Modal distribution (%) compared to emission distribution (%) for staff and student commuting to GCU (based on 2012 Travel Survey and data from the 2013-2014 carbon report).

The 2012 Travel Survey provided an insight into travel preferences for students and staff by distance band away from the University (Figure 4), providing an invaluable insight into travel options and preferences. These insights will be used to develop initiatives to encourage more sustainable, lower cost travel for GCU students and staff.

Modal Distribution (Staff)
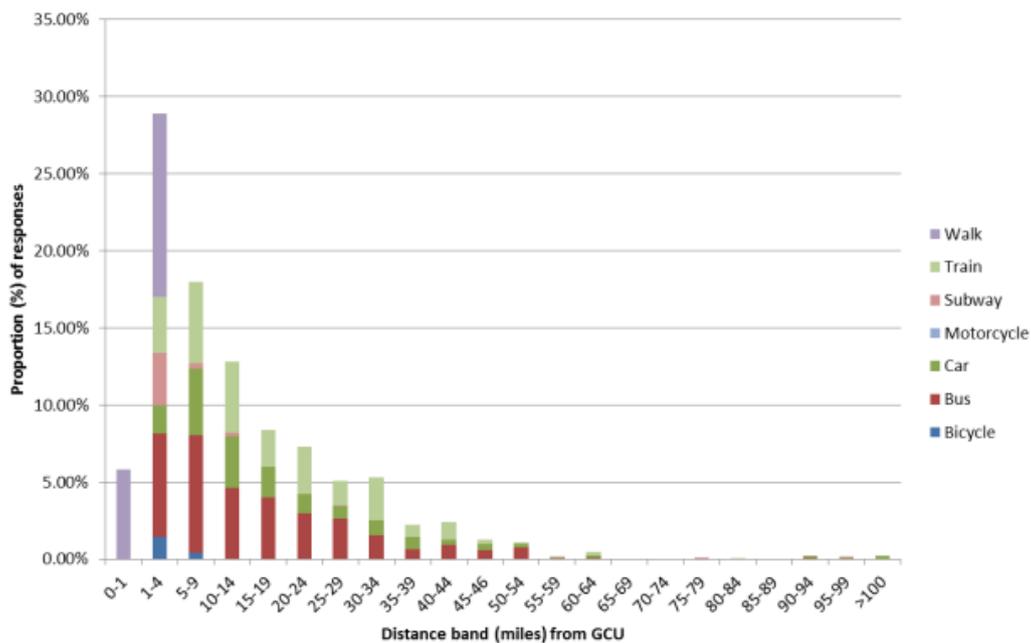

Modal Distribution (Students)

Figure 4 Modal distribution (%) for staff and student commuting by distance band (miles) from the University (based on 2012 Travel Survey).

Between February and April 2014, the Bike Station surveyed GCU students[4] to further understand how students travelled and explore barriers to cycling. The high-level findings suggest that respondents believed that their preferred mode of travel was the most convenient and often cheapest and that awareness of alternatives was low.

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[4] Survey results are not publicly available.

These insights have already been used to develop a programme of activities to encourage more cycling, as part of Cycling Scotland's Cycle Friendly Campus Award pilot, and will be used to develop further interventions as part of this TP.

Although there is comprehensive data for business travel and associated emissions at GCU (Table 3) there are few insights into how particular modes of travel are selected. This knowledge gap will be addressed through the implementation of this TP.

Mode	Distance Travelled (km)	Kg CO$_2$e/km	Tonnes CO$_2$e
Private Cars – Petrol	80,172	0.20088	16
Private Cars – Diesel	45,661	0.17720	8
Private Cars – Hybrid	2,033	0.11965	0
Hired Cars – Petrol	18,255	0.20088	4
Hired Cars – Diesel	76,684	0.17720	14
Flight - Domestic	1,310,366	0.29316	384
Flight – Short Haul	702,375	0.16625	117
Flight – Long Haul	5,911,107	0.21022	1,243
Rail - Nat.	408,536	0.04738	19
Rail - Int.	936	0.01212	0
Total	8,556,125	--	1,804

Mode	Fuel Used (Litres)	Kg CO$_2$e/litre	Tonnes CO$_2$e
GCU Fleet - Petrol	148	2.1914	0.32
GCU Fleet - Diesel	3,842	2.6024	10.00

Table 3 Emissions (CO$_2$e) associated with business travel at GCU (2013-2014).

