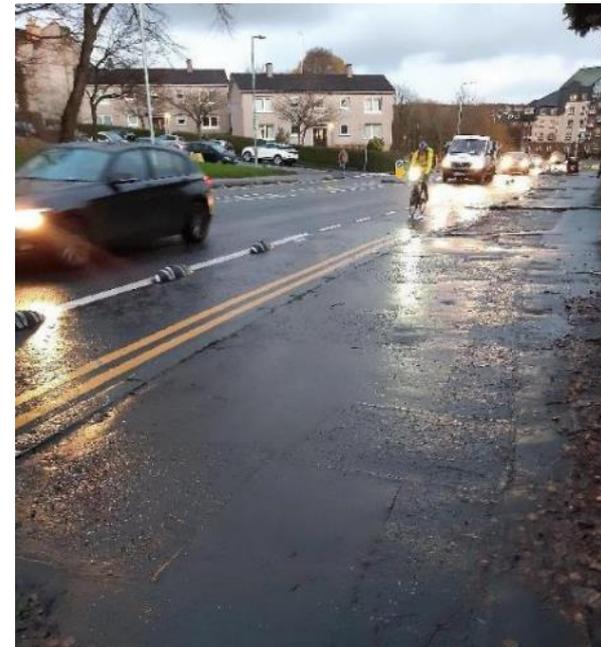


Decarbonising transport case studies: main findings



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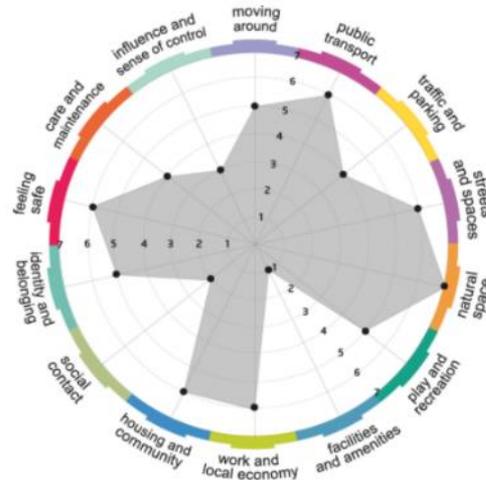
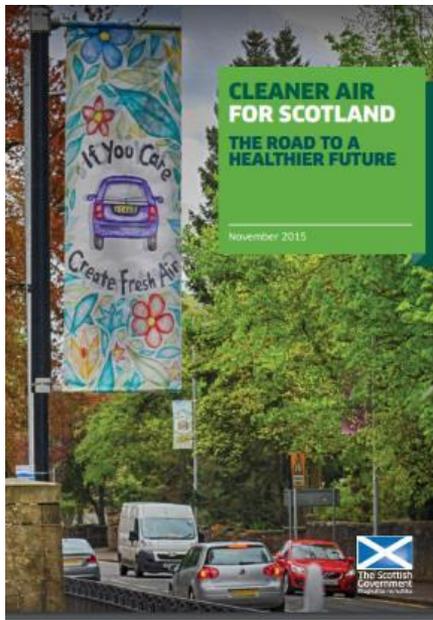
Workshop presentation, University of Strathclyde
March 28th 2023
Bruce Whyte bruce.whyte@glasgow.ac.uk
Glasgow Centre for Population Health

Overview

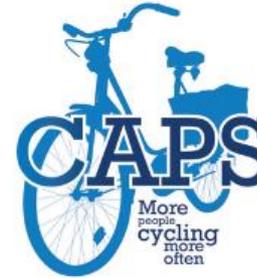
- **Policy**
- **Trends**
- **Case studies exercise**
- **Organisational contexts**
- **Commuting trends**
- **Facilities, policies & engagement activities**
- **Concluding points**



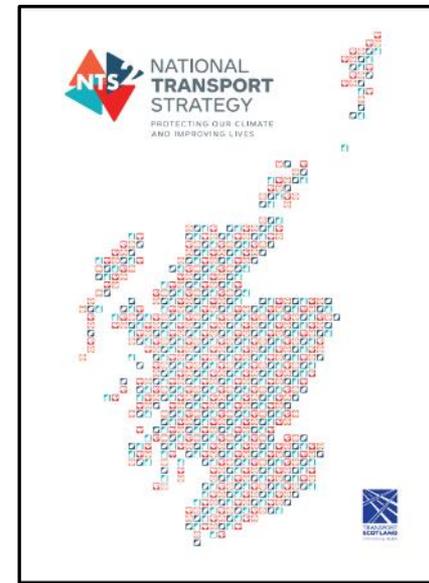
Place Standard



CYCLING ACTION PLAN FOR SCOTLAND



Consultation



Scottish Policy context

Update to the Climate Change Plan 2018 - 2032

We will make a generational shift in funding over this Parliament to ensure that at least £320 million or 10% of the total transport budget goes on active travel by 2024-25 *A Fairer, Greener Scotland: Programme for Government 2021-22*. Scottish Government. September 7th 2021



Picture by Sarah Tokou (P7), from St Mary's Primary School in Largs.

Our vision is of a Scotland where more people are more active, more often.

National Outcomes							
Business	Employment	Research and innovation	Young People	Early Years	Healthier	Inequalities Reduced	Life Chances
Safe from Crime	Sustainable Places	Resilient Communities	Environment Protected	National Identity	Impact on Environment	Older People Supported	Public Services
Active Scotland Outcomes							
We encourage and enable the inactive to be more active	We encourage and enable the active to stay active throughout life	We develop physical confidence and competence from the earliest age					
We improve our active infrastructure – people and places	We support wellbeing and resilience in communities through physical activity and sport	We improve opportunities to participate, progress and achieve in sport					
Equality: Our commitment to equality underpins everything we do							

Indicators will be updated annually, where new data is available. A range of evidence accounts for the outcomes are in development and will be available on this site in due course.

Glasgow's Transport and Climate Strategies

- Transport Strategy (2020/21)
 - A Liveable Neighbourhoods Plan
 - A City Centre Transformation Plan
- Glasgow committed to be net-zero by 2030



