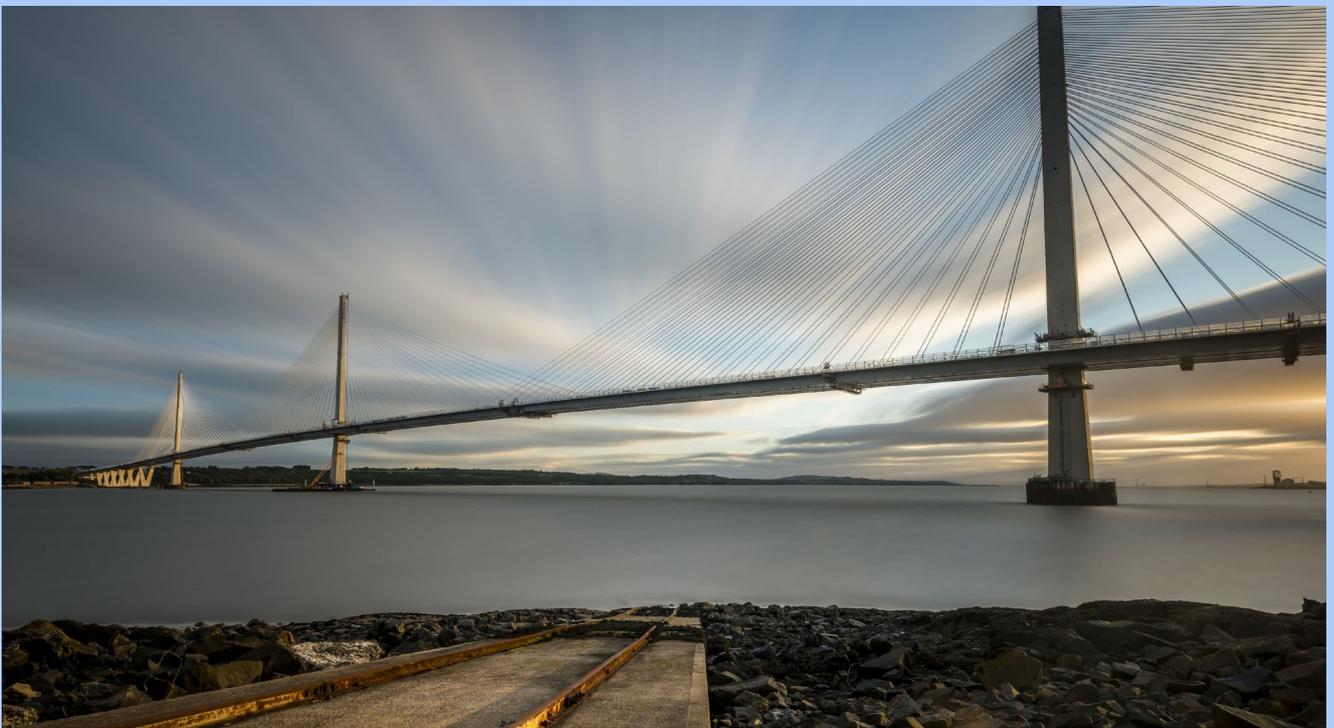




October 2019

Infrastructure Commission for Scotland: Public Engagement Research

An Ipsos MORI research study



Contents

Executive Summary	4
1. Introduction	8
Background	8
Methodology	9
Interpreting qualitative data	11
Interpreting quantitative data	12
2. Current perceptions of infrastructure	13
Awareness of infrastructure categories	13
Current importance of infrastructure categories	13
Satisfaction with infrastructure in Scotland	16
Satisfaction with specific infrastructure categories	18
3. Future investment priorities: infrastructure categories	22
4. Future investment priorities: wider considerations	27
Overview of approach	27
Overall priorities	28
Delivering effective public services	29
Making the best use of existing infrastructure	31
A zero-carbon future	32
Joined-up places to live and work (supporting coherent places)	35
Making things last (creating a circular economy for people and resources)	38
Making the most of our natural environment (making the most of blue and green assets)	38
Making the most of new technology (driving the 4th industrial revolution)	39
5. Conclusion	41
Appendix A: Review of existing research	43
Appendix B: Questionnaire	48
Appendix C: Initial workshop discussion guide	55
Appendix D: Later workshops discussion guide	64

Executive Summary

About the public engagement research

The Infrastructure Commission for Scotland (ICfS) was established to provide the Scottish Government with independent, informed advice on the vision, ambition and priorities for a long-term, 30-year strategy, for infrastructure in Scotland. This advice, which is to be based on evidence and learning from good practice, is to enable investment to be aligned with delivering long-term inclusive growth and meeting low carbon objectives. The Commission's work is also intended to support the Government in the delivery of its National Infrastructure Mission and development of the next Infrastructure Investment Plan for the five years ahead. This advice is due to be presented to Ministers by the end of 2019.

The ICfS is responsible for engaging widely with key stakeholders, including industry experts, the Government and members of the public, in order to ensure its work is grounded in evidence. The ICfS therefore commissioned Ipsos MORI to conduct research among "non-expert" stakeholders - current and future users of infrastructure in Scotland. The purpose of the research was to explore views of Scotland's infrastructure and priorities for investment, by answering the following two questions:

- What are the public's ambitions and priorities for Scotland's future infrastructure?
- Which infrastructure categories do they see as most important for future investment?

The findings will be used to guide the work of the ICfS, including the development of any interim recommendations it may make on infrastructure ambitions and priorities for Scotland and to inform a report to be published in late 2019 on infrastructure ambitions and priorities for Scotland's future.

Methodology

The research was delivered by Ipsos MORI between June and September 2019. A mixed-method approach was chosen for this research, consisting of: a rapid review of evidence on Scottish public perceptions of some key infrastructure themes; deliberative workshops with members of the public; and a survey of Scottish residents.

The deliberative workshops took place with members of the public in four locations: Edinburgh, Moffat, Glasgow, and Kinross, between July and August 2019. A total of 73 members of the public participated in the workshops. The quantitative component involved a nationally representative online survey of 1,004 Scottish residents, with fieldwork conducted between 9th and 18th September 2019.

The research explored current views on infrastructure, covering both importance and satisfaction, and priorities for future investment in infrastructure. Acknowledging the range of factors that might need to be considered in future investment decisions, the research also sought to identify the 'trade-offs' or choices that the public would be prepared to make in order to prioritise future infrastructure investment, acknowledging there was a finite budget available. These revealed some of the underlying factors they found most important.

While an in-depth examination of each individual infrastructure category was not the purpose of this research, there may be value in revisiting each aspect of infrastructure in more detail at a later stage.

Key findings

Satisfaction with infrastructure in Scotland was generally high, but there was a perception that Scotland was not currently doing enough to meet its infrastructure needs.

- Survey respondents showed high levels of satisfaction with infrastructure in Scotland, with two thirds satisfied compared with around one-in-ten dissatisfied. However, satisfaction varied by region, with higher than average satisfaction in the North East and lower than average in the Highlands and Islands and Central regions.
- There was overwhelming agreement that investment was crucial for Scotland's future economic growth, but less confidence that Scotland was currently doing enough to meet its infrastructure needs. Further, less than half of survey respondents felt their local area got its fair share of investment in infrastructure.

Satisfaction with specific types of infrastructure varied, and there was a perceived need for improvement in certain areas.

- Survey respondents were most positive about water supply and sewerage, energy supply, and emergency services, and least positive about housing supply, flood prevention and road networks.
- Similarly, workshop participants generally felt their needs were being met with regards to the provision of water and sewerage, digital and telecommunications infrastructure, and energy supply. However, they were more critical of public transport, education buildings, and housing, and felt that each would benefit from improvement.

Turning to future investment priorities, those seen as most important were healthcare facilities, education facilities, housing, and emergency services.

- Two infrastructure categories emerged as the clear priorities for survey respondents: hospitals and other health buildings, and emergency services. It should be noted that, unlike the workshops, the survey did not provide the opportunity to challenge respondents to think only about the physical infrastructure associated with these categories rather than the services they delivered. The high results for healthcare and emergency services may, therefore, reflect the high importance attached to service aspects, rather than the physical infrastructure.
- In the workshops, it was clear that future priorities were inextricably linked with current use of, and satisfaction with, current infrastructure provision. Participants commonly referred to the perceived need for improvements to, or increased provision of, the infrastructure that they considered most important to their day-to-day lives and to their local communities.

- Hospitals and other health buildings were seen as a high priority for additional investment because they were seen as having the biggest impact for the greatest number of people. Participants emphasised the fundamental impact that hospitals and other healthcare facilities have on their health and wellbeing. In certain areas, the size and condition of existing healthcare buildings were seen as inadequate.
- Schools and other education buildings were also seen as a high priority because of the importance of the service provided within them and their universal use. In allocating additional spending to these areas, participants were keen to address what they perceived to be a lack of schools in their areas, and a lack of space within existing schools.
- Housing was also identified as one of the top priorities for future investment, due to a perceived lack of affordable housing and issues with homelessness. Participants were keen to see additional investment prioritised towards social housing, and younger participants in particular wanted to see more opportunities for first time-buyers to acquire a home.
- Emergency services were perceived to be under-funded, and participants felt additional investment would have significant impact due to the role emergency services played in protecting the public's health and safety. They also expressed dissatisfaction with the lack of local emergency services provision currently, particularly in rural areas.

In terms of wider considerations for future investment, participants favoured a focus on delivering effective public services and making best use of existing infrastructure, with younger participants giving further support for designing for a zero-carbon future.

- Investment in delivering effective public services was seen as having the biggest impact for the widest range of people and offering particular benefits to those reliant on education and health services such as families with young children and the elderly. The priority placed on this focus area was linked to the perceived universal importance of healthcare and education facilities. The importance of this focus area was also linked to a perceived absence of accessible public services at present.
- Support for making the best use of existing infrastructure was linked to a desire for disused buildings to be re-used as a vehicle for regenerating local areas, which would in turn help to create jobs and bring communities closer together. Those who felt this theme was important also felt that it would be cheaper than building new assets and could avoid unnecessary waste associated with empty buildings.
- A zero-carbon future had particular appeal among younger participants in urban areas. Those who prioritised this focus area tended to be environmentally focussed and felt that action was needed to help reduce the impacts of climate change. They felt that focussing investment on a zero-carbon future would have the greatest long-term impact of all the potential investment areas and would benefit future generations.

- While the other future focus areas were seen as comparatively less important, they nonetheless each received some degree of support. Participants were also keen to emphasise the overlap between each topic, seeing them as very much interlinked with each other.

Participants were willing to make trade-offs between the advantages and disadvantages of certain investment decisions, which revealed some of the underlying factors they found most important.

- In relation to public service provision, quality appeared to outweigh convenience, with participants willing to travel further to larger hospitals and schools if they provided a higher quality service than more local facilities.
- In relation to public transport, affordability seemed to be more important than environmental considerations, with participants reluctant to commit to more sustainable forms of transport if the cost was too high.
- However, views were more mixed in relation to decisions about housing, with no clear preference between the affordability of new housing developments and the convenience of their location.

1. Introduction

Background

The Scottish Government defines infrastructure as *"The physical and technical facilities, and fundamental systems necessary for the economy to function and to enable, sustain or enhance societal living conditions"*. Most infrastructure can be categorised into three broad groups: economic infrastructure, such as transport, energy, water, telecoms, digital and internet; social infrastructure, such as education, health, justice, cultural and recreational facilities; and infrastructure relating to public health and safety, such as waste management and the emergency services¹.

The Scottish Government's current infrastructure priorities, as set out in its Infrastructure Investment Plans² (IIPs), include Government-led infrastructure projects typically concerning transport, health and education. In planning its infrastructure investment, the Government must consider the balance to be struck when deciding how much to allocate to large-scale projects and smaller-scale interventions respectively, whilst simultaneously considering the budget required for maintenance of current infrastructure³. Planning must also take into consideration the Government's strategic drivers, and its commitment to creating an inclusive and sustainable economy in Scotland.

The Infrastructure Commission for Scotland (ICfS) was established to provide the Scottish Government with independent, informed advice on the vision, ambition and priorities for a long-term, 30-year strategy, for infrastructure in Scotland. This advice, which is to be based on evidence and learning from good practice, is to enable investment to be aligned with delivering long-term inclusive growth and meeting low carbon objectives. The Commission's work is also intended to support the Government in the delivery of its National Infrastructure Mission and development of the next Infrastructure Investment Plan for the five years ahead. This advice is due to be presented to Ministers by the end of 2019.

