

# COVID-19, travel behaviours and business recovery in Scotland: a survey of employers to understand their attitudes

▶ Melissa McGinley, Nick James, LUC, and Rachel Howell,  
University of Edinburgh  
December 2020

DOI: <http://dx.doi.org/10.7488/era/765>

## 1 Executive summary

### 1.1 Aims

The aim of the project is to provide Transport Scotland with a snapshot of employers' experience of their staff working from home / flexible working, business travel and commuting before the COVID-19 pandemic, during the lockdown in March-June 2020, and in the longer term as we recover from the pandemic. The work seeks to develop an understanding of employers' long-term travel plans and intentions; identify what barriers and enablers currently exist to delivering more home working and sustainable travel; and what measures would support employers in facilitating this shift. This information can be used by the Scottish Government to inform policy in this area.

The research surveyed and interviewed representative Scottish businesses on different aspects of travel behaviour:

- Workplace / journeys to work
- Business travel
- Impacts of home working on business and staff
- Travel planning
- Measures to support home working and use of sustainable modes of transport.

### 1.2 Findings

#### 1.2.1 Workplace / journeys to work

##### Workplace

- Before the COVID-19 pandemic, most businesses/organisations (63%) had at least three quarters of their staff based fully at their workplace with 62% of businesses/organisations reporting that they had no employees working fully at home/remotely or partly home/workplace based.

- A significant shift to home working occurred during the pandemic lockdown period (54% of businesses reported that more than three quarters of their staff were working fully at home).
- The results suggest that there could be a lasting effect with a decrease in the number of people based fully in the workplace and an increase in the proportion of people dividing their working time between home and the workplace in the future.
- Looking to the future, the survey confirmed that 71% of businesses/organisations either already support and encourage home working or plan to do so in the future.

### **Journeys to work**

- Before the COVID-19 pandemic, the most common mode of transport used by employees to travel to work was by private vehicle (three quarters of organisations' employees) followed by active travel (57%) and then by public transport (55%).
- During the lockdown period, for those employees who continued to travel to work, private vehicles and active travel predominated.
- Employers reported that they would be most likely to support sustainable journeys to work by adjusting start and finish times to avoid peak times on public transport/during winter months (37%).
- Distance was the most frequently cited barrier to the use of more sustainable modes for people's journeys to work (68%).
- Businesses/organisations reported that they already have the following incentives/measures in place to encourage employees to use sustainable modes to travel to work: bike storage facilities (46%); Cyclescheme, the tax free bike scheme (40%); and showering facilities (37%).

### **1.2.2 Business travel**

- Before the pandemic, business travel was dominated by the use of private vehicles (83%).
- The lockdown forced a significant shift of activity online, with mixed impacts on business operations. While face-to-face contact is valued by many organisations (90% of businesses/organisations identified it as a significant barrier to reducing business travel), many suggest that in the future they will attend more meetings and events online than they did before the pandemic (80%).
- Many organisations responding anticipate making less use of air travel (59% less or much less likely), park and ride (36% less or much less likely), car sharing (34% less or much less likely) and public transport (31% less or much less likely) for future business trips.
- The proportion of future business trips by private car is divided with 22% of businesses more likely to travel by private car, 53% about the same, and 31% less likely.

### **1.2.3 Impacts of home working on business and staff**

The implications of the move to home working during the pandemic lockdown, both on the operation of businesses/organisations and the welfare of their staff, was characterised by a mix of advantages and disadvantages.

- Disadvantages cited include impacts on employees with a range of identifiable characteristics (e.g. people with caring responsibilities / living on their own / with mental health issues) together with issues around home-working conditions (55%), broadband/internet connections (51%), and staff recruitment and training (45%).
- Mixed or negative impacts on health and wellbeing (social isolation/dislocation) were reported by 75% of employers.
- Positive effects included reductions in organisations' carbon footprints (89%) and time and financial savings for employees (89%).

#### **1.2.4 Future measures to support home working and use of sustainable transport**

The survey identified a number of measures the Scottish Government could implement to support home working or the use of sustainable transport modes for staff commuting and business travel. These are reflected in the recommendations.

### **1.3 Recommendations**

The survey has documented the dramatic change in working patterns that occurred during the COVID-19 pandemic lockdown, some of the impacts on organisations' operations and staff, and identified a number of changes which are likely to have a lasting effect. Many of these have implications for public policy. The findings of the survey suggest the need to:

1. Make public transport attractive, safe, convenient and affordable, particularly for journeys to work that cannot be made by active travel modes.
2. Ensure that public transport provision reflects the requirements of more flexible or variable working patterns/hours.
3. Explore ways to address the perceived and actual costs of public transport relative to other modes of transport.
4. Improve walking and cycling infrastructure to address issues of safety and quality.
5. Work with private sector employers to increase support for active travel modes, building on public sector leadership in this area.
6. Promote 'car restraint' - make journeys to work and for business by private vehicle less attractive.
7. Further develop measures to encourage mixed-mode journeys including park and ride, park and stride, ride and stride.
8. Act to support and encourage employers' preparation of Workplace Travel Plans.
9. Research changes in organisation carbon footprints taking account of employees' year-round domestic heating, lighting and power consumption, energy demands of online working / video conferencing, changes in office use and changes in travel patterns.
10. Prioritise further upgrades to broadband infrastructure across Scotland.
11. Target action to help smaller organisations make the transition to online working, where appropriate to their operations.
12. Share best practice in replicating in-person contact, recruiting, on-boarding and training staff in an online environment.
13. Develop and share best practice on identifying and supporting employees with specific needs or vulnerabilities relating to home working and / or online working.

Develop national and local planning responses to:

14. The potential long-term drop in demand for town and city centre office space and retail activity.
15. Support the development of local workplace hubs.
16. Encourage housebuilders to design for part-time home working.
17. Address length of people's journeys to work.

# Contents

|          |   |           |
|----------|---|-----------|
| <b>1</b> | <b>Executive summary</b> .....  | <b>1</b>  |
| 1.1      | Aims .....  | 1         |
| 1.2      | Findings .....  | 1         |
| 1.3      | Recommendations .....   | 3         |
| <b>2</b> | <b>Introduction</b> .....   | <b>6</b>  |
| 2.1      | Aims and objectives .....   | 6         |
| 2.2      | Background .....  | 7         |
| 2.3      | Method and approach .....   | 7         |
| 2.4      | Report structure .....  | 7         |
| <b>3</b> | <b>Sample</b> .....   | <b>8</b>  |
| 3.1      | Business sector.....  | 8         |
| 3.2      | Regional Transport Partnership areas .....  | 9         |
| 3.3      | Geographic region .....   | 9         |
| 3.4      | Size of business / organisation .....   | 10        |
| <b>4</b> | <b>Workplace / journeys to work</b> .....   | <b>11</b> |
| 4.1      | Proportion of workforce working from home / remotely / in the workplace .....           | 11        |
| 4.2      | Employees' journeys to work .....   | 17        |
| 4.3      | Barriers to walking, cycling or using public transport for employees getting to work .. | 22        |
| 4.4      | Conclusions for workplace / journeys to work .....                                      | 24        |
| <b>5</b> | <b>Business travel</b> .....  | <b>24</b> |
| 5.1      | Reasons for business travel .....   | 24        |
| 5.2      | Proportion of meetings/events/calls using online contact .....                          | 25        |
| 5.3      | Mode of transport for business travel .....   | 26        |
| 5.4      | After the pandemic: Options for business travel .....                                   | 29        |
| 5.5      | Barriers to reducing business travel .....  | 31        |
| 5.6      | Conclusions for business travel .....   | 32        |
| <b>6</b> | <b>Impacts of home working on business and staff</b> .....                              | <b>32</b> |
| 6.1      | Effects on operation of business / organisation .....                                   | 32        |
| 6.2      | Barriers to home working .....  | 34        |
| 6.3      | Impacts of home working reported by staff .....   | 35        |
| 6.4      | Particularly disadvantaged employees .....  | 37        |
| 6.5      | Conclusions for home working on business and staff .....                                | 39        |
| <b>7</b> | <b>Workplace travel planning</b> .....  | <b>39</b> |
| 7.1      | Workplace travel plan .....   | 39        |
| 7.2      | Conclusions for workplace travel planning .....   | 41        |
| <b>8</b> | <b>Future measures to support home working and use of sustainable transport</b> .....   | <b>41</b> |
| 8.1      | Measures to support home working and use of sustainable transport .....                 | 41        |
| 8.2      | Other respondent comments .....   | 43        |
| <b>9</b> | <b>Conclusions and recommendations</b> .....  | <b>45</b> |

## 2 Introduction

### 2.1 Aims and objectives

The aim of the project is to provide Transport Scotland with a snapshot of employers' experience of their staff working from home / flexible working, business travel and commuting before the COVID-19 pandemic, during the lockdown in March-June 2020, and in the longer term as we recover from the pandemic. The work seeks to develop an understanding of employers' long-term travel plans and intentions; identify what barriers and enablers currently exist to delivering more home working and sustainable travel and what measures would support employers in facilitating this shift. This information can be used by the Scottish Government to inform the development and implementation of policy in this area.

The objectives of the study can be divided into five distinct sections. The objectives are to understand:

#### **Journeys to work:**

- Employees' workplace (home/remote working; partly home/workplace based; fully workplace based) before the pandemic, during lockdown and plans for post COVID-19.
- The mode of transport used by employees commuting to work before the pandemic and, for those employees who continued to travel to their workplace, during lockdown.
- The incentives or measures that employers are likely to implement in the future to encourage employees to adopt more sustainable travel to work practices.
- The barriers to employees walking, cycling or using public transport to commute to work.

#### **Business travel:**

- The main reasons for business travel.
- The proportion of meetings/events/calls using online contact and video conferencing before the pandemic and during the lockdown.
- The mode of transport used for business travel before the pandemic and during lockdown, and the likely modes of transport that will be used in the future.
- The main barriers to reducing business travel.

#### **Impacts of home working on business and staff:**

- The effects of home working on the operation of businesses/organisations.
- The barriers experienced by businesses/organisations during the transition to home working.
- The effects of working from home on employees and to identify any particularly disadvantaged groups of employees.
- The likelihood of encouraging more working from home in the future.

#### **Workplace travel planning**

- Whether businesses/organisations had Workplace Travel Plans in place before the pandemic and whether they would be likely to prepare one in the future.

#### **Future measures to support home working and use of sustainable transport**

- The measures the Scottish Government could implement to support more home working and use of sustainable modes of transport for staff commuting and business travel.

## 2.2 Background

Various surveys are collecting public attitude data on the impact of COVID-19 on individuals' travel behaviour and their intended travel behaviour after lockdown. However, a key gap in the evidence base is the opinions / attitudes of employers rather than individuals. An important part of facilitating more home working and sustainable travel is to understand employers' long-term travel plans and intentions; the barriers and enablers to home working and sustainable travel; and, what measures would support employers in facilitating the required shifts.

## 2.3 Method and approach

The survey comprised an online questionnaire, developed in consultation with Transport Scotland. The questionnaire included questions relating to the pre-COVID-19, lockdown and post-COVID-19 (future) periods and explored issues including patterns of home working, journeys to work, the nature of business travel and how the move to home working during the lockdown period had impacted on organisations and their employees. The questionnaire also explored the use of Workplace Travel Plans and offered an opportunity for participants to provide further information and suggestions regarding home working and sustainable travel.

Over 7,000 Scottish organisations (private, public, third sector) selected to provide a good sectoral and geographic spread were invited to take part in the survey which was also publicised via social media and contact with trade bodies, chambers of commerce and professional institutes. The survey ran for four weeks (3<sup>rd</sup> August to 28<sup>th</sup> August 2020).

Ten follow-up discussions were held with questionnaire respondents, selected in part on the basis of their responses (including comments to open questions) but also to represent different sizes of organisation, different sectors and examples from across Scotland. Annex 1 provides a detailed description of the full method and approach to the survey/follow-up discussions. Findings from these discussions, together with views expressed by survey respondents, are included in the relevant sections of the report.

## 2.4 Report structure

The remainder of this report is structured into the following sections:

- Chapter 3 - The Sample
- Chapter 4 - Workplace / Journeys to work
- Chapter 5 - Business Travel
- Chapter 6 - Impacts of Home Working on Business and Staff
- Chapter 7 - Workplace Travel Planning
- Chapter 8 - Future Measures to Support Home Working and Use of Sustainable Transport
- Chapter 9 - Conclusions and Recommendations

This report is supported by a number of annexes:

- Annex 1 – Methodology

- Annex 2 – Detailed survey analysis by size of organisation, Regional Transport Partnership area, geographic region, and business sector.
- Annex 3 – Detailed recommendations by location, size of business, and sector grouping.
- Annex 4 – The Business Working Practices, Travel and COVID-19 Survey
- Annex 5 – Interview notes from 10 businesses/organisations.

## 3 The sample

A total of 327 employers responded to the questionnaire, though the number completing each question varied; 216 completed the entire questionnaire.

### 3.1 Business sector

Standard industrial sectors were grouped based on typical working practices (particularly the extent to which they were office based) and the extent to which they were likely to be impacted by COVID-19 lockdown restrictions (e.g. probable shift to home working or curtailment of trading). Given the focus of the survey in understanding the short and longer term impacts of home working and the shift to online business, the survey was particularly targeted at businesses likely to be fully or partially office based prior to the pandemic and which had been able to make the transition to home working.

Table 1 shows the breakdown by business sector. It indicates that around 60% of organisations fell into predominantly office-based sectors (42% private and 19% public or third sector). The number of responses in each sector category varies between questions.

Table 1: Proportion of respondents, by grouped sector (n=327)

| Sector grouping  | % of respondents |
|--|------------------|
| Administrative, business, finance, property, recruitment, media, law, marketing and publishing<br>(abbreviated to Administrative, etc. sector) | 42%              |
| Public services, government and charity  | 19%              |
| Engineering, construction, energy, utilities, transport, environment and agriculture<br>(abbreviated to Engineering, etc. sector)              | 14%              |
| Education, healthcare, hospitality, leisure, retail, sales<br>(abbreviated to Education, etc. sector)  | 11%              |
| Technology, science and pharmaceuticals  | 10%              |
| Other  | 4%               |

## 3.2 Regional Transport Partnership areas

Table 2 shows the breakdown by Regional Transport Partnership (RTP) areas.

Table 2: Proportion of respondents, by Regional Transport Partnership area (n=327)

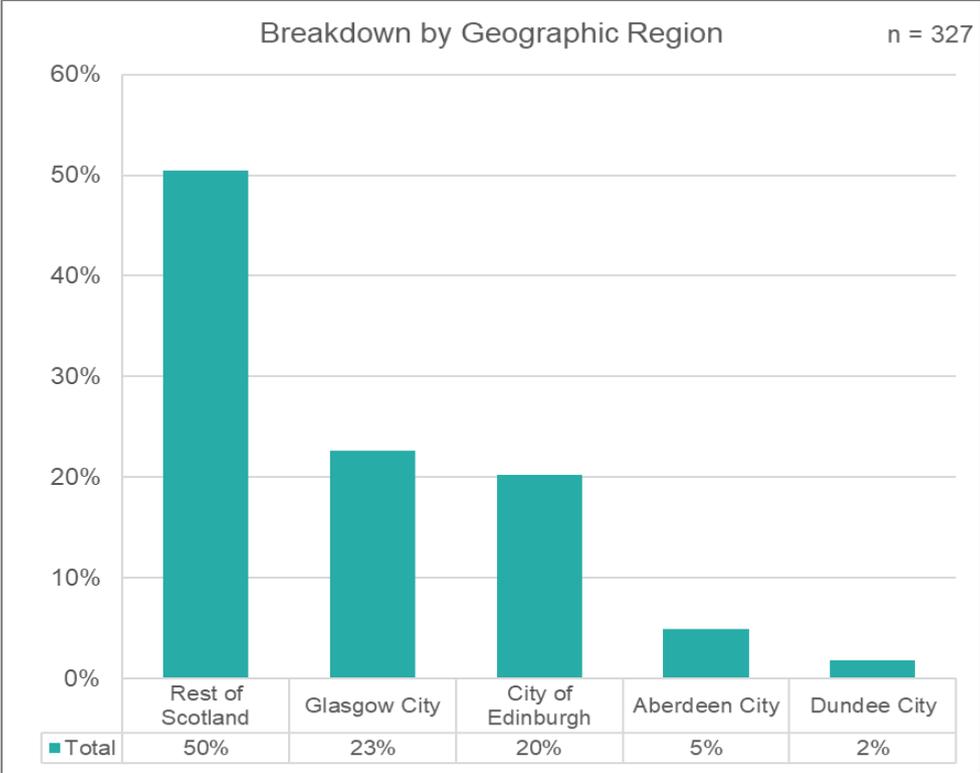
| Regional Transport Partnership area                          | % of respondents |
|--|------------------|
| South-East of Scotland Transport Partnership (SESTRAN)       | 36%              |
| Strathclyde Partnership for Transport (SPT)                  | 36%              |
| North-East of Scotland Transport Partnership (NESTRANS)      | 11%              |
| Tayside and Central Scotland Transport Partnership (TACTRAN) | 7%               |
| Highlands and Islands Transport Partnership (HITRANS)        | 7%               |
| South-West of Scotland Transport Partnership (SWESTRANS)     | 2%               |
| Shetland Transport Partnership (ZETRANS)                     | 1%               |

It indicates that the SESTRAN and SPT RTPs between them accounted for over 70% of respondents. The number of responses in each RTP area varies between questions.

## 3.3 Geographic region

Figure 1 shows the breakdown of responses by geographic area. It distinguishes between respondents from Glasgow, Edinburgh, Aberdeen and Dundee City Council areas and those from the rest of Scotland (representing a mix of urban and rural authorities). It shows that 50% of respondents were located in one of the four city local authority areas. The number of responses in each geographic category varies between questions.