Trends



Progress on reducing greenhouse gas emissions

December 2022

Progress in reducing
emissions in Scotland
2022 Report to Parliament



Scotland's greenhouse gas (GHG) emissions have fallen by 51% since 1990

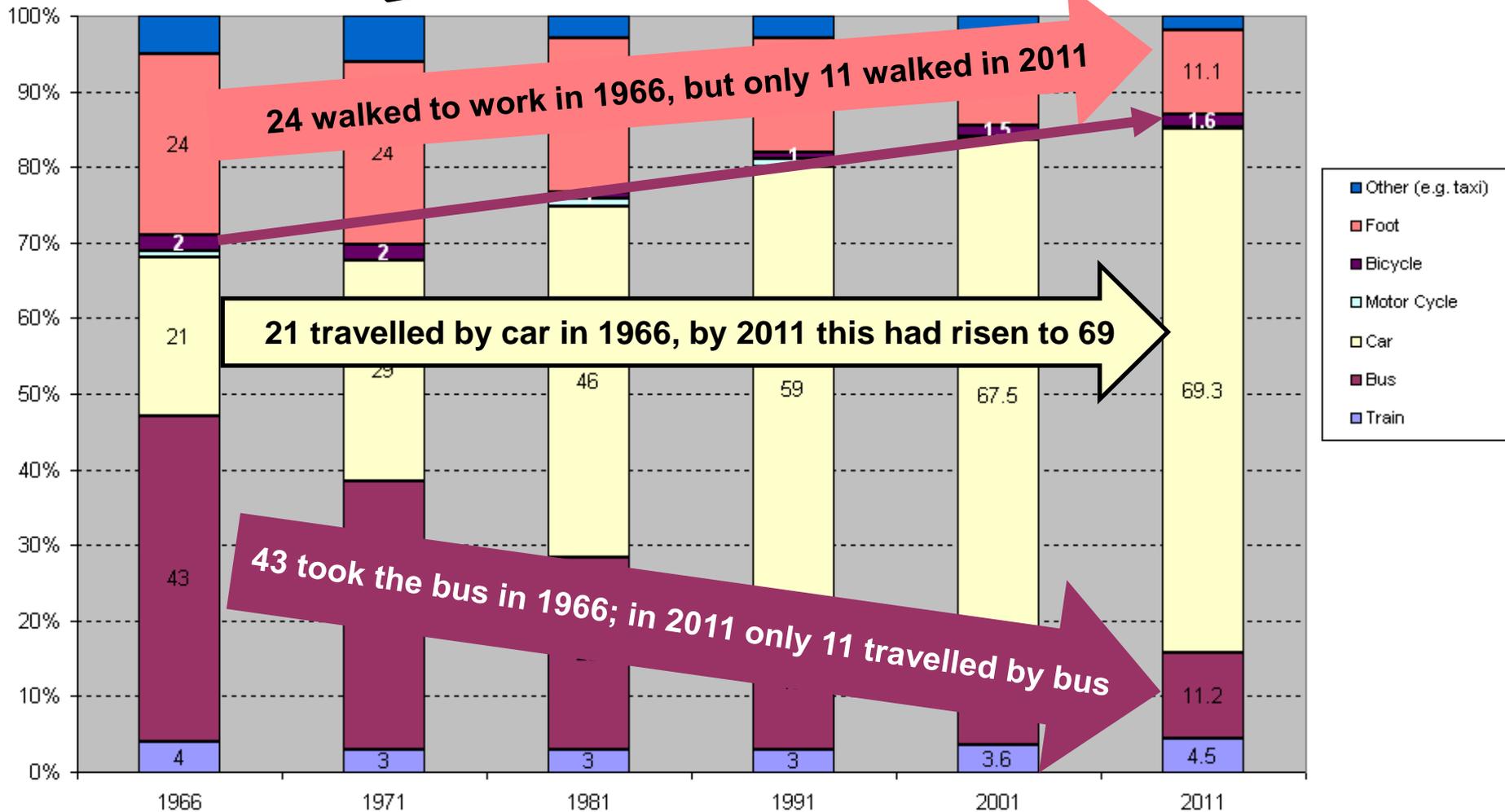
Transport emissions in 2020 were down 26% since 2019 but down only 3% from 2010 to 2019

The fall in emissions in 2020 was largely due to travel restrictions during the COVID-19 pandemic

In 2018, transport was Scotland's largest GHG emitting sector, making up 36% of emissions and surface transport accounted for 70% of all transport emissions (ref 2020 report)

Out of 100 commuters...