Against this backdrop, the ICfS commissioned Ipsos MORI to conduct research among "non-expert" stakeholders - current and future users of infrastructure in Scotland. The purpose of the research was to explore views of Scotland's infrastructure and priorities for investment, by answering the following two questions:

- What are the public's ambitions and priorities for Scotland's future infrastructure?
- Which infrastructure categories do they see as most important for future investment?

¹ The Scottish Government 'Infrastructure Investment: Evidence Summary' (2018) Available at: <https://www.gov.scot/publications/exploring-economic-rationale-infrastructure-investment/>

² The Scottish Government "Infrastructure Investment Plan 2015: Progress Report 2018-2019" Available at: <https://www.gov.scot/publications/infrastructure-investment-plan-2015-progress-report-2018-19/>

³ The Scottish Parliament (2019) 'SPICe Briefing: Scottish Government Infrastructure Investment' Available at <https://sp-bpr-en-prod-cdnep.azureedge.net/published/2019/1/15/Scottish-Government-infrastructure-investment/SB%2019-02.pdf>

The findings will be used to guide the work of the ICfS, including the development of any interim recommendations it may make on infrastructure ambitions and priorities for Scotland. Together with findings from the Initial Call for Evidence and Regional Forums, it will also inform a report to be published in late 2019 on infrastructure ambitions and priorities for Scotland's future.

Due to the breadth of infrastructure categories being explored, the research focussed on exploring their relative importance and the key issues associated with each, rather than separately examining every individual category in detail. While an in-depth examination of each individual category was not the purpose of this research, there may be value in revisiting each aspect of infrastructure in more detail at a later stage.

Methodology

The research was delivered by Ipsos MORI between June and September 2019. A mixed-method approach was chosen for this research, consisting of:

- a rapid review of evidence on Scottish public perceptions of some key infrastructure themes
- deliberative workshops with members of the public
- a survey of c1,000 Scottish residents.

Rapid review of evidence

The purpose of the evidence review was to inform the design of subsequent phases and provide context for the research findings. It considered evidence on each of the core infrastructure categories under the remit of the ICfS, and drew on the following types of resources:

- national-level survey data on use and perceptions of various types of infrastructure from sources such as the Scottish Household Survey, Scottish House Condition Survey, and Scottish Transport Statistics
- qualitative research exploring perceptions of aspects of infrastructure, such as research by Citizens Advice Scotland and Audit Scotland
- literature from other key organisations – such as the Scottish Environment Protection Agency and Ofcom – on key trends in relevant infrastructure sectors.

The findings from the rapid review of evidence were used to inform the design of research materials, and are included in Appendix A.

Qualitative research

Deliberative workshops⁴ were used to understand the public's informed views on the future of infrastructure in Scotland. Deliberative research methods allow us to provide in-depth insight into the public's current

⁴ Deliberative workshops are organised group discussions that provide participants with the opportunity to consider an issue in depth, challenge each other's opinions, develop views/arguments through a process of public reasoning and reach an informed position. See Ipsos MORI and Involve

perceptions, concerns and aspirations on policy issues. These issues are often complex and unfamiliar – as in the case of the future of infrastructure Scotland - and therefore their exploration is suited to a qualitative approach.

The process involved four deliberative workshops, each taking place over three hours, with members of the public in both urban and rural locations: Edinburgh, Moffat, Glasgow, and Kinross. A total of 73 members of the public participated in the workshops. Table 1.1 summarises the location, dates and participation at each workshop.

Table 1.1: Summary of workshop participation

ICfS Workshops			
Location	Date	Target attendees	Actual attendees
Edinburgh	18 th July, 6-9pm	18	14
Moffat	23 rd July, 6-9pm	18	18
Glasgow	20 th August, 6-9pm	18	21
Kinross	21 st August, 6-9pm	18	20
Total		72	73

The workshops were carried out in two stages. Originally, two workshops were planned (in Edinburgh and Moffat) which explored current views on infrastructure and future priorities for infrastructure investment. An additional two workshops were added (in Glasgow and Kinross), to build on the finding from the initial workshops. The later workshops involved testing of specific investment scenarios, including the ‘trade-offs’ participants would be willing to make between various advantages and disadvantages associated with each investment, within the context of a finite infrastructure budget being available.

Recruitment of participants was undertaken by Ipsos MORI’s experienced team of recruiters, using a specially designed screener questionnaire to help them identify eligible participants. Quotas were set to ensure a representative pool of in terms of gender, age and working status with additional quotas to ensure sufficient representation from Black and Minority Ethnic participants and those with a disability. Individuals who worked in market research, media, advertising, or journalism and those who had attended a group discussion or event in the previous 12 months, were excluded from the research. All participants received an incentive of £60 for taking part in the workshops.

All workshops were facilitated by Ipsos MORI, with presentations provided by the ICfS. In each workshop, participants were split into separate groups according to their ages (16 to 34-year olds and over 35s), to allow for any intergenerational differences in views to emerge.

https://www.cas.org.uk/system/files/publications/meta-analysis_and_scoping_exercise_into_public_participation_in_the_regulated_industries_ipsos_mori_involve_-_2017-10-12.pdf

Quantitative research

Each participant spent approximately ten minutes completing the survey. Data have been weighted by gender and age to match the profile of the overall population.

The survey explored similar topics to those covered in the workshops, and captured views on:

- satisfaction with infrastructure
- perceived importance of infrastructure categories and considerations
- priorities for future investment
- and the trade-offs users would be prepared to make with regards to future investment.

Survey data was used to provide national-level findings, and to identify statistically significant variation in attitudes by characteristics such as age and region.

Research materials

It is worth noting that the style of questioning used in the survey and the workshops varied, reflecting the different purpose of each strand of the research.

In the survey, all respondents were shown the same questions, worded in a consistent way and with the same amount of information provided. This allowed for each respondents' data to be combined and findings presented for the overall survey sample. In the workshops, the key questions were also asked in a consistent way, framed around a discussion guide, but there was opportunity for probing of participants' responses, follow up questions, and clarification of any potential points of misinterpretation.

Where the style of questioning has relevance to the findings, this is made clear in the report. For example, when discussing priorities for future infrastructure investment, the workshops allowed the opportunity for moderators to challenge respondents to think only about the physical infrastructure associated with infrastructure categories rather than the services they delivered. This was not possible within the survey, and at times respondents may have interpreted the questions to be about service provision rather than physical infrastructure.

The workshops also allowed the opportunity for certain topics to be asked in more detail than in the survey. For example, survey respondents were asked, individually, to state which of the infrastructure categories were most and least important for future investment. Workshop participants were asked to work as a group and identify the most and least important categories for investment, but also *how* they would use any additional investment, acknowledging that there was a finite amount available. Where some differences in future priorities emerged between the survey and the workshops, these different styles of questioning may therefore have had an influence.

A copy of the questionnaire is included in Appendix B. Workshops were structured around discussion guides developed in collaboration with ICfS and included in Appendix C and D.

Interpreting qualitative data

Unlike survey research, qualitative social research does not aim to produce a quantifiable or generalisable summary of population attitudes, but to identify and explore the different issues and themes relating to the subject being researched. The assumption is that issues and themes affecting participants are a reflection of issues and themes in the wider population. Although the extent to which they apply to the wider population, or specific sub-groups, cannot be quantified, the value of qualitative research is in identifying the range of different issues involved and the way in which these impact on people.

Throughout the report, we have included verbatim comments from the workshops to illustrate key perspectives presented.

Interpreting quantitative data

The survey findings are subject to sampling tolerances, meaning that not all differences will be statistically significant. Throughout the report, differences between sub-groups are commented upon only where these are statistically significant i.e. where we can be 95% certain that they have not occurred by chance.

Where percentages do not sum to 100%, this may be due to computer rounding, the exclusion of 'don't know' categories, or questions where participants are able to provide multiple answers. Throughout the report, an asterisk (*) denotes any value of less than half a percent and a dash (-) denotes zero. Aggregate percentages (e.g. "very good/fairly good") are calculated from the absolute values. Therefore, aggregate percentages may differ from the sum of the individual scores due to rounding of percentage totals.

All aspects of the study were carried out to the international quality standard for market research, ISO 20252.

2. Current perceptions of infrastructure

Awareness of infrastructure categories

To provide context for their views on the importance of and satisfaction with infrastructure in Scotland, participants in the qualitative research were asked to first reflect on what, if anything, they associated with term 'infrastructure.' Prior to the workshops, participants had been asked to look for stories about infrastructure in the media and bring them along as stimulus for the discussion.

Public transport, roads, housing and energy were the categories participants most commonly associated with infrastructure. These associations were reflected in the media stories identified in advance by participants, which included references to new housing developments, public transport, cycle lanes, and building of new roads in their local areas. Water and sewerage services were identified spontaneously, by a relatively small number of participants, while justice buildings, emergency services, cultural buildings and flood management were rarely mentioned.

Participants' spontaneous associations with infrastructure tended to reflect their own personal experiences of using each type of infrastructure, and in some cases their life stage. For example, younger participants tended not to mention energy or water, and attributed this to the fact that they were not responsible for household bills and therefore had not given these services a great deal of thought.

Current importance of infrastructure categories

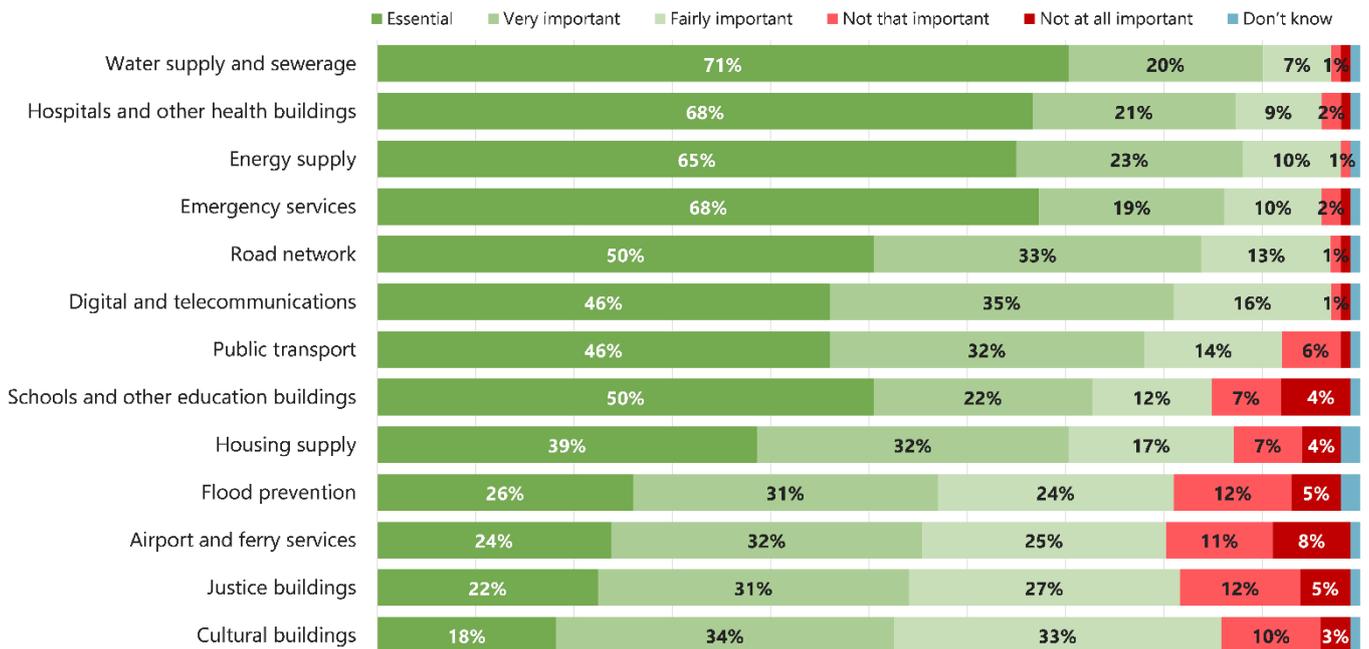
Having been presented with the full range of infrastructure categories, participants in both the survey and the workshops were asked for their views on how important each was currently.