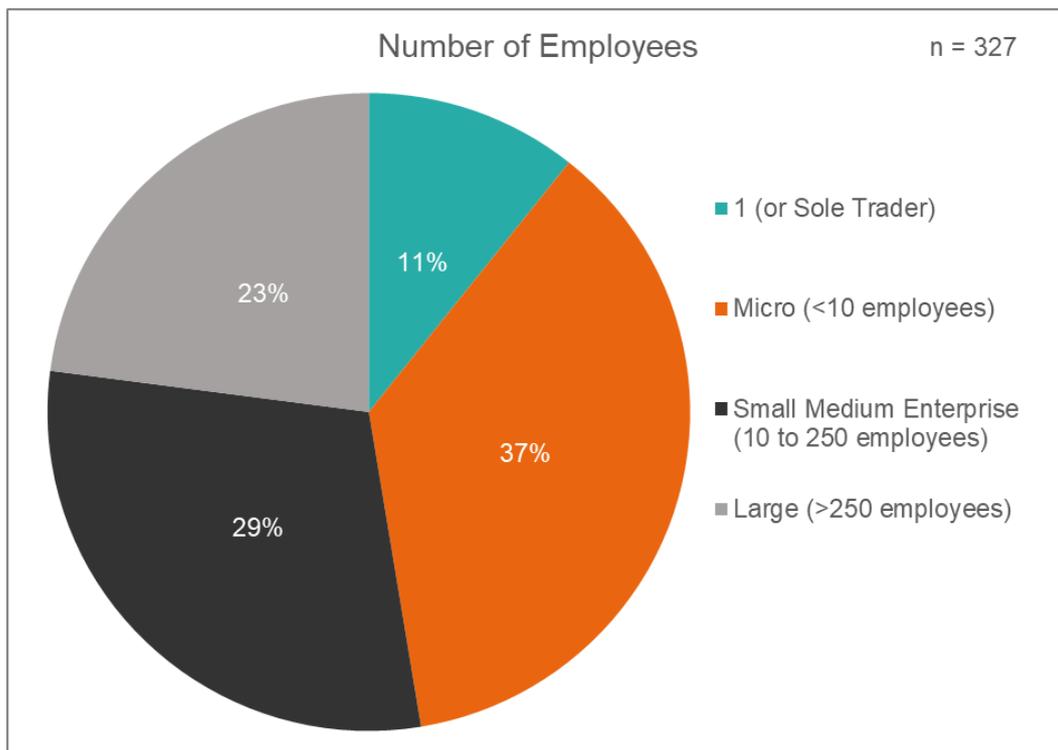
Figure 1: Breakdown by geographic region



### 3.4 Size of business / organisation

Figure 2 shows the breakdown of organisations by size, as measured by the number of employees. The largest number of respondents were from micro businesses (<10 employees) (37%), followed by small medium enterprises (10 to 250 employees) (29%), large businesses (>250 employees) (23%), with the lowest representation from sole traders at 11%. The number of responses in each size category varies between questions.

Figure 2 Breakdown by size of organisation / business (number of employees)



## 4 Workplace / journeys to work

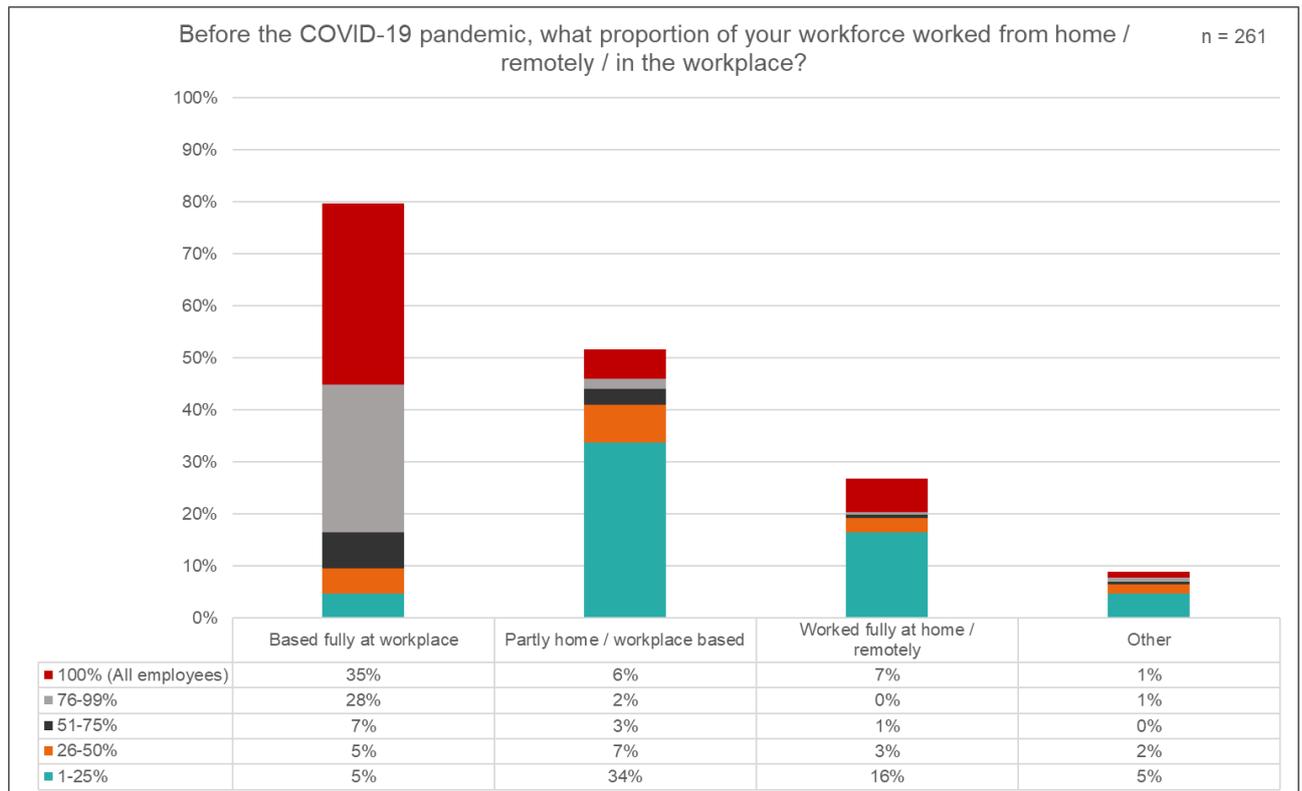
### 4.1 Proportion of workforce working from home / remotely / in the workplace

The survey asked respondents to describe the proportions of their staff based at the workplace, working from home / remotely or splitting their time between home and workplace.

#### 4.1.1 Before COVID-19

Figure 3 shows the proportions of staff working from home or in the workplace before the pandemic. It shows that most organisations (63%) had at least three quarters of their staff based fully at their workplace. Only 11% of businesses/organisations had more than half their workforce partly home/workplace based and 8% had more than half of their workforce working fully at home/remotely. Only 17 businesses/organisations (7%) were 100% home based while 62% of businesses/organisations had no employees working fully at home/remotely or partly home/workplace based before the pandemic.

Figure 3: Proportion of workforce working from home / remotely / in the workplace before COVID-19<sup>1</sup>



Analysis by **size of organisation** (Annex 2, Section 1.1.1.1) shows that the proportion of staff based fully at an organisation’s workplace increases with size. With the exception of sole traders, relatively small proportions of staff worked partly or fully from home. Although a small proportion overall, large organisations tended to have more staff working partly or fully from home than SMEs.

Annex 2, Section 2.1.1.1 breaks this analysis down by **RTP area**. Although the sample was limited outwith the SESTRAN and SPT areas, the analysis confirms that office-based working was most common across all regions. Partial or wholly home-based working was most common within the SESTRAN area.

Annex 2, Section 3.1.1.1 breaks the analysis down by **geography**, again demonstrating that workplace working dominated across all geographic settings, with partial or wholly home-based working most common in the City of Edinburgh and the Rest of Scotland.

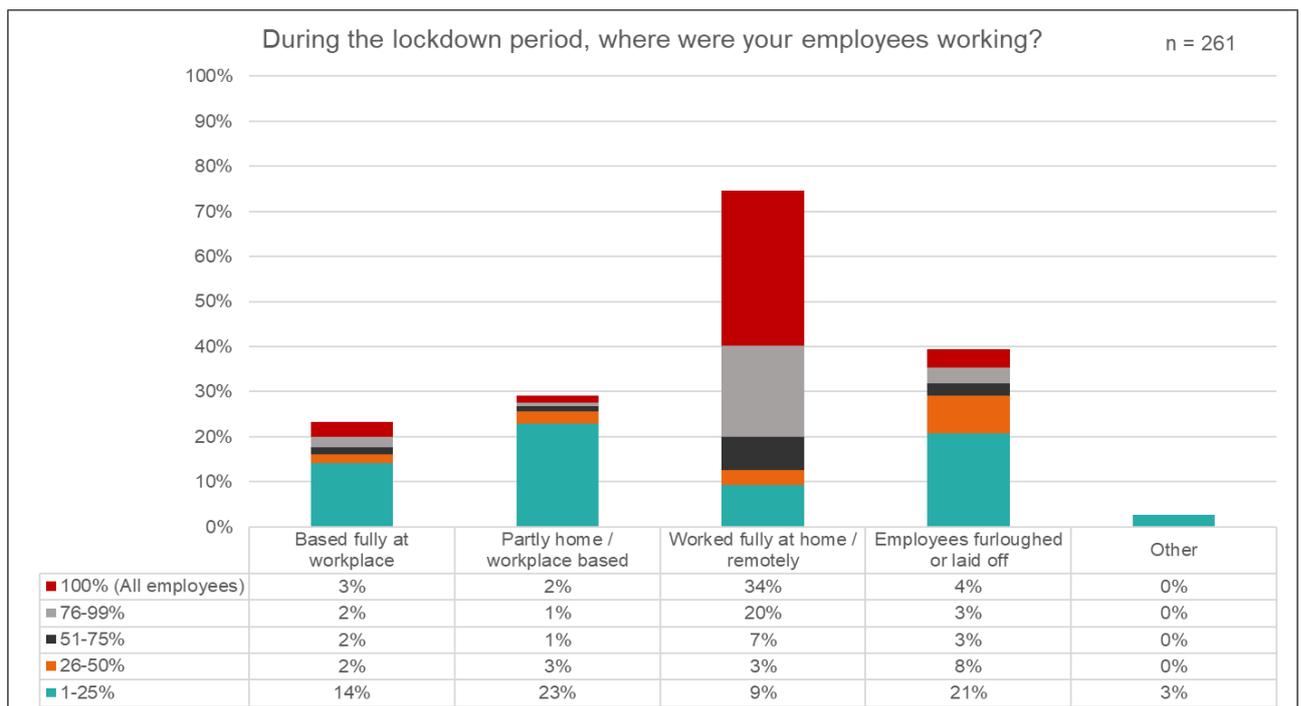
Annex 2, Section 4.1.1.1 breaks the analysis down by **grouped sector** and shows a broadly consistent pattern across sectors. Organisations in the Administrative, Business, Finance, Property, Recruitment, Media, Law, Marketing and Publishing sector group were least likely to have staff wholly based in the workplace and slightly more likely to have staff working partly or wholly from home.

<sup>1</sup> Many of the questions were multiple choice where respondents were invited to provide multiple answers to the same question. Where this was the case, percentages have been calculated by dividing the number of responses to each multiple choice answer by the total number of people who responded to that question and multiplying by 100. It is for that reason that the percentages in these columns do not add up to 100.

#### 4.1.2 During lockdown (March – June 2020)

Figure 4 indicates the proportions of staff working from home or in the workplace during the pandemic lockdown period. It shows a significant change in working patterns, with only 15 respondents (5% of all businesses surveyed) reporting that 75% or more of their staff were still based fully at their workplace. By contrast, 54% of businesses reported that more than three quarters of their staff were working fully from home. This confirms the move to home working that occurred widely during the lockdown period. Just over 100 organisations (39%) reported that they had either had to place staff on furlough or had made redundancies, most commonly applying to up to a quarter of their workforce.

Figure 4: Proportion of workforce working from home / remotely / in the during the pandemic lockdown period



Analysis by **size of organisation** (Annex 2, Section 1.1.1.2) shows the switch to home-based working took place across all sizes of organisation, with smaller organisations more likely to have all their staff based at home and larger organisations and SMEs having more employees based partly at home, partly at their workplace or, in the case of large organisations, continuing to be based fully at their workplace. SMEs and micro businesses were more likely to have furloughed staff or have made them redundant.

Annex 2, Section 2.1.1.2 breaks this analysis down by **RTP area**. It shows a strong shift to home working across most RTP areas (bearing in mind the smaller sample numbers outwith the SESTRAN and SPT RTP areas). This appears to have been most pronounced in the SESTRAN and SPT RTP area. The proportions of businesses placing staff on furlough or making redundancies was higher in the SPT RTP area.

Annex 2, Section 3.1.1.2 breaks the analysis down by **geography**. Again, it shows a shift to home working across all geographic settings. The pattern is strongest in the City of Edinburgh and weakest in Dundee City (small sample) where a larger number of organisations reported that more than 75% of their staff continued to be based at their workplace. Staff redundancies or furloughs were most common in Glasgow City and least common in the City of Edinburgh.

Annex 2, Section 4.1.1.2 breaks the analysis down by **grouped sector**. Organisations in the Public Services, Government and Charity sector and Technology, Science and Pharmaceuticals sector showed the most complete shift to home working with fewest staff remaining in the workplace. As might be expected, organisations in the Education, Healthcare, Hospitality, Leisure, Retail and Sales sector group had the lowest shift to home working. The Administrative etc., Education etc. and Engineering etc. sector groups had higher proportions of organisations indicating they had made staff redundant or placed them on furlough during the pandemic.

#### 4.1.3 Future / post COVID-19

Respondents were asked to look to the future, once the COVID-19 pandemic is over, and to indicate the proportions of staff they anticipate would be working from home or in the workplace (see Figure 5 overleaf).

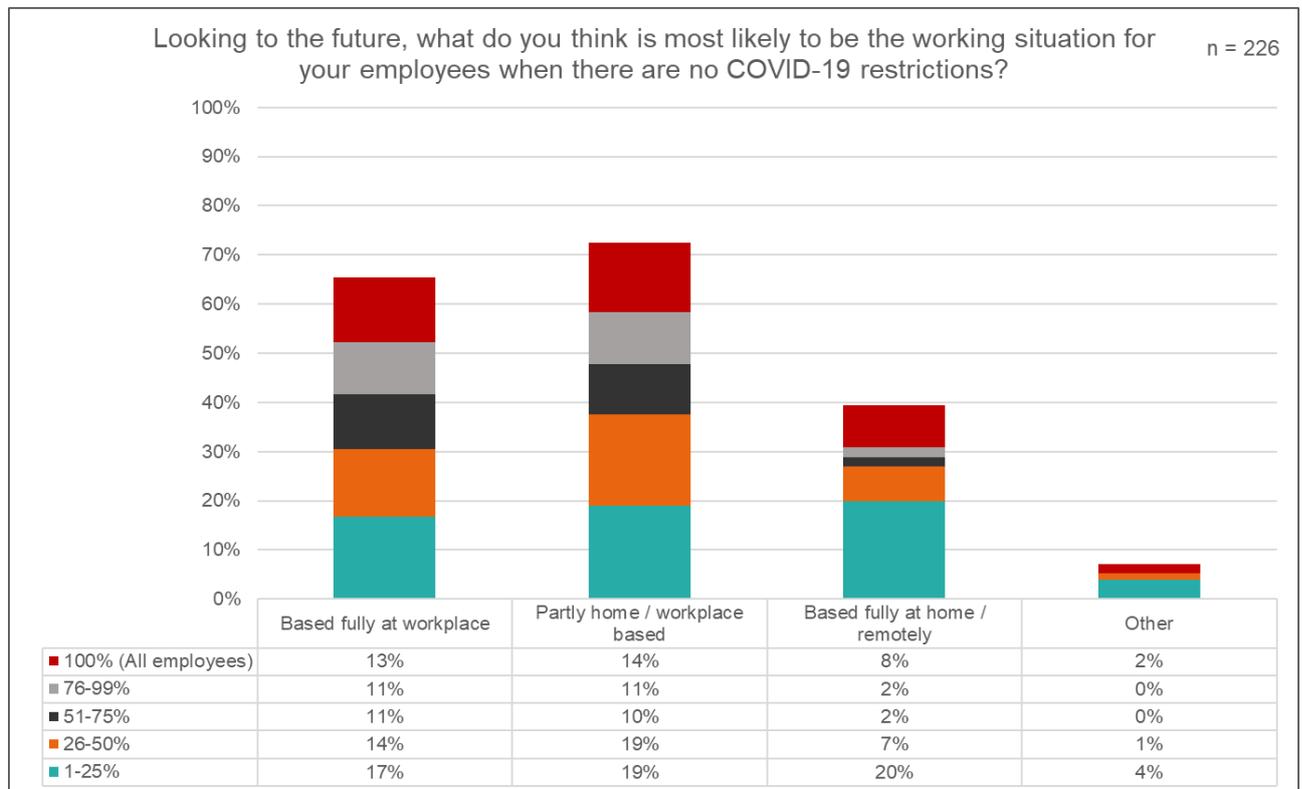
The results suggest a partial return to the workplace, with just under a quarter of respondents indicating they thought at least 75% of their staff would be based fully in their workplace (down from three quarters of respondents describing the pre-pandemic situation). On the other hand, only 10% of respondents anticipated that at least three quarters of their staff would be wholly home-based, representing a small increase from the 7% reporting three quarters of their staff working entirely from home before the pandemic. Respondents anticipate a significant increase in the proportions of staff who will split their time between home and workplace. A quarter of respondents suggest that at least 75% of their staff will work in this way, with a further half anticipating that this will apply to up to 75% of their staff. In addition to the responses to the closed survey questions, this shift is evidenced by responses such as the following to open survey questions and during follow-up discussions:

***Our recent survey of our future workplace shows that half our staff want a hybrid model of working from home and in the office, and a small percentage want to work from home completely*** (large organisation in Technology, Science and Pharmaceuticals sector; interview response)

***Our staff have indicated that they would prefer a combination of working from home and in the office rather than a complete return to the office*** (micro business in Administrative, etc. sector; interview response)

***We are looking into changing our offices into 'collaborative workspaces' so you go to the office for meetings but not for other things like writing reports*** (large organisation in Engineering, etc. sector; interview response)

Figure 5 Proportion of workforce working from home / remotely / in the workplace when there are no longer COVID-19 restrictions



Analysis by **size of organisation** (Annex 2, Section 1.1.1.3) suggests that the shift away from entirely workplace-based employment to part home, part workplace working is likely to be most pronounced among larger organisations and SMEs. A similar pattern is evident in an increase in the number of employees based fully at home (compared to the pre-COVID-19 situation).