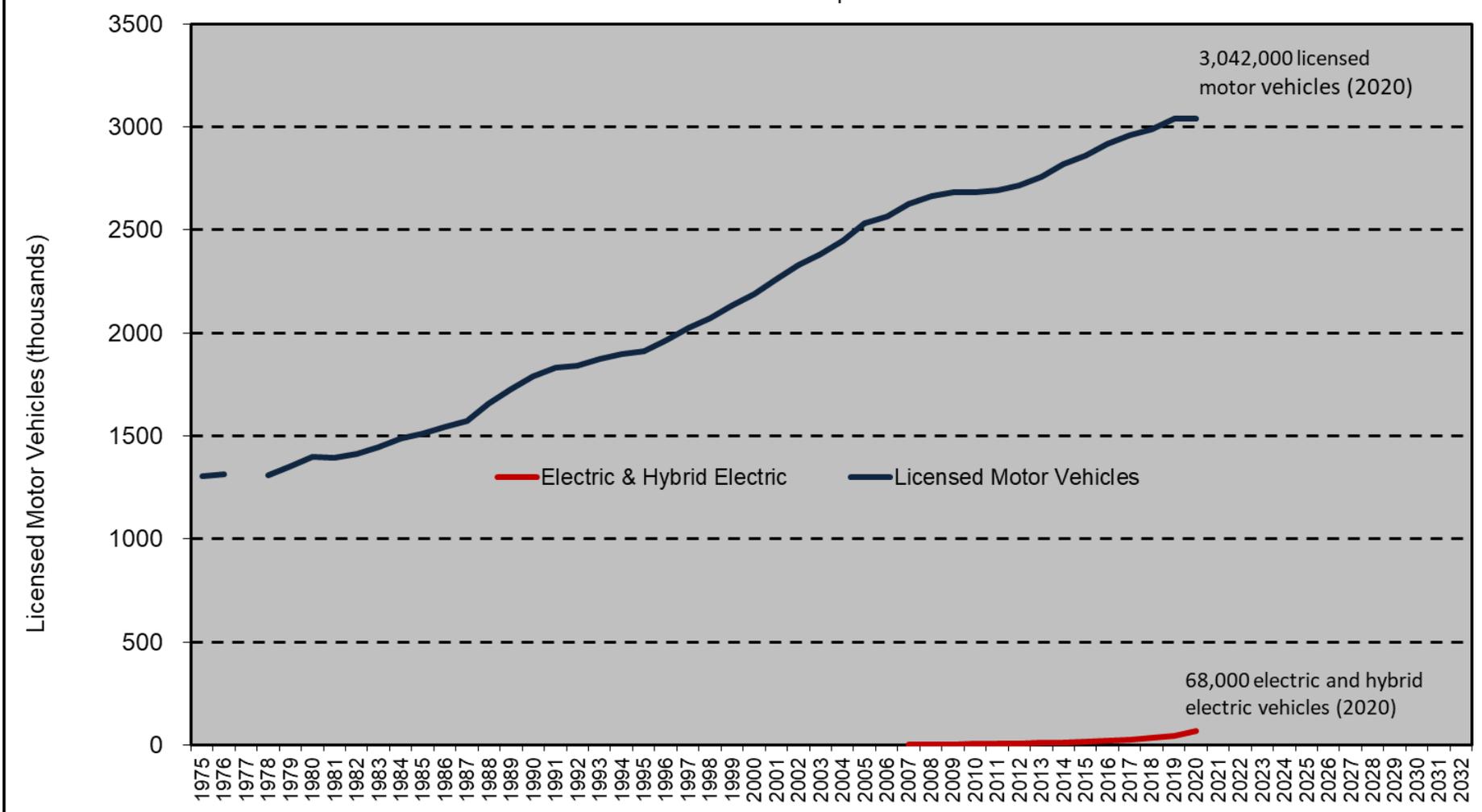
Source: Census



Current trends relevant to climate change

Licensed Motor Vehicles in Scotland, 1975 - 2020

Source: Scottish Transport Statistics

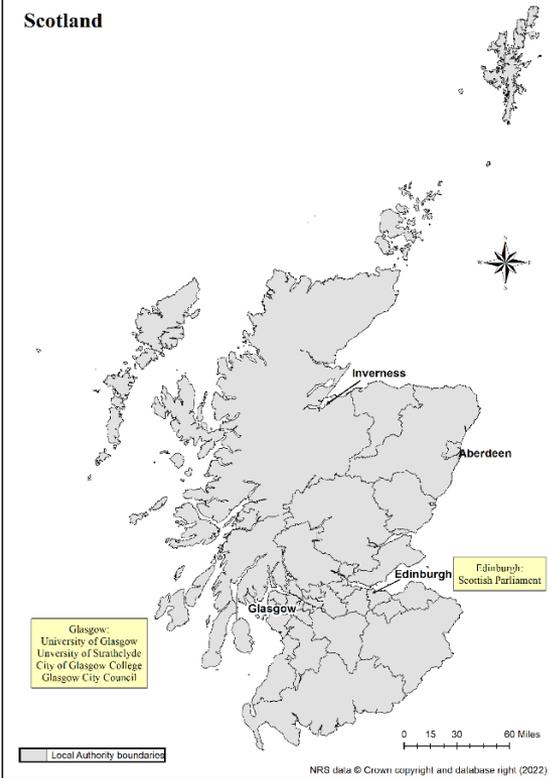
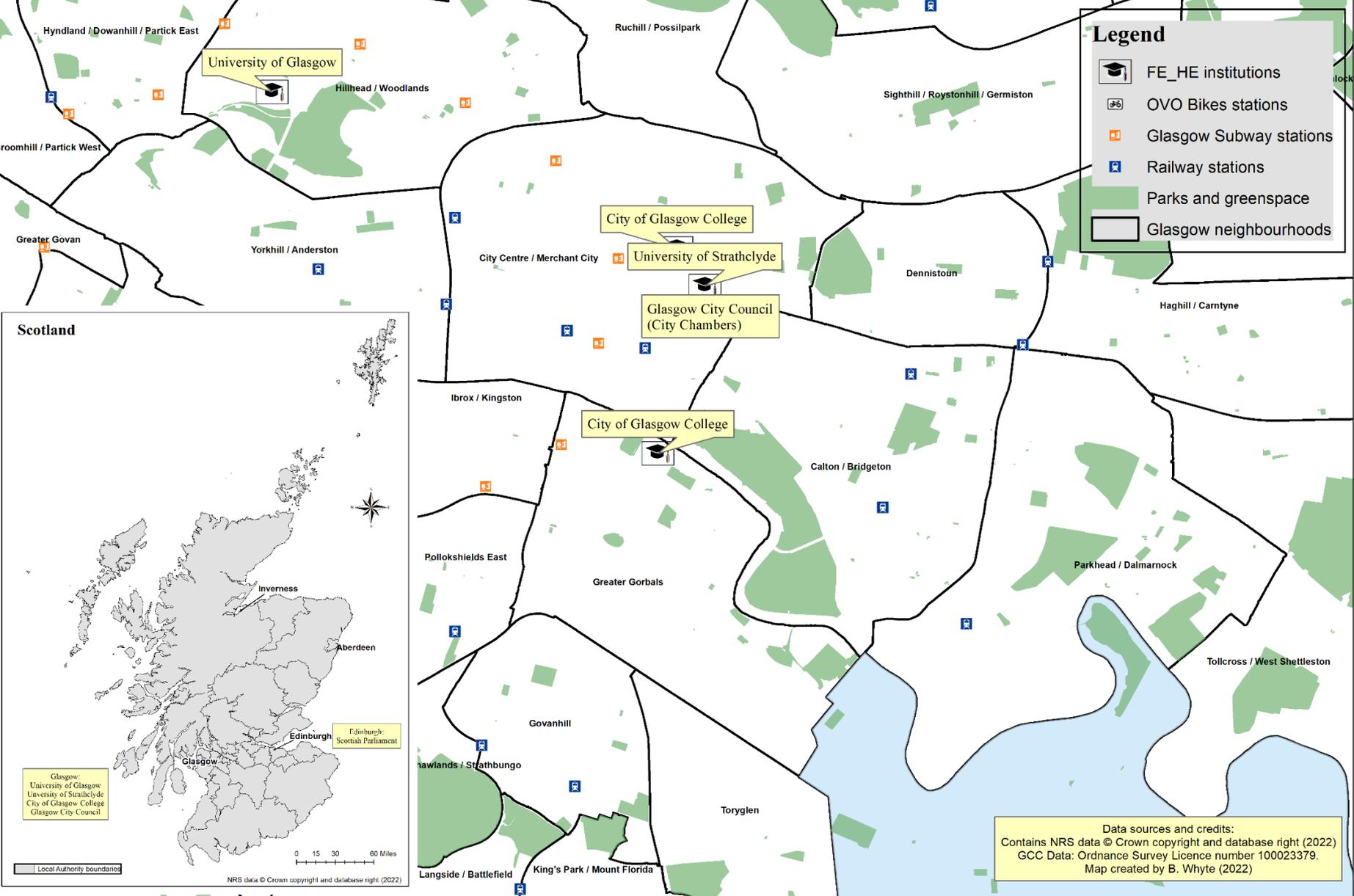


Case studies exercise

- This work, led by the Glasgow Centre for Population Health (GCPH), is the product of a collaboration between the University of Strathclyde, University of Glasgow, City of Glasgow College, Glasgow City Council, and the Scottish Parliament.
- The focus is on the progress the five organisations are making in achieving a shift to more active and sustainable travel among staff and students.
- A desk-based exercise in which information on organisational contexts, staff travel trends, COVID-19 travel impacts, relevant policies, and promotional activities was collected via a proforma designed by the authors and completed by each organisation.
- The data gathered were supplemented with additional relevant information stemming from discussions among the authors as the work progressed.