Survey findings

The most important infrastructure categories for survey respondents were: water supply and sewerage (91% viewed it as either "essential" or "very important"), hospitals and other health buildings (89%), energy supply (88%) and emergency services (87%). At the other end of the scale, categories such as cultural buildings (52%), and justice buildings (53%) were considered essential or very important by around half of respondents. While certain categories were seen as *relatively* less important than others, it should be noted, however, that all categories were much more likely to be viewed as important than not important, suggesting that respondents placed significance on all aspects of infrastructure.

Figure 2.1: Current importance of infrastructure categories⁵

Q: Please indicate how important you feel each of these are to your day-to-day life?



Base: Adults aged 16+ living in Scotland, surveyed online between 9th and 18th September 2019 (1,004)

There were some notable differences in views by location. Housing supply was viewed as important by more respondents in Glasgow and the Lothians than in other areas of Scotland, with 94% and 93% of respondents in these areas deeming it essential or very important compared to 88% on average. Elsewhere, cultural buildings were viewed as least important by those in Central and the South of Scotland, with 26% and 33% of respondents in these regions perceiving them as “not that/not at all important”, compared to 14% overall.

Qualitative findings

Survey respondents’ views on the relative importance of the infrastructure categories were also broadly reflected in the qualitative research. While workshop participants initially acknowledged the importance of all categories, and referred to their interconnectedness, certain categories clearly stood out above others. Emergency services, hospital buildings, road networks, housing, energy and water and sewerage services were repeatedly identified as the most important types of infrastructure by workshop participants. While all categories were considered important, cultural buildings and justice buildings were seen as relatively less important than others.

Participants’ prioritisation of certain categories was linked to how universally applicable they were perceived to be. Those infrastructure categories that were seen as being essential in meeting everyone’s basic needs, such

⁵ The list of infrastructure categories shown in the survey was slightly longer than the list shown in the workshops. In the workshops, participants were shown the category “transport”, and then when discussing this category could elaborate on which aspect of transport they were referring to. As survey respondents could not elaborate in this way, “transport” was separated out into “public transport”, “airport and ferry services”, and “road network” to allow for any distinction in views between the three.

as health, education, housing and water, were therefore prioritised over those that were seen as less relevant to all, such as justice buildings and digital communications.

'I would say water. You need that to live and, to be honest, that is more important than being able to stay in touch with your mates through WhatsApp.'

Male, 35+, Glasgow

As the discussions progressed, it became evident that personal experience also played a role in shaping views on importance. For example, participants with children of school-age were more likely to consider education buildings to be particularly important to their lives; and those reliant on roads or public transport in their day-to-day lives were more likely to make a case for those categories.

'I feel strongly about [education buildings] at the moment. If I didn't have children I probably wouldn't be bothered. A lot of schools are oversubscribed. It affects me directly, and they need to be stricter about catchments areas.'

Female, 16-34, Edinburgh

'Transport is big for day to day living. It affects your ability to work and not be stressed.'

Male, 35+, Edinburgh

Attitudes towards the relative importance of the different infrastructure categories also partly reflected the perceived need for improvements in certain areas. For example, participants explained their prioritisation of hospital buildings and public transport in relation to a perceived deficiency in the provision of these types of infrastructure in their areas. Similarly, participants in rural locations placed particular importance on emergency services due to a perceived lack of provision in their local area.

'Housing. In Glasgow, the housing needs upgraded, particularly the social housing. A lot of it is appalling. It needs to change.'

Female, 35+, Glasgow

While cultural facilities were seen as relatively less important than other, more 'universal' types of infrastructure, their significance was nonetheless acknowledged. Indeed, participants in Edinburgh and Glasgow expressed disappointment at cuts to funding of libraries and other cultural buildings in their area and the negative impact this might have on users of such facilities.

Discussion of the relative importance of infrastructure categories also reflected some difference in values between those in urban and rural areas. Those in more rural areas referred to the importance of certain types of infrastructure, such as transport and housing, in encouraging the younger population to remain in the area and strengthening the local economy. Meanwhile, in the cities, the focus on housing was more linked to the perceived importance of universal access to a good standard of living.

'Better housing would create jobs, too, as they would need more shops.'

Female, 35+, Moffat

'I think that whether you are in work or not, your housing should be at a good standard and reasonably priced.'

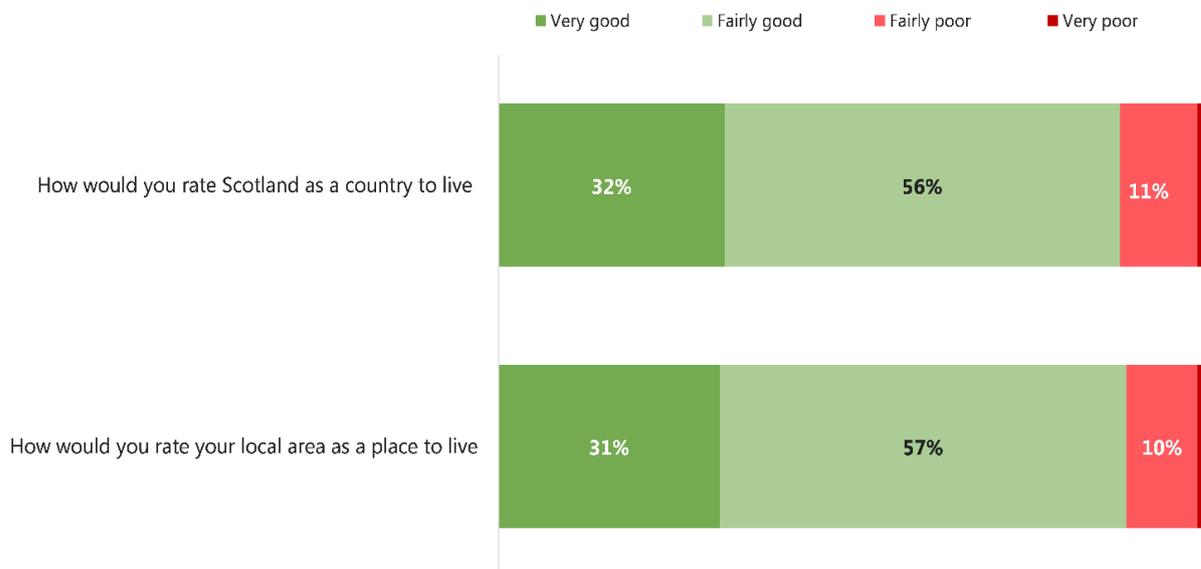
Female, 35+, Glasgow

Satisfaction with infrastructure in Scotland

To provide context for their views on satisfaction with infrastructure, survey respondents were first asked how they would rate both Scotland, and their local area, as places to live. As shown in Figure 2.2, the majority of respondents (88%) felt that Scotland was a good place to live (32% very good, 56% fairly good), while the same proportion (88%) rated their local area as a good place to live (31% very good, 57% fairly good).

Figure 2.2: Views on Scotland and respondents' local area as places to live

Q: Thinking about Scotland as a whole, and about your local area, how would you rate these as places to live these days?

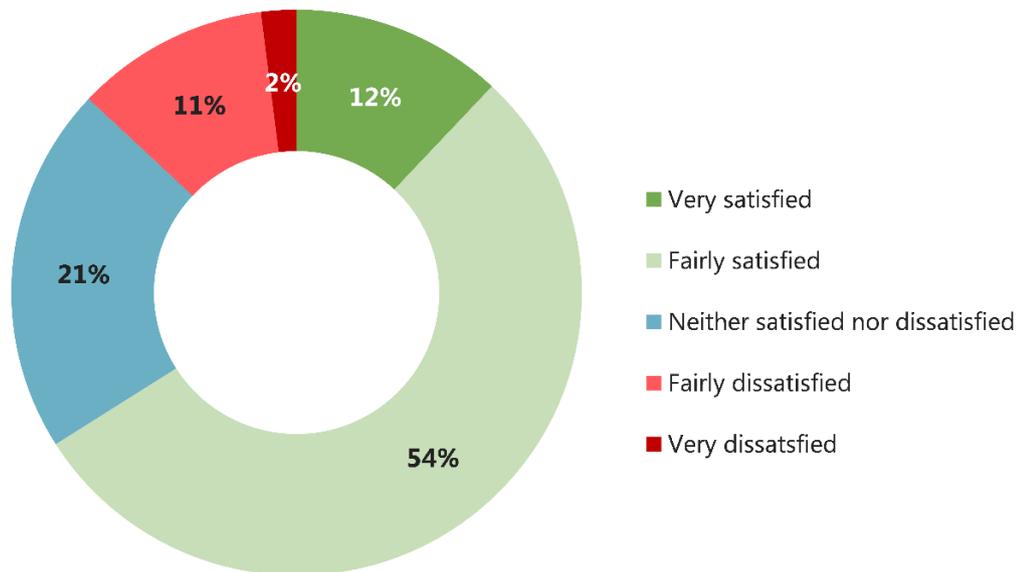


Base: Adults aged 16+ living in Scotland, surveyed online between 9th and 18th September 2019 (1,004)

Reflecting the overall positive views about Scotland as a place to live, respondents were also positive about Scotland's current infrastructure. Two thirds of survey respondents (66%) expressed satisfaction with infrastructure in Scotland at present, while just 13% expressed dissatisfaction (Figure 2.3).

Figure 2.3: Satisfaction with Scotland's infrastructure

Q: Overall how satisfied are you with Scotland's infrastructure at present?



Base: Adults aged 16+ living in Scotland, surveyed online between 9th and 18th September 2019 (1,004)

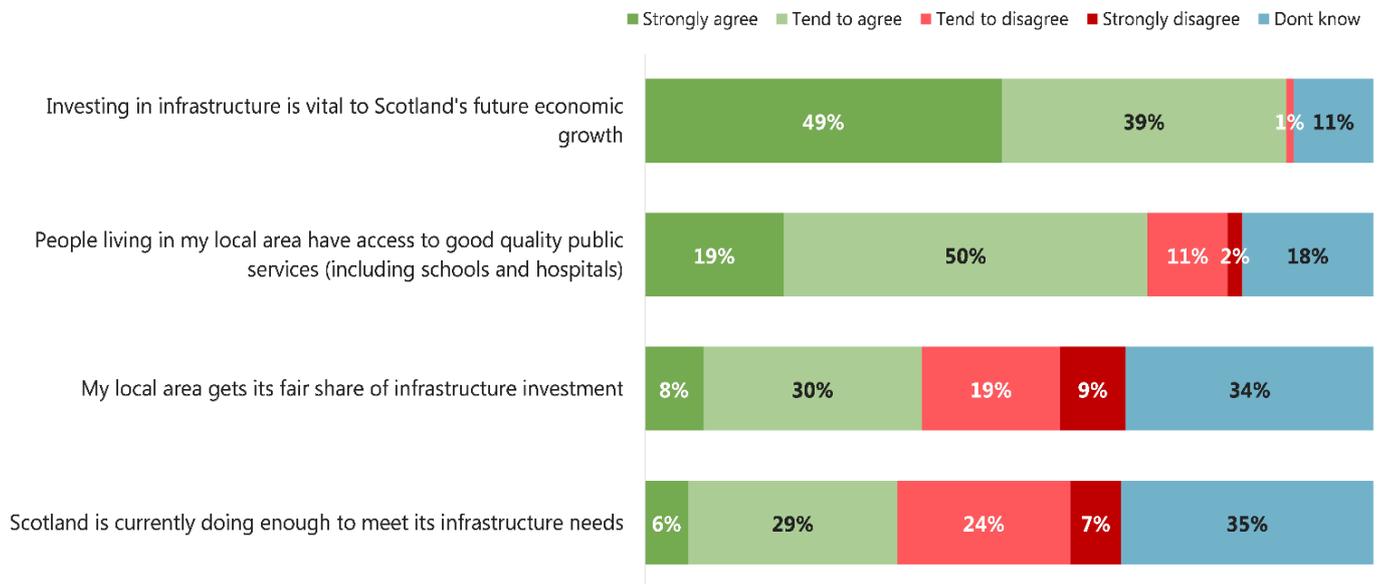
Satisfaction with Scotland's infrastructure varied somewhat by region. Those in North East Scotland were most likely to feel very or fairly satisfied (73% compared with 66% overall), while those in the Highlands and Islands and Central regions expressed the lowest levels of satisfaction (just 42% and 49% satisfied respectively).

