

Commuting and working from home survey

September 2024

In summary

- Over 1000 staff and students responded to the survey (11% of the staff population and 4% of the student population).
- 60% of staff and 36% of students commute to campus by car as their primary means of transport (what they use most of the time). This reduces to 49% of staff and 31% of students when taking other means of transport used less often.
- About a third of staff and students use active travel (walking or bike) as their primary means of transport.
- The median distance for ACT residents who travel to ANU is ~10km, consistent with the median distance travelled to work for most Canberrans.
- On average, staff and students attend ANU in person ~3 days a week. Staff who travel to ANU more often (3-5 days a week), are more likely to drive. Students who travel to ANU more often (3-5 days a week) are more likely to take public transport.
- Three-quarters of staff indicate that they both work from home and in the office.
- There are high rates of active travel for those who live close to ANU (<10). Driving rates increase significantly for those who live >10km from ANU.
- ANU staff and students are high adopters of electric vehicles, with higher rates of usage than the national, and ACT average. 31% of staff and 16% of students are considering using an electric vehicle in the future.
- Over 85% of staff heat their workspaces at home, and the most common source of fuel was electricity.
- Many comments and suggestions were received, primarily focused on access to public transport, parking availability and costs, access to EV charging facilities and concerns around bike theft, safety and access to cycling facilities on campus.

Background

The objectives of this survey were:

- To understand how staff and students commute to ANU campus
- To estimate emissions from staff and student commuting and staff working from home, and for carbon reporting and climate risk disclosure.
- To understand attitudes and behaviour around electric vehicles.

Methodology

The 'What's your daily route(ine)' survey was conducted online using Qualtrics. It was open between 16-30 September 2024. The survey was advertised twice in both the Staff and Student editions of On Campus, was featured on a number of Xibo screens across campus, posted to the ANU Green Network teams channel, and was also sent to general managers with a request for it to be included in local area newsletters.

Response rate and completion times

A total of 1213 people visited the survey site. Of these, 1030 people provided valid responses.

Of the 1030 respondents, 53% were staff, representing 11% of the staff population. The remaining 47% were students, representing 4% of the student population (excluding students who live on campus). See Figure 1.

A reasonable completion duration was estimated at between 1-30 minutes. Respondents who completed the survey in less than 1 minute were most likely to be those that were filtered out of the survey. Qualtrics suggested that for someone who would answer every question, it would take 29 minutes. Of respondents that took between 1-30 minutes – the average response time was 334 seconds (or almost 6 minutes).

Most responses were collected in the first three days of the survey launch when advertised in On Campus (85%), with another bump in responses a week later after a reminder was sent in On Campus.

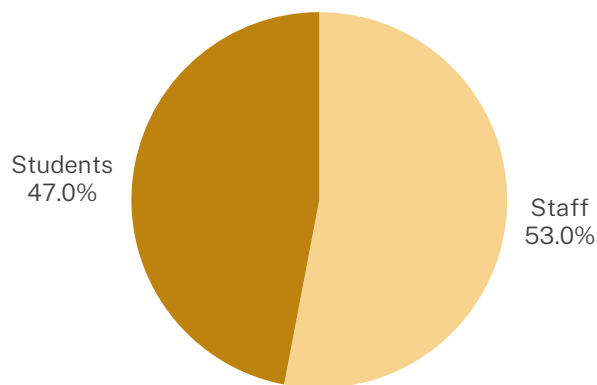


Figure 1 Percentage of staff and student respondents

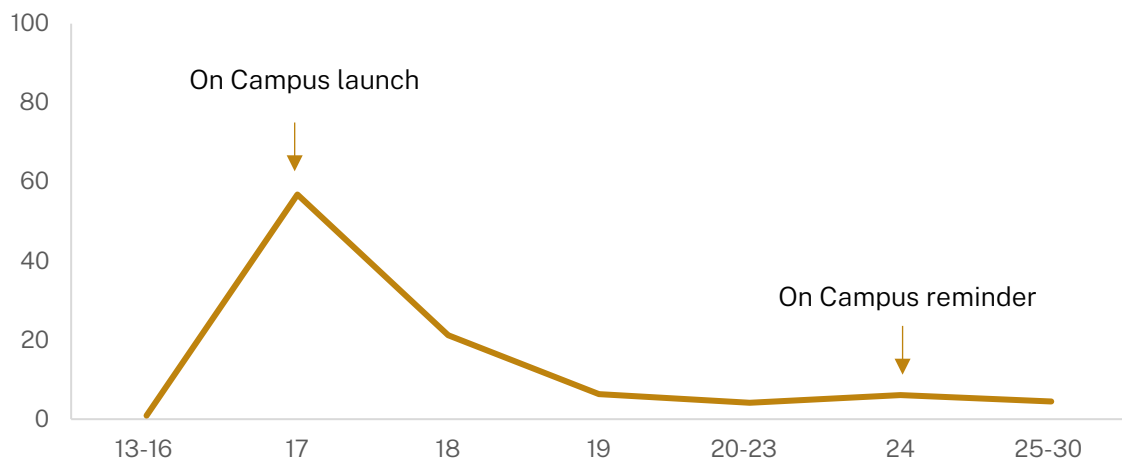


Figure 2 Percentage of responses collected throughout campaign

Survey results

How many commute to ANU?