Organisation locations

Glasgow



Data sources and credits:
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 Map created by B. Whyte (2022)

Organisational contexts

Organisation	University of Strathclyde	University of Glasgow	City of Glasgow College	Glasgow City Council	The Scottish Parliament
Site	John Anderson Campus (Glasgow City Centre)	Gilmorehill Campus – West End of Glasgow	City & Riverside Campuses	City Chambers Complex	The Scottish Parliament
Sector	Higher Education	Higher Education	Further/Higher Education	Local Authority	Parliamentary
Context	<p>Strathclyde's John Anderson Campus sits in the heart of Glasgow City Centre, within the Low Emission Zone and what is often dubbed the 'Learning Quarter' with Glasgow Caledonian University and City of Glasgow College nearby.</p> <p>The campus is well connected to public transport with major train stations within a 5-10 minute walk and several key bus routes travelling near or through campus.</p> <p>There are few segregated cycle routes on or near campus, however there are a growing number of segregated routes throughout Glasgow that are towards the City Centre, allowing commuters to use these routes for a portion of their journey. The Universities Sustainable Travel Plan gives further detail.</p>	<p>Gilmorehill Campus is the main campus of University of Glasgow. It is open 24/7, but previous surveys show that the busiest times are normal working hours.</p> <p>The campus is currently undergoing an intensive construction programme, and some of the new high footfall buildings have recently opened.</p> <p>The West End of Glasgow is well connected by public transport, but direct bus services to University Avenue are limited. Busier routes (Dumbarton Road, Great Western Road) are a short walking distance away. The University benefits from the Hillhead Subway station nearby, while the nearest train stop is 15 min walk away.</p> <p>NCN route 75 is also nearby, but does not directly touch the campus. Cycling facilities on campus differ in quality and are at capacity in some locations.</p> <p>The campus is not based in Glasgow's Low Emission Zone</p>	<p>City Campus is within easy walking distance of all local transport hubs in the City Centre. Queen Street Station 0.2 m Buchanan Street Bus Station 0.4 m Buchanan Street Subway 0.3 m Central Station 0.7 m Cathedral Street bus routes 0.1 m</p> <p>Riverside Campus is similarly within easy walking distance of the following: Argyle Street Station 0.5 m High Street Station 0.8 m Bridge Street Subway 0.4 m Central Station 0.7 m Ballater & Crown Street bus routes 0.1 m</p> <p>There are some pedestrian and cycle access routes which provide direct connections into both campuses, but the Avenues project will improve these even more.</p>	<p>Glasgow City Council (GCC) is the local government authority for the City of Glasgow, created in 1996. The HQs of most departments are in the City Centre. Public transport links are good with two major railway stations serving an extensive urban and suburban network, a subway system and city-wide bus services run in and out of the centre of Glasgow. GCC is developing its cycling network via the delivery of segregated City Ways and, in the City Centre lanes delivered as part of the Avenues project. The current network is made up of a mixture of segregated routes, shared surface (predominantly in parks) and a small amount of demarcation.</p> <p>The City Centre is one of the 20 mph zones and a number of measures have been taken to reduce City Centre traffic flow. Whilst there have been significant improvements via public realm projects, pavement quality in some areas is variable.</p>	<p>The Scottish Parliament is the devolved, unicameral legislature of Scotland. It is responsible for examining what the Scottish Government is doing, making new laws on devolved matters and debating the issues of the day. It also provides office space for 129 MSPs and their staff to represent their local area in the Parliament. It is in the Holyrood area of Edinburgh and comprises an area of 1.6 ha (4 acres), with a perimeter of 480 m (1570 ft). The Parliament is a 15-minute walk from Edinburgh Waverly train station and is on the bus route for Lothian bus service 35.</p>
Staff numbers overall (FTE, if available)	4,484 (4,069 FTE)	8,149 (Gilmorehill only), (5,073 FTE)	1,451 (1,164 FTE)	430 (average number of staff working in the complex on a daily basis due to post-COVID hybrid working)	546 FTE equivalent SPCB (Scottish Parliament Corporate Body) staff work in the Parliament*
Student/Patient/Visitor numbers per year	Students: 24,450 - (20,395 FTE)	Students headcount on this campus 35,776	31,959 (15,326 FTE)	Not known	500,000 (pre-COVID), closed to visitors from 2020-2022
Operating hours/core hours	08:00 - 20:00 Monday – Friday. Library and Union open later	Core hours are normal working hours – Monday-Friday, 08:00 - 18:00, but the campus is open and used 24/7	Buildings are open 06:00 – 18:30 Monday & Thursday, 06:00 – 21:30, Tuesday & Wednesday and 06:00 – 17:30 on Friday. Core hours are 09:00 – 17:00	Building is open: 08:00 - 18:00 Core hours: 10:00-16:00	Open to staff 24/7 however business days are Tuesdays, Wednesdays, and Thursdays
Locations	G1 1XQ (Glasgow City Centre)	G12 8QQ (West End of Glasgow)	G4 ORF (Glasgow City Centre) & G5 9XB (South of Glasgow City Centre)	G2 1DU (City Chambers, George Sq)	EH99 1SP (Holyrood, Edinburgh)

*There are a range of other building users not included in this figure, including MSPS and their staff, contractors and media teams.

Organisational contexts

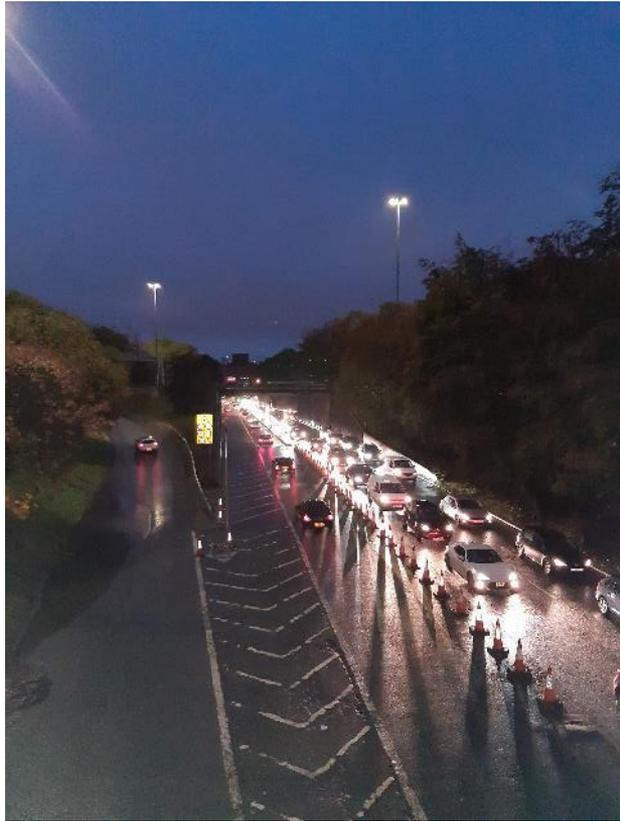
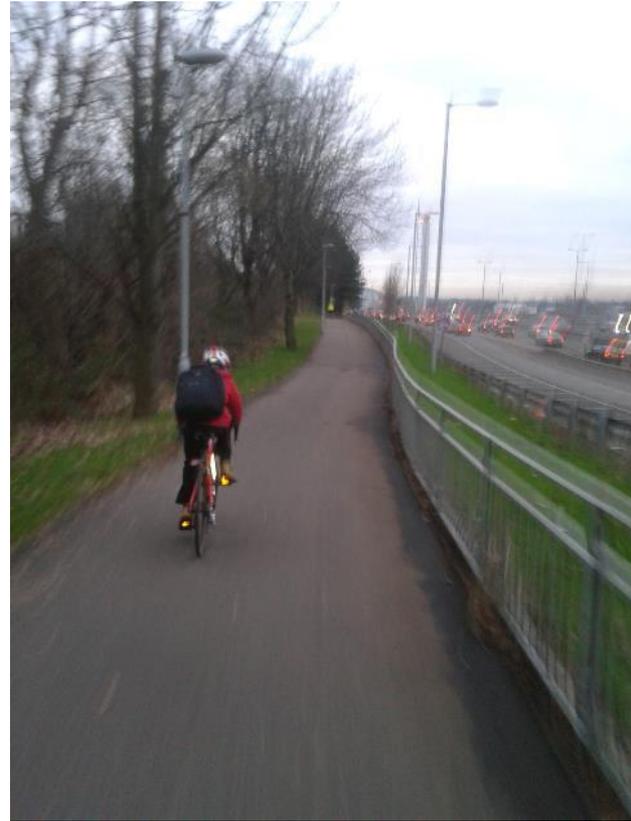
- We tabulated information on the size of each institution (staff and student numbers), transport links and operating hours.
- The four organisations based in city centre locations have more public transport options and better connections for longer distance travel journeys.
- All the Glasgow locations have on-site or nearby OVO Bikes (formerly nextbike) stations. Edinburgh does not currently have a city-wide bikeshare scheme.
- While most have similar core week-day operating hours, university campuses remain open all the time to staff and students to enable research and ongoing work. The Scottish Parliament is open to staff all the time, but its main business days are Tuesdays - Thursdays.