Consistent with the high levels of overall satisfaction with infrastructure, a majority of respondents also agreed they had access to good quality public services such as schools and hospitals in their local area (69%), with just 13% disagreeing (Figure 2.4). This, again, varied by region, with those in the North East more likely than average to agree (76%), while those in the Highlands and Islands and the South were more likely to disagree (52% and 61% respectively, compared to 29% overall).

There was overwhelming agreement that investment was crucial for Scotland's future economic growth (88% agreed). There was less confidence, however, that Scotland was currently doing enough to meet its infrastructure needs (34% agreed). Further, less than half (38%) of respondents felt that their local area got its fair share of investment in infrastructure while 28% felt that it did not.

Figure 2.4: Views on access to and investment in infrastructure

Q: Still thinking about infrastructure, to what extent do you agree or disagree with the following statements?



Base: Adults aged 16+ living in Scotland, surveyed online between 9th and 18th September 2019 (1,004)

Dissatisfaction with local investment in infrastructure was highest amongst those in the South of Scotland and in the Highlands and Islands: 61% in the South and 52% in the Highlands and Islands disagreed that their local area got its fair share of investment (compared to 28% overall).

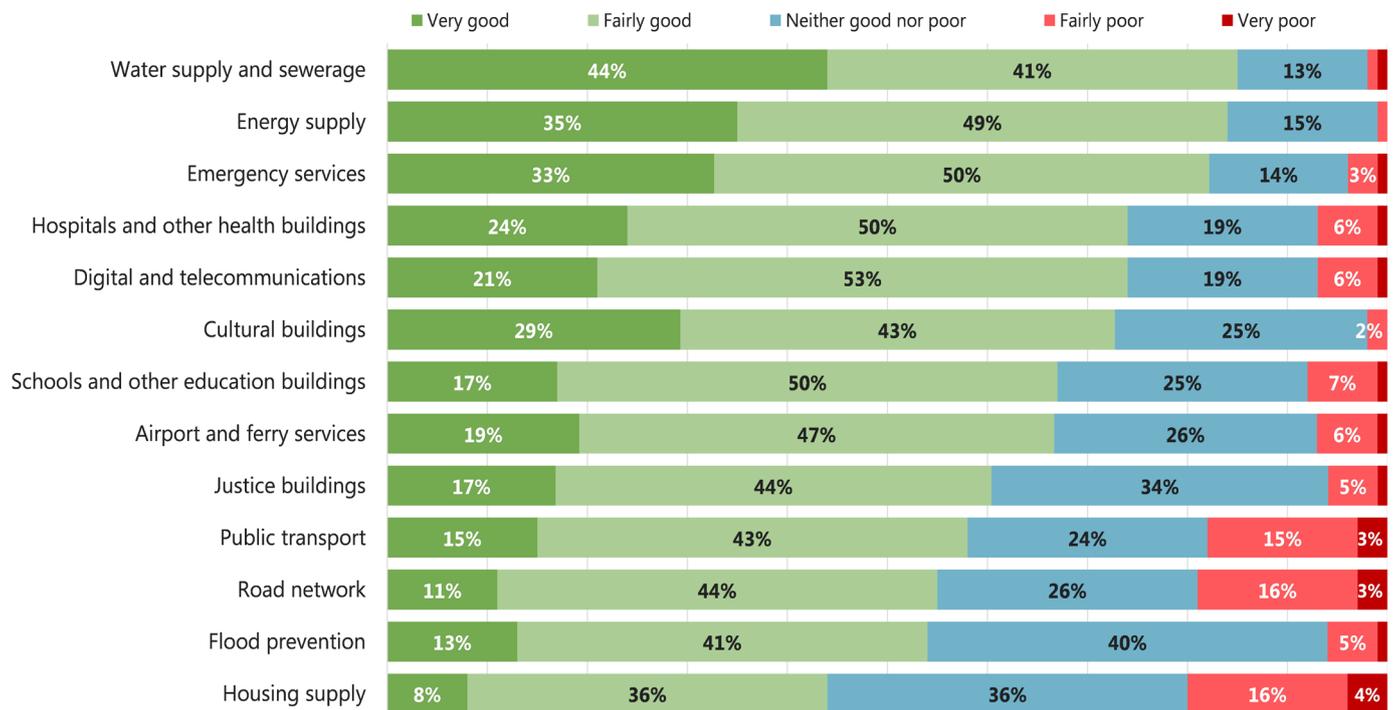
Satisfaction with specific infrastructure categories

Survey findings

Turning to specific categories of infrastructure, survey respondents were asked to rate the quality of each. As shown in Figure 2.5, views were mixed. Those categories considered to be of highest quality were water supply and sewerage (85% saying "very good" or "fairly good"), energy supply (84%) and emergency services (83%). At the other end of the spectrum, Scotland's housing supply, flood prevention and road networks were considered very/fairly good by only around half of respondents (44%, 54% and 55% respectively). It is worth noting that the categories which respondents considered most important (water, hospital buildings, energy and emergency services), were also those viewed most positively in terms of quality.

Figure 2.5: Survey results on satisfaction with infrastructure categories

Q: Please indicate how you would rate the quality of each in Scotland?



Base: Adults aged 16+ living in Scotland, surveyed online between 9th and 18th September 2019 (1,004)

Views varied by region, and those in the Highlands and Islands were notably more likely than average to view a number of categories as poor: housing; road networks, public transport and hospital buildings.

- **Housing supply** was most positively rated by those in Midlothian and Fife (58% very/fairly good, compared with 44% overall), and most poorly rated in the Highlands and Islands (25% very/fairly poor, compared to 20% overall).
- **Road networks** were most positively rated in North East Scotland (65% very/fairly good compared to 56% overall), and most poorly rated in the Highlands and Islands (29% very/fairly poor compared to 19% overall).
- **Public transport** was rated higher in the Lothians (70% very/fairly good), and Midlothian and Fife (67%) than average (58%); and lower than average in Central Scotland (24% very/fairly poor) and the Highlands and Islands (29% compared with 18% overall).
- **Hospital buildings** were viewed most positively in Midlothian and Fife (80% very/fairly good compared to 74% overall), but again most negatively in the Highlands and Islands (13% very/fairly poor compared with 8% overall).

Qualitative findings

Workshop participants demonstrated varying levels of satisfaction depending on the specific infrastructure category in question. Participants generally felt their needs were being met with regards to the provision of water and sewerage, digital and telecommunications infrastructure, and energy supply. However, participants were more critical of public transport, education buildings, and housing, and felt that each would benefit from improvement.

With the exception of Edinburgh, **public transport** was identified as needing improvement in each workshop location. Perceived issues with current public transport provision were relation to its frequency, affordability, and the adequacy of connections between rural and urban areas. There was particular mention of the insufficiency of bus services and train services in rural locations.

'[We need] more frequent train services. They close them frequently on the weekend, and after the 8 o'clock train it's a bus replacement service...Every train is delayed five mins to half an hour, and no trains on the weekend.'

Female, 16-34, Moffat

Issues with **education buildings** were raised in each of the workshop locations, with reference made to the inconsistency of building quality and facilities; the age of some of some of the buildings; and the insufficient size of school buildings in relation to the number of students.

'My [school] was old and it was a mess and covered in scaffolding and it still is. I think there's a mix of old ones and new ones. No in-between.'

Female, 16-34, Edinburgh

In relation to **housing**, repeated reference was made to a perceived shortage of available and affordable housing, and to the poor quality of housing in some areas. Participants expressed concern that new, unaffordable housing developments were taking priority over social housing, and in Edinburgh concerns were expressed around the rise of Airbnb and student accommodation at the expense of housing for first time buyers.

'The new houses that are being built are for people with mortgages. They aren't for council houses.'

Female, 35+, Kinross

'12,000 homes are now Airbnb. Housing prices have skyrocketed. It's had a very negative effect. People not being able to afford to live and work here.'

Female, 35+, Edinburgh

While survey respondents were generally satisfied with **hospitals and other health buildings**, workshop participants were more negative. These were frequently identified as needing improvement, with reference made to the inconsistency in quality of facilities between different areas, the old age of some buildings, and the

long journey times to some hospitals. Across locations, participants highlighted the greater pressures on health buildings caused by the rising and ageing population and expressed a view that the infrastructure and facilities had not been updated to meet these growing demands.

'Moffat traditionally has a higher rate of older people, we don't have the [health] facilities to deal with that.'

Male, 35+, Moffat

'Glasgow used to have five major hospitals and now there are three. They've condensed it into one huge hospital and if you make a wrong turn you're gone, lost.'

Male, 35+, Glasgow

As noted above, in spite of cultural buildings being viewed as relatively less important overall than other types of infrastructure, participants in Edinburgh and Glasgow nonetheless expressed disappointment about perceived funding cuts to libraries and other cultural facilities.

Views on emergency services, and flood prevention varied by location. In rural locations, participants saw a need for improvement in emergency services and flood prevention measures. In particular, there was consistent reference to the cutting, or complete absence of emergency services in Kinross and Moffat, and to the very negative consequence this had had in some cases.

'The emergency services are bad in this area. There are a lot of people moving into Kinross and the police are terrible...there are no local stations. The one in Kinross is open but it isn't always manned.'

Female, 35+, Kinross

'The ambulance service a while ago was parked outside the person's door. If there was an emergency, they were straight there... Now Lockerbie is the closest, and it covers a massive area.'

Male, 35+, Moffat

Having discussed the *current* importance of infrastructure to their daily lives, and their satisfaction with current provision, participants were then asked to think about how *future* investment in infrastructure should be allocated. The remaining chapters therefore focus on these future investment priorities.

3. Future investment priorities: infrastructure categories

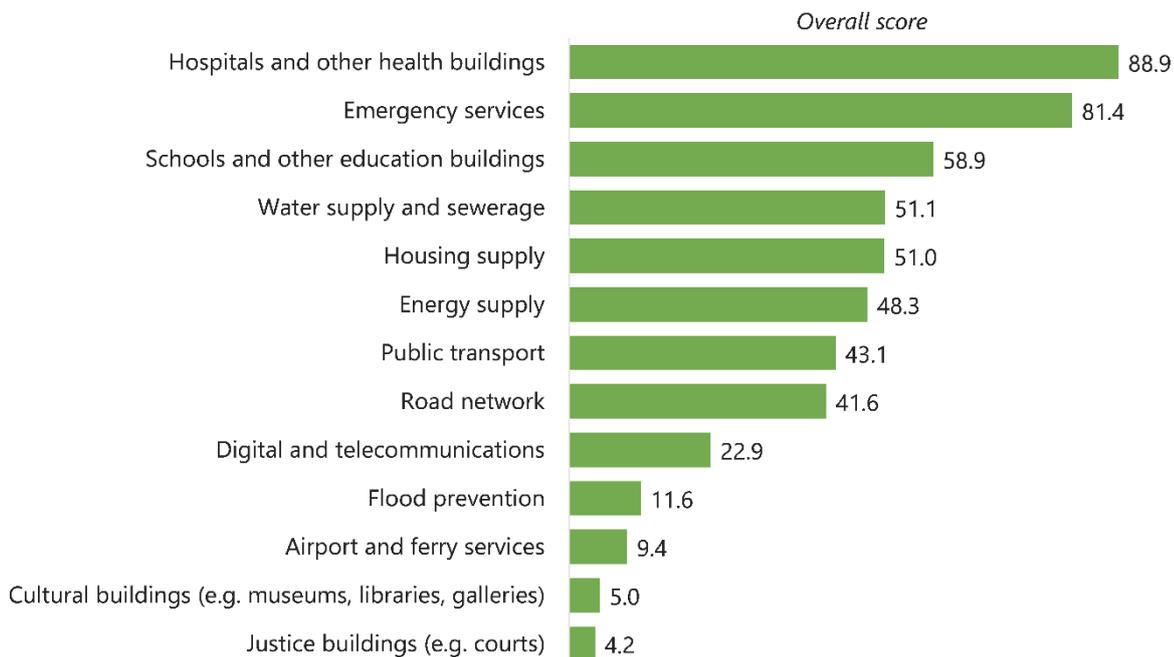
Priority categories for future investment

Survey findings

Survey respondents were told that the Scottish Government planned to increase its annual investment in infrastructure by approximately £1.5 billion by 2025-26, and asked which infrastructure categories they felt were most and least important to invest in. Their priorities were explored using a technique called Maximum Difference Scaling (MaxDiff)⁶, which produced an overall score based on the number of times each infrastructure category was chosen as the most or least important. The results are shown in Figure 3.1, with the highest scores indicating the most important categories, and lowest scores indicating the least important.