Annex 2, Section 2.1.1.3 breaks this analysis down by **RTP area**. It also suggests a shift away from fully workplace based working with increases in part home and part workplace working and, to a lesser extent, fully home based working, across most RTP areas, though this appears greater in the SESTRAN area than for the SPT area. Again, the small number of responses outside SESTRAN and SPT RPT areas should be borne in mind.

Annex 2, Section 3.1.1.3 breaks the analysis down by **geography**. Again, it demonstrates a shift away from fully workplace-based working with increases in part home and part workplace working and, to a lesser extent, fully home-based working, across most geographic settings. The principal exception is Dundee City where the shift to partial home working is less pronounced in terms of proportions of staff and fully home-based working appears to be significantly less than elsewhere.

Annex 2, Section 4.1.1.3 breaks the analysis down by **grouped sector**. The shift away from employees being wholly based in the workplace and towards part time home-based working is evident across all sector groups, but most evident for the Administrative etc. sector and Public Services, Government and Charity sector.

#### 4.1.4 Future support or plans for home working

The survey explored the level of future support for home working. Figure 6 shows that 39% of organisations already support home working and that a further 32% plan to increase their support and encouragement for home working in the future. This is reflected in the following responses to open survey questions:

***We found that our clients don't need us to have an office and we don't miss it. We are actually thinking that we may give it up, both in terms of a reduced commute and the risk of having to isolate as a result of taking public transport/someone else in the office taking ill*** (micro business in Administrative, etc., sector; survey response)

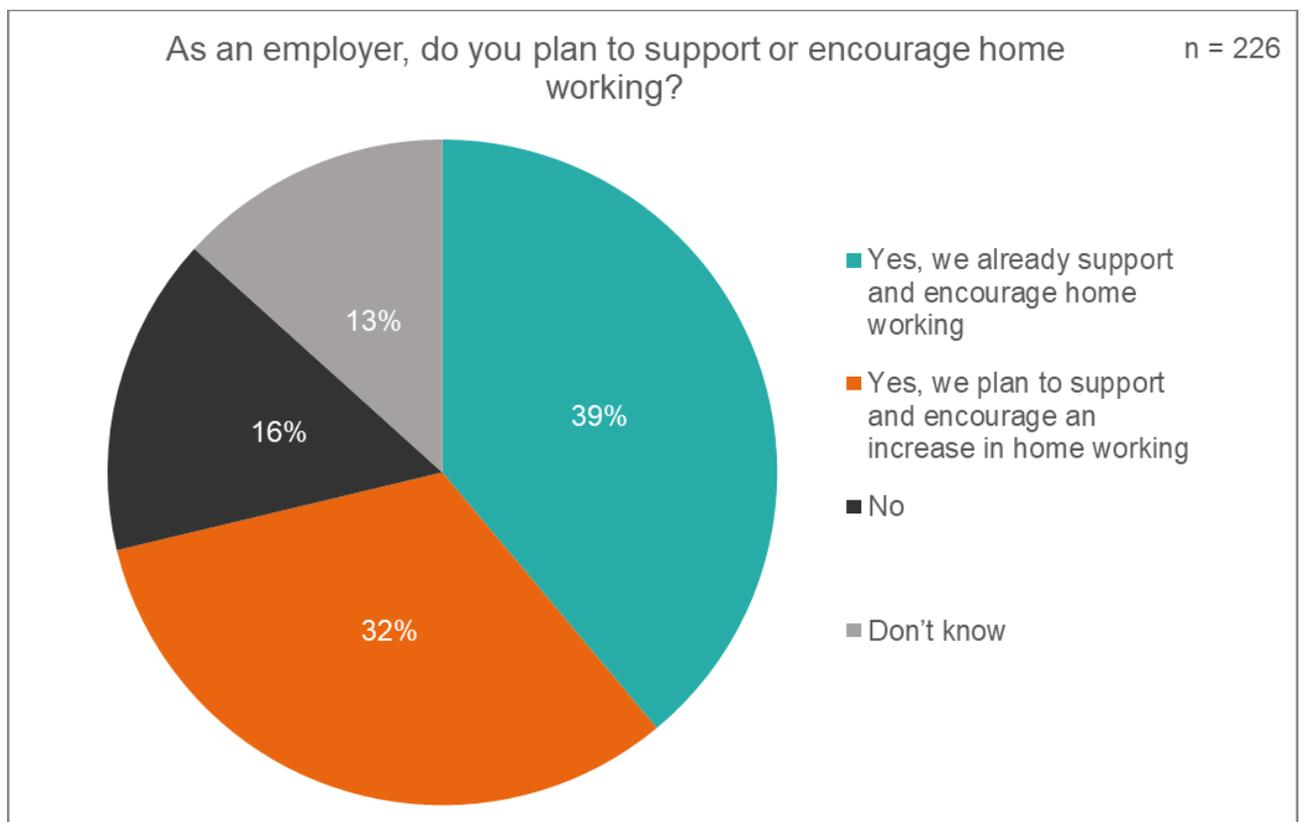
***Home working breeds trust between employer/employee*** (micro business in Administrative, etc., sector; survey response)

***We are already committed to 'agile' working for our staff, moving away from set hours*** (SME in Administrative, etc. sector; survey response)

***In no hurry to return to working in the office and likely to be a phased approach – limited numbers, for a couple of days a week, etc.*** (large organisation in Public Services, Government, Charity sector; survey response)

16% of organisations do not plan to support home working in the future. The main reason provided is that working from home/remotely does not reflect the business model of the organisation in question. Other responses relate to a loss of efficiency and productivity; lack of informal communications between team members; lack of suitable home working conditions; and unfairness of transferring operating costs to employees.

Figure 6 Existing and future support for home working



Annex 2, Section 1.3.4 breaks this analysis down by **organisation size**. Higher proportions of sole traders and micro businesses already support home working while large organisations and SMEs are more likely to indicate they will support home working in the future.

Annex 2, Section 4.3.4 breaks the analysis down by **grouped sector**. It shows that the organisations in the Public Services, Government and Charity sector group are least likely to currently support home working but are the most likely to support it in the future. Organisations in the Education etc. sector group are least likely to support an increase in home working, probably reflecting the nature of the work they undertake.

## 4.2 Employees' journeys to work

The survey asked respondents to provide information about the way that employees of their business or organisation travelled to work. The survey confirmed a high level of respondent familiarity with staff journeys to work (77% very familiar, 21% somewhat familiar, 2% unfamiliar).

Comparison of survey results relating to periods before and during the pandemic lockdown confirms a significant reduction in the number of journeys to work (reflecting the shift to home working) and an equally pronounced decline in public transport use relative to active travel and use of private vehicles. Looking to the future, the survey indicates that employers are unlikely to put further measures in place to encourage cycling or public transport use, or to discourage use of private vehicles. This may reflect perceptions of barriers to sustainable travel focusing around issues of distance and weather (which discourage active travel), the quality, provision and cost of public transport, and the safety of walking and cycling and lack of suitable infrastructure. Employers are most likely to support a move to more flexible start and finishing times.

### 4.2.1 Before COVID-19

The survey suggests a comparatively large number of organisations (just under a third) where more than three quarters of journeys are made by private vehicle. Most organisations are characterised by a mix of modes, with just under three quarters reporting that public transport is used by up to half of their staff and more than 50% reporting that active travel is used by up to half of their staff.

Just under 60% reported that at least some of their employees used active travel modes to get to work. Very few (4%) organisations indicated that more than three quarters of their staff travel this way, with 14% reporting between a quarter and three quarters using active travel and 38% reporting that up to a quarter travel in this way. In addition, it should be noted that 11% of organisations reported between a quarter and three quarters of their staff combining active travel with public transport use and a further 16% reporting up to a quarter combining these modes.

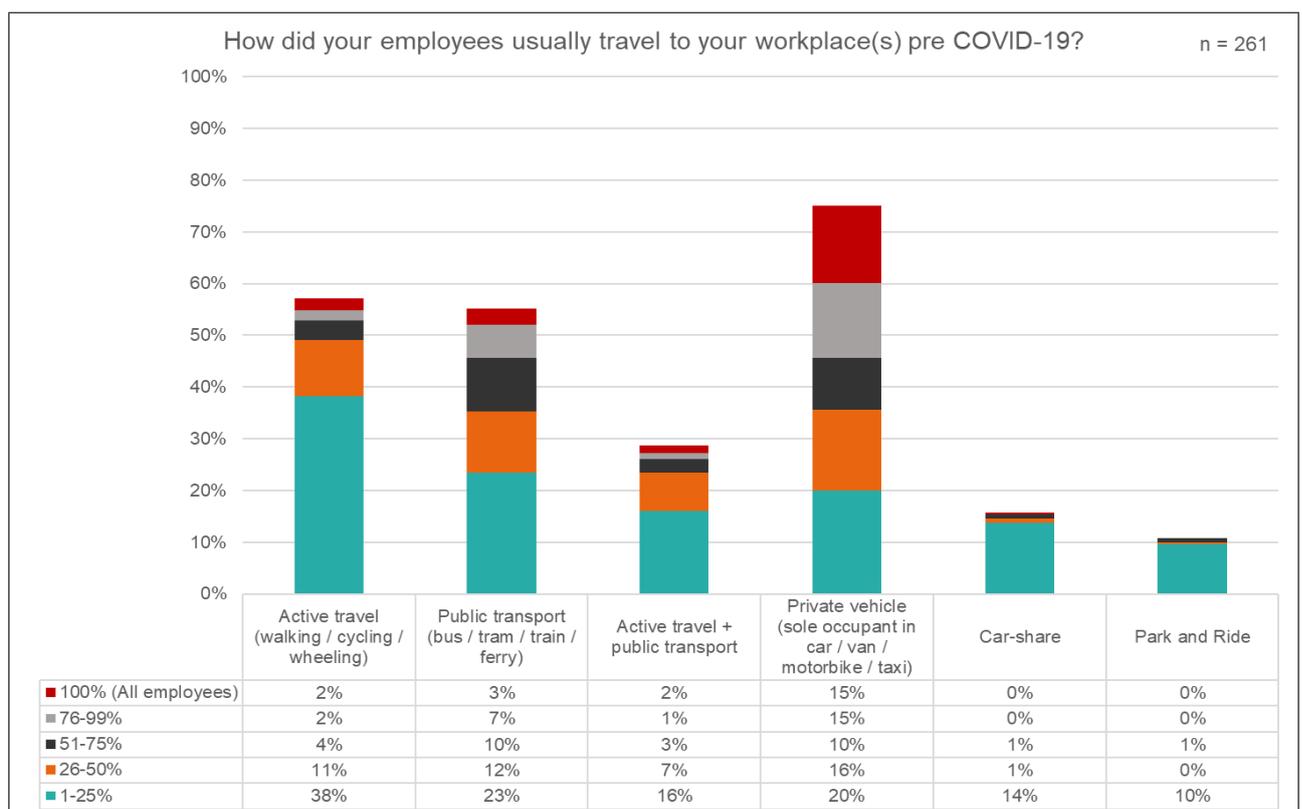
55% of respondents reported that at least some of their employees used public transport for their journey to work. Just under 10% reported that more than three quarters of their staff travel this way, with 22% reporting between a quarter and three quarters using active travel and 23% reporting that up to a quarter travel in this way. Again, it should be noted that 11% of organisations reported between a quarter and three quarters of their staff combining active travel with public transport use and a further 16% reporting up to a quarter combining these modes.

Three quarters of organisations reported that at least some of their employees travelled to work by private vehicle. Around 30% reported that more than three quarters of their staff travelled by private vehicle, a further 26% reporting between a quarter and three quarters travelling by car and 20% reporting up to a quarter travelling this way. Difficulties changing this pattern are illustrated by the following survey response received:

***We have tried to discourage commuting by private vehicle for a long time but for whatever reason, the majority of staff commute using private vehicles*** (micro business in Administrative, etc. sector; interview response)

Car sharing and park and ride were relative unimportant. Around 14% of respondents reported that up to a quarter of employees used car share and less than 10% reported that up to a quarter of employees used park and ride (see Figure 7).

Figure 7 Employees journeys to work pre COVID-19



Annex 2, Section 1.1.2.1 breaks this analysis down by **organisation size**. SMEs and large organisation tend to be more likely to have staff using active travel, public transport, park and ride and car sharing to get to work. Higher proportions of staff in smaller organisation tend to travel to work by private vehicle, though this mode is also important for a significant proportion of those working in SMEs and large organisations.

Annex 2, Section 2.1.2.1 breaks this analysis down by **RTP area**. It shows that private vehicles are an important mode across all RTP areas, particularly outwith the SESTRAN and SPT areas (noting small sample numbers). Public transport and active travel are of greatest importance in the SESTRAN and SPT RTP areas.

Annex 2, Section 3.1.2.1 breaks the analysis down by **geography**. These patterns are repeated across geographic settings, with some notable variations. Compared with other areas, private vehicles appear to be particularly important in Aberdeen and

Dundee (but note small samples) and active travel and public transport correspondingly less important. As would be expected, public transport is of higher importance in the City of Edinburgh and Glasgow City than elsewhere:

***Quite a high dependency on car use in the organisation. Commuting by active travel or public transport only possible for office-based staff in Edinburgh*** (large organisation in Engineering, etc. sector; interview response)

***Large percentage of staff live rurally which makes cycling and using public transport more problematic*** (large organisation in Technology, Science and Pharmaceuticals sector; interview response)

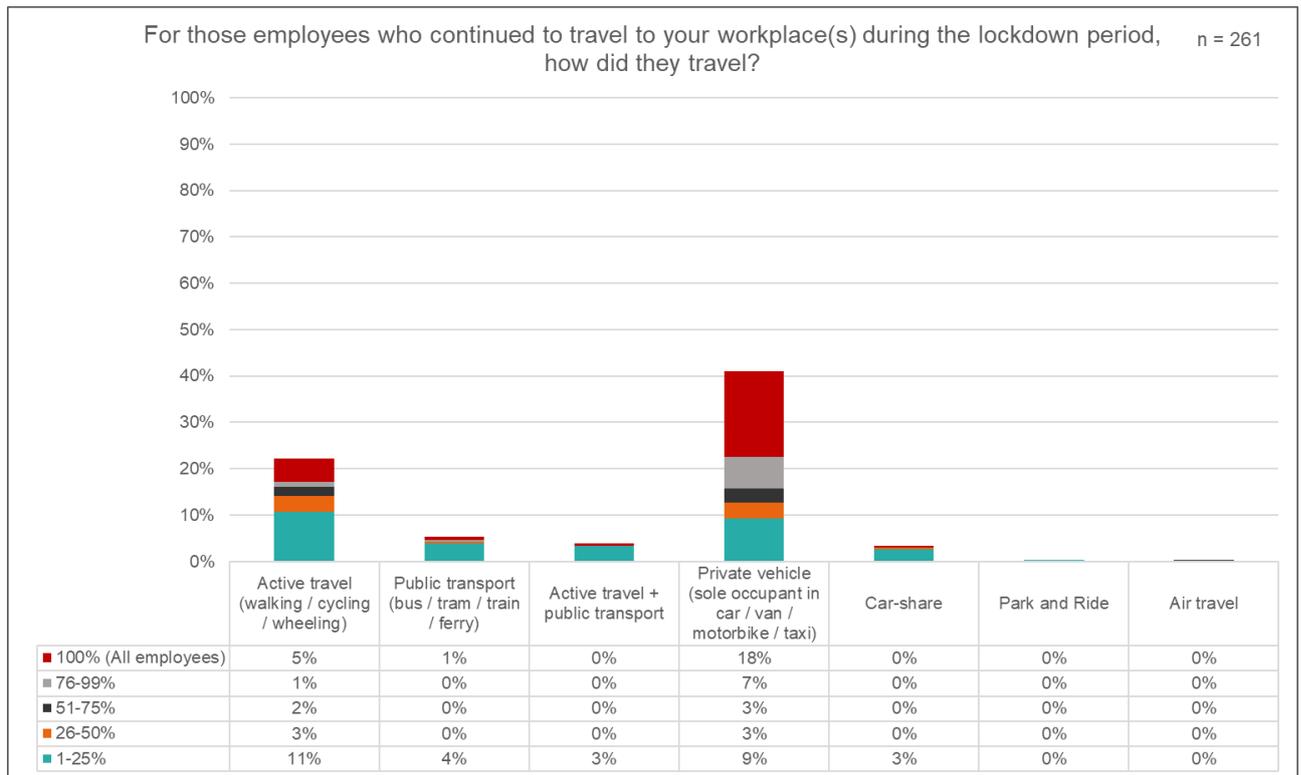
Annex 2, Section 4.1.2.1 breaks the analysis down by **grouped sector**. Private vehicles were the most important mode across all sectors, followed by public transport and active travel. The Public Services, Government and Charity sector group had slightly lower reliance on private vehicles and correspondingly greater use of active travel and public transport. Reliance on private vehicles was greatest within the Education, Healthcare, Hospitality, Leisure, Retail and Sales sector group.

#### **4.2.2 During lockdown (March – June 2020)**

The survey gathered similar information for employees' journeys to work during the lockdown period (see Figure 8). As would be expected, the shift to home working combined with the restrictions imposed on the operation of businesses in the retail and hospitality sectors resulted in a dramatic reduction in the overall number of people travelling to work. The decline was most pronounced for public transport (including combined with active travel and park and ride) and car sharing. 107 organisations reported that at least some of their employees were travelling to work by private vehicle, while 68 reported people travelling to work using active travel modes (including combined with public transport). This reflects official advice to avoid public transport during this period and is reflected in the following interview response:

***During the pandemic, there's been more active travel and less use of public transport. People are being indirectly encouraged to use their car because of public transport restrictions and concerns*** (large organisation in Education, etc. sector; interview response)

Figure 8 Employees' journeys to work during the pandemic lockdown period



Annex 2, Section 1.1.2.2 breaks this analysis down by **organisation size**, and confirms a consistent use of private vehicles and, to a much lesser extent active travel and public transport, for those journeys to work that did take place.