Working patterns and flexible/hybrid working

Organisation	University of Strathclyde	University of Glasgow	City of Glasgow College	Glasgow City Council	The Scottish Parliament
Site	John Anderson Campus (Glasgow City Centre)	Gillmorehill Campus – West End of Glasgow	City & Riverside Campuses	City Chambers Complex	The Scottish Parliament
Agile/flexible working policy?	Yes – introduced following COVID-19	Yes	Yes	Yes	Yes
Flexi-time system?	Yes, as part of agile working policy. Set at line manager level	No	Partial	Yes	Yes
Pre-pandemic work patterns	5 days (or full time)	Average days on campus (2019) - staff 4.5 days a week; students 4.1 days a week	There was no home working pre-pandemic	5 days (or full time)	5 days a week in office
Current work patterns	Around 18% of staff always working from home (2021/22).	Average days on campus - staff 3.1 days a week; students 3.3 days a week. 2% of staff always work from home (2022)	Between 3-4 days on site and 1-2 days from home (2022)	3 days at home and 2 in office (2022)	50% always working from home; 13% do not work from home (2021)

Prior to the pandemic most organisations operated a five-day working week but with a mix of full-time and part-time work patterns. All the organisations have flexible or agile working policies and the majority operate with flexi-time working systems. The pandemic has resulted in a large shift to home and hybrid working which has been maintained even after the relaxation of restrictions

Commuting trends



Staff travel surveys

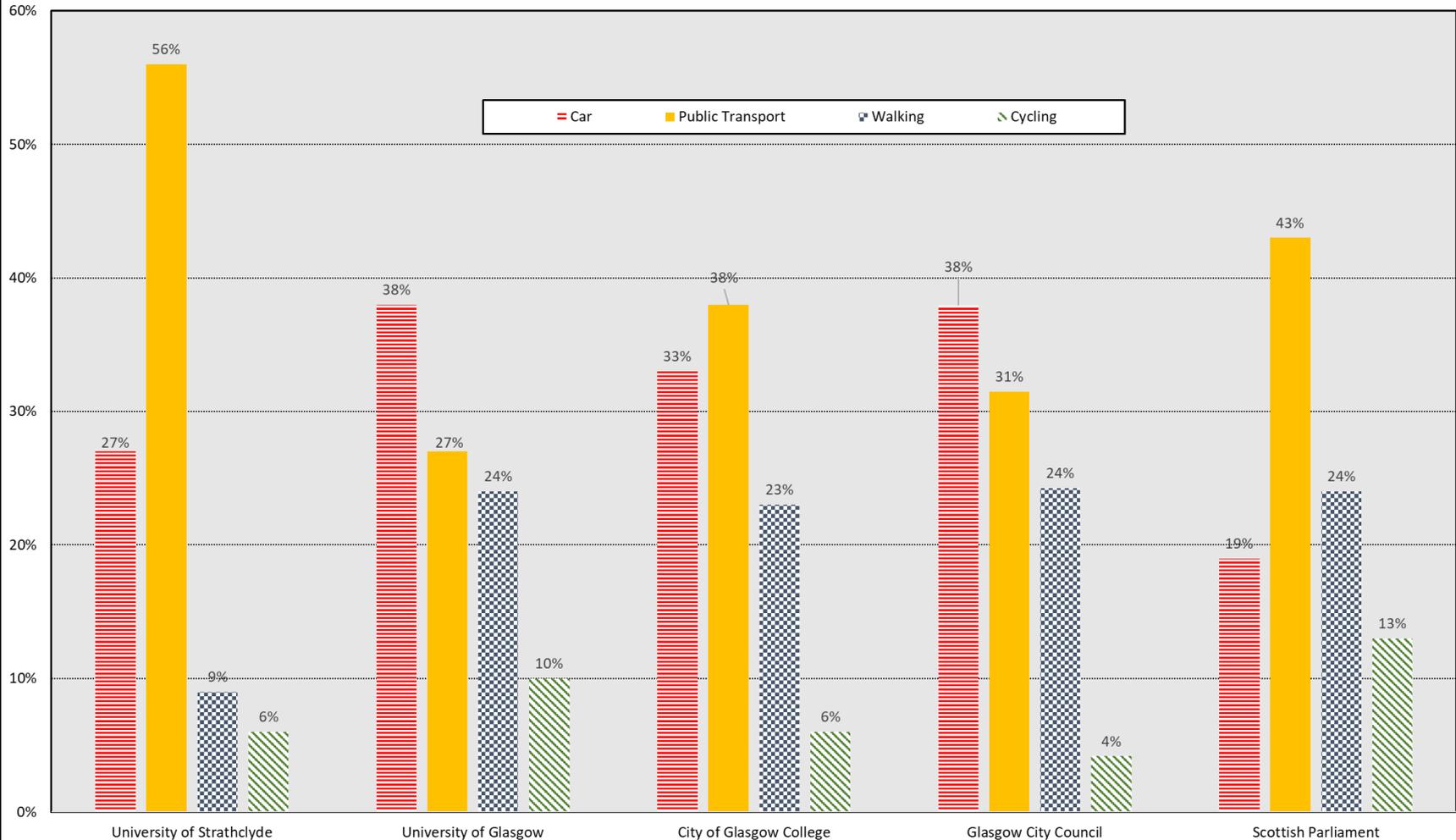
- All organisations have carried out staff travel surveys, enabling comparisons to be made across organisations and over time.
- Response rates vary by organisation and across the Higher Education institutions are much lower among students compared to staff
- The Scottish Parliament has the highest response rate