Students

For the purpose of this survey – only non-residential students who studied on campus were included in the analysis. Therefore all student respondents in the survey were ‘commuters’.

Staff

Almost all (98%) of staff respondents commuted to an ANU location, the remainder exclusively work from home.

Most respondents travelled from within the ACT (89% staff and 83% students) to get to ANU with the remainder travelling from NSW.

How do people commute?

About three-quarters of both staff and students travel using the same mode of transport each time they commute to ANU. See Figure 3.

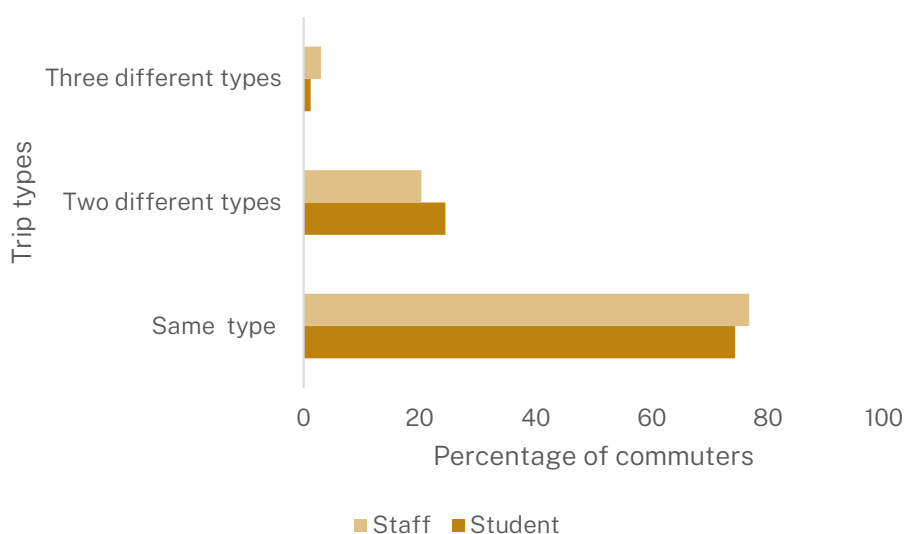


Figure 3 Number of trip types for staff and students

Travelling by car was the most popular *primary* transport mode for both students (36%) and staff (60%). Active travel (walking or bike riding) was the next most popular option, with about a third of staff and students choosing active travel as their primary mode of transport. See Figure 4 and Figure 5. When taking into account all possible modes of transport (including secondary and tertiary transport modes, and combined trip types), travelling by car reduced to 31% for students and 49% for staff.

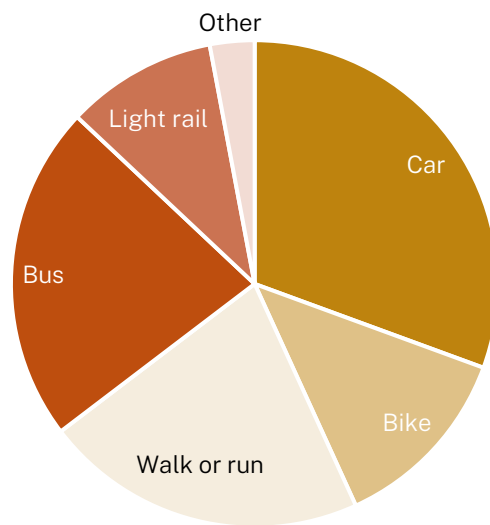


Figure 4 All reported travel modes for students

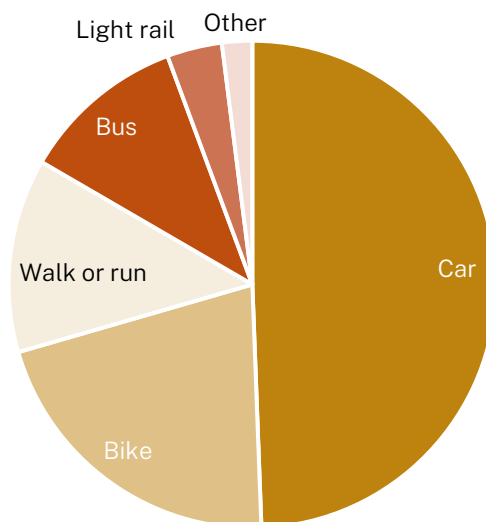


Figure 5 All reported travel modes for staff

Car type

Of all the cars reported to be driven in a typical week, the majority (75%) were petrol. See Figure 6. This is consistent with the ACT population where 72% of all light vehicles are petrol (<https://www.data.act.gov.au/Transport/Total-vehicles-registered-in-the-ACT/> Data from 1 Sep 2024) . ANU staff and students have higher usage of electric vehicles than the ACT population (ANU 8% vs ACT 3%).