Annex 2, Section 2.1.2.2 breaks this analysis down by **RTP area**. It confirms the importance of private vehicle use across all regions, but particularly outwith the SESTRAN and SPT areas, and the importance of active travel, particularly in SESTRAN and SPT areas. Again, the small sample size for most RTP areas should be borne in mind.

Annex 2, Section 3.1.2.2 breaks the analysis down by **geography**. The reliance on private vehicles and active travel is again evident across all geographic settings. The apparent importance of car sharing in Dundee during the pandemic is a reflection of the small sample size, which magnifies each response.

Annex 2, Section 4.1.2.2 breaks the analysis down by **grouped sector**. Again, it shows the reliance on private vehicles and active travel during the pandemic. Public transport was of most importance for the Education etc. sector group and, to a lesser extent, the Public Services, Government and Charity sector group. The latter had somewhat less reliance on private vehicles and notably more people using active travel to get to the workplace.

#### 4.2.3 Future / post COVID-19

Looking to the future, organisations were asked which measures and incentives they would consider putting in place to encourage their employees to use more sustainable modes of transport during their journeys to work (see Figure 9).

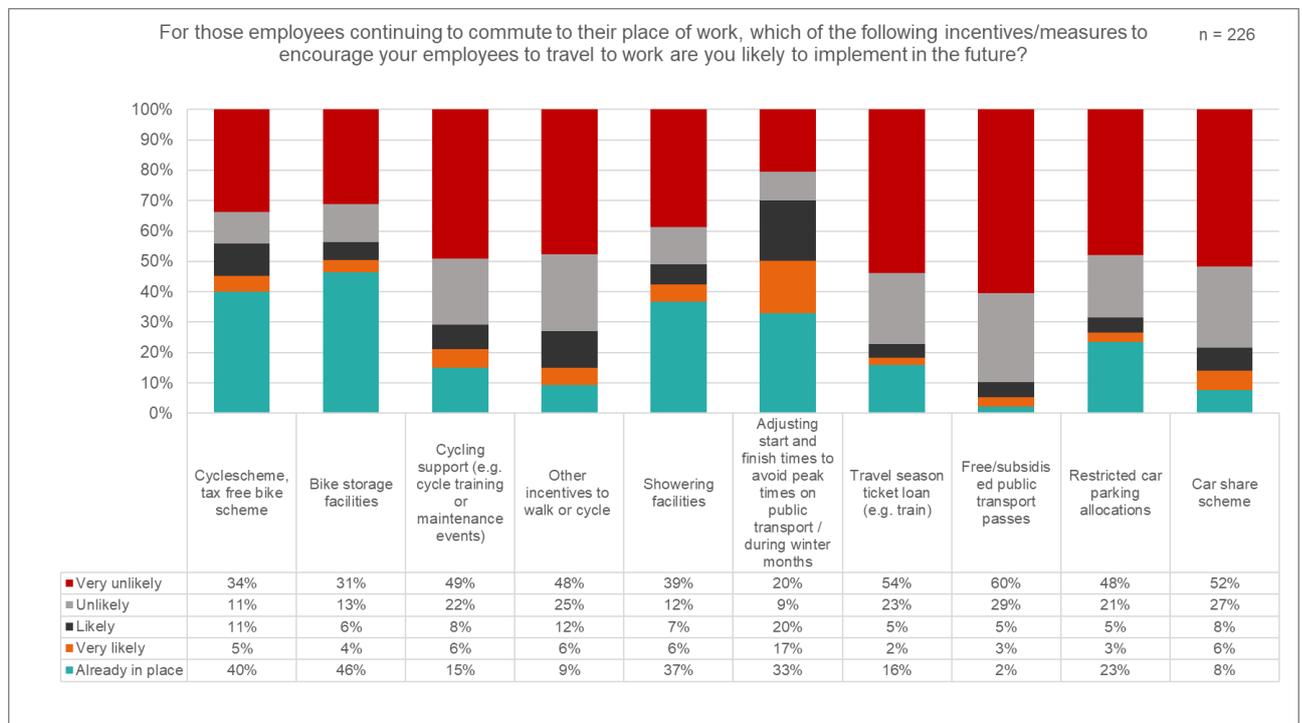
In terms of measures most likely to be considered in the future, adjusting people’s start and finish times to avoid peak times on public transport and allow flexibility during the winter was by far the most commonly identified. While around a third of businesses already had such flexibility in place, a further 37% suggested they were likely (20%) or very likely (17%) to consider this in the future.

In terms of measures already in place, there was strongest support for cycling, with 46% of organisations providing bike storage, 40% providing tax free bike purchase schemes and 37% providing showering facilities. However, amongst those who did not currently have such measures in place, there were relatively small numbers of organisations indicating that were likely or very likely to implement them in the future (10% bike storage, 16% bike purchase scheme, 13% showering facilities). Relatively few organisations either already (9%) or plan (18%) to provide other incentives to walk or cycle.

Relatively low support was recorded for public season ticket loans (16% already offering these, but over 50% indicating they are very unlikely to offer these in the future) and free public transport passes (2% providing these and 90% indicating they are unlikely or very unlikely to offer this in the future).

While just under a quarter of businesses already restrict the availability of car parking, just under 70% indicated they would be unlikely to increase restrictions on car parking in the future. Similarly, while just 8% had car share schemes in place, with 14% considering implementation in the future, almost 80% of respondents indicated it was unlikely or very likely that they would introduce such a scheme.

Figure 9 Future journeys to work – employer support and incentives



Annex 2, Section 1.1.2.3 breaks this analysis down by **organisation size**. Large organisations were most likely to support measures to encourage sustainable travel, or to already have measures in place. Areas where greater support was likely in the future included flexible start/finish times, measures to encourage cycling and car sharing, restricted parking provision and public transport loans. SMEs indicated similar, though lower levels of support for these actions, with least support for car sharing and free or

subsidised public transport passes. Micro businesses and sole traders were less likely to have measures in place or to be considering measures in the future.

Annex 2, Section 2.1.2.3 breaks this analysis down by **RTP area**, showing a broadly consistent pattern, with most support for more flexible start/finish times. Organisations within the SESTRAN area tended to have higher levels of existing provision across a number of measures (e.g. flexible start and finish times, measures to support cycling) while those in the SPT area were more likely to introduce some of these in the future.

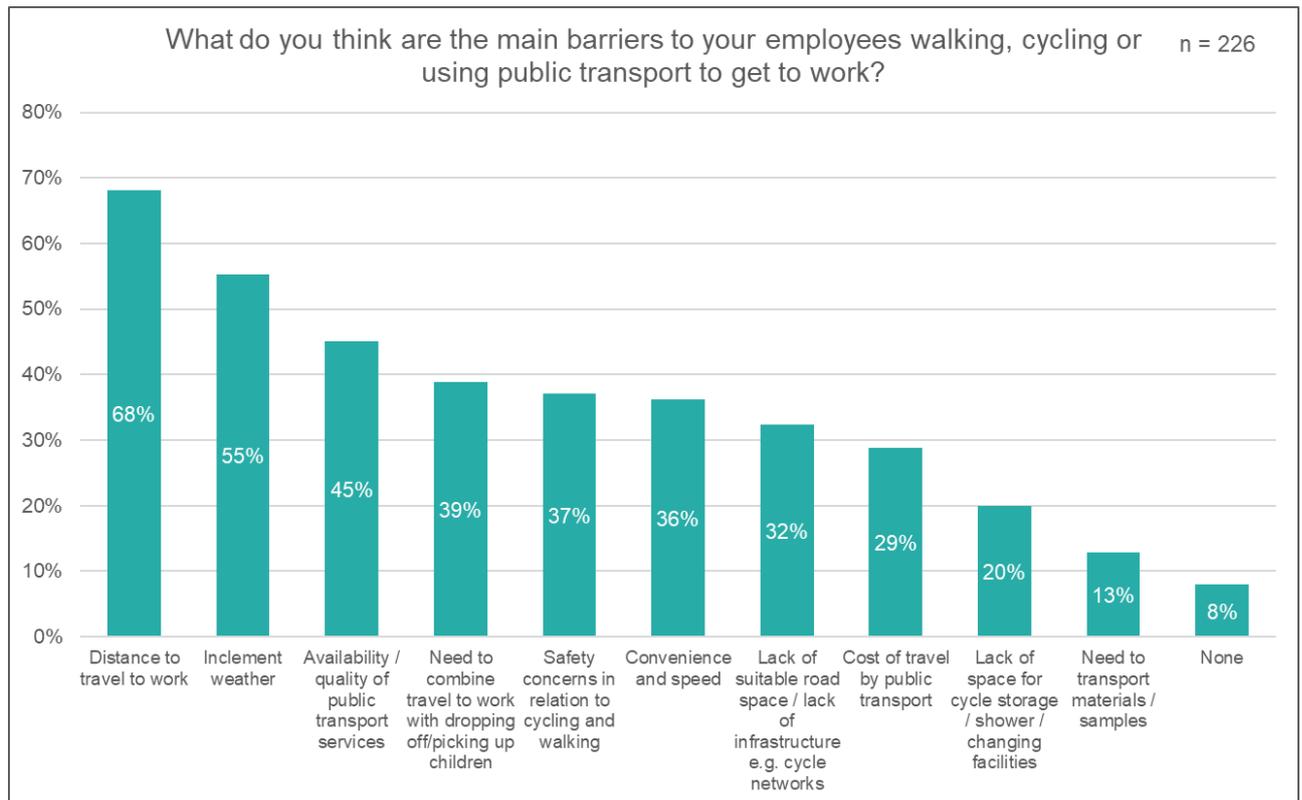
Annex 2, Section 3.1.2.3 breaks the analysis down by **geography**. Again, there is a broadly similar pattern across geographic settings, with organisations in the City of Edinburgh having slightly higher levels of measures already in place and those in Glasgow indicating future provision is likely. Organisations in the Rest of Scotland indicate lower levels of support for most measures. Dundee in particular has a small sample so findings may be unreliable.

Annex 2, Section 4.1.2.3 breaks the analysis down by **grouped sector**. While there are subtle differences between the sector groups, the Public Services, Government and Charity sector group shows higher levels of existing support for flexible start and finish times and a series of measures to encourage cycling and active travel. The Technology, Science and Pharmaceuticals sector group appears least likely to support measures to encourage sustainable travel to work.

### 4.3 Barriers to walking, cycling or using public transport for employees getting to work

The survey explored respondents' views on the main barriers preventing people from walking, cycling or using public transport for their journeys to work. Figure 10 shows that the most significant barriers were the distance that people have to travel from home to work (cited by 68% of respondents), weather conditions making it unpleasant to walk or cycle (55%) and the availability or quality of public transport (45%). Other issues included combining the journey to work with dropping off children (39%), the safety of walking and cycling (37%), convenience and speed (36%), lack of infrastructure for cycling and walking (32%) and the costs of travelling by public transport (29%).

Figure 10 Barriers to employees using sustainable travel modes



Analysis by **organisation size** (Annex 2, Section 1.1.3) suggests that larger organisation were more likely to identify barriers to sustainable travel, but that distance, the availability of public transport, safety for walking and cycling and impact of weather conditions were, to varying degrees, important for all sizes of organisation.

Annex 2, Section 2.1.3 breaks this analysis down by **RTP area**. While the distance people have to travel to work and the influence of inclement weather were consistently identified as barriers, issues around the availability of public transport were more significant in areas outside SESTRAN and SPT RTP areas. The need to combine commuting with other purposes (e.g. school run) was a greater issue in SESTRAN than SPT RTP areas, while safety and provision for walking and cycle were greater concerns in the SPT RTP area than the SESTRAN area.

Annex 2, Section 3.1.3 breaks the analysis down by **geography**. Distance people have to travel is a common barrier across all geographic settings, as is the impact of inclement weather, safety concerns and the availability of public transport. The latter is of particular importance in the Rest of Scotland:

**Large percentage of staff live rurally which makes cycling and using public transport more problematic** (large organisation in Technology, Science and Pharmaceuticals sector; interview response)

In Edinburgh, the need to combine journeys to work with other purposes is also a concern.

Annex 2, Section 4.1.3 breaks the analysis down by **grouped sector**. Distance to work was a significant concern across all the sector groups, particularly for the Public Services, Government and Charity sector group where 84% of organisations highlighted this as a barrier. Concerns about inclement weather were also common to all the sector groups, but particularly significant for the Technology, Science and Pharmaceuticals

sector group (74%). The availability and cost of public transport, safety and provision for walking and cycling were also frequently cited across all the sector groups.

## 4.4 Conclusions for workplace / journeys to work

### Workplace

- Before the COVID-19 pandemic, most businesses/organisations (63%) had at least three quarters of their staff based fully at their workplace with 62% of businesses/organisations reporting that they had no employees working fully at home/remotely or partly home/workplace based.
- A significant shift to home working occurred during the pandemic lockdown period (54% of businesses reported that more than three quarters of their staff were working fully at home).
- The results suggest that there could be a lasting effect with a decrease in the number of people based fully in the workplace and an increase in the proportion of people dividing their working time between home and the workplace in the future.
- Looking to the future, the survey confirmed that 71% of businesses/organisations either already support and encourage home working or plan to do so in the future.

### Journeys to work

- Before the COVID-19 pandemic, the most common mode of transport used by employees to travel to work was by private vehicle (three quarters of organisations' employees) followed by active travel (57%) and then by public transport (55%).
- During the lockdown period, for those employees who continued to travel to work, private vehicles and active travel predominated.
- Employers reported that they would be most likely to support sustainable journeys to work by adjusting start and finish times to avoid peak times on public transport/during winter months (37%).
- Distance was the most frequently cited barrier to the use of more sustainable modes for people's journeys to work (68%).
- Businesses/organisations reported that they already have the following incentives/measures in place to encourage employees to use sustainable modes to travel to work: bike storage facilities (46%); Cyclescheme, tax free bike scheme (40%); and, showering facilities (37%).

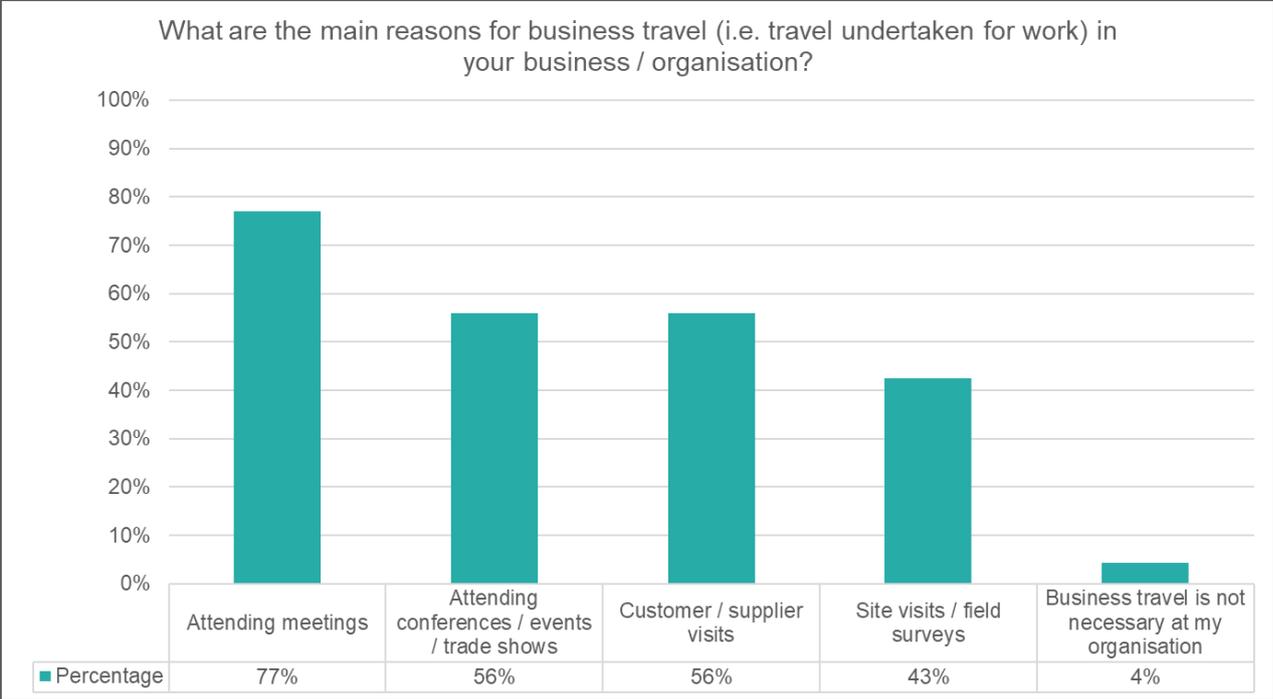
## 5 Business travel

The survey explored the use of business travel and online contact before the pandemic, the process of moving business contact online during the pandemic, and organisations' views of business travel and communications in the future.

### 5.1 Reasons for business travel

The survey found that over three quarters of organisations reported business travel was undertaken to attend meetings, over half to attend conferences and trade shows, over half to visit customers or clients and just over 40% to undertake site visits or surveys (see Figure 11).