Organisation:	University of Strathclyde	University of Glasgow	City of Glasgow College	Glasgow City Council	The Scottish Parliament
Travel surveys	2015, 2018, 2020, 2022	2013, 2015, 2019, 2022	2015, 2018, 2019	2015	2015, 2018, 2019, 2021, 2022
Date of latest survey	May 2022	March to April 2022	2019	2015	April 2022
Response rates	28% of staff, 0.5% of students in 2022	21% of staff, 7% of students in 2022	15% of staff, 0.5% of students in 2019	11% of staff in 2022	52% of staff in 2022

Commuting snapshot (c2015)

Comparison of modes of staff travel to work, c 2015, for 5 large organisations in the public and higher and further education sectors

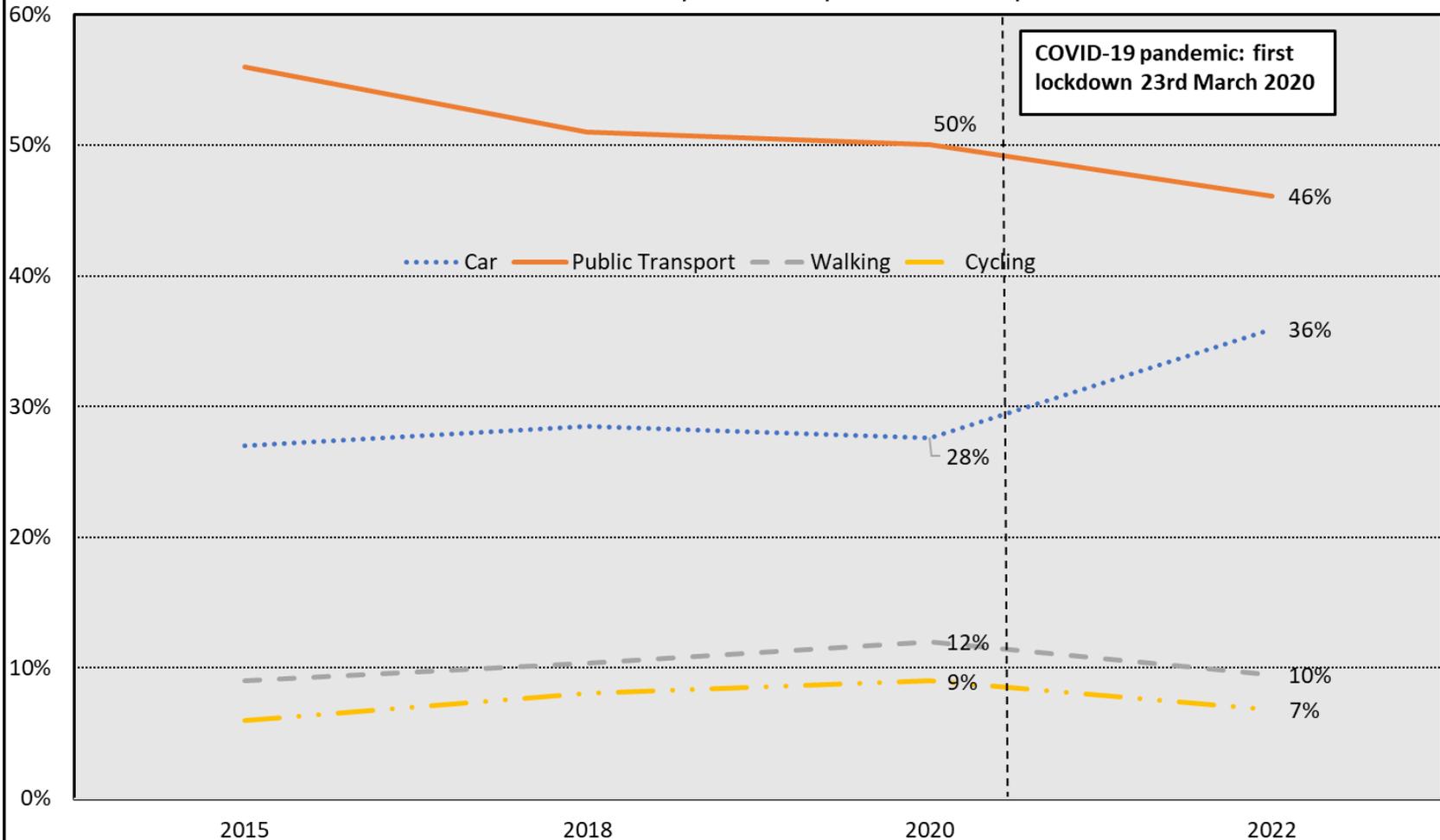
Source: Organisational travel surveys



University of Strathclyde

Staff travel to work by mode, 2015 - 2022, University of Strathclyde

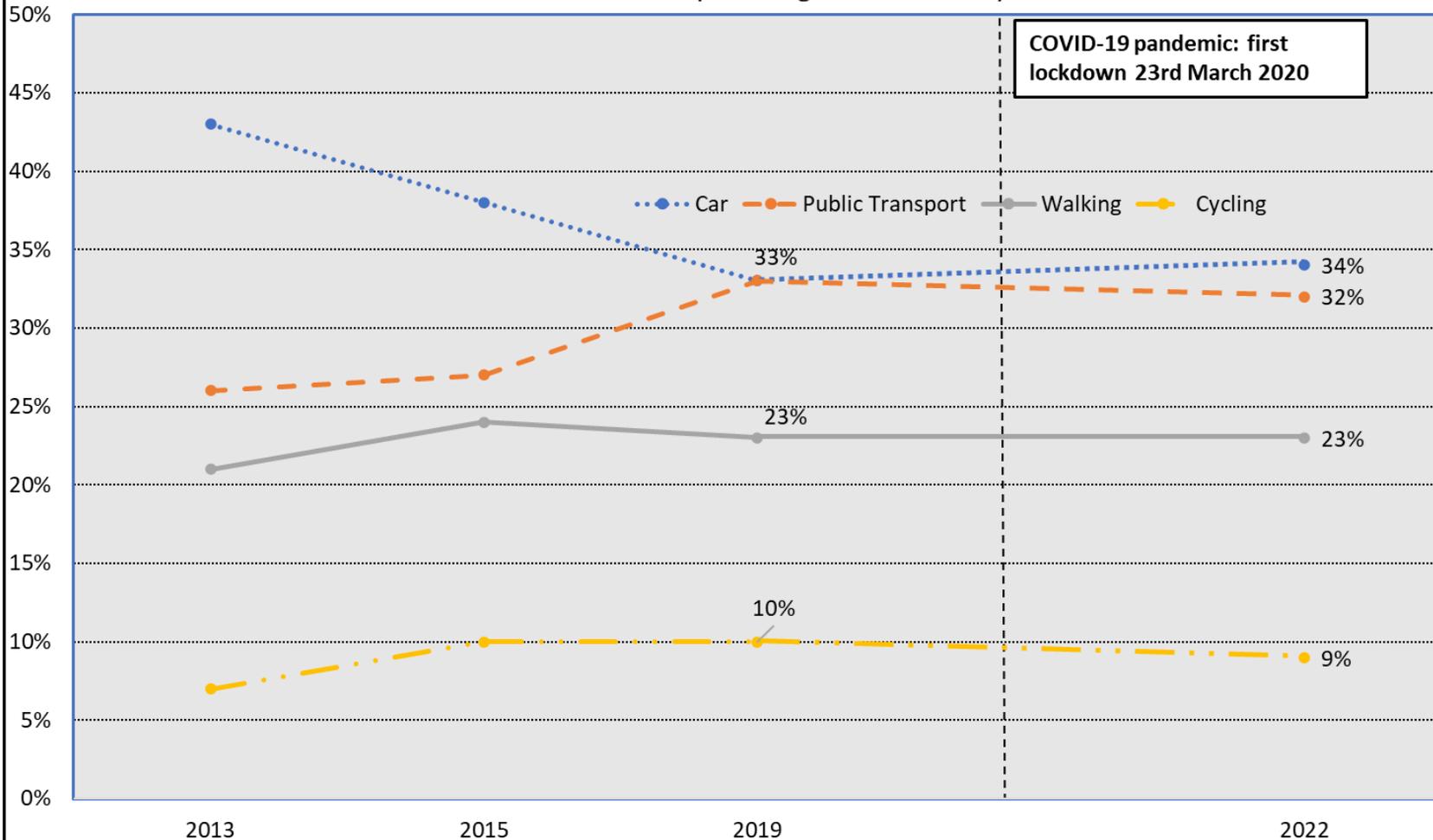
Source: University of Strathclyde travel surveys