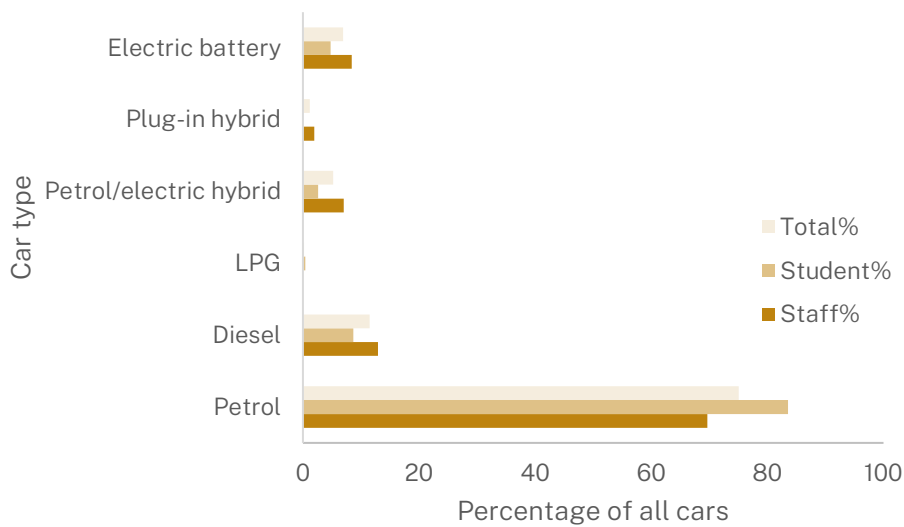


Figure 6 Types of cars driven to commute

Bicycle type

Most students and staff reported to ride a *pedal* bicycle (95% students, 85% staff) with the remaining riding an electric bicycle. See Figure 7.

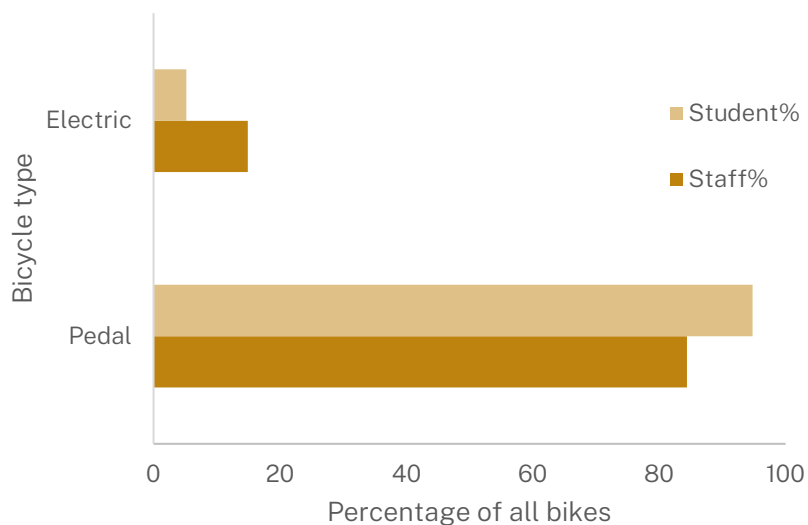


Figure 7 Types of bicycles ridden to commute

How often do people commute by different modes?

On average, staff commute slightly more often than students (3.5 days- staff, 3 days – students).

Staff who attend ANU less frequently are more likely to use active or public transport on the days they come to work. Staff who commute three or more days a week, are more likely to drive. See Figure 8.

However students exhibit the opposite behaviour, and those who attend ANU more often, are more likely to take active or public transport, and those that attend less often are more likely to drive a car. See Figure 9.