Figure 11 Main reasons for business travel

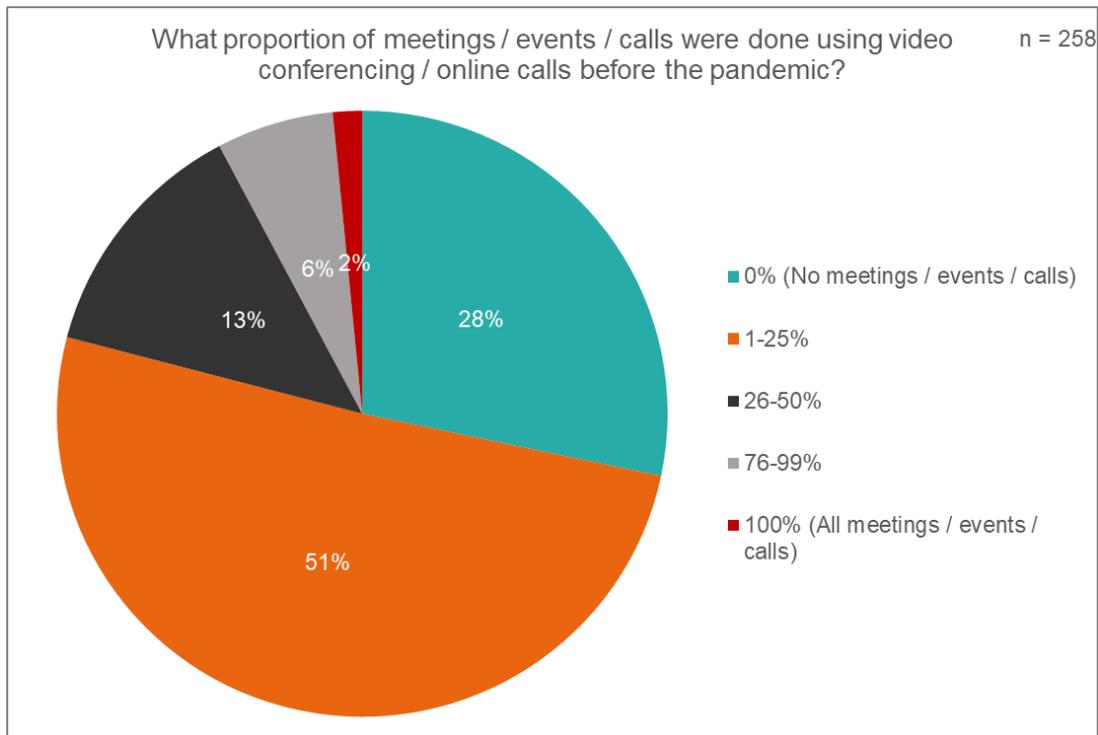


## 5.2 Proportion of meetings/events/calls using online contact

### 5.2.1 Before COVID-19

The survey found that, before the pandemic lockdown, almost two thirds of businesses/organisations were already using online contact for up to 50% of their meetings or events (illustrated in Figure 12). Only 8% of businesses/organisations used online contact for more than three quarters of meetings or events and over a quarter made no use of online contact for meeting or events.

Figure 12 Proportion of meetings/events/calls using online platforms before the pandemic



Annex 2, Section 1.2.1 breaks this analysis down by **organisation size**. Sole traders and micro businesses were least likely to use online contact, SMEs most likely to use it for up to a quarter of meetings or events, and large organisations most likely to use online contact for more than a quarter of meetings and events.

Annex 2, Section 2.2.1 breaks this analysis down by **RTP area**. The small sample for organisations outwith the SESTRAN and SPT areas makes reliable comparison difficult, but it appears that 60-70% of organisations across most RTP areas were already using video conferencing / online calls before the pandemic.

Annex 2, Section 3.2.1 breaks the analysis down by **geography**. Organisations in the City of Edinburgh and Glasgow City were most likely to be using online platforms for meetings/events/calls before the pandemic while those in Aberdeen City, Dundee City and the Rest of Scotland were less likely to use online contact.

Annex 2, Section 4.2.1 breaks the analysis down by **grouped sector**. Organisations in the Technology, Science and Pharmaceuticals sector group were more likely than other sector groups to be using online contact before the pandemic with just under a third indicating they used online contact for more than three quarters of meeting and events. Around a third of organisations in other sectors were making no use of online calls. The Public Services, Government and Charity sector had relatively few organisations already using online contact for more than a quarter of their meetings and events.

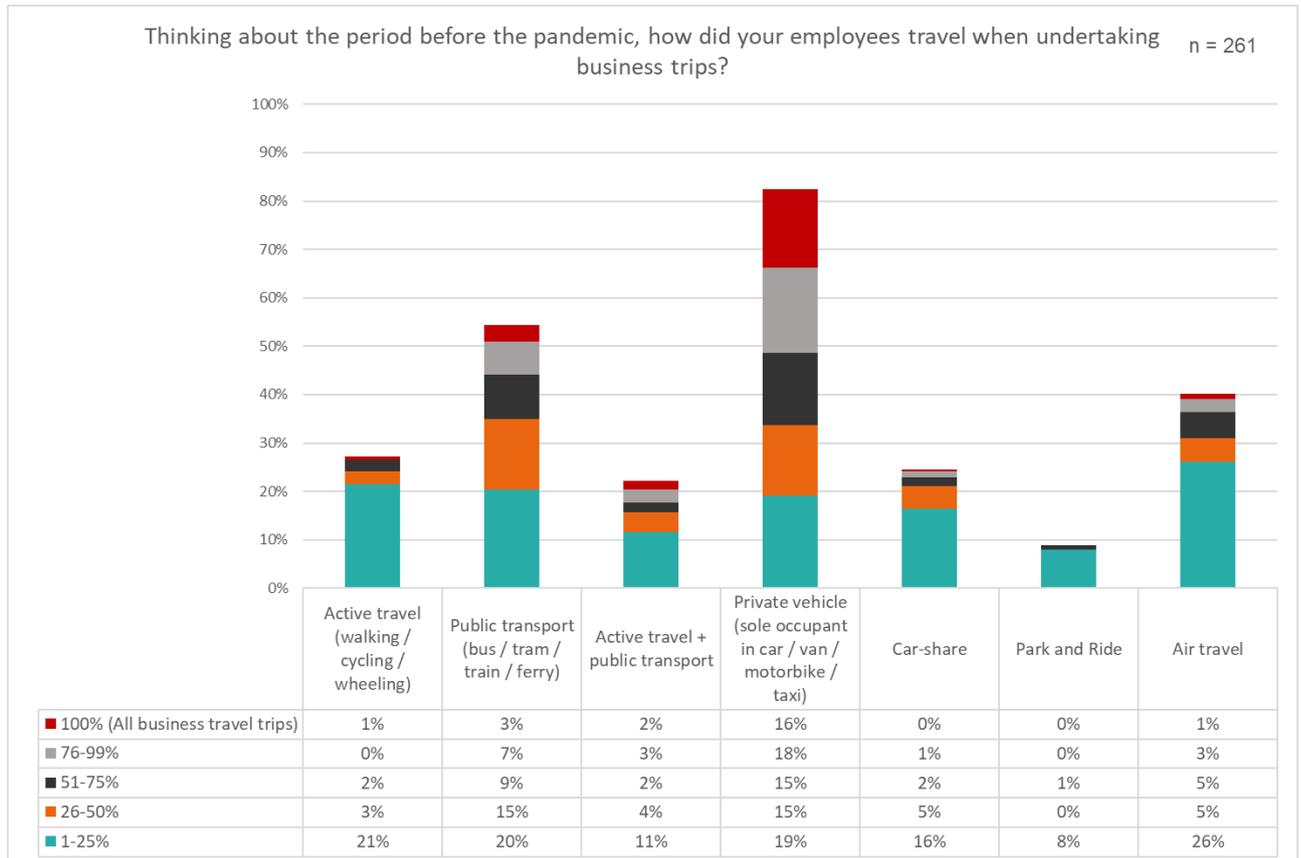
## 5.3 Mode of transport for business travel

### 5.3.1 Before COVID-19

The survey asked respondents about the modes of transport that were used for business travel before the pandemic lockdown (see Figure 13). The results show that, overall, private vehicles were most commonly used for business travel, with over a third of organisations using this mode for more than three quarters of their business trips. Public transport was the second most frequently used mode, but only 10% used this

mode for three quarters or more of their business trips. 35% of respondents suggested their organisations use public transport for up to half of their business trips, with a further 15% combining public transport with active travel. Active travel on its own was relatively unimportant for business travel, with just over a 20% of organisations indicating that this mode is used for up to a quarter of business travel.

Figure 13 Mode of travel for business trips before the pandemic



Annex 2, Section 2.2.2.1 breaks this analysis down by **RTP area**. It confirms the importance of private vehicles, followed by public transport, for business travel across all RTP areas. Private vehicle use is slightly lower, and public transport use slightly higher in the SESTRAN area compared to the SPT area.

Annex 2, Section 3.2.2.1 breaks the analysis down by **geography**. It shows a similar pattern to that described for RTP areas, indicating the importance of private vehicles, followed by public transport, for business travel across all geographic settings. Private vehicle use is slightly lower, and public transport use slightly higher in the City of Edinburgh compared to the Glasgow City. In the Rest of Scotland, private car use is higher, and public transport use lower, than other geographic settings. Around 40% of respondents in all areas report using air travel for business trips, though the proportion of trips using this mode does vary.

Annex 2, Section 4.2.2.1 breaks the analysis down by **grouped sector**. While private vehicles were the most important mode of transport for business travel across most sector groups, the Public Services, Government and Charity sector made more use of public transport, active travel and car sharing. Air travel was most important for the Technology etc., Administrative etc. and Engineering etc. sectors groups.

### 5.3.2 During lockdown (March – June 2020): Replacement of business travel with online contact

Recognising that business travel was significantly disrupted during the pandemic lockdown, the survey explored how well business travel could be replaced by online contact such as videoconferencing (see Figure 14). A third of organisations indicated that it was possible to move online with little impact on frequency or contact while just under 30% of organisations indicated that the move online had resulted in an increase in frequency or contact, as reflected in the following survey responses:

***The numbers of Board members attending meetings has significantly increased due to removing the time taken to travel to meetings – very positive. However, meeting fatigue is a new phenomenon*** (SME in Public Services, Government, Charity sector; survey response)

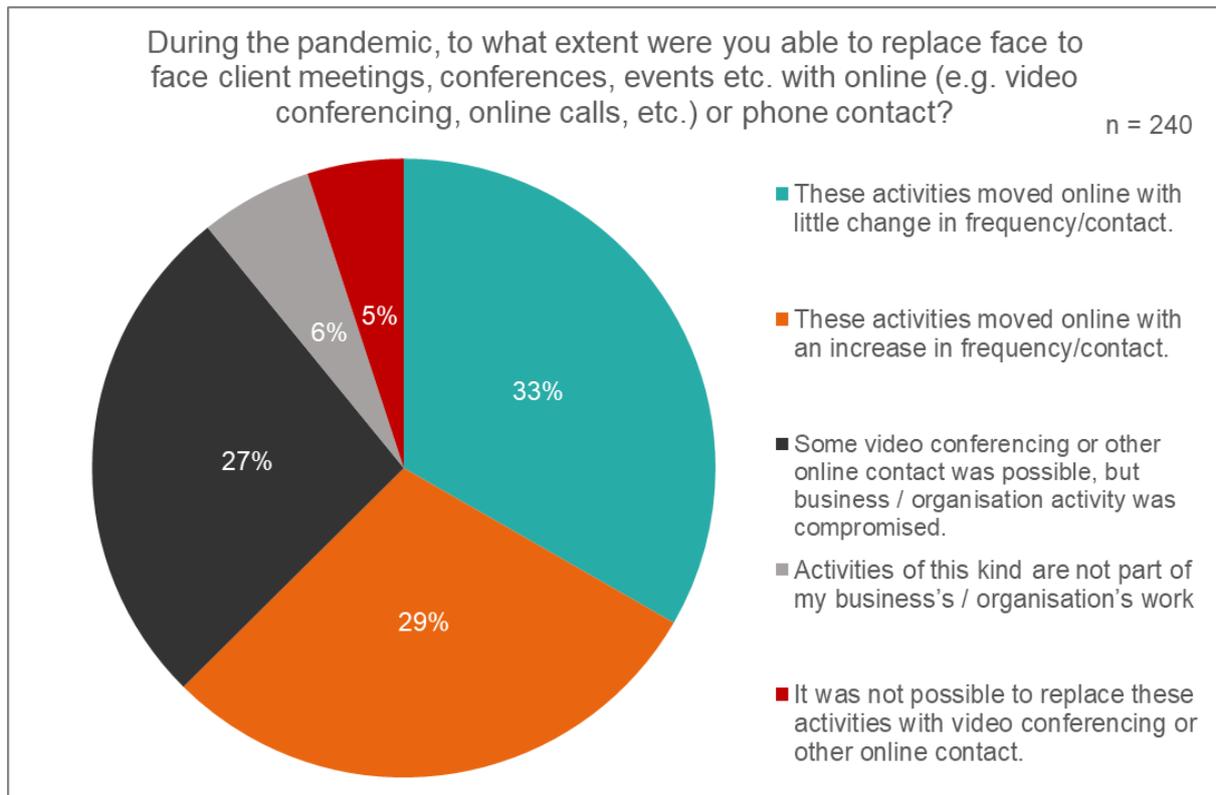
***Online meetings have been rather successful with only some minor issues with software*** (SME in Administrative, etc., sector; survey response)

A slightly smaller proportion indicated that the move online had compromised the work of the organisation in question. For 5% of organisations, it was not possible to move their business activity online:

***I was able to move some meetings online but some in person meetings can't be done using video conferencing. With the travel restrictions during lockdown, it was not possible to visit my clients which impacted my business. Some people's IT skills and knowledge of software are limited which made group meetings challenging*** (1 (or Sole Trader) in Administrative, etc. sector; interview response)

This suggests that over 60% of businesses were able to move online without significant problems, but that there is a sizeable minority who were impacted adversely.

Figure 14 Replacement of business travel with online contact during the pandemic.



## 5.4 After the pandemic: options for business travel

The survey went on to explore how organisations may alter their business travel in the future (see Figure 15). The results suggest that the shift online is likely to be sustained for many business events (80% of organisations reporting that is likely or very likely they will attend conferences and events online rather than in person), as evidenced by these responses:

***Our main travel requirements relate to conference and meeting attendance and this has greatly reduced and looks to be a semi/permanent arrangement*** (SME in Technology, Science and Pharmaceuticals sector; survey response)

***We will try to reduce traveling to conferences in the future by possibly restricting travel to those who are presenting or otherwise taking an active role*** (large organisation in Technology, Science and Pharmaceuticals sector; interview response)

70% of organisations indicated that contact with clients and customers is likely to change to enable less travel, as reflected in this survey response:

***Some meetings will return to being in person but we will have more online meetings than pre-pandemic as people have learned it's possible*** (SME in Administrative, etc. sector; survey response)

The results also indicate many organisations anticipate making less use of air travel (59% less or much less likely), park and ride (36% less or much less likely), car sharing

(34% less or much less likely) and public transport (31% less or much less likely). Reasons for this are illustrated by the following interview responses:

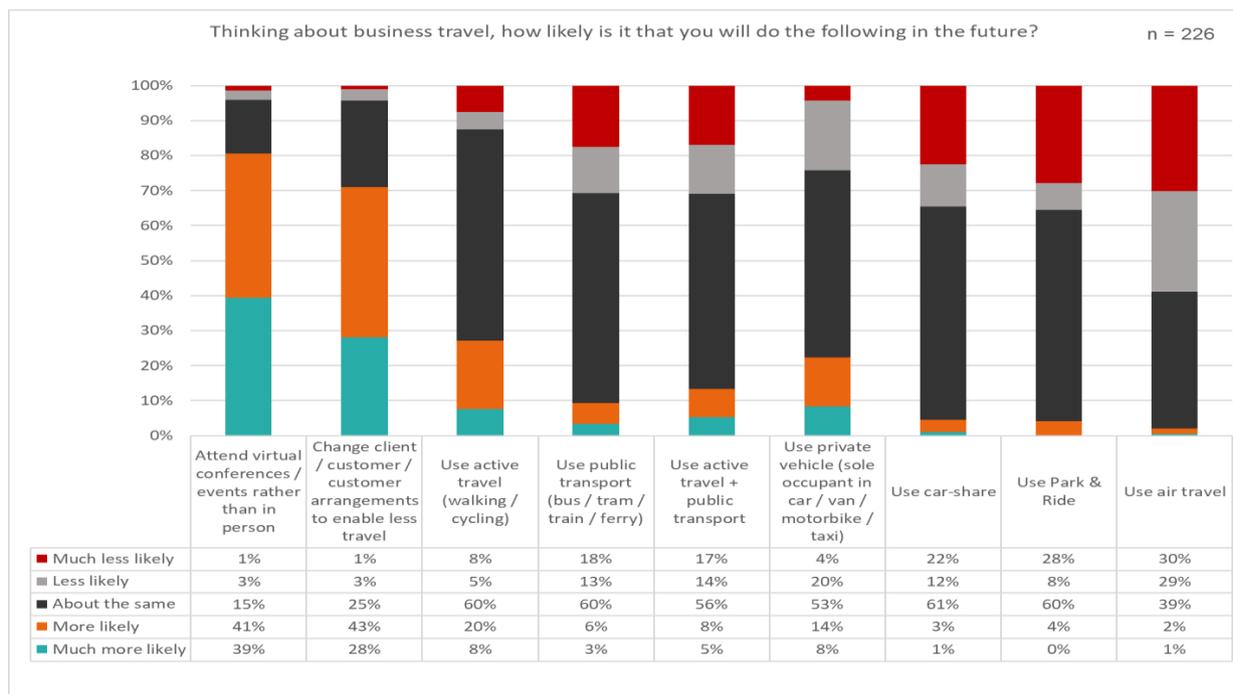
***I'll continue to use my car for business travel but am likely to avoid flying due to safety concerns*** (micro business in Administrative, etc. sector; interview response)

***We expect to use public transport less after COVID because of less travel not because of more use of other modes*** (large organisation in Engineering, etc. sector; interview response)

***We try to encourage a higher uptake of sustainable travel for business trips. We had a hierarchy of travel modes pre-COVID, with private vehicles at the bottom of the list. We also implemented the idea that you shouldn't need to travel if you don't need to. The pandemic has highlighted the importance of the hierarchy*** (large organisation in Public Services, Government, Charity sector; interview response)

The proportion of future business trips by private car is divided with 22% of businesses more likely to travel by private car, 53% about the same, and 31% less likely. These latter results suggest that the pandemic may have a lasting impact on attitudes to the use of modes where there has been an elevated risk of COVID-19 infection.

Figure 15 Business travel – future options



Annex 2, Section 1.2.2 breaks this analysis down by **organisation size**. While the patterns were broadly consistent across different sizes of organisation, large organisations indicated they are more likely to attend conferences and events online and notably likely to see a reduction in air travel compared to smaller organisations. Large organisations also anticipate a larger reduction in private car use than smaller organisations.