University of Glasgow

Staff travel to work by mode, 2013 - 2022, University of Glasgow

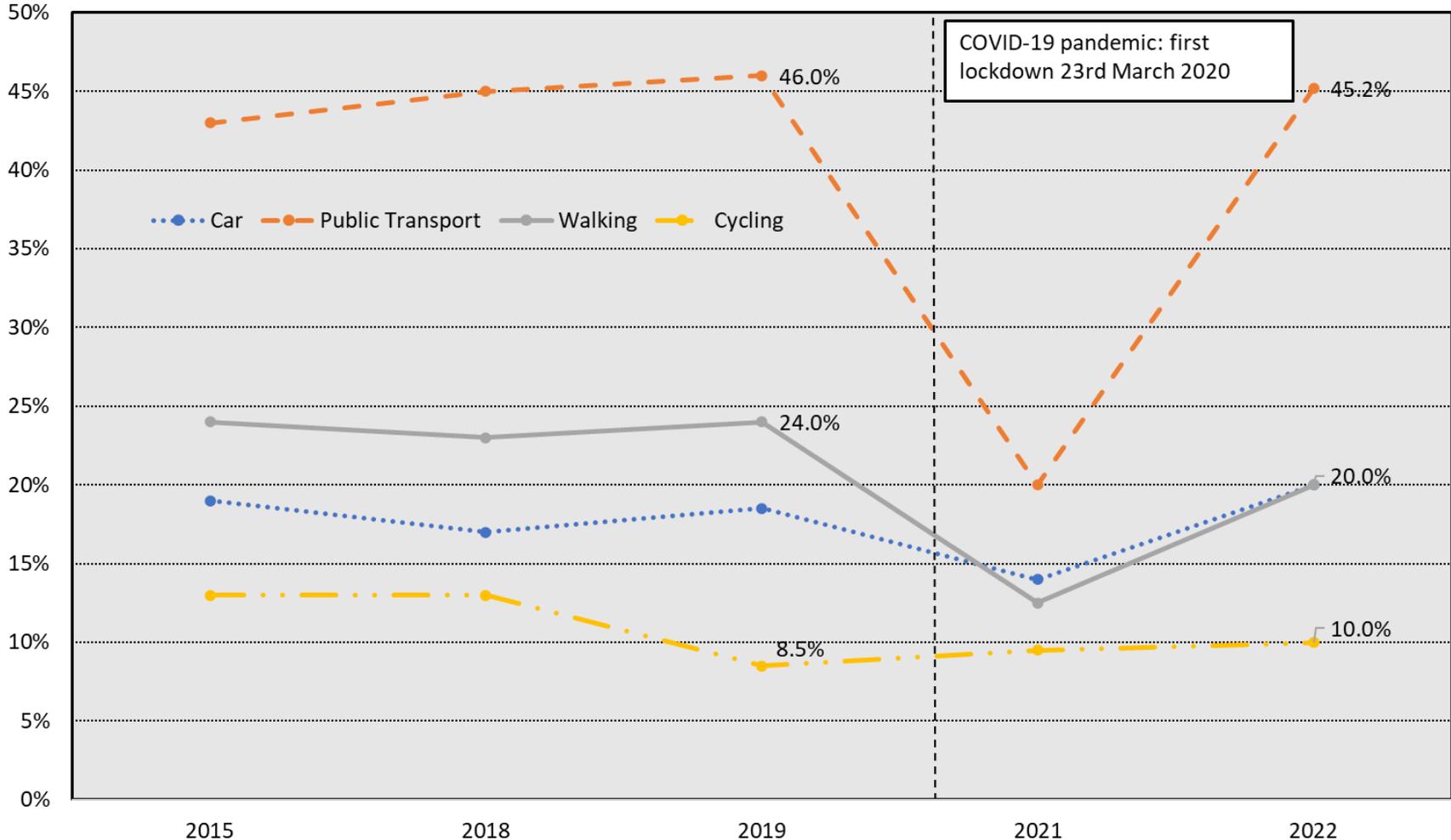
Source: University of Glasgow travel surveys



Scottish Parliament

Scottish Parliament commuting trends 2015, 2018, 2019, 2021, 2022

Source: Scottish Parliament



Facilities to support active travel

Organisation	University of Strathclyde	University of Glasgow	City of Glasgow College	Glasgow City Council	The Scottish Parliament
Site	John Anderson Campus (Glasgow City Centre)	Gilmorehill Campus – West End of Glasgow	City & Riverside Campuses	City Chambers Complex	The Scottish Parliament
Staff numbers -FTE	4,069	5,073	1,164	430*	546
Student/ Patient/Visitor numbers per year	Approx. 25,000	Students headcount on this campus 35,776	31,959 (15,326 FTE)	Not available	500,000 (pre-COVID), closed to visitors from 2020-2022
Showers	46	35	80	8	39
Showers per 100 FTE staff	1.1	0.7	6.9	N/A	7.1
Publicly accesible bike parking	405	943	200	34	Nearest public cycle racks are located next to the Holyrood Lodge
Secure bike parking (requiring code or lock)	230	200	330	72	60
Secure bike parking per 100 FTE staff	5.7	3.9	28.4	N/A	11.0
E-bikes for staff	0	8 (+1 e-cargo bike for staff business use)	4	2	0
OVO next bike membership	Yes; 100% off annual fee	Yes; 100% off annual fee	No	No	N/A
Cycle to work	🚲	🚲	🚲	🚲	🚲
Maximum value	£4,000	£1500; £2,500 (e-bikes)	£4,000	£1,500	£2,500
Uptake	25-35 per year	60-85 per year	20 per year	88 per year	?
* Glasgow City Council figures are based on average number of staff working in the complex on a daily basis due to post-COVID hybrid working, so not strictly comparable to the figures for other institutions.					