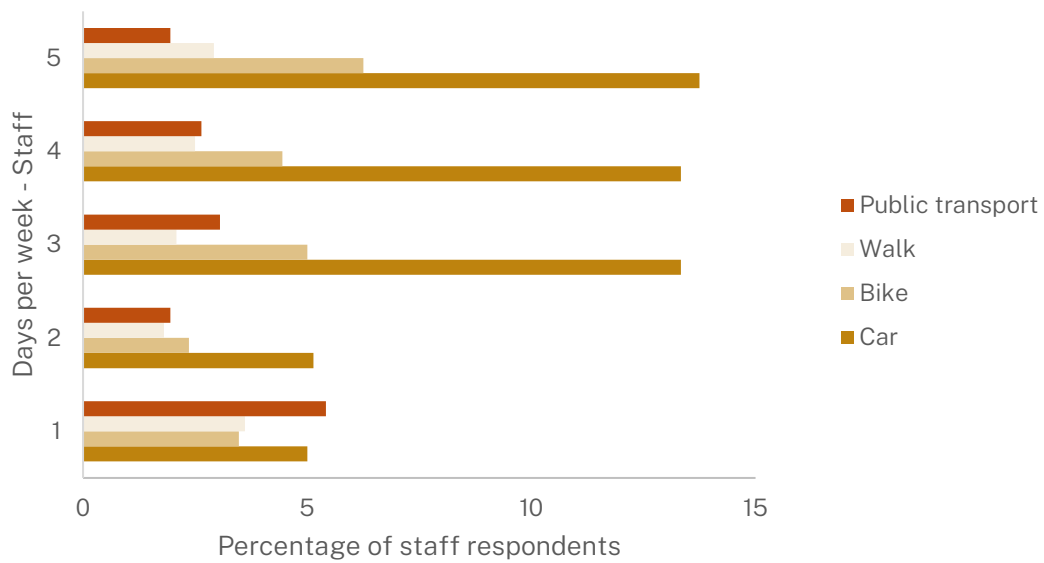


Figure 8 Days per week staff travel to ANU per transport mode

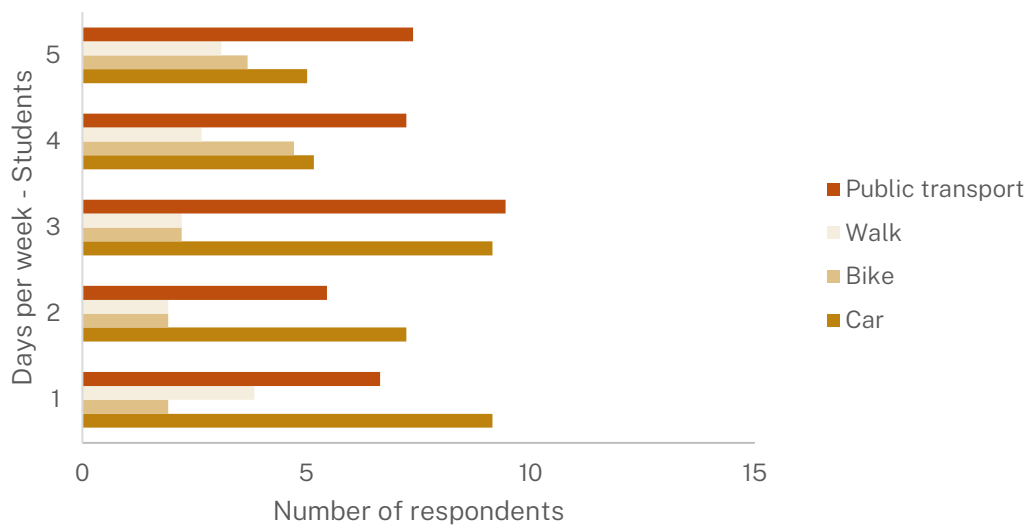


Figure 9 Days per week student travel to ANU per transport mode

How far do people commute?

The average one-way distance travelled for respondents who live in the ACT was approximately 11km (+7km) and the median distance was 10km. The furthest respondents indicated that they travel was over 200km. See Figure 10. This distance is consistent with commuters across the ACT where the median distance travelled for work is 10.2km (ACT Household Travel Survey, 2022).

Consistent with the ACT Household Travel Survey (2022) staff and students were more likely to use active transport for short distances. Car use was most common for those that lived 10 or more kilometres from ANU. See Figure 11.