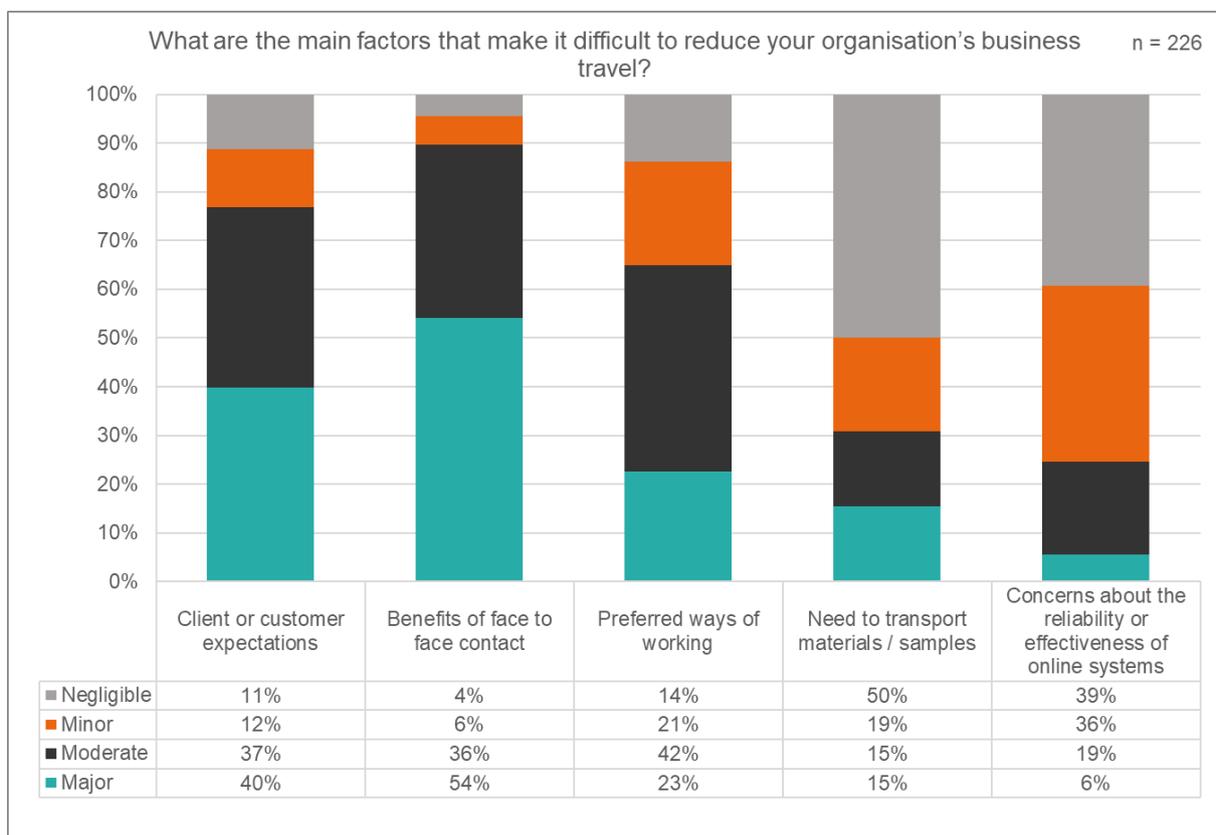
Annex 2, Section 4.2.3 breaks the analysis down by **grouped sector**. While organisations in all sector groups indicated they would attend more events online and change customer or client contact to reduce the need to travel, this was most pronounced in the Public Services, Government and Charity sector. Reductions in air

travel were indicated across all sector groups, notably the Education etc., Public Services etc. and Administrative etc. sector groups. Organisations in a number of sector groups indicated that public transport, park and rise and car sharing would be used less in the future, again indicating a possible lasting impact of the pandemic.

## 5.5 Barriers to reducing business travel

The survey explored the barriers that prevent a reduction in business travel. Figure 16 shows that 90% of businesses/organisations indicated that a moderate or major barrier was the benefits that result from face to face contact. 77% of respondents suggested that client or customer expectations are a moderate or major barrier to reducing business travel. For around two thirds of organisations face to face contact remains a preferred way of working. On the other hand, the survey found that concerns about the reliability or effectiveness of online systems are relatively minor, with only a quarter of organisations citing this as a moderate or major barrier.

Figure 16 Barriers to reducing business travel



Analysis by **organisation size** (Annex 2, Section 1.2.3) indicates that these patterns were broadly consistent across different sizes of organisation.

Annex 2, Section 2.2.3 shows there was relatively little variation across the different **RTP areas**. Variations in the balance of 'moderate' and 'major' barriers identified by respondents included the need for face to face contact being somewhat less important in the NESTRANS area, and client expectations and preferred ways of working being relatively more important in the SPT RTP area.

Annex 2, Section 3.2.3 breaks the analysis down by **geography**, again indicating relatively little variation between the geographic settings.

Annex 2, Section 4.2.4 breaks the analysis down by **grouped sector**. There was relatively little variation between sector groups, with the importance of face to face contact, client expectations and preferred ways of working being the most frequently identified barriers. Concerns about the reliability of online systems and the need to transport materials were less frequently cited as barriers.

## 5.6 Conclusions for business travel

- Before the pandemic, business travel was dominated by the use of private vehicles (83%).
- The lockdown forced a significant shift of activity online, with mixed impacts on business operations. While face to face contact is valued by many organisations (90% of businesses/organisations identified it as a significant barrier to reducing business travel), many suggest that in the future they will attend more meetings and events online than they did before the pandemic (80%).
- Many organisations responding anticipate making less use of air travel (59% less or much less likely), park and ride (36% less or much less likely), car sharing (34% less or much less likely) and public transport (31% less or much less likely) for future business trips.
- The proportion of future business trips by private car is divided with 22% of businesses more likely to travel by private car, 53% about the same, and 31% less likely.

## 6 Impacts of home working on business and staff

The survey explored the more specific implications of the move to home working during the pandemic lockdown, both on the operation of organisations and the welfare of their staff.

### 6.1 Effects on operation of business / organisation

Figure 17 shows that the effect of home working on business/organisation operations was most positive ('very positive' or 'positive') in relation to organisations' carbon footprint (80%). However, as one respondent identified:

***Carbon footprint has been reduced if you only look at the site energy consumption. You need to take into account increased domestic energy consumption by staff*** (large organisation in Technology, Science and Pharmaceuticals sector; survey response)

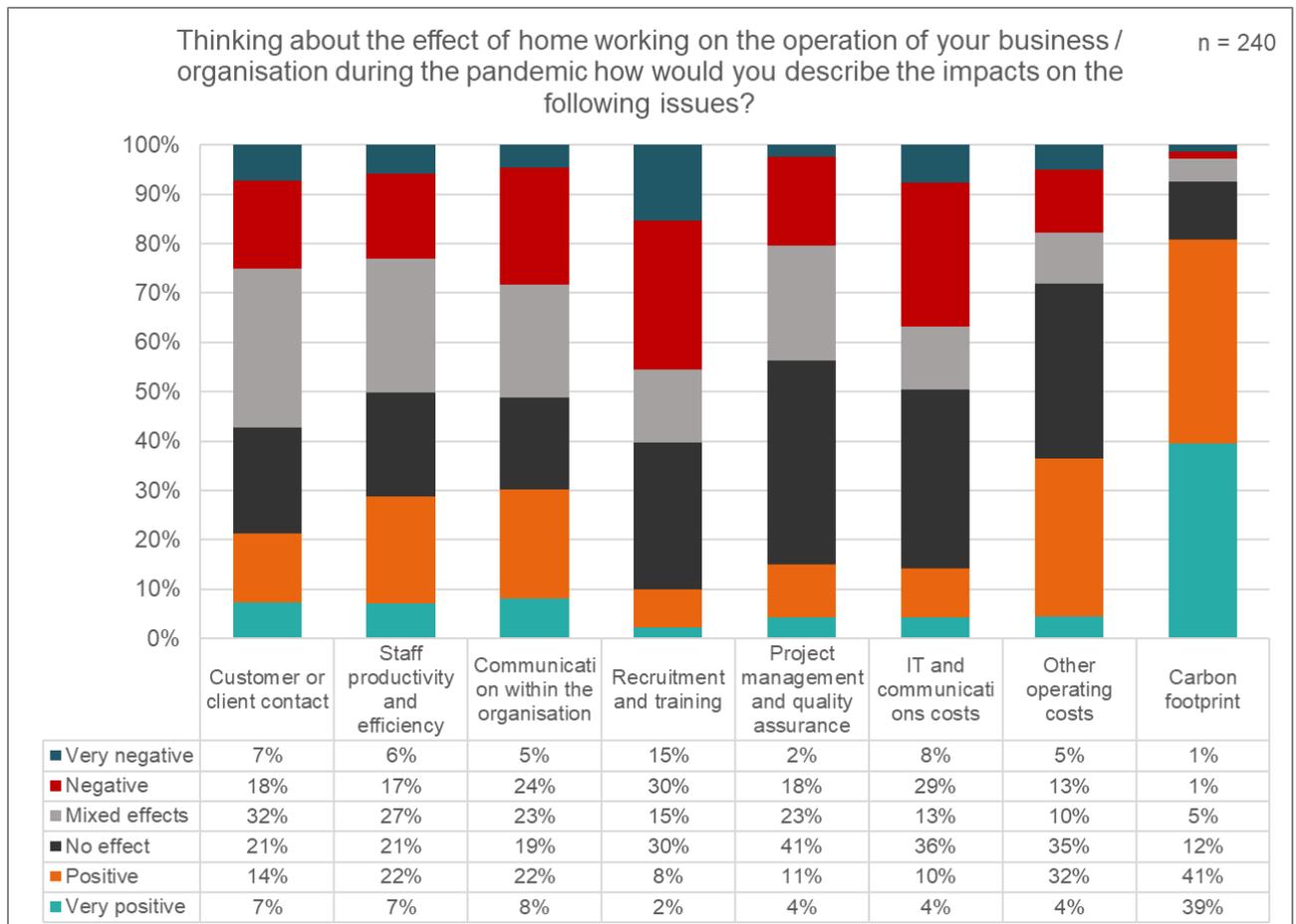
The effect of home working was most negative in terms of recruitment and training (45%) and IT and communications costs (37%). This was illustrated in one of the follow-up discussions:

***Biggest issue is keeping in touch. It was quite challenging to train new young staff. In future, get togethers will be high up the priority list so new staff get enough training*** (large organisation in Public Services, Government, Charity sector; interview response)

Mixed effects (positive + negative) were reported for client contact (21% positive, 32% mixed, 25% negative, 21% no effect), staff productivity (29% positive, 27% mixed, 23%

negative, 21% no effect), internal communication (30% positive, 23% mixed, 29% negative, 19% no effect), and project management and quality assurance (15% positive, 23% mixed, 20% negative, 41% no effect).

Figure 17 Impact of home working on business/organisation operations



Annex 2, Section 1.3.1 breaks this analysis down by **organisation size**. The results suggest that large organisations were better equipped to cope with the move to home working, with many reporting positive effects on internal communications (80% no change or better), customer/client contact (more than half recording no change or better) and staff productivity (more than 70% reporting no change or better). By contrast, micro businesses reported larger negative impacts on internal communications (25% reporting worse), customer contact (just under 30% reporting worse), IT and communications (28% reporting worse), project management/QA (a third reporting worse) and staff productivity (over a third reporting worse). Impacts on recruitment and training were recorded for all organisations but appear to be most acute for SMEs.

Annex 2, Section 4.3.1 breaks the analysis down by **grouped sector**. Organisations across all sector groups identified reductions in carbon footprint and operating costs as significant benefits of the shift to home working. Common negative effects included the impact on training and recruitment and IT and communications costs. Organisations in the Public Services, Government and Charity sector identified the widest range of benefits (including staff productivity, internal and external communication) while those in the Engineering etc. and Technology etc. sector groups identified greater problems

(including internal communication and staff productivity). This is reflected in the survey response from one employer in the Technology, Science and Pharmaceuticals sector:

***Informal communication has suffered hugely, outweighing potential gains in other areas such as increased attendance at all-staff meetings***

## 6.2 Barriers to home working

Figure 18 shows that the perceived barriers to home working included working conditions (e.g. lack of suitable workspace, carer responsibilities, unsafe home environment), broadband/internet connections, and staff management/team working/pastoral care (55%, 51% and 39% respectively).

***Most barriers have been overcome at this stage. However, the main remaining difficulties are around caring responsibilities, home workspace suitability, staff mental health and informal communication*** (large organisation in Technology, Science and Pharmaceuticals sector; survey response)

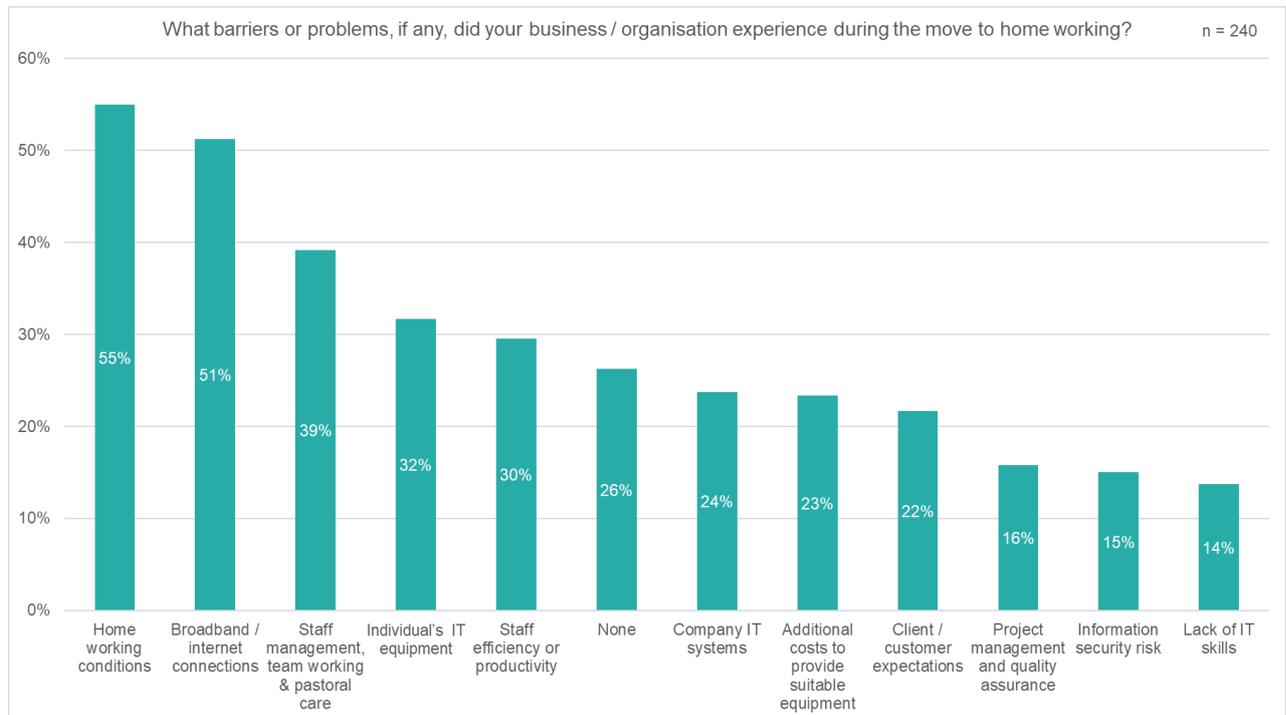
Other barriers include individuals' IT equipment (32%) and staff efficiency or productivity (30%). This is evidenced in comments in the survey and follow-up discussions:

***We had to purchase all new IT equipment and learn how to use MS Teams and Zoom so it was quite challenging at times*** (micro organisation in Administrative, etc., sector; interview response)

***Explaining problems via email means that things are often improperly resolved*** (micro business in Administrative, etc., sector; survey response)

Customer or client expectations were identified as a barrier by only 22% of respondents, perhaps reflecting the fact that many organisations were operating under the same restrictions during the pandemic. Operational issues including project management and quality assurance (16%), information security (15%) and employees' IT skills (14%) appear to have been relatively minor barriers, suggesting that organisations' systems and skills were resilient to the need to switch to home based working. 26% of businesses/organisations stated that there were no barriers to home working.

Figure 18 Barriers experienced by organisations during the transition to home working



Annex 2, Section 1.3.2 breaks this analysis down by **organisation size**. It suggests that sole traders and micro businesses generally identified fewer barriers to home working compared to larger organisations. While this may reflect higher proportions of home working before the pandemic, it does appear to contradict the finding that micro-businesses were most impacted by the transition to home working. Sole traders identified home working conditions, customer expectations, a lack of IT skills and poor broadband connections as the key barriers. Micro businesses identified home working conditions, broadband connections, staff efficiency, staff management and individuals' IT equipment as the key barriers. SMEs identified broadband, home working conditions and staff management as the key barriers. Large organisations identified home working conditions, broadband connections and staff management as the key barriers.

Annex 2, Section 4.3.2 breaks the analysis down by **grouped sector**. It indicates that organisations across all sector groups identified home working conditions, broadband connections and staff management / team working / pastoral care as key barriers to greater home working. Around a third of organisations in the Administration etc. and Engineering etc. sector groups identified individuals' IT equipment, client expectations and staff efficiency as key barriers. For organisations in the Public Services, Government and Charity sector, company IT systems, individuals' IT equipment and the additional costs of providing equipment were identified as significant barriers. For organisations in the Technology etc. sector group, individuals' IT equipment, staff efficiency and the additional costs of providing equipment were concerns.