Support for public transport use

- The University of Strathclyde and City of Glasgow College offer a First Bus commuter club.
- The University of Glasgow and the Scottish Parliament offer interest-free loans to pay for public transport season tickets.
- The University of Glasgow offers staff a 10% discount on First Bus season tickets.

Facilities for car drivers

Organisation	University of Strathclyde	University of Glasgow	City of Glasgow College	Glasgow City Council	The Scottish Parliament
Site	John Anderson Campus (Glasgow City Centre)	Gilmorehill Campus – West End of Glasgow	City & Riverside Campuses	City Chambers Complex	The Scottish Parliament
Staff numbers -FTE *	4,069	5,073	1,164	430	546
Staff parking spaces	600	587	80	84	66
Parking spaces per 100 FTE staff	15	12	7	N/A	12
Annual cost of parking	£514.29	£310.00	£3 per day / £735 per year	Parking reserved for elected members; additional parking £4.50 per day (Duke St)	Free
Visitor parking	No	£6 per day	£0 but only limited number of spaces available	No	No visitors parking. A small number of public parking spaces are reserved for disabled people on Horse Wynd. These parking bays are for visitors to the Holyrood area in general, not just for visitors to the Parliament.
EV charging points	11**	16**	8 (4 twins)	14	15
Pool cars	2	12	2	17	No
Electric pool cars	2	0	0	8	No

* Glasgow City Council figures are based on average number of staff working in the complex on a daily basis due to post-COVID hybrid working, so not strictly comparable to the figures for other institutions.

** The e-charging points are for fleet vehicles only and not for commuting staff.

Car parking management

Most organisations have an existing car parking policy or are in the process of renewing existing policy.

The University of Strathclyde is planning to introduce a new car parking scheme which will be needs-based and include a minimum distance exclusion zone. It is likely that parking numbers will reduce in the future, in line with their sustainable travel plan and GCC City Centre plans to reduce car traffic.

The University of Glasgow operates a parking permit scheme that is criteria-based and applies a two miles from home exclusion zone. Parking space reductions have been proposed but have met with opposition.

City of Glasgow College reduced its parking spaces from 600 to 95 after moving to new buildings in 2016/17, and may reduce its capacity further. This reduction in parking capacity has been linked to a reduction in staff and student commuting by car, particularly as the main mode of commuting.

The Scottish Parliament operates a booking system for its 60 parking spaces, with priority given to MSPs on business days. There are ongoing discussions about reducing parking availability.

Carbon reduction plans

Organisation	University of Strathclyde	University of Glasgow	City of Glasgow College	Glasgow City Council	The Scottish Parliament
Carbon reduction targets	Their Vision 2025 Strategy includes a target to reduce Greenhouse gas emissions from a 2009/10 baseline, leading to 70% reduction by 2025, 80% by 2030 and net zero by 2040 at the latest.	The Carbon Management Plan 2020/21-2030/31 includes a carbon footprint target of reducing GHG emissions from 60,358 (in 2020/21) to 27,000 tonne CO2e per annum by 2030/31. There is also a commitment to being net zero for greenhouse gas (GHG) emissions by 2030.	Their sustainability strategy has targets to reduce emissions from all greenhouse gases by 75% by 2030 and reduce carbon emissions by 60% against 1990 baseline by Academic Year 2023/24.	Glasgow's Climate Plan has a target for the city to achieve carbon neutrality by the year 2030.	Their carbon plan, Session 6 Carbon Management Plan: Net Zero Ready, has a target of achieving a 66% reduction in CO2e per annum by 2025/26 from a 2005/06 baseline.
Related policy/plans		Strategic Travel and Transport Plan and Guidance for Business Travel	Sustainability strategy	Glasgow Transport Strategy, Glasgow City Centre Transformation plan (in preparation), a Liveable Neighbourhoods Plan and an Active Travel Strategy	Scottish Parliamentary Corporate Body Sustainable Travel Plan 2021-2022

Engagement activities

Organisation	University of Strathclyde	University of Glasgow	City of Glasgow College	Glasgow City Council	The Scottish Parliament
Participation in engagement activities					
Sustrans Workplace Journey Challenge (March 2022)	Yes	Promotion only	Pre-pandemic	Yes	Yes
Paths for All – Spring step count challenge (May - June 2022)	Yes	Occasionally, promotion only	Pre-pandemic. Post-pandemic have organised own version	Yes	No
Clean Air Day (June 2022)	No	No	No	Yes	No
Bike Week (June 2022)	Yes	No	Yes	Yes	Yes
Cycle to Work Day (August 2022)	Yes	Promotion only	No	Yes	Yes
Car Free Day (Sept 2022)	No	No	No	Yes	Yes (closing car park)
Love to Ride Cycle (September)	Yes	Yes	No	Yes	No
Paths for all – Autumn step count challenge (October - November 2022)	Yes	Occasionally, promotion only	Pre-pandemic. Post-pandemic have organised own version	Yes	No
Liftshare Week (in October)	No	No	No	No	No
Cycle training	No	Yes 3 levels of courses. Provided once or twice a year	1-2 times per year	As required	In the past
Dr Bike Events	Every 2-3 months, 2 sessions in a week.	Once a week during term time	2-3 times per year	Every couple of months	Twice in 2022
Other activities	Have previously partnered with Bike Register & Police Scotland to do on-campus bike marking events.	E-bike trials carried out occasionally or on request by staff groups, about once or twice a year. Police have attended bike events to promote secure bike locking, security marking, safe cycling. Social rides offered depending on availability of ride leader – about four times a year. Sport colleagues encourage active travel for events.	E-bike trials, police, Bike Register, social rides. Green Travel Group promotes active travel. Currently offering Learn to Ride cycle training for ESOL students and two sessions have taken place in May 2022 with 24 students signed up.	Cycle to Work scheme	The Scottish Parliament partners with Sustrans to deliver its Active Travel Champions Project. Our Active Travel Champions help to identify site-specific barriers and opportunities for active travel. They also help to define particular active travel aims and objectives and support the parliament's sustainable travel plan. Sustrans coming with e-bike in September.

Concluding points

- In all the organisations public transport use and active commuting are higher than the national average.
- But, there are no signs of sustained downward trends in car use or indeed rises in public transport use, walking and cycling as commuting modes.
- Changes in work and commuting patterns as a result of the COVID-19 pandemic have had an impact.
- There is evidence that where car parking facilities are reduced, levels of car use drops. All organisations have limited parking availability, and many are considering further reductions to parking, but this is a contentious issue.
- Facilities to support active travel are available, such as showers and secure bike parking, but levels of provision vary substantially across organisations.
- Supportive policy (e.g., sustainable transport policy, green travel plans, carbon reduction plans) exist and there are schemes to encourage active and sustainable travel in all organisations, but commitment varies in terms of the range of schemes and engagement activities supported.
- There is less obvious overt support for efforts to reduce car use.