Figure 3.1: Relative importance of future investment categories

Q: Which of the following types of infrastructure, if any, do you personally think are most important for investment in Scotland? And which do you personally think are least important?



Base: Adults aged 16+ living in Scotland, surveyed online between 9th and 18th September 2019 (1,004)

⁶ Rather than directly asking about the importance of items from a single list (where participants might choose multiple different options) MaxDiff uses an indirect approach by asking respondents to trade-off items against one another and forcing them to make a preference. Survey respondents were therefore presented with a series of ten different screens, each showing five infrastructure categories, out of which they chose the most important and least important

Two infrastructure categories emerged as the clear priorities for survey respondents: hospitals and other health buildings, and emergency services, with scores of 88.9 and 81.4 respectively. It should be noted that, unlike the workshops, the survey did not provide the opportunity to challenge respondents to think only about the physical infrastructure associated with these categories rather than the services they delivered. The high results for healthcare and emergency services may, therefore, reflect the high importance placed on health and emergency service provision. Indeed, when asked to explain why they chose the categories they did, respondents often indicated the importance they attached to service aspects, rather than the physical infrastructure. To illustrate, comments made by survey respondents included:

- *'The population is increasing and ageing so it's essential that there is a well-resourced health service. Something needs to be done about the shortage of nurses and GPs.'*
- *'Socially, the important things are keeping a good NHS/emergency service and providing adequate schools.'*
- *'Healthcare should be a priority for a growing country and it is more essential to people's live than services such as broadband etc.'*

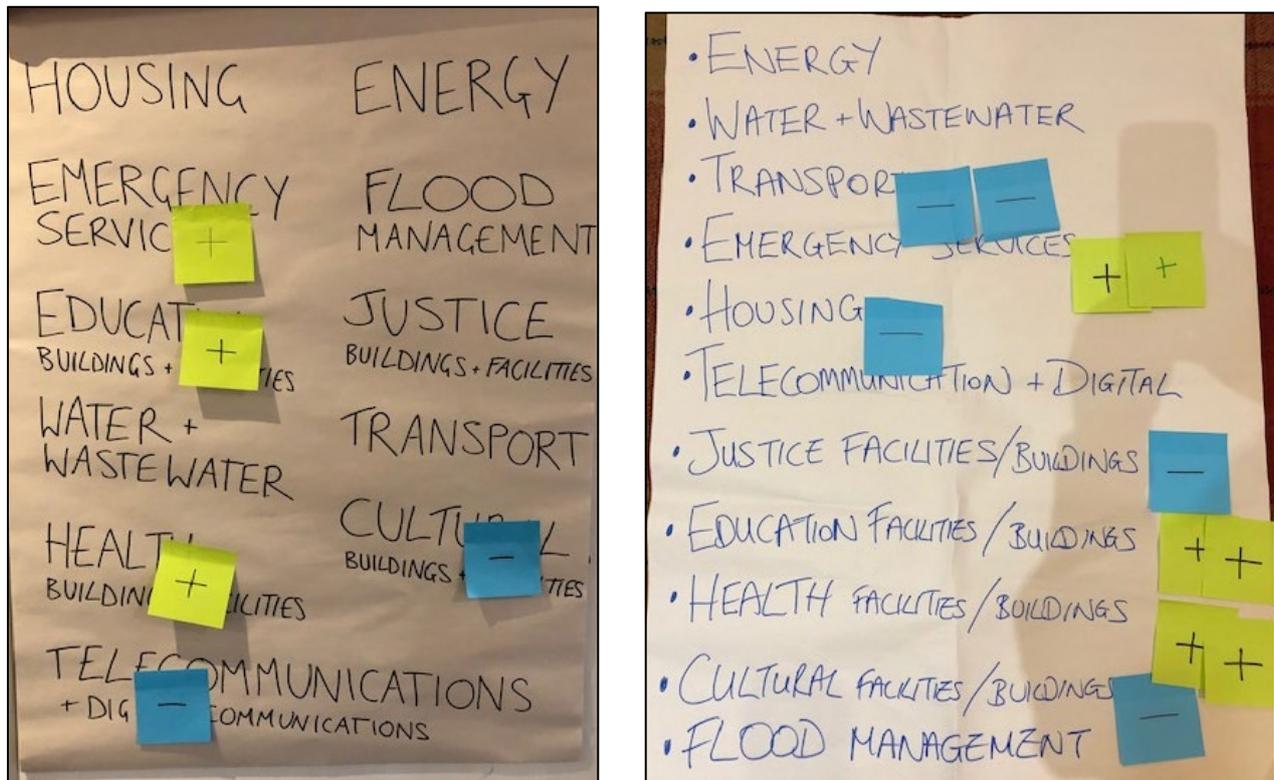
Relatively, other categories were seen as less important, with similar overall scores being given to schools and other education buildings (58.9 score), water supply and sewerage (51.1), housing supply (51.0), and energy supply (48.3). Categories seen as least important relatively were flood prevention (11.6), airport and ferry services (9.4), cultural buildings (5.0), and justice buildings (4.2).

Qualitative findings

The investment priorities identified in the survey were largely reflected in the qualitative research findings. The top two areas in the survey, hospitals and other health buildings and schools and other education buildings, also emerged as high priorities for additional investment in the workshops. Housing and emergency services also received higher support than other categories, though not across all groups. Reasons underlying these priorities echoed many of the early discussions around current importance of, and satisfaction with, each infrastructure category.

Figure 3.2: Results of investment prioritisation exercise in Kinross

('+' stickers indicate areas for additional investment, '-' stickers indicate areas for less investment)



Hospitals and other health buildings were seen as a high priority for additional investment because they were seen as having the biggest impact for the greatest number of people. As noted earlier in relation to current perceptions of infrastructure, participants emphasised the fundamental impact that hospitals and other healthcare facilities have on their health and wellbeing, and a lack of adequate healthcare facilities was seen as having potentially serious consequences.

As noted above, and was common throughout the workshops, participants found it difficult to distinguish between the physical infrastructure and the service provided within healthcare buildings, and therefore some reference was made to the need for additional healthcare staff or improvements in specific aspects such as mental health services. That said, participants did also make reference to physical infrastructure, and the size and condition of existing healthcare buildings were seen as inadequate. Participants in both urban and rural areas also felt that hospitals and other healthcare facilities were located too far away from them, with local facilities having recently closed down. It was suggested, therefore, that additional investment could be used to bring the former, now unoccupied, healthcare buildings in their local areas back into use.

'The problem is mostly with hospitals, because we are too far away from them. The GP surgeries aren't close enough to where we need them, either...We need to utilise what is there already and update it, make it decent for people to be in.'

Female, 35+, Kinross

'There are two main hospitals in the south of the city, which is great for people who live that way, but if you don't and you have a sick child you have travel [far]. One hospital for the whole world, that's what it feels like.'

Female, 16-34, Edinburgh

Reflecting similar views to those made in relation to healthcare facilities, **schools and other education buildings** were seen as a high priority because of the importance of the service provided within them. Participants noted that everyone in Scotland will need to use education facilities at some point and should therefore be more important than other, less universally relevant, categories. Again, both age groups highlighted the importance of this area, and it was common for reference to be made to 'future generations' who they wanted to ensure adequate provision for.

In allocating additional spending to these areas, participants were keen to address what they perceived to be a lack of schools in their areas, and a lack of space within existing schools. Others also suggested that many school buildings were old and therefore unlikely to be energy efficient. It was further suggested that by investing in more space and providing higher quality facilities in schools, pupils may feel more motivated to attend school which could in turn help with their educational attainment.

F: 'Education facilities need to be updated. The schools in my area are not good, they are really old, and probably bad for the environment. If they were updated there would be less waste of energy...'

F: 'And the overall experience of the school will affect how much children will want to go.'

Females, 16-34, Glasgow

Housing was also identified as one of the top priorities for future investment. Participants described a lack of affordable housing, which they wanted to redress through additional investment. Those in Glasgow also perceived homelessness to be a problem in the city and felt that investment in affordable housing could go some way in helping to address this issue. While emphasising the importance of additional spending on housing, participants were keen to emphasise that any additional investment in this area should be prioritised towards social housing and not to benefit private developers. Younger participants emphasised the positive impacts additional affordable housing would have for their age group, by providing more opportunities for first time-buyers to acquire a home.

'Housing is your life, it's where you spend most of your day and what your life revolves around. And for people who don't have a house or can't afford it, it is important we invest more to help.'

Female, 16-34, Glasgow

Emergency services were also prioritised, reflecting the views made earlier about perceived inadequacy in current provision. There was a sense that emergency services were under-funded, and that additional investment in these areas would have greatest impact due to their role in protecting the public's health and safety. Echoing the sense of dissatisfaction with the lack of local emergency services provision, participants in rural areas felt that additional investment should be allocated towards replacing ambulance services in their areas, particularly for an ageing population that may be at more risk of accident or ill-health.

'[Emergency services] is very relevant to our situation...they are really lacking in our community, and we have an ageing population for demand for these services will get larger.'

Female, 35+, Moffat

It is worth noting that **water** and **energy** were both seen as relatively important in the survey, being ranked fourth and sixth overall (see Figure 3.1), but did not emerge as high priorities in the workshops. This may reflect the differences in the ways survey respondents and workshop participants were asked to consider these topics. Survey respondents were asked to state which of the infrastructure categories were most and least important for future investment. Workshop participants were asked to identify the most and least important categories for investment, but also *how* they would use any additional investment, acknowledging that there was a finite amount available. In considering how best to use the budget available, workshop participants may have focussed more on areas they deemed unsatisfactory and in need of improvement, rather than water and energy which they had formerly said they were largely satisfied with.

When asked to identify areas where *less* spending should be allocated in future (in the Glasgow and Kinross workshops only), the main areas that stood out were: cultural buildings and facilities, justice buildings and facilities, digital and telecommunications, and flood management. As already discussed in previous chapters, these categories were seen of as being less universally used and therefore of relatively lower importance in comparison with more 'essential' services such as healthcare, education and housing

4. Future investment priorities: wider considerations

Overview of approach

In addition to discussing specific infrastructure categories, survey respondents and workshop participants were asked to consider the wider factors that should be taken into consideration when prioritising future investment. These wider factors were illustrated through eight themes, each one representing an area that might be focussed on when making future investment decisions. The eight themes were based on prior research carried out by the Infrastructure Commission for Scotland as part of its wider engagement work, which it then sought to test with the public. The titles of these themes are outlined below (an additional sub-title was provided for some of these as shown in italics, and the examples used to illustrate each are shown in the relevant sub-sections below).

- A zero-carbon future
- Helping businesses to thrive (*Enabling businesses to thrive and prosper*)
- Making things last (*Creating a circular economy for people and resources*)
- Making best use of our existing infrastructure
- Making the most of our natural environment (*Making the most of our blue and green assets*)
- Joined-up places to live and work (*Supporting coherent places*)
- Delivering effective public services
- Making the most of new technology (*Driving the 4th industrial revolution*)

The relative importance of these focus areas was tested with all survey respondents, and with participants in the first two workshops in Edinburgh and Moffat. In the later workshops, in Glasgow and Kinross, participants were not asked to respond directly to these focus areas, but were asked to consider a number of scenarios related to them, and to test the 'trade-offs' they would be willing to make between various advantages and disadvantages associated with each.