### 6.3 Impacts of home working reported by staff

The survey also explored respondents' knowledge of likely impacts of home working reported by their staff. Figure 19 suggests that home working has had either a 'very positive' or 'positive' effect on commuting travel costs (89%); commuting time savings

(88%); and work/life balance (43%). This is reflected in the survey and interview responses:

***Positive effects on health and wellbeing as we're travelling less and have time to do other things like spend it with family or friends or go for a walk in the middle of the day*** (micro organisation in Administrative, etc., sector; interview response)

However, as one employer noted employees may experience long-term issues with working from home:

***We're concerned that people will get tired of issues associated with working from home. We are starting to see more unhappiness*** (large organisation in Engineering, etc. sector; interview response)

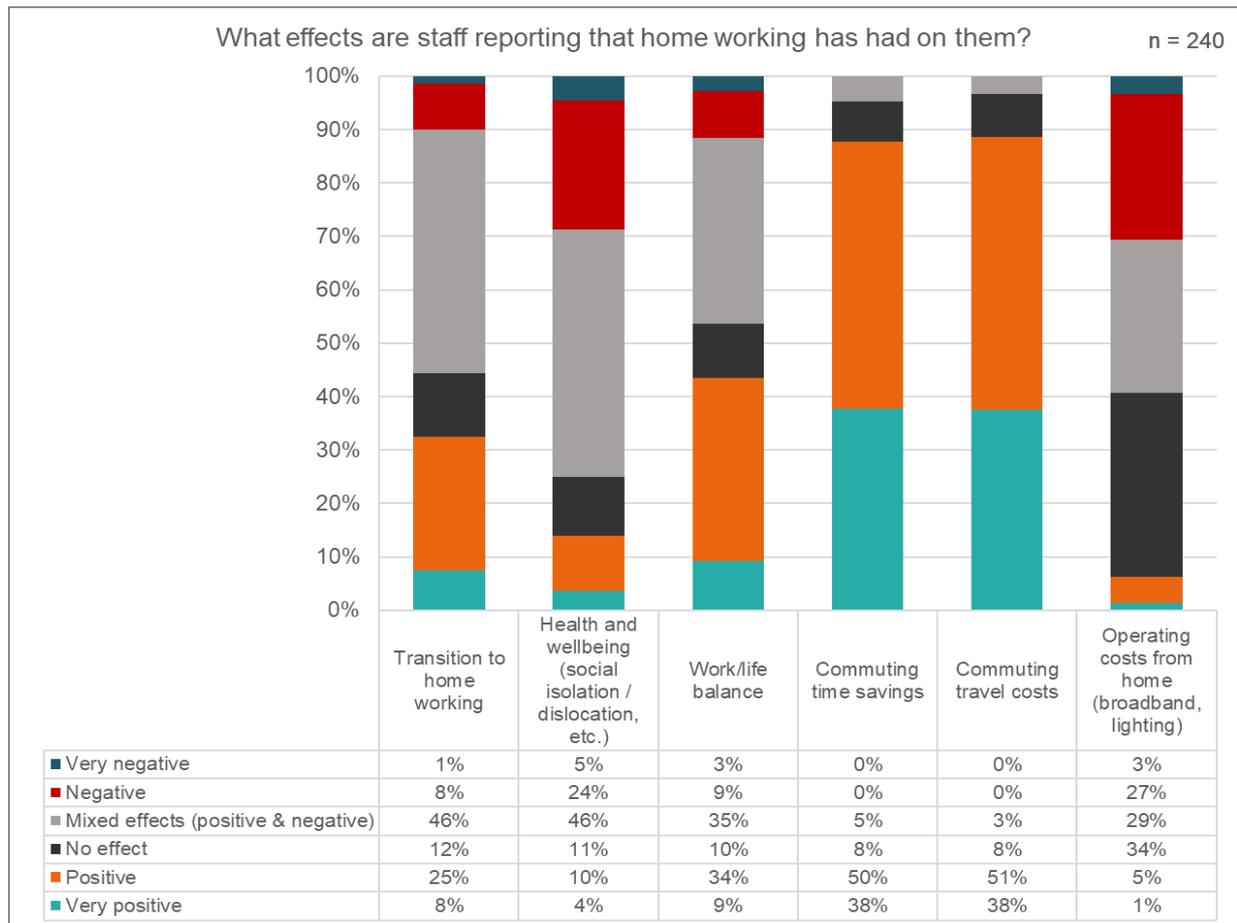
34% of staff reported that the move to home working had 'no effect' in relation to operating costs from home (broadband, lighting), while 30% of businesses reported negative financial impacts on staff. However, it should be noted that the survey was undertaken in the summer and as one employer highlighted:

***No one has thought about implications of working from home on heating costs, etc., which will need to be addressed as we are approaching winter*** (large organisation in Education, etc., sector; interview response)

Mixed effects (positive + negative) were identified in relation to the transition to home working (46%), while around three quarters reported either mixed or negative impacts on health and wellbeing (social isolation/dislocation) (75%). Around a third reported mixed effects on people's work/life balance (35%). For example:

***Difficult to average out different people's experience – when it has been bad it has been really bad, when it's been good, it's been ok, so negative on balance*** (large organisation in Technology, Science and Pharmaceuticals sector; survey response)

Figure 19 Effects of home working on staff



Annex 2, Section 1.3.3 breaks this analysis down by **organisation size**, indicating a broadly consistent pattern. Positive effects were recorded against commuting time and cost savings, mixed or negative effects in terms of health and wellbeing and operating costs and a combination of positive and mixed effects in terms of the transition to home working and employees’ work life balance.

Annex 2, Section 4.3.3 breaks the analysis down by **grouped sector**. Again, organisations across all sector groups reported positive effects in terms of commuting time and cost savings, mixed or negative effects in terms of health and wellbeing and operating costs and a combination of positive and mixed effects in terms of the transition to home working and employees’ work life balance. The most negative effects were reported in relation to staff health and wellbeing by organisations in the Education etc. sector group, possibly reflecting the significant impact of the pandemic on organisations workload or ability to operate during the pandemic.

## 6.4 Particularly disadvantaged employees

Respondents were asked whether they were aware of employees being particularly disadvantaged by the move to home working. 35% of respondents confirmed impacts on particular types of people, including: people with caring responsibilities (home schooling, older/ill family members); people with inadequate space for home working; people living on their own; people with mental health issues (anxiety, stress); people living in shared accommodation; and junior members of staff. Respondents were invited to provide more information on issues raised and these are summarised in Table 3.

Table 3: Particularly disadvantaged employees

| Issue  | Number of times cited |
|--|-----------------------|
| Caring responsibilities (home schooling, older/ill family members)                   | 32                    |
| Home office set up (inadequate space)  | 24                    |
| People living on their own (isolation)   | 23                    |
| Mental health issues (anxiety, stress)   | 14                    |
| Lack of quiet space for people living in shared accommodation                        | 12                    |
| Junior staff members (lack of support from senior members, on-boarding of new staff) | 11                    |
| Inadequate IT equipment / Wi-Fi issues   | 9                     |
| Extra costs (energy / heating bills)   | 2                     |
| Employees quit their job due to the new circumstances                                | 2                     |

People with caring responsibilities were most disadvantaged by the move to home working, which is reflected in the survey responses:

***People with caring responsibilities have really struggled, which unfortunately is also biased towards women*** (large organisation in Technology, Science and Pharmaceuticals sector; survey response)

***Team members with children found it particularly difficult, meaning their hours became more irregular, having to work evenings, weekends and early mornings*** (micro organisation in Technology, Science and Pharmaceuticals sector; survey response)

The survey responses also highlighted that people with inadequate home office environments, people living on their own, and people living in shared accommodation, were also disproportionately disadvantaged by the move to home working:

***Adults sharing households with other unrelated adults, often without dedicated workspace location - leading to working at kitchen table with disturbance, or isolated in own bedroom*** (large organisation in Administrative, etc., sector; survey response)

***People living alone reported feelings of isolation early on in the lockdown period but have more recently reported they feel less isolated. Most staff members have found working from home to be a positive experience, following a period of adjustment (when some staff found the change difficult and missed the office***

**environment for a number of reasons** (SME in Public Services, Government, Charity sector; survey response)

**Younger, more junior staff due to less suitable home office environment and an initial reluctance to 'interrupt' senior staff** (SME in Engineering, etc. sector; survey response)

## 6.5 Conclusions for impact of home working on business and staff

The implications of the move to home working during the pandemic lockdown, both on the operation of businesses/organisations and the welfare of their staff was characterised by a mix of advantages and disadvantages.

- Disadvantages cited include impacts on employees with a range of identifiable characteristics (e.g. people with caring responsibilities / living on their own / with mental health issues) together with issues around home working conditions (55%), broadband/internet connections (51%), and staff recruitment and training (45%).
- Mixed or negative impacts on health and wellbeing (social isolation/dislocation) were reported by 75% of employers.
- Positive effects included reductions in organisations' carbon footprints (89%) and time and financial savings for employees (89%).

## 7 Workplace travel planning

The survey explored whether organisations had Workplace Travel Plans (WTPs) in place before the pandemic and whether they plan to prepare or revise such plans during recovery from the pandemic.

### 7.1 Workplace Travel Plan

#### 7.1.1 Before COVID-19

Only 22% of respondents had a WTP in place before the pandemic. WTPs were created for various reasons and were not always implemented:

***We prepared a WTP in 2015 but lacked the capacity to review it. We haven't even had much time to implement the recommendations from the plan*** (large organisation in Technology, Science and Pharmaceuticals sector; interview response)

***We had a WTP because of need to reduce emissions and transport is our largest source. We need to look at travel as part of a longer-term strategy*** (large organisation in Public Services, Government and Charity sector; interview response)

Large organisations (8%) and SMEs (10%) were more likely to have WTPs in place than smaller businesses (5% or less) (see Annex 2, Section 1.4.1).

Businesses/organisations in SESTRAN (11%), SPT (6%) and NESTRANS (3%) RTPs were more likely to have a WTP in place before the pandemic (see Annex 2, Section 2.3.1) as were businesses/organisations in the 'Rest of Scotland' (11%), Edinburgh City (6%) and Glasgow City (5%) (see Annex 2, Section 3.3.1). It was highest in the 'Administrative, Business, Finance, Property, Recruitment, Media, Law, Marketing,

‘Publishing’ sector (9%) and the ‘Public Services, Government and Charity sector (6%) (see Annex 2, Section 4.4.1).

### 7.1.2 Future / post COVID-19

The proportion of organisations indicating they are likely to prepare or revise a WTP during the recovery from the pandemic rose to 37%. 41% said they would not prepare a WTP. 32% of businesses/organisations would welcome support and advice in preparing a WTP.

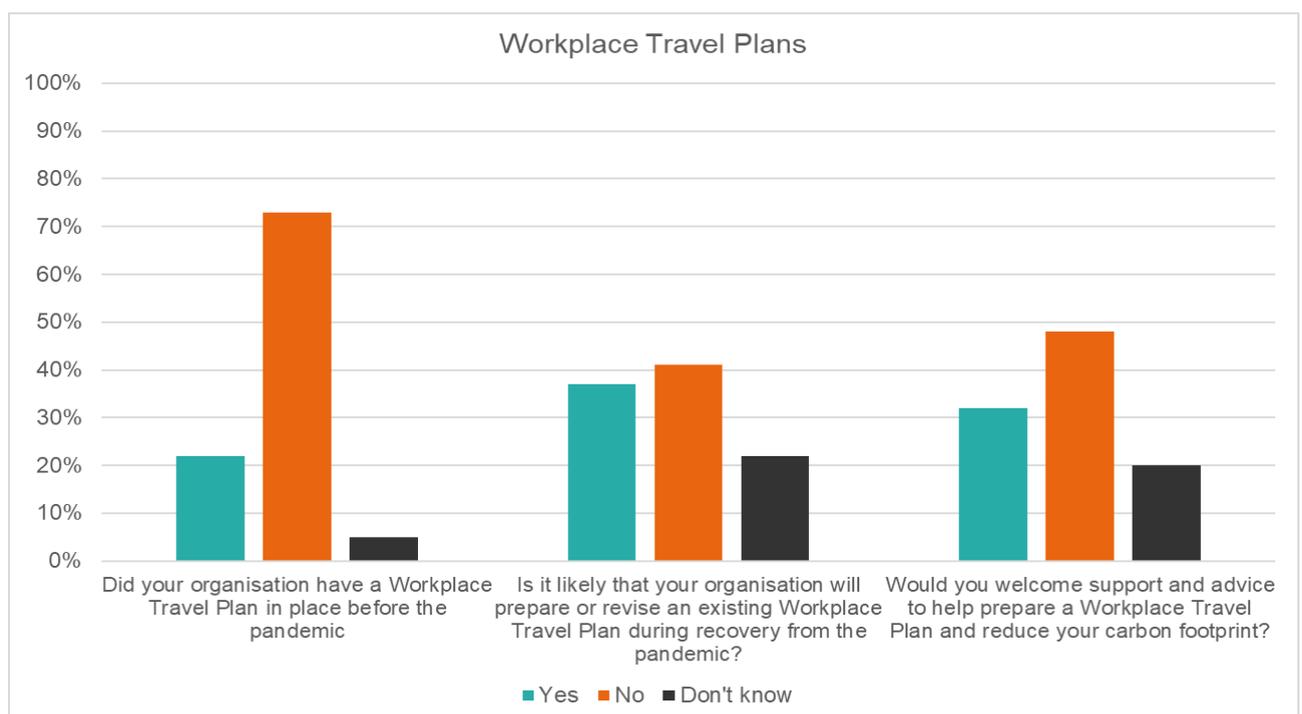
Large organisations (8%) and SMEs (18%) were more likely to indicate they plan to prepare or revise their WTPs (see Annex 2, Section 1.4.1). 20% of organisations in the SESTRAN area and 15% in the SPT area indicated they would prepare or update a WTP during the recovery from the pandemic (representing around a doubling compared with in the pre-pandemic situation). By comparison, only 5% or fewer organisations were planning to prepare or update plans in other areas (small sample) (see Annex 2, Section 2.3.2).

The proportion of organisations planning to prepare a WTP during the recovery increased in all geographic settings. It was highest in the Rest of Scotland (19%, rising from 11% pre-pandemic), the City of Edinburgh (13% rising from 6% pre-pandemic) and Glasgow (12% rising from 5% pre-pandemic) see Annex 2, Section 3.3.2).

Organisations in the ‘Administrative, Business, Finance, Property, Recruitment, Media, Law, Marketing, Publishing’ sector (15%) and the ‘Public Services, Government and Charity sector (9%) were almost twice as likely to prepare or revise WTPs than other sectors (see Annex 2, Section 4.4.2). Around a third of organisations would welcome support and advice to prepare a WTP.

Figure 20 shows the percentage of businesses/organisations that had a WTP in place before the pandemic, that would be likely to prepare one in the future, and that would welcome support/advice to prepare a WTP.

Figure 20 Workplace Travel Plans before the pandemic and during recovery



## 7.2 Conclusions for workplace travel planning

While the results suggest that less than a quarter of organisations have a WTP in place, it appears likely this proportion will rise as we move into the pandemic recovery phase (up to 37%). The results suggest relatively low use of WTPs, particularly among smaller organisations. There may be benefit in targeting support to smaller organisations, particularly in sectors where take up appears to be lower.

# 8 Future measures to support home working and use of sustainable transport

## 8.1 Measures to support home working and use of sustainable transport

Survey respondents and interviewees were invited to identify measures that the Scottish Government could implement to support organisations shift to home working or use more sustainable modes of transport for staff commuting and business travel. Comments and suggestions are summarised in Table 4. Interestingly, the most frequent comments relate to ways of encouraging use of public transport and active travel, two areas where organisations themselves indicated that they would be less likely to provide additional support and encouragement in the future:

***In the immediate to short term situation the re-assurance of safety of using public transport will be key to encouraging staff to continue to use more sustainable modes of transport*** (SME in Public Services, Government, Charity sector; survey response)

***Safer cycling routes, frequent and more joined up public transport as in, many bus routes are in and out of the centre of a city, not across a city making it difficult and time consuming to travel*** (micro business in Technology, Science and Pharmaceuticals sector; survey response)

***Better public transport ticketing, integrated and cheaper (need separate train & underground tickets in Glasgow)*** (micro business in Administrative, etc. sector; survey response)

***Develop low traffic neighbourhoods. Provide high quality segregated cycle ways to complete a network, clearly giving active travel options priority on the roads*** (large organisation in Education, etc. sector; survey response)

Respondents indicated that Government incentives would support the shift to more home working and use of sustainable travel:

***Real incentives for EV would help people to change from fossil fuel cars*** (micro business in Administrative, etc. sector; survey response)

***Continue to subsidise public transport cost to employees*** (large organisation in Education, etc. sector; survey response)

**Road tax shouldn't be introduced across the country as rural areas would be penalised as there is no other realistic option but to travel by car** (1 (or Sole Trader) in Administrative, etc. sector; interview response)

**Tax breaks for home workers** (1 (or Sole Trader) in Administrative, etc. sector; survey response)

Other measures identified by respondents which would encourage more home working and use of sustainable transport include better broadband, improved IT systems, local shared workplace hubs, and support and help with managing childcare, which are reflected in the following survey responses:

**Funding of digital infrastructure and skills training for staff** (SME in Public Services, Government, Charity sector; survey response)

**Improved broadband and public transport in rural areas** (SME in Administrative, etc. sector; survey response)

**Better broadband access across the country to enable easier home working - although 4G data services could be an alternative** (large organisation in Technology, Science and Pharmaceuticals sector; survey response)

**Support to fund home working equipment** (SME in Engineering, etc. sector; survey response)

**Continue to develop a shared office hub model for public bodies so that people can work in an office local to their home (if home not an option) rather than travelling further just to reach their own organisation's office** (SME in Public Services, Government, Charity sector; survey response)

Table 4: Measures identified by survey respondents

| Category                           | Issue  | Number of respondents |
|------------------------------------|--|-----------------------|
| Public transport and active travel | Better, safer and cheaper public transport (better connections, more frequent services, integrated ticketing)  | 35                    |
|                                    | Active travel infrastructure (safe and separated walking and cycling lanes) and facilities (subsidies for employers to provide office showers, bike storage facilities; relaxation of building regulations on space for showers) | 33                    |
| Government incentives              | Tax relief / Government subsidies (homeworking expenses, IT equipment [esp. for micro businesses] and public transport)  | 20                    |
|                                    | EV incentives and infrastructure   | 4                     |
| Digital infrastructure             | Better broadband (especially in rural areas and the islands)   | 21                    |

| Category       | Issue                                    | Number of respondents |
|----------------|--|-----------------------|
|                | Improved IT systems                      | 3                     |
| Other measures | Local shared workplace hubs              | 3                     |
|                | Support and help with managing childcare | 2                     |

## 8.2 Other respondent comments

Respondents were also invited to provide any additional comments about business travel, staff travel and working practices either during lockdown, now or in the future. Relevant comments are summarised in Table 5.