Although comprehensive travel data is only available for two academic years (2012-2013 and 2013-2014), the trend for business travel emissions at GCU is upwards (Figure 5), with emissions from air travel representing over 95% of business travel emissions at GCU. These trends very likely reflect the development of GCU's campuses in London and New York.
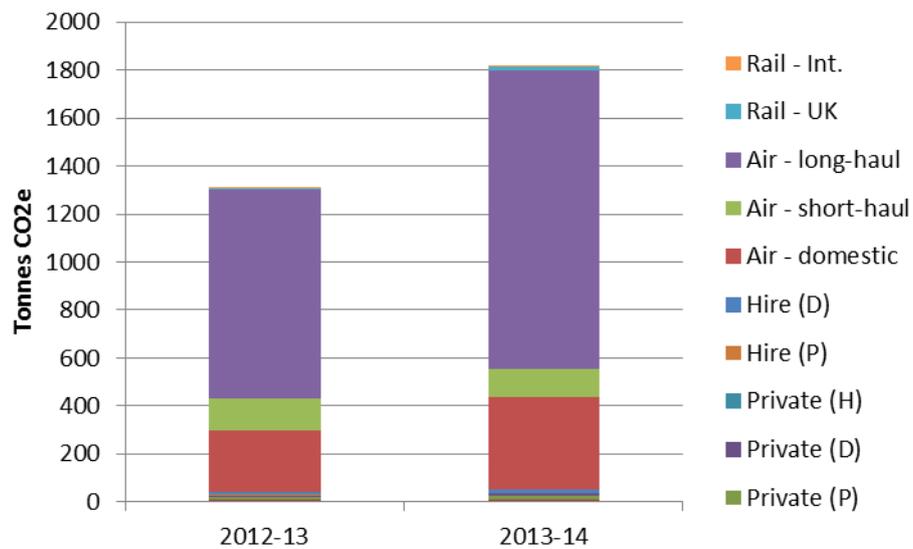
Figure 5 Total business travel emissions (tonnes CO$_2$e) for 2012-13 and 2013-14.

Whilst time constraints did not permit an evaluation of all destinations GCU flies to, an analysis of UK mainland domestic flights without associated onward travel outside the UK shows that 75% of flights could be replaced with rail travel without significant increases in travel time (Table 4). Replacing those flights with rail journeys would deliver a 14% reduction in GCU's travel emissions.

Destination UK City	to/from Glasgow		to/from Edinburgh	
	# flights	time diff. train vs. flight	# flights	time diff. train vs. flight
Birmingham	56	01:05:00	6	00:52:00
Bristol	49	02:54:00		
Cardiff	11	03:37:00	2	03:58:00
E. Midlands	43	02:21:00		
Exeter	7	01:43:00	1	04:04:00
Leeds B	2	01:21:00		
City	761	01:25:00	48	01:25:00
Gatwick	246	00:45:00	9	00:45:00
Heathrow	203	01:00:00	35	01:00:00
Luton	40	01:05:00	8	01:05:00
Manchester	19	01:05:00	5	00:24:00
Norwich			4	02:27:00
Stansted	133	00:45:00	29	00:45:00
Southampton	28	03:22:00		

Table 4 Number of mainland UK flights without onward international travel and associated time difference for comparable journey by rail.

Whilst the bulk of business travel emissions are from air travel, it is worthwhile understanding what contribution other modes of travel make. Figure 6 confirms the increasing trend in the amount of business travel at GCU and provides the basis for a number of interventions in this TP.
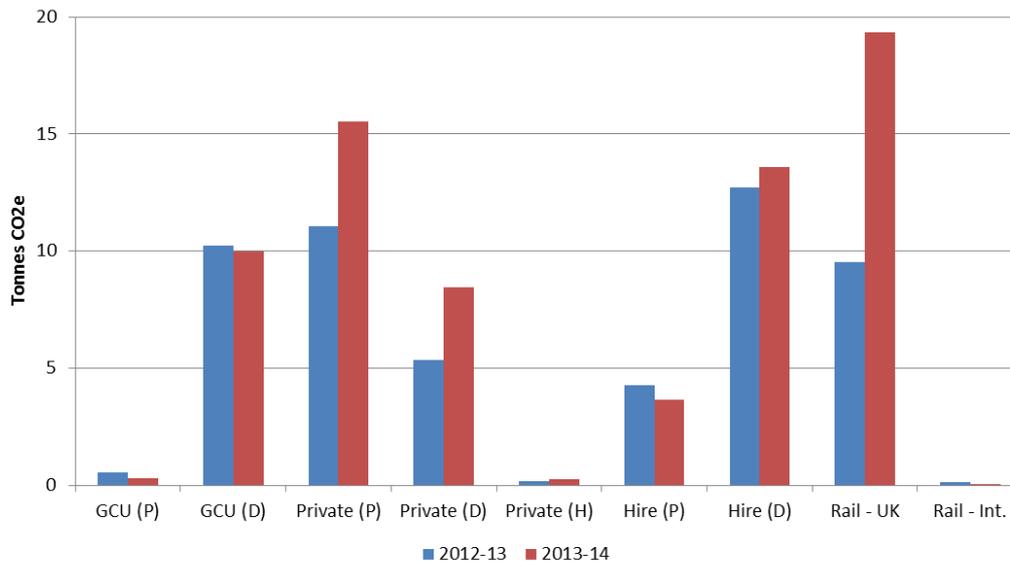
Figure 6 Business travel (flights excluded) emissions (tonnes CO₂e) for 2012-13 and 2013-14.