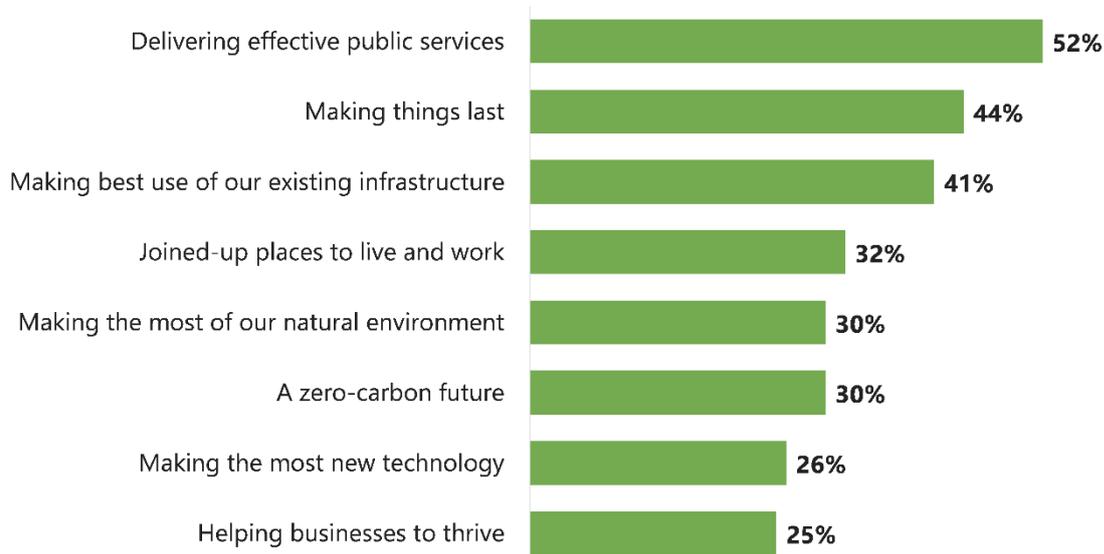
Overall priorities

Survey findings

The most important focus area for survey respondents was 'delivering effective public services' (52% of respondents), followed by 'making things last' (44%) and 'making best use of our existing infrastructure' (41%). Similar proportions chose 'joined-up places to live and work,' (32%) 'making the most of our natural environment,' (30%) and 'a zero carbon future,' (30%) while the two least popular were 'making the most of new technology' (26%) and 'helping businesses to thrive' (25%) (Figure 4.1)

Figure 4.1: Priority areas for future investment in infrastructure

Q: Below are some areas that could be focussed on when making decisions about how to invest in infrastructure, with some examples in brackets of what this might mean in practice. Please read these and then choose the 3 that you feel are most important.



Base: Adults aged 16+ living in Scotland, surveyed online between 9th and 18th September 2019 (1,004)

Certain focus areas were more important to particular age groups. For example, those aged over 55 were more likely than those aged 16-24 to prioritise delivering more effective services (59% compared with 45%) and making best use of our existing infrastructure (52% compared with 28%). On the other hand, 16-24 year olds were more likely than over 55s to prioritise a zero carbon future (46% compared with 26%).

Qualitative findings

In the workshops, no single focus area stood out as more important than others. However, participants placed relatively more importance on: 'delivering effective public services', 'making the best use of existing infrastructure', and 'a zero-carbon future.' While not the most important priorities overall, there was also support in the workshops for 'joined-up places to live and work' and 'helping businesses to thrive and prosper.'

The other potential focus areas ('making things last', 'making the most of our natural environment', and 'making the most of new technology') were viewed as comparatively less important than the others. However, when comparing the relative merits and drawbacks of each potential investment area, participants were keen to emphasise the overlap between each topic, seeing them as very much interlinked with each other (for example, that making things last could help contribute to a zero-carbon future).

Views on each individual focus area are outlined in detail below, including findings on the 'trade-off' considerations.

Delivering effective public services

Examples:

- *public buildings deliver more than one service (e.g. council offices, libraries and support services all under one roof);*
- *more services are delivered using digital technology (e.g. people are able to consult a GP online);*
- *some public buildings become major providers of public services (e.g. hospitals covering larger areas and more people), while others get smaller.*

Echoing survey findings, workshop participants considered this focus area as one of the most important aspects for future investment. In articulating its perceived benefits, participants tended to focus on the need to fund public services generally, rather than on the specific examples provided. They stressed that investment in public services would have the biggest impact for the widest range of people, reiterating their earlier views on the universal importance of healthcare and education facilities. Investment in this area was also seen as being particularly beneficial for groups that rely on education, health and social care services such as families with young children and the elderly. Over and above these benefits, public services were also seen as helping to contribute to a sense of community, and the absence of them was correspondingly seen as detrimental to communities.

'Communities, children and families, the elderly would all benefit. If you don't fund [public services], it destroys communities.'

Male, 35+, Edinburgh

The importance of this focus area was also linked to a perceived absence of accessible public services at present, such as the perceived lack of healthcare and emergency services facilities in Moffat, which had resulted in lengthy travel times to access the nearest service.

'I've got older grandparents, getting a bus to Dumfries for appointments isn't easy for them and I can't help out. If there were facilities in Moffat it would be easier, they could get a taxi or a lift.'

Female, 16-34, Moffat

Trade off: proximity of public services vs quality of service

When discussing the importance of investment in public services, participants felt that the ideal scenario would be for high quality facilities to be located within a convenient travel distance. To identify whether the most important factor was the location of these facilities, or the quality of the service provided within them, survey respondents and workshop participants were asked to make a number of 'trade-offs.'

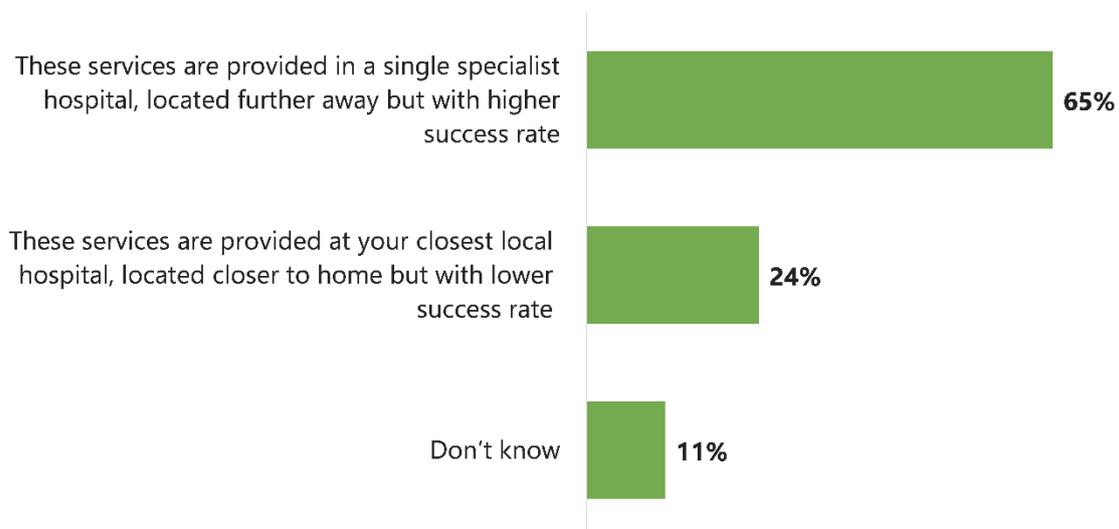
Firstly, in relation to **hospitals and other health buildings**, which emerged as the most important priority for future investment, survey respondents were asked to choose between the following two options:

- Specialist services (such as cardiac surgery) are provided in a single specialist hospital. The hospital is located further away from your home than your closest local hospital is, but has a higher treatment success rate than your closest local hospital
- Specialist services are provided at your closest local hospital. The hospital is located closer to your home than a single specialist hospital would be, but has a lower treatment success rate than a specialist hospital.

As shown in Figure 4.2, respondents showed an overall preference for the first option, with 65% choosing a single specialist hospital located further away but with a higher success rate, compared with 24% who preferred to have such services provided closer but with a lower success rate.

Figure 4.2: Trade-off between proximity and success rate

Q: Some hospitals provide specialist services, such as cardiac surgery. Which one of the following two options do you prefer?



Base: Adults aged 16+ living in Scotland, surveyed online between 9th and 18th September 2019 (1,004)

A similar overall finding emerged in the workshops. Quality of care and higher chance of successful treatment outcomes were ultimately believed to be the most important factors for local healthcare spending. There was therefore support for larger, specialist facilities with a higher success rate, even if this required a longer journey

time than local facilities. However, participants were keen to stress that support for this scenario would very much depend on the situation; in an emergency, distance could be critical and they would expect some form of emergency care provision to be close to them. Those that were more in favour of specialist services being provided locally felt it would be unfair to expect people dependent of hospital care to make longer, possibly multiple, journeys.

'I would take the risk of having to make a longer journey. That extra half hour could well be worth it...I would rather it took longer to get there but have a better service.'

Male, 16-34, Kinross

'If you are the one travelling though, and you are sick, it is hard going. For those who require multiple, possibly weekly, treatments [the extra travel time] would take its toll on patients.'

Female, 35+, Glasgow

A similar overall preference for quality over proximity also emerged in relation to **schools and other education facilities**. Though not explored in the survey, workshop participants were asked to consider the relative advantages and disadvantages of investing in a larger school that had more space for teaching and study, but that would be located further away and serve a larger catchment area. Participants generally supported this approach. They felt that the advantages of higher quality school facilities, with more space, outweighed the disadvantage of longer journey times. However, this support was conditional on bus transport being provided for pupils where necessary, to reduce the additional burden placed on parents or pupils themselves to drive further.

F: 'We need to make schools bigger, and we need to make the environment in schools better for kids. I think people would make the efforts if it were worth it...'

F: 'But if the school was located further away, you would have to provide public transport too.'

Females, 35+, Kinross

Making the best use of existing infrastructure

Examples:

- *instead of replacing infrastructure (e.g. roads, buildings), we maintain what we already have to a high standard;*
- *the infrastructure we already have is adapted and updated to make it fit for today's needs.*

This focus area emerged as one of the future investment priorities for workshop participants, supporting the views of survey respondents. Participants linked the importance of this theme to the existence of disused buildings in their area, and a desire for these to be re-used. Re-use of these assets was seen as a vehicle for regenerating local areas, which would in turn help to create jobs and bring the community closer together. Those who felt this theme was important also felt that it would be cheaper than building new assets, and could avoid unnecessary waste associated with empty buildings.

'In these days of financial constraints, you really have to look at what you've got in the first place and adapt it where possible....and if you make the most of what you have got, you improve the local environment.'

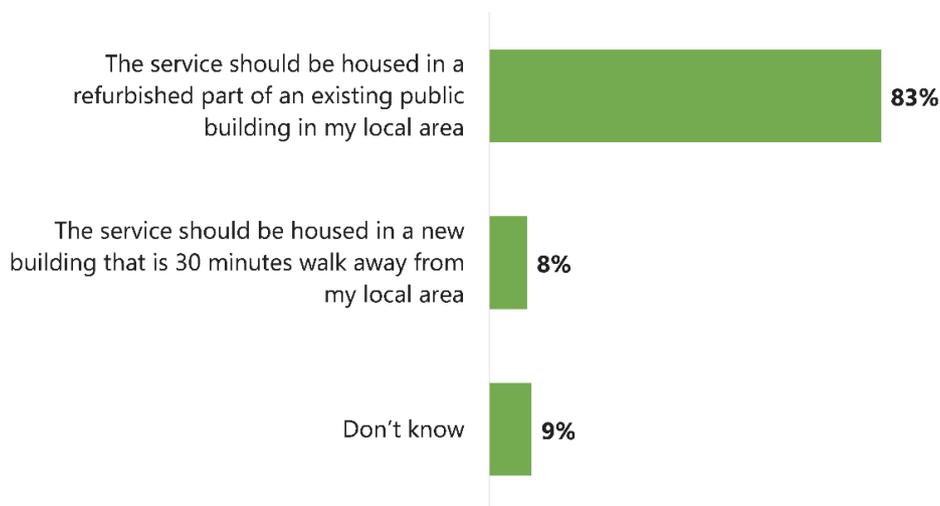
Male, 35+, Moffat

Trade off: re-use of existing assets vs proximity of services

To further test the importance of making best use of existing infrastructure, survey respondents were asked to choose between two options relating to public service provision: housing the service in a refurbished part of an existing public building in their local area, or in a new building a 30-minute walk from their local area. As shown in Figure 4.3, the majority (83%) of respondents favoured the former approach, while just 8% favoured the latter, mirroring the general sentiment expressed in the workshops.

Figure 4.3: Trade-off between location and re-use of assets

Q: Imagine that your local council needs to decide where to provide a particular public service from. Which of these statements most closely matches your opinion?



Base: Adults aged 16+ living in Scotland, surveyed online between 9th and 18th September 2019 (1,004)

A zero-carbon future

Examples:

- all road vehicles use electricity or hydrogen, instead of petrol or diesel;
- all new homes are built to higher energy efficient standards;
- reducing carbon emissions involves using new technology, which could create new jobs.