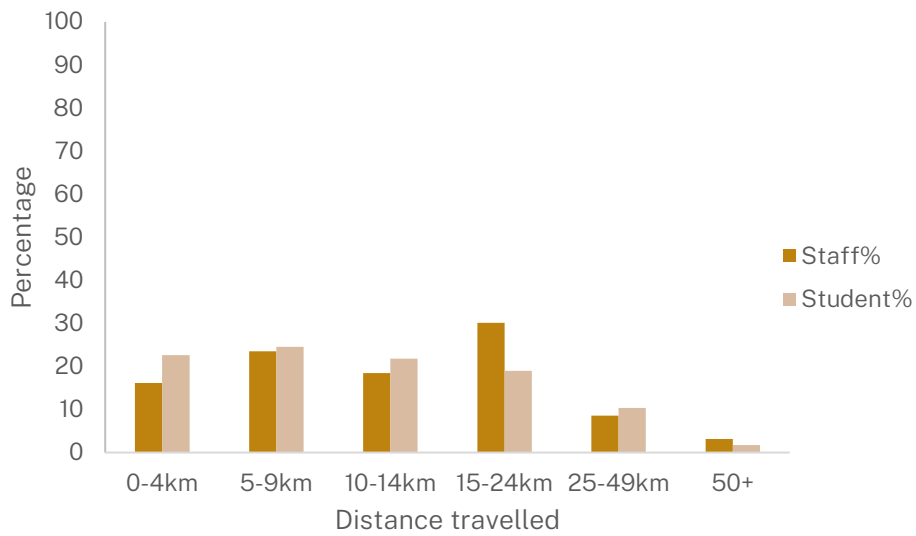


Figure 10 Distance travelled by staff and students

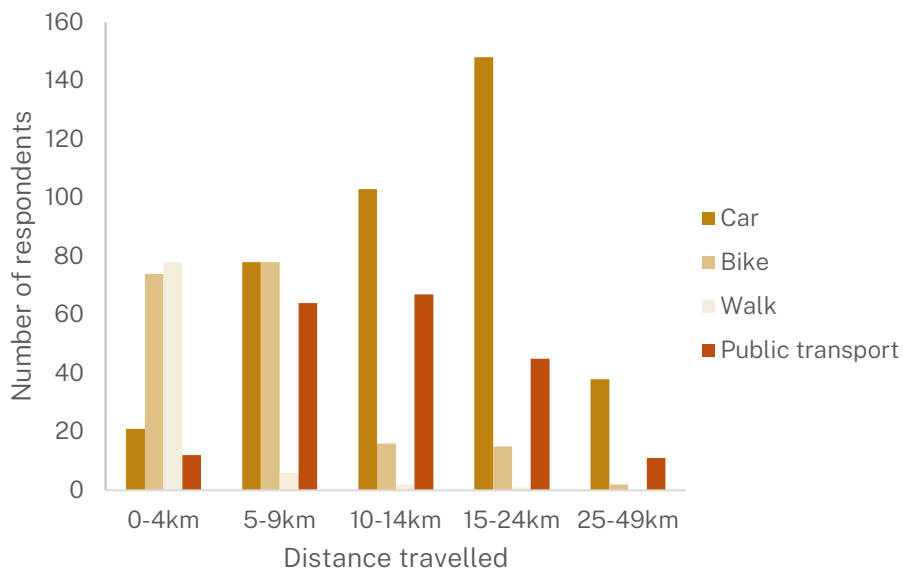


Figure 11 Distance travelled for each primary mode of transport

Working from home

A series of questions were asked regarding their working from home habits and associated energy used for heating, cooling and monitors. Given ACT residents use 100% renewable energy, these respondents were only asked a sub-set of questions around heating and monitors.

Over two-thirds of staff responded that they both work from home (WFH) and commute to their working location (See Figure 12). Only 2% indicated that they work from home exclusively. When working from home, the majority (88%) of staff live in the ACT, with the remainder working in NSW (11%) and VIC (1%).

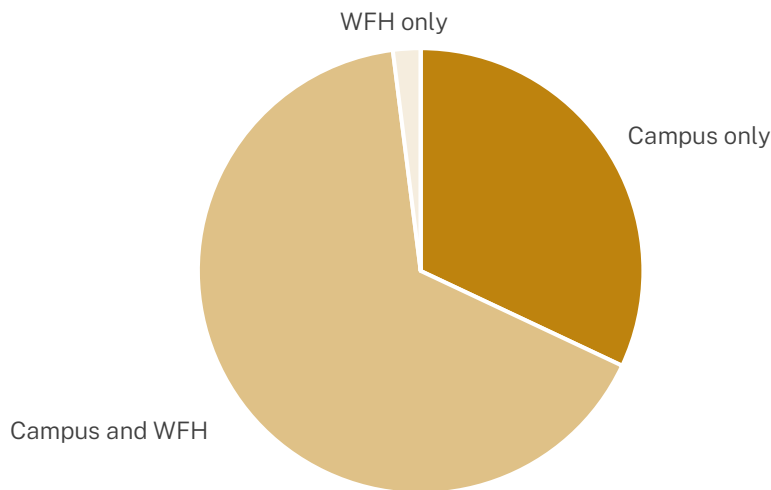


Figure 12 Staff commuting and WFH status

Of the staff that WFH, most worked up to the equivalent of two days per week (81%, see Figure 12).

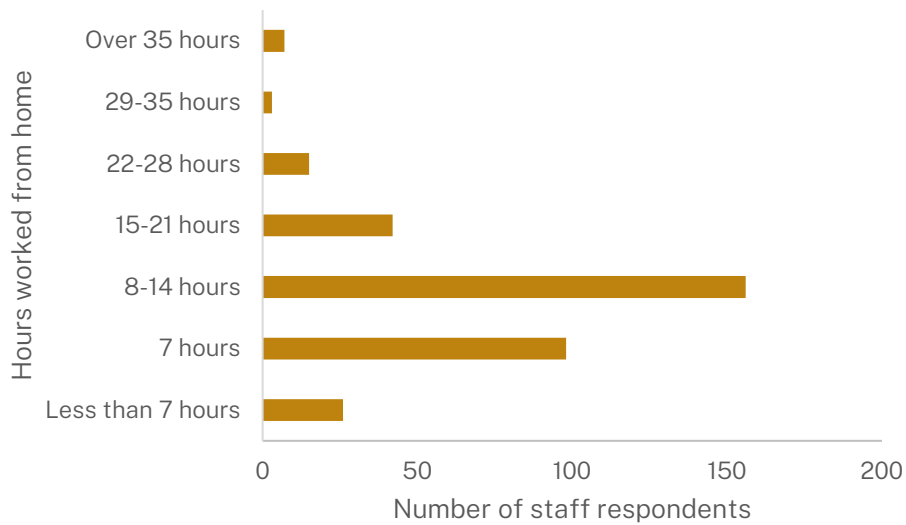


Figure 13 Hours worked from home

Electricity usage by non-ACT staff who work from home

We were interested in electricity generation and usage by staff who indicated that they worked from home outside of the ACT. Just under half (48%) indicated that they had rooftop solar panels and 16% purchased green energy. Around two-thirds of respondents indicated that they used cooling, with the majority only cooling the room that they were working in.