Table 5: Other respondent comments

| Category of comments   | Number of respondents |
|--|-----------------------|
| Inadequacy of public transport services or lack of active travel paths     | 7                     |
| Flexible approach to working hours   | 7                     |
| Internal communication, managing staff and their challenges (team dynamic) | 5                     |
| More online communication with clients                                     | 4                     |
| Concerns regarding returning to public transport                           | 3                     |
| Office space no longer needed or will be reduced / location change         | 3                     |
| Necessity of staff working from the office                                 | 3                     |
| Work-life balance  | 1                     |

As part of the follow-up discussions we asked businesses/organisations about their longer-term plans and whether they will review the amount of space that their organisation requires and also how important the issue of climate change is to their organisation. Government and public sector organisations were more likely to cite that climate change is important and that they report on their carbon footprint:

***The Climate Emergency is extremely important to us. We report annually on carbon emissions*** (large organisation in Technology, Science and Pharmaceuticals sector; interview response)

***The Climate Emergency is very important as we are a Government organisation and want to be seen leading. 80-85% of emissions are transport-related so further significant reductions can only come through reducing the amount of travel or***

**offsetting. Offsetting is inevitable to getting to net-zero. We monitor and report on business travel not commuting footprint. We'll need to start monitoring what level of emissions we are racking up through working from home which we never looked at before** (large organisation in Public Services, Government, Charity sector; interview response)

The discussions also highlighted that many organisations plan to review the amount of office space they need or the number of desks in their office following the pandemic, as evidenced by the following responses:

**We will review the amount of space we need but not the location. Likely that we will rent out the extra space to other organisations** (large organisation in Technology, Science and Pharmaceuticals sector; interview response)

**We will have to review the amount of office space we need as we cannot keep the number of assets we have, more thinking about the GHG emissions and costs if we want to retrofit them** (large organisation in Public Services, Government, Charity sector; interview response)

**We were planning to consolidate offices pre COVID but we will now plan for fewer desks than originally envisaged and will configure the office differently** (large organisation in Engineering, etc., sector; interview response)

## 9 Conclusions and recommendations

The survey has documented the dramatic change in working patterns that occurred during the COVID-19 pandemic lockdown, some of the impacts on organisations' operations and staff, and identified a number of changes which are likely to have a lasting effect. Many of these have implications for public policy. Table 6 outlines the key issues, recommendations to address these issues, and detailed measures to implement the recommendations. Annex 3 provides an overview of the key issues, recommendations and detailed measures by location, size of business, and sector grouping, as well as identifying the organisations that should lead in implementing the recommendations.

Table 6: Recommendations

| Headline issue  | Recommendation   | Detailed Measures   |
|---|--|---|
| Public Transport  |  |   |
| <p>Public transport use dropped dramatically during the lockdown and the survey results suggest it will be slow to return to previous levels. The survey revealed concerns about the convenience and cost of public transport were an important barrier, as well as safety in relation to virus transmission.</p> | <p><b>Recommendation 1: Make public transport attractive, safe, convenient and affordable, particularly for journeys to work that cannot be made by active travel modes.</b></p> | <p>Critical to patronage recovery is the provision of safe public transport and the communication of this to people travelling in Scotland. In tandem with Transport Scotland's Transport Transition Plan which will inform passengers about when and how to safely access public transport, a publicity campaign should be launched with local authorities and other key stakeholders to encourage a return to public transport and discourage car use.</p> <p>Incentives for employees to switch to public transport for their journeys to work and business travel.</p> <p>Financial incentives for employers offering loans or discounted travel passes.</p> <p>Free or discounted fares for time limited period to reinstate confidence levels in public transport.</p> <p>Integration and co-ordination of public transport – routes, timetables and smart ticketing.</p> |

| Headline issue  | Recommendation  | Detailed Measures  |
|---|---|--|
|   |   | <p>More flexible season ticket pricing to reflect likelihood that many commuters will travel to their workplace on fewer days of the week than previously.</p> <p>Bus transport priority in urban areas to reduce journey times relative to private car.</p> <p>Continue roll out of Wi-Fi on buses and trains, increasing speed and capacity as appropriate.</p> <p>Tackle overcrowding on key routes since this is likely to be a significant deterrent post Covid – increasing capacity / frequency and monitor and review of timetables to reflect post-Covid travel to work patterns.</p> <p>Local authorities should be required to produce local integrated transport plans that outline how they will permanently reprioritise provision locally to ensure a sustainable transport system based on active travel, shared and public transport that responds to and meets the needs of the community.</p> |
| <p>The survey found that a lasting effect of the pandemic is likely to be a more flexible approach to working patterns/hours, with an increase in people working partly from home and partly at their workplace, differing start and finish times and use of measures such as compressed hours. This could change patterns of travel demand for public transport.</p> | <p><b>Recommendation 2:<br/>Ensure that public transport provision reflects the requirements of more flexible or variable working patterns/hours.</b></p> | <p>Monitor public transport use during and following the recovery period and respond to changing demand.</p> <p>Changes in timetables may be needed to reflect a flattening of peak morning and evening travel, while the increase in home working may create additional capacity which can be reallocated by route or time of day.</p> <p>More flexible season ticket pricing to reflect likelihood that many commuters will travel to their workplace on fewer days of the week than previously</p>  |
| <p>The survey found that the perceived cost of public transport is seen as a barrier to sustainable travel.</p>   | <p><b>Recommendation 3:<br/>Explore ways to address the perceived and actual costs of</b></p>   | <p>Integrated review of public transport fare structures (including season tickets and peak travel costs) and fixed and marginal costs of private vehicle travel (depreciation, fuel, parking) to incentivise public transport use.</p>  |

| Headline issue   | Recommendation  | Detailed Measures   |
|--|---|---|
|  | <b>public transport relative to other modes of transport.</b>   | Information campaign for active travel and public transport modes comparing likely cost, emissions and journey time with private transport.   |
| Active Travel  |   |   |
| <p>The survey found that concerns about provision of walking and cycling infrastructure, concerns about safety and the distance that people travel to work are key barriers to sustainable travel.</p> | <p><b>Recommendation 4: Improve walking and cycling infrastructure to address issues of safety and quality.</b></p> | <p>Work with local authorities to significantly improve walking infrastructure including footway width, lighting, increased pedestrian phases on signal-controlled crossings.</p> <p>Work with local authorities and Sustrans to significantly improve cycling infrastructure for journeys to work, including continuous networks of safe cycle path / segregated lanes, cycle priority at junctions, removal of parking bays and reallocation of road space to cyclists.</p> <p>Continued implementation of 'pop up' space for walking and cycling with these schemes being made permanent segregated facilities via ongoing investment.</p> <p>Retention or creation of walking and cycling only streets in local and town centres. Legislating to protect space for walking and cycling within local and town centres will have long-term benefits for personal and environmental health and make it easier to act against infringements against active travel when they do occur, such as illegal or pavement parking and the use of vehicles in restricted areas.</p> <p>An E-bike/scooter grant purchase scheme which will support the take up of E-bikes/scooters to allow longer journeys to work using this mode of transport.</p> <p>Construction of segregated cycling 'super highways' designed to facilitate sustainable commuting up to the range of E-bikes/scooters to all of Scotland's major towns and cities.</p> <p>Work with local authorities and employers to provide dedicated or public secure parking for bikes at or close to workplaces and transport hubs.</p> |

| Headline issue   | Recommendation   | Detailed Measures   |
|--|--|---|
|  |  | <p>Planning – provision of showers and bike storage in new development.</p> <p>Realtime travel planning information (web and apps) for active travel and public transport modes suggesting safe routes and comparing likely cost, emissions and journey time with private transport.</p>  |
| <p>The survey found that public and third sector employers generally provided more support to employees using active travel or public transport to get to work.</p>  | <p><b>Recommendation 5: Work with private sector employers to increase support for active travel modes, building on public sector leadership in this area.</b></p> | <p>Incentives for businesses to enter into cycle loan schemes.</p> <p>Financial incentives for employers / landlords to provide secure parking and showering / changing facilities.</p> <p>Work with planners to require the provision of cycle parking and showering facilities in new employment development, including provision of shared facilities serving multiple business locations.</p>   |
| <p>Private Car Travel</p>  |  |   |
| <p>The survey suggested that use of the private car for journeys to work and for business travel is high, particularly outside larger towns and cities and that this may increase during the recovery phase. Demand for travel by private car must be actively restrained otherwise the outcome of the crisis will be that the Scottish Government's decarbonisation obligations will become more difficult to meet.</p> | <p><b>Recommendation 6: Promote 'car restraint' - Make journeys to work and for business by private vehicle less attractive.</b></p>                               | <p>In tandem with Transport Scotland's Transport Transition Plan, a publicity campaign should be launched with local authorities and other key stakeholders to encourage a return to public transport, walking, cycling and wheeling and discourage car use. There needs to be clear communication on what is acceptable travel, with active travel and public transport use encouraged as a first choice and car journeys discouraged.</p> <p>To provide an alternative for residual private car journeys that cannot be easily walked or cycled or done by public transport, shared mobility, such as car clubs and car pooling, should be facilitated more widely so that road space is utilised more efficiently. An information campaign may be necessary to inform and reassure the public of the safety of car sharing post-Covid given that it was discouraged at times during the pandemic.</p> <p>Work with local authorities to identify temporary reallocations of road-space that can be made permanent.</p> |

| Headline issue  | Recommendation   | Detailed Measures  |
|---|--|--|
|   |  | <p>Work with local authorities to progress delayed proposals for low emission zones in city centres.</p> <p>Address the apparent tension between city centre traffic restraint, the temporary shift to private transport and the need to support economic recovery. This may require further research, liaison with chambers of commerce, co-ordination with planning responses to town centre decline.</p> <p>Control town centre parking provision and pricing.</p> <p>Work with employers to reduce workplace parking or explore further financial measures to make it unattractive such as Workplace Parking Levies to be paid by employers over a certain size in a specified area based on the number of parking places they provide.</p> <p>Support the growth in electric vehicles for business travel, car hire and car sharing schemes through financial incentives.</p> <p>Encourage more use of car sharing clubs to reduce car ownership, thus changing the cost/ease comparison between car and public transport use. Advertising campaign stressing benefits of car club membership combined with PT use over car ownership.</p> <p>Introduce a road use charging mechanism which would be based on distance travelled, time of day, location, and level of emissions and impact on the environment of the vehicle. The revenue from journeys on local roads should be retained by local authorities to fund road maintenance, modal shift and public transport improvements.</p> |
| <b>Park and Ride/Shared Use Transport Facilities</b>  |  |  |
| <p>The survey confirmed that the length of journeys to work is a key disincentive to the use of sustainable modes. Mixed mode</p> | <p><b>Recommendation 7: Further develop measures to encourage mixed mode</b></p> | <p>Integrated ticketing and car park pricing to make park and ride as easy and seamless as possible.</p>   |

| Headline issue   | Recommendation   | Detailed Measures  |
|--|--|--|
| <p>journeys may help capitalise on increasing walking and cycling during lockdown and help reduce the number of vehicles entering town centres.</p>  | <p><b>journeys including park and ride, park and stride, ride and stride.</b></p>                              | <p>Incentives for employees to switch to using park and ride services for their journeys to work and business travel.</p> <p>Free or discounted fares for time limited period to reinstate confidence levels in public transport.</p> <p>Provision of safe pedestrian routes from peripheral parking areas to employment areas – including reallocation of road space where appropriate</p> <p>Provision of safe pedestrian routes serving city centre rail and bus termini.</p> <p>Bus transport priority in urban areas to reduce journey times relative to private car, with dedicated services for park and ride facilities.</p> <p>Parking restraint in town centres.</p> <p>Support the expansion of shared use transport facilities, including bike share, e-bike schemes and e-scooters, which will increase the number of bikes/scooters available, broaden the extent of the network and ultimately reduce costs for users.</p> <p>Review options for additional park and cycle/walk sites nearer city/town centres.</p> |
| <p>Workplace Travel Plans</p>  |  |  |
| <p>The survey found that relatively few organisations had prepared Workplace Travel Plans though an increased number planned to prepare or update plans to respond to the pandemic and recovery.</p> | <p><b>Recommendation 8: Act to support and encourage employers' preparation of Workplace Travel Plans.</b></p> | <p>Campaign to explain, demonstrate the benefits and outline the support and advice available.</p>   |
| <p>The survey revealed uncertainty around the overall carbon effect of a</p>   | <p><b>Recommendation 9: Research changes in</b></p>  | <p>Support businesses and organisations in recording and monitoring their carbon footprints taking account of employees' year-round domestic heating,</p>  |

| Headline issue   | Recommendation  | Detailed Measures   |
|--|---|---|
| <p>move to partial or complete home-based working given the increase in domestic power and heat demand and increase in on-line activity.</p>                 | <p><b>organisation carbon footprints taking account of employees' year-round domestic heating, lighting and power consumption, energy demands of online working / video conferencing, changes in office use and changes in travel patterns.</b></p> | <p>lighting and power consumption, energy demands of online working / video conferencing, changes in office use and changes in travel patterns.</p>   |
| <p>Support for Home Working</p>  |   |   |
| <p>Poor broadband provision was identified as a key barrier to home-working and on-line business contact, particularly in rural areas.</p>                   | <p><b>Recommendation 10: Prioritise further upgrades to broadband infrastructure across Scotland.</b></p>   | <p>To support remote working, the immediate strategic investment priority for government should be to accelerate the provision of high-speed broadband (fixed and 5G mobile) across all of Scotland. Recent Scottish Government initiatives on digital inclusion and the provision of connected devices to disadvantaged groups of people should be mainstreamed to all those that can benefit from them.</p> |
| <p>The survey found that smaller organisations found it harder to move online during the lockdown and are less well equipped to conduct business online.</p> | <p><b>Recommendation 11: Target action to help smaller organisations make the transition to online working, where appropriate to their operations.</b></p>  | <p>Best practice.<br/>Mentors and technical advice.<br/>Publicity campaign emphasising time, financial and carbon benefits of on-line business contact.</p>   |
| <p>The survey found that staff productivity, internal comms, and</p>   | <p><b>Recommendation 12: Sharing best practice</b></p>  |   |

| Headline issue   | Recommendation   | Detailed Measures   |
|--|--|---|
| <p>the processes of recruiting, on-boarding and training staff had impacted smaller and medium sized organisations. By contrast, larger organisations indicated benefits in these areas.</p>   | <p><b>in replicating in-person contact, recruiting, on-boarding and training staff in an online environment.</b></p>   | <p>Work with large employers and Chartered Institute of Professional Development to identify and share best practice.</p>   |
| <p>A key finding from the research is that homeworking can be problematic for some people and this is not always linked to protected characteristics but may reflect domestic circumstances or caring responsibilities.</p>  | <p><b>Recommendation 13: Develop and share best practice on identifying and supporting employees with specific needs or vulnerabilities relating to home working and / or online working.</b></p>                                      |   |
| <p>Planning and Built Environment</p>  |  |   |
| <p>An implied effect of the pandemic is a change in the way that organisations will use office space. Greater home working could reduce the requirement for office space and could also reduce the number of customers for town centre shops and cafes. This, in combination with wider trends to on-line shopping, could have a lasting impact on the economic vitality of town centres</p> | <p><b>Recommendation 14: Develop national and local planning responses to the potential long-term drop in demand for town and city centre office space and in retail activity associated with town and city centre employment.</b></p> | <p>Research into the potential for redefinition of physical extent of town centres, changes of use from office and retail to residential, moves to smaller office footprints.</p> <p>Reallocate parts of the public realm to make more space for queuing and non-motorised moving not only encourages active travel but discourages the use of motor vehicles and leads to lower emissions.</p> <p>Transport planning should be more joined up with built environment and land use planning to enable space allocation to public transport and shared mobility links.</p> |

| Headline issue  | Recommendation  | Detailed Measures   |
|---|---|---|
| with potential increases in vacant office and retail space.   |   |   |
| The survey confirmed that homeworking was difficult for people lacking suitable space at home and could blur the boundaries between work and home life. One option would be to support the development of local shared workspaces where people could work remotely without the need to commute to their normal workplace. | <b>Recommendation 15: Develop national and local planning policy responses to support the development of local workplace hubs to allow remote working, particularly for those whose home environment is unsuitable.</b> | Investigate feasibility of local workplace hubs to allow remote working, particularly for those whose home environment is unsuitable. |
| There may also be ways of designing home working space, or flexible space, into new homes, reflecting the increasing demand for home working.   | <b>Recommendation 16: Develop national and local planning policy responses to encourage housebuilders to design greater flexibility into new homes in order to allow part time home working.</b>                        |   |
| The survey confirmed that the distance that people travel to work is a key barrier to sustainable travel. While home working may address  | <b>Recommendation 17: Develop national and local planning policy responses to address</b>   | Encourage mixed use development.<br>Encourage residential uses in town and city centres.  |

| Headline issue  | Recommendation   | Detailed Measures  |
|---|--|--|
| this partially, there may also be ways of ensuring that the potential for homes and workplaces to be located closer to each other is reflected in the way our towns and cities develop. | <b>length of people's journeys to work which is universally identified as the key barrier to sustainable travel.</b> | Discourage employment development in peripheral locations poorly served by public transport and active travel. |

© Published by LUC and University of Edinburgh, 2021 on behalf of ClimateXChange. All rights reserved.

While every effort is made to ensure the information in this report is accurate, no legal responsibility is accepted for any errors, omissions or misleading statements. The views expressed represent those of the author(s), and do not necessarily represent those of the host institutions or funders.



Scotland's centre of expertise connecting climate change research and policy

- ✉ info@climatexchange.org.uk
- ☎ +44(0)131 651 4783
- 🐦 @climatexchange\_
- ➦ www.climatexchange.org.uk

ClimateXChange, Edinburgh Centre for Carbon Innovation, High School Yards, Edinburgh EH1 1LZ