Those who prioritised this focus area tended to be environmentally focussed and felt that action was needed to help reduce the impacts of climate change. They felt that focussing investment on a zero-carbon future would have the greatest long-term impact of all the potential investment areas, and would benefit future generations. Participants who felt this area was important said they might be willing to take action to help contribute to its

progress, such as restricting their use of cars or buying more local produce, but raised affordability and cost implications as potential barriers.

'It could put us ahead of the game, we have to go in that [direction] anyway, so we may as well invest in it. If we all reduce our carbon, Scotland can help serve the world. It's important for our children, and generations to come.'

Male, 35+, Edinburgh

'We should be supporting our local farmers, but people want cheap food. I think it will come down to how much money it will cost.'

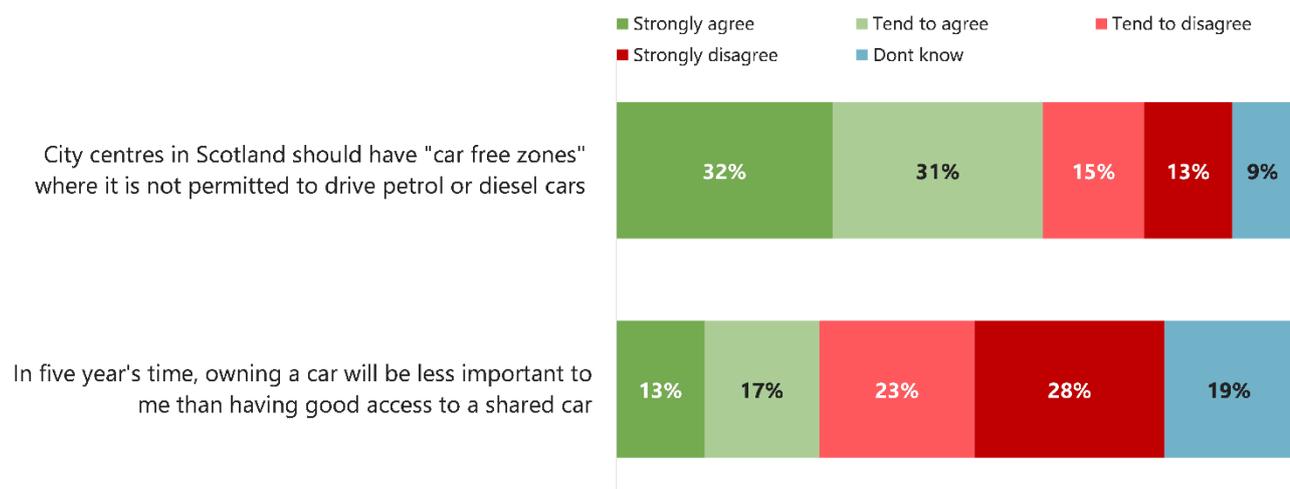
Female, 16-34, Edinburgh

This focus area resonated more with participants in urban than rural locations, and particularly among younger urban participants. Respondents in rural locations, while acknowledging that zero carbon targets were important, felt these were outweighed by the need to address more localised issues such as investing in public services.

Aspects of a zero-carbon future were explored further in relation to both car use and home energy efficiency. In relation to car use, survey respondents were generally supportive of city centres in Scotland having 'car free zones' where it is not permitted to drive petrol or diesel cars: 63% agreed that they should, while 28% disagreed. Respondents were less certain about the likelihood of car ownership being less important to them than having good access to a shared car in five years' time: 30% agreed that it would, while 51% disagreed, and a further 19% were unsure (Figure 4.4).

Figure 4.4: Perceptions of car use

Q: To what extent do you agree or disagree with the following statements?



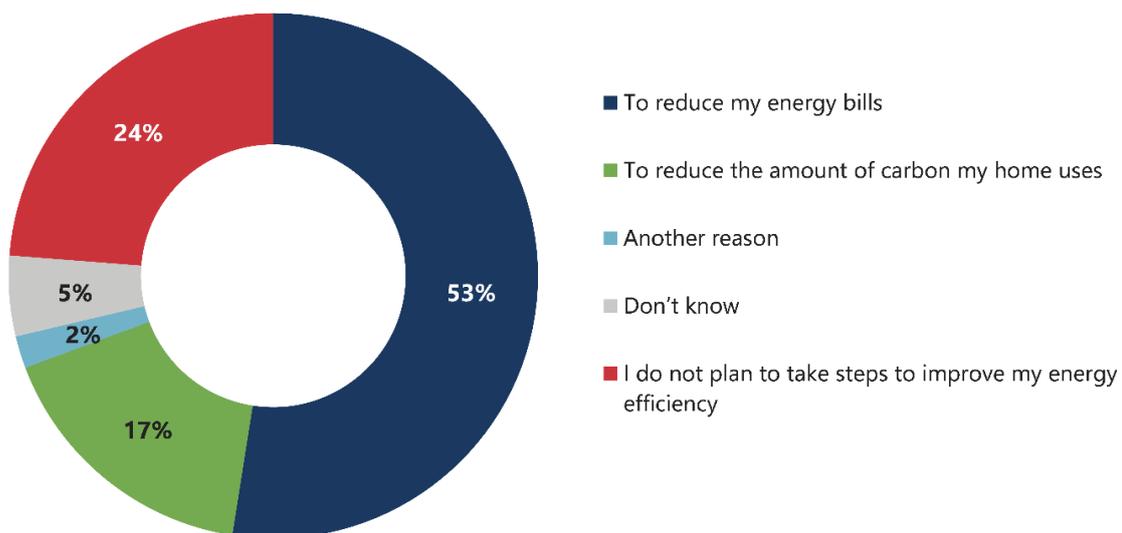
Base: Adults aged 16+ living in Scotland, surveyed online between 9th and 18th September 2019 (1,004)

In the workshops, there was some support for the wider introduction of electric cars and associated restrictions on petrol and diesel cars, with recognition of the environmental benefits this would offer. However, it was suggested that use of electric cars would be dependent on the provision of more charging points, and more clarity on the cost of running these, with some feeling the cost of electric vehicles would be prohibitively expensive to them.

In relation to home energy, three quarters (76%) of respondents said they planned to take steps to improve the energy efficiency of their homes in the next 12 months. Motivations for taking such measures tended to be more linked to costs than environmental considerations: 53% said they were motivated by a reduction in energy bills, compared with 17% motivated by a desire to reduce the amount of carbon their home used (Figure 4.5).

Figure 4.5: Reasons behind energy efficiency measures

Q: If you plan to take steps to improve the energy efficiency of your home in the next 12 months, what is the main reason why you plan to do this?



Base: Adults aged 16+ living in Scotland, surveyed online between 9th and 18th September 2019 (1,004)

Trade off: environmental considerations vs affordability of transport

The importance of climate change considerations were tested further through a trade-off between the environment benefits and affordability of public transport. Participants in Glasgow and Kinross were asked to consider how investment should be allocated towards public transport in their areas, and whether they would prefer budgets to be spent on new vehicles that generated less carbon than older vehicles but were more expensive, or on refurbishment of existing fleets that were less expensive but less environmentally friendly.

Participants gave a range of views on this issue, and both environmental considerations and affordability were seen as important. Those who regularly used trains and buses, mainly in urban areas, tended to support the introduction of new vehicles, as they were seen as a more efficient and more environmentally friendly option,

though some did question whether the expense of these would be prohibitive. Overall, however, affordability tended to be the dominant influence, and participants were generally not willing to pay much more for public transport, even if the resulting funding increase was used to bring about environmental benefits.

Joined-up places to live and work (supporting coherent places)

Examples:

- *decisions about infrastructure are based on the needs of local people and communities;*
- *local places feel different from one another because the people who live there are involved in their design and development.*

While this focus area was not seen as one of the most important for investment, it did receive some support. Those who saw it as important welcomed the prospect of members of the public being given the opportunity to have a say in decisions about their local areas, which they felt would allow their needs to be reflected in any future infrastructural developments. Another benefit of this focus area was in relation to the proximity of housing and places of work; it was suggested that encouraging people to live and work more closely together could help to improve a sense of place, and in turn lead to an improved sense of wellbeing.

'Being involved in the design and planning of where communities live is important. A sense of ownership, belonging, looking after where they live and owning it. It gives variety. If one community designs something different, the other community can build something else.'

Female, 35+, Edinburgh

'If you were keeping housing and jobs close together, you would finish work and go home to play with the kids. You would get home in time to put the kids to bed.'

Male, 35+, Edinburgh

Trade-off: location of housing vs affordability

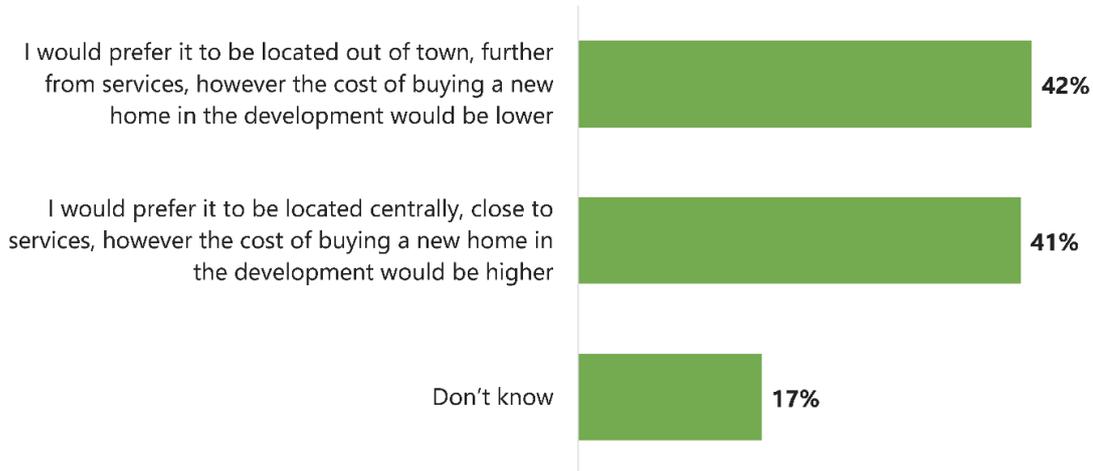
The role of housing as an aspect of coherent places was explored further in the survey. Respondents were asked to consider two potential scenarios in relation to a new housing development:

- I would prefer the new housing development to be located centrally in the town or city, close to services such as GPs and transport links, however the cost of buying a home in the new development would be higher
- I would prefer the new housing development to be located out town, further from services such as GPs and transport links, however the cost of buying a home in the new development would be lower

Views on this trade-off were mixed. As shown in Figure 4.6, 42% preferred the first scenario and almost as many (41%) preferred the second scenario.

Figure 4.5: Trade-off between housing location and cost

Q: Imagine a new housing development is planned for the town/city closest to where you live. Which of these statements most closely matches your opinion?



Base: Adults aged 16+ living in Scotland, surveyed online between 9th and 18th September 2019 (1,004)

Survey findings were largely consistent across gender, age group and locations, with the exception of two areas: respondents in the Central region were more likely than average to prefer the housing development to be located out of town (59% compared with 42% overall), while those in Glasgow were more likely than average to prefer it to be located centrally (54% compared with 41% overall).

Helping business to thrive and prosper

Examples:

- businesses are located closer to where people live and socialise;
- businesses are part of our communities, changing how places look;
- transport and internet connections are improved so that they meet the needs of businesses better.

Arguments made in favour of this focus area were similar to those made in relation to joined-up places to live and work, with an emphasis on the potential to create a sense of community and sense of place. There was also an appetite for supporting businesses as a way of creating or retaining jobs and boosting the local economy, and helping more locally owned businesses which could help contribute to a sense of community.

'The more you invest in business, the better the effect on the community. If there were new businesses popping up [here] it would attract people to the area, they'd be able to get jobs and there would be money in the economy.'

Male, 16-34, Moffat

'It is nice to spend time in a local café. Older people meet there for lunch, and might have been going there for years. Local shops may be more expensive, but it helps to keep them in business, because they give that sense of community.'