Heating use for all staff

The vast majority of staff (83%) indicated that, when WFH they used heating to warm their workspace, and compared to cooling, it was more likely for staff to heat the whole house, rather than the one room.

Heating fuel

The most common heating fuel source was electricity (79%) followed by natural gas (19%). See Figure 13.

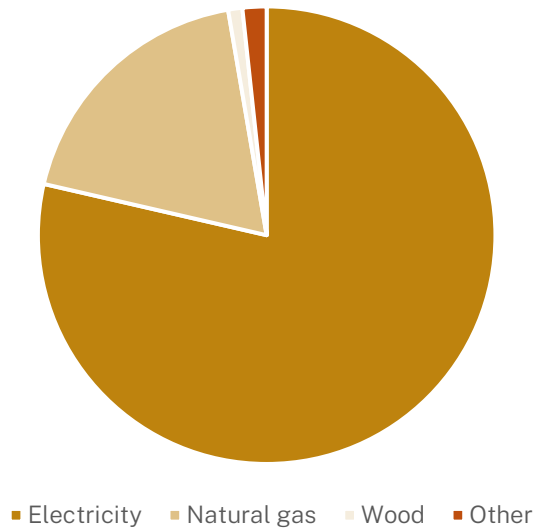


Figure 14 Percentage of heating fuels used for staff who worked from home

Monitor use

The majority of staff used external monitors in addition to their laptop when working from home. Of these, most only used one additional monitor. See Figure 14.

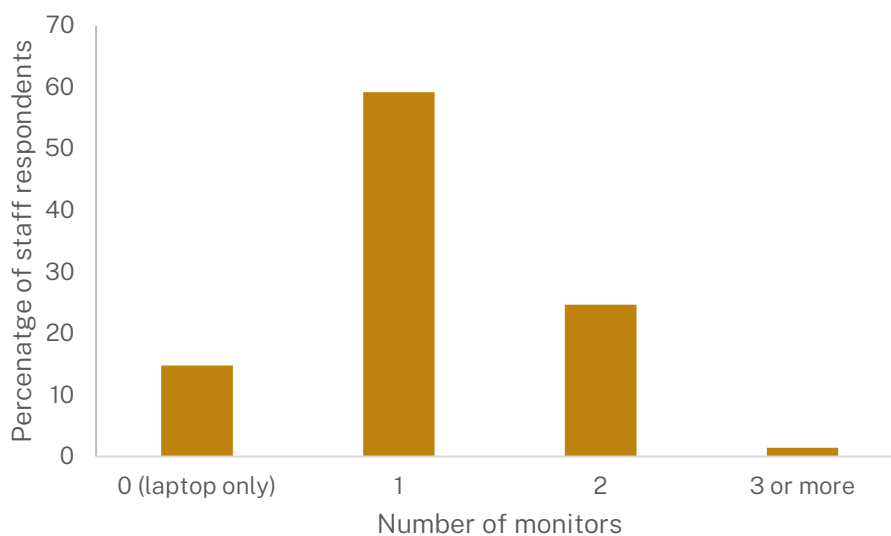


Figure 15 Figure 14. Percentage of staff who used external monitors

Future electric vehicle use

As mentioned above, ANU staff and students have higher rates of EV usage compared to the ACT population (8% ANU, 3% ACT). ACT EV usage is already approximately double that of national figures, so ANU staff and student usage is likely to be significantly higher than the national average.

In the survey, one third of staff, and less than a quarter of students indicated that they are considering purchasing an electric vehicle in the future. See Table 1. Of these, battery electric vehicles were the most likely to be considered. Most of these respondents interested in electric vehicles were considering to purchase or lease in the next 1-5 years (59%), with fewer considering in the next 12 months (13%) or in more than 5 years (28%).

*It is possible that this question underestimates the number of people considering purchasing micro-mobility devices such as e-bikes and e-scooters, as the question only referred to 'electric vehicles' and it is possible respondents interpreted this as 'cars'.

Table 1. Percentage of staff and students considering purchasing or leasing an electric vehicle in the future.

	Staff (%)	Student (%)
Yes	31	16
No	43	53
Maybe	26	30

Table 2. Types of electric vehicles respondents are considering to purchase or lease.

	Staff (%)	Student (%)
Battery electric	63	49
Plug-in Hybrid	28	32
Motorbike/on-road scooter	1	4
Bike/e-scooter/skateboard	8	15
Other	1	0

Sustainable suggestions

Over 900 suggestions or comments were received in the survey. Of these, the overwhelming majority were around public transport. A summary of the key themes is below.