This TP will identify measures and interventions to reduce GHG emissions associated with commuting, business travel and other use of transport to and from GCU.

Actions & Measures

A number of activities and measures have been identified to achieve this TP's aims and objectives. The proposed activities and measures are listed in Table 5 (below) and expanded in Annex 1 (Implementation Plan[5]) to include details of implementation timescales, resources and implementation lead.

#	Action
TP_M1	Update University policies to encourage more sustainable, lower carbon travel.
TP_M2	Survey travel habits (every 3 years).
TP_M3	Monitor and report travel at GCU (via annual carbon footprint reports)
TP_M4	Develop travel demand management (TDM) resources for GCU stakeholders.
TP_M5	Actively disseminate TDM resources (TP_M4) to relevant stakeholders.
TP_M6	Travel advice – Twitter account - promote sustainable travel options
TP_M7	Travel advice – how to get to GCU webpage – emphasising sustainable travel options
TP_M8	Travel advice – webpage with sustainable travel resources ("GCU Smart Travel")
TP_M9	Travel advice – leaflet – emphasising sustainable travel options
TP_M10	Travel advice – provide personal travel plans for students and staff highlighting more sustainable travel options.
TP_M11	Promote accommodation close to the University.
TP_M12	Encourage walking by establish a walking group in the Arc.
TP_M13	Encourage cycling to business meetings – paid mileage (20p/mile)
TP_M14	Encourage cycling by staff – introduce measures to address common barriers to cycling
TP_M15	Encourage cycling by students – Introduce measures to address common barriers to cycling
TP_M16	Encourage visitors to cycle to GCU– Highlight facilities available
TP_M17	Highlight cycling facilities at GCU – generic leaflet

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[5] Available on request by emailing sustainability@gcu.ac.uk

#	Action
TP_M18	Investigate season ticket loans for bus and train travel for staff
TP_M19	Explore and promote concessionary travel for students on public transport.
TP_M20	Encourage car sharing as an alternative to single occupancy car-use.
TP_M21	Promote the use of electric vehicles as an alternative to hire vehicles for business travel.
TP_M22	Promote other lower emission alternatives to car use for business travel.
TP_M23	Allow visitors to use electric vehicle charging point at GCU.
TP_M24	Efficient (FuelGood) driver training for staff that drives on a daily/weekly basis.
TP_M25	Where appropriate replace University vehicles with electric vehicles (EV).
TP_M26	Specify "best in class" (in terms of fuel efficiency) vehicles (where EV are not an option) for University fleet.
TP_M27	Provide information to help reduce domestic/short-haul flights.
TP_M28	Work with suppliers to reduce no. of vehicles entering GCU by consolidating deliveries/collections.
TP_M29	Discourage idling on Campus – anti-idling leaflet for commercial vehicles.

Table 5 Travel Plan Actions & Measures (see Annex 1: Implementation Plan for more information).

Management & Monitoring

The TP and associated Implementation Plan will be reviewed annually by GCU's Sustainability Working Group who will report progress to the University's Executive Board as appropriate.

The Implementation Plan details the appropriate metrics and targets for each intervention and against progress will be evaluated.

Further Information

For further information about sustainable travel and other environmental initiatives at GCU please visit www.gcu.ac.uk/sustainability or email sustainability@gcu.ac.uk.

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