Key themes (in order of number of responses)

Public transport

“Offer some form of salary sacrifice or similar for people to take public transport”

“Given the size of campus it would be highly beneficial to have more bus routes or other form of mass transportation being able to move students around campus”

Over 300 respondents made suggestions regarding public transport and over half of these requested bus routes through campus.

Other suggestions centred around increasing the availability of services, improving the reliability of the bus network and routes to access ANU from particular areas that are not a direct line (i.e. south of Canberra), and a suggestion to enable staff to salary sacrifice public transport costs.

Parking

“Increase parking availability. If I arrive after 9am I spend 30-60 minutes looking for a park which adds a lot of emissions”.

“Raise the price of parking-which is so cheap if you get the salary sacrifice!”

Over a hundred comments were related to parking, and were a mix of complaints and suggestions. Suggestions are summarised as:

- Charge more for parking (note: this survey was conducted before the parking increase announcement)
- Make more parking available
- Free parking for EVs
- Financial incentive to take bus/park (i.e. raise daily rate of parking)
- Incentive/enable car-pooling (connecting apps/designated carparks etc)
- Prioritise parking to those that ‘need’ it (people with accessibility needs, living further away etc).
- Add solar to covered parking
- Abolish parking permits and only have single day rates
- Provide 10 free parking days to people who commit to commuting through other means

Electric vehicles and mobility devices

“Slow AC charging on campus would be helpful. DC chargers at School of Art are too expensive for regular use”

“To handle the increasing costs, ANU staff could benefit by having charging facilities costs deducted from salary just like salary sacrificing for parking”

There were over one hundred comments with suggestions pertaining to electric vehicles, devices and charges. In summary:

- Promote e-bike salary sacrificing
- Allow salary sacrificing for EV charging
- Provide more, and free EV charging
- Provide e-bike rentals that are cheaper than the parking permit (and then folks are not allowed to purchase a parking permit for a period of time...)
- Enable charging of e-scooters indoors (many comments about them being stolen)
- Publicise location of EV chargers

Bicycle storage, commuting facilities and safety

“During my ANU induction, it was strongly suggested that I be careful riding an electric bike to campus due to the risk of theft. If you want to encourage this form of transport, please help make it safe and secure.”

“More showering facilities would be useful to support bike riding. It would be good if showers were separate from the wheelchair access toilets (i.e. not in the same room where showering prevents someone else from accessing the toilet), and have places to put bags/clothes that are not on the floor (especially if that's the same floor near the toilet).”

“And just why does ANU not have a pedestrian-first rule on all its internal roads?”

Over 30 respondents provided suggestions around bike storage on campus including:

- Increasing the number of available bike cages
- Increasing the number of unsecured, but undercover bike racks
- Provide separate storage facilities for e-scooters and e-bikes to consider their extra weight and difficulty in manoeuvring.
- Increased security of bike storage. Number of respondents recounted their own, or colleagues experience of bike theft on campus, and are discouraged to leave bikes outside.
- Remove abandoned bikes more regularly.
- Replace all bike racks with Australian Standard bicycle racks (semi-circular curved metal).

Over 20 respondents commented on end of trip facilities with the following suggestions

- Making more lockers available for staff to store personal items for changing,
- Dedicate changing area in buildings to store clothes and wet towels (apparently the new physics building has showers, but no lockers or anywhere to store towels/clothes).
- More, and more accessible showers
- Build a database of decent end of trip facilities so people can find the good ones
- Develop ‘bike arrival stations’ with bike storage, showers, amenities and gear/clothes/towel storage.
- Promote how easy it is to get to ANU from a number of suburbs with good connecting bike paths (Inner North/Cook/Macquarie/Weston Creek etc)

A number of comments were received about safety

- Remove the "sharp" edges on some of the speed bumps on campus roads so that cyclists do not need to divert onto the footpaths to get around them.
- Mark clear centre lines on existing bicycle paths so that two-way traffic is separated and so that pedestrians know where to walk.
- Remove the dangerous "banana" barriers on the bike paths where they cross roads
- Safe cycle routes through campus – designated bike lane through Kambri
- Bicycle repair shop on campus
- Implement a pedestrian/bike/car give way hierarchy on campus, so everyone must give way to pedestrians, cars give way to bikes.
- Ban all vehicles from campus

- Improve management of shared e-scooter parking
- Ban large vehicles from campus

Caring responsibilities

It takes me 15/20 min to get to work by car but over an hour and a half if I were to use public transport - as a parent with caring responsibilities, the time it would take to catch a bus makes it unfeasible.

Five respondents mentioned more support required for those with caring responsibilities - mostly as a reason why they cannot ride or take public transport

Appendix 1

Survey background

The information gathered from this survey will enable us to set emission reduction targets that will inform strategy development to reduce emissions.

Currently available data, such as parking data and previous vehicle audits do not contain enough detailed information to calculate the relevant emissions.

The survey was primarily designed to include the components of the emissions calculation formula that could be extrapolated for the calendar year. We chose to ask people about their 'typical' experience, rather than identifying a point in time (for example, last week) as this was consistent with other similar commuting surveys and we believed would give us the most accurate estimation.

We also chose to allow respondents to provide details for up to three separate commuting journey. For each journey, respondents were able to provide details on two different transport modes. For those who combined modes, respondents were asked to describe the mode that they used first in a journey.

Data cleaning notes

Non-response/screening questions cleaning

There were a number of respondents who did not answer any questions to the survey. These were deleted from the dataset.

Respondents who did not meet the screening criteria (i.e. lived on campus, or lived outside of Australia) were deleted from the dataset.

Distance variable cleaning

A number of respondents gave incorrect distance data (the survey asked for the distance of a single trip from home to ANU (and stated that for the purpose of the survey the return trip will be assumed to be the same).

In the ACT the furthest residential distance is ~40km from ANU (Tharwa).

The maximum distance of the light rail in ACT is 15km.

It seemed like a number of common errors were made and respondents with outlier data had done one of the following:

- Entered a return trip distance
- Entered the total distance travelled in the journey (if they had combined modes)
- Entered the total distance travelled in the week (either return or single mode)

Distances that met the following criteria were checked, and amended if necessary:

- Any mode distances within the ACT >30km
- Any mode distances outside the ACT over 100km
- Combined modes that when added together were >30km (ACT) or >100km (non-ACT)

To clean the data, the following steps were taken

1. Sorted all distance variables (primary, primary_other, secondary, secondary_other, tertiary, tertiary_other) to check for outlier distances.

2. Check if any other plausible distance data was provided in other responses. If yes, distance was replaced with that.
3. Check comments to see if that provided any explanation. A number of respondents had left detailed comments regarding their commuting behaviour
4. Outlier distances were replaced with more plausible distances, based on other data provided, or by trying to understand the error. For example, if someone had entered their one-way distance was light rail for 30km, and had entered a comment about improved services to Gungahlin, it was assumed that they had entered the return distance, and the distance was replaced with 15km.
5. All changes are documented in [Commuting survey data dictionary.xlsx](#)

Days of the week cleaning

A number of respondents indicated that they used multiple modes of transport on more than 5 days a week. Given the assumption that people only travel to ANU for work / study purposes 5 days a week, these data needed to be cleaned. It seemed as though these respondents interpreted the first question about how many days a week did they use a mode, as 'how many days a week do you typically commute' – so answered '5' and then on the following questions answered between 1-3 days.

Appendix 2

Lessons learned

Question wording

The distance question was worded in a way that prompted a lot of confusion. This was likely due to the question starting with 'In a typical week' – and then asking about a single journey. It seems many people either calculated their weekly distance, or their return trip.

The how many days a week question was also misinterpreted and a number of respondents indicated that they commuted x number of days, and then in subsequent answers indicated they used different types of transport that totalled more than five days. Future questions could ask, Overall, how many days do you commute, and then get details on each mode.

We didn't ask how many people in the ACT have solar panels – could provide interesting data in working out whether it is more efficient to have people working from home or in the office. Similarly for asking about cooling for those living in the ACT.

Asking for the different modes of transport has provided a wealth of data, but has been difficult to analyse without expert support.

Asking for time taken for each trip would be useful in understanding motivations for different modes.

Would be useful to ask people if they undertake side trips (and why) – again to understand behaviour patterns.

The Future EV use question should specifically include e-bikes and e-scooters in the lead in question to better understand this in future.

Suggested data analyses

Please check what has been done below in the report before adding to the list

Question	Type of analysis/metric	Data/Variables required	Status
How representative is the sample of the population?	Proportion of respondents to population	Number of staff and students at each ANU location.	In report
		Number of respondents from each ANU location	In report
What is the average distance travelled?	Average overall distance, for ACT commuters	Primary mode distance	In report
What is the average distance travelled by mode? Breakout by staff and student.	Average distance per mode	All modes	Not complete
How often do people use each form of transport	Frequency of mode/days a week	All modes, most popular options (car, bike, walk, public transport).	In report
How many respondents travel more/ less than set distances? Breakout by staff and student	Percentage of respondents below/over set distance	Primary mode	Banded distances in report
How many staff/students live in set distance	Percentage of staff/students live in particular postcodes	Post code data (requested from Insight team)	Not started (intern focus)
How many staff/students travel by particular mode	Combine percentages of mode of transport by number of trips	Primary/secondary/tertiary mode (and combined modes)	Primary mode in report
What do typical combined journeys look like?	What modes	Combined modes	Not started (Intern focus)
	What distances	Combined distances	
	How often	Combined days a week	
What electric devices do people own?			In report
Where do people charge their devices?			Not started
How many people plan to purchase EVs in future	Percentage of respondents who plan to purchase EVs by type	Future EV purchase Future EV type	In report

When do people anticipate to purchase EVs?		Future EV timeframe	In report
Car parking permits	Use to validate driving data?		Not started
How do ANU characteristics compare with ACT wide data			In report, where relevant.