Female, 35+, Edinburgh

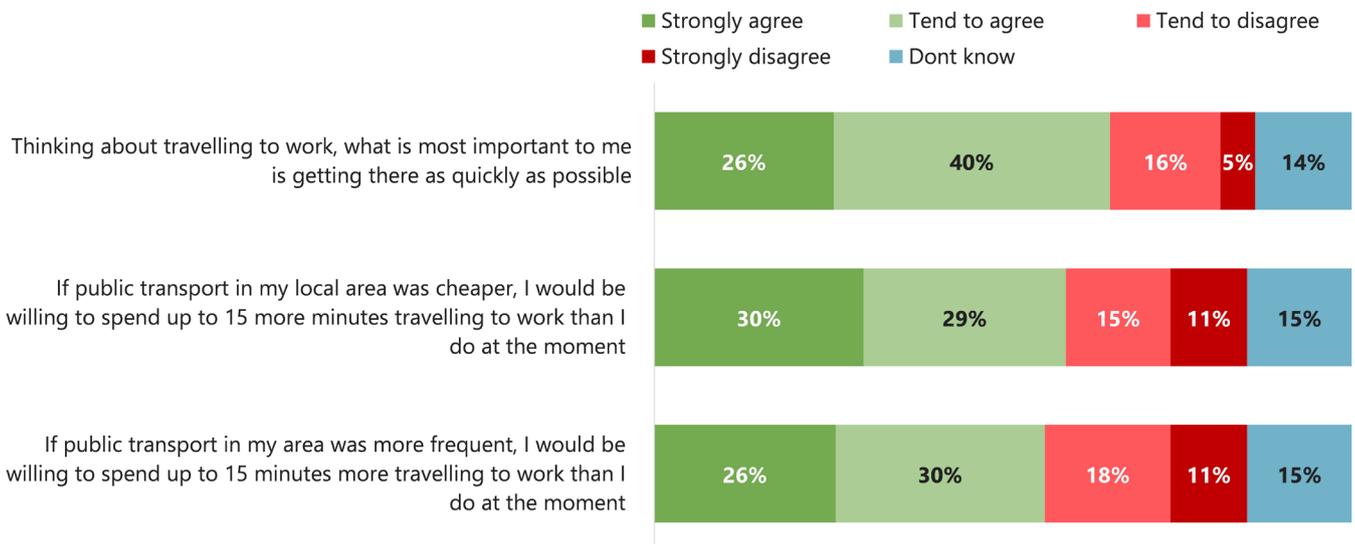
Those who felt this area was important also highlighted the benefits associated with potential improvements to transport and internet connections; improvements in these areas were viewed as not only offering benefits to businesses, but also to the wider community. This view was particularly strong in rural locations (Moffat and Kinross) where there was a perceived lack of existing public transport options.

Trade off: Travelling to work speed vs frequency vs affordability

On the topic of travelling to work specifically, survey respondents seemed to prioritise lower cost and higher frequency of public transport over shorter journey times. As shown in Figure 4.6, two thirds (66%) said that when thinking about travelling to work, the most important consideration was getting there as quickly as possible. However, when asked if they would be willing to spend 15 minutes more travelling to work if public transport was cheaper, over half (59%) said they would, compared with just over a quarter (26%) that would not. Similarly, 56% said they would spend 15 minutes longer travelling to work if public transport was more frequent, compared with 29% that would not.

Figure 4.6: Travel to work priorities

Q: To what extent do you agree or disagree with the following statements?



Base: Adults aged 16+ living in Scotland, surveyed online between 9th and 18th September 2019 (1,004)

Making things last (creating a circular economy for people and resources)

Examples:

- *instead of sending materials to landfill, they get re-used for as long as possible and are used to create new products at the end of their life;*
- *re-using materials for different purposes creates new jobs.*

Though this was the second most popular focus area in the survey, it did not stand out as one of the most important areas in the workshop. It was clear that circular economy principles were relatively new to participants, and they struggled to comprehend the concept of re-using materials and using materials to create new products, aside from existing procedures for recycling of household waste.

That said, those who did feel this area was important noted that it would help to reduce unnecessary waste and would potentially reduce costs associated with development of new products.

'It makes sense. You might as well put waste somewhere where someone can do something with it and make something new out of it.'

Female, 16-34, Edinburgh

There was support for efforts being taken to reduce single use items, for example increasing the cost of single use plastic. Participants could see the benefits of such approaches and felt that they would be willing to make changes to their own behaviour, such as using bottle deposit schemes or taking liquid containers to be refilled rather than buying new ones. However, they again noted that the cost implications of such activities might prevent some from taking these steps.

Making the most of our natural environment (making the most of blue and green assets)

Examples:

- *we provide infrastructure that allows everyone better access to the environment, such as cycling and walking routes;*
- *our environment is safer because we invest in flood prevention and protection measures;*
- *our natural water sources are looked after e.g. through new drainage systems.*

This focus area emerged as a low priority for workshop participants. Most felt that because people in Scotland have access to so much of the natural environment, they found it difficult to identify the need for additional investment in this particular area. In addition, while there were perceived advantages to flood prevention measures and protecting natural water sources, participants found it difficult to personally relate to these issues as they had not experienced issues with flooding and perceived the quality of their water to be a high standard already. Participants therefore did not have strong feelings about this focus area.

'I think [the natural environment] is already quite accessible, I've never had any problems, that's why I didn't choose [this focus area]. There's already loads of paths and cycling lanes...[and] I didn't think there was anything wrong with our water, so I wondered what the problem was?'

Female, 16-34, Edinburgh

Making the most of new technology (driving the 4th industrial revolution)

Examples:

- *more business opportunities are possible because of better digital connections;*
- *new homes are better equipped to allow people living in them to use new technology e.g. health being monitored remotely allowing the elderly to stay at home longer;*
- *more people work from home and fewer people commute.*

This focus area divided opinion, more so than others. Those who supported this area felt that new technology could potentially offer more efficient ways of working and new business opportunities, which in turn could help to create jobs and strengthen the economy. Others, however, felt that technological advances such as automation might replace human roles and pose a threat to jobs in more traditional, manual industries.

'Although it creates business opportunities, in some areas it might take them away. Robots might mean some people don't have jobs anymore. So there are pros and cons.'

Female, 16-34, Edinburgh

There was also some debate around the impacts of digital service provision, such as monitoring health remotely or consulting a doctor via Skype. On the one hand, participants felt that these types of services would reduce the burden on doctor's surgeries and hospitals, while also avoiding potentially inconvenient or lengthy journeys for patients. On the other hand, it was suggested that this approach may exclude elderly people and those without access to the internet or the necessary digital devices. It was therefore suggested that if services were to be provided online, they should complement rather than replace more traditional face-to-face provision.

'We have a large elderly population, my mother struggles with technology. A lot of older people are isolated already, and this could isolate more people.'

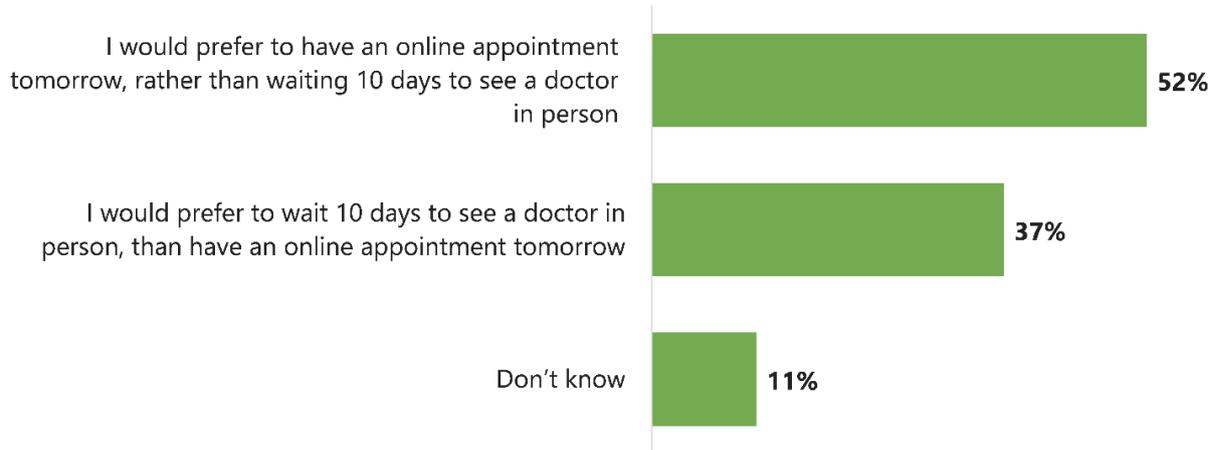
Male, 35+, Moffat

Trade off: waiting times for doctor appointments vs ability to see a doctor in person

Survey respondents were asked to consider two potential scenarios relating to doctor's appointments: having an online appointment tomorrow, rather than waiting ten days to see a doctor in person; or waiting ten days to see a doctor in person, rather than an online appointment tomorrow. As shown in Figure 4.7, views were somewhat mixed, with 52% favouring the shorter waiting time associated with an online appointment, and 37% favouring a longer waiting time and a face-to-face appointment.

Figure 4.7: Trade-off between waiting times for appointments and ability to see a doctor in person

Q: Thinking about health services, which of these statements most closely matches your opinion?



Base: Adults aged 16+ living in Scotland, surveyed online between 9th and 18th September 2019 (1,004)

Workshop participants in Glasgow and Kinross also discussed this trade-off, and opinion was again mixed. There was some support for online medical appointments, particularly if this allowed patients to be seen more quickly and avoid a potentially unnecessary visit to a hospital. Echoing the earlier views on this focus area, others questioned how universally accessible digital technology would be, and felt there was a risk that it would be restricted to those able to afford the necessary digital equipment, and those that were digitally literate. Generally, participants felt that the appropriateness of online healthcare would depend on individual circumstances, and therefore did not want it to entirely take the place of face-to-face appointments.

5. Conclusion

The public engagement research revealed the public's key priorities when considering the future of infrastructure in Scotland, with clear preferences emerging in terms of the most important infrastructure categories for future investment. In both the quantitative and qualitative strands of research, priorities were: hospitals and other health buildings, schools and other education buildings, emergency services, and housing. While not the highest priorities overall, water and energy services also seen as important for future spending. Of relatively lower importance were justice buildings, cultural buildings, flood prevention, and digital and telecommunications infrastructure.

It was clear that future priorities were inextricably linked with current use of, and satisfaction with, current infrastructure provision. While the survey suggested high levels of overall satisfaction with infrastructure, the regional variation in views suggests that the overall picture is more complex. Indeed, the qualitative research revealed some deeper concerns about the adequacy of certain aspects of infrastructure, with participants commonly referring to the perceived need for improvements to, or increased provision of, the infrastructure that they considered most important to their day-to-day lives and to their local community. The challenge will be the extent to which these localised, short term priorities can be reflected within the longer term national-level infrastructure strategy.

The link between current use of infrastructure and future priorities does not discount the need for investment in the less commonly mentioned categories, such as flood prevention, justice, or cultural buildings. These categories were not prioritised overall as they played less of a direct role in participants day-to-day lives and were therefore less 'visible' than other aspects. They were, however, still recognised as being important areas of infrastructure, along with all the categories tested in the research. The challenge will therefore be to communicate the need for, and wider benefits of, any additional investment that might be allocated towards these aspects of infrastructure that may be less immediately relevant to some.

As has been highlighted, participants found it difficult to distinguish between physical infrastructure (e.g. schools and hospital buildings) and service provision (e.g. quality of teaching and healthcare). The importance placed on health and education therefore reflected the significance attached to these universal public services. The challenge will be how to make clear the distinction between future investment in the physical aspects of infrastructure and investment in the services provided within them.

Due to the breadth of infrastructure categories being explored, the research focussed on exploring their relative importance and the key issues associated with each, rather than separately examining every individual category in detail. While an in-depth examination of each individual category was not the purpose of this research, there may be value in revisiting each aspect of infrastructure in more detail at a later stage.

As well as discussing the infrastructure categories that were most important for future investment, the research also sought to identify the wider considerations that should be taken into account when making spending decisions. Across both strands of the research, there was support for a focus on three key areas: delivering

effective public services, making the best use of existing infrastructure, and, among younger participants, designing for a zero-carbon future. However, other potential focus areas also received at least a degree of support.

Acknowledging the range of factors that might need to be considered in future investment decisions, the research sought to identify the 'trade-offs' or choices that the public would be prepared to make in order to prioritise future infrastructure investment. These revealed some of the underlying factors they found most important. In relation to public service provision, quality appeared to outweigh convenience, with participants willing to travel further to larger hospitals and schools if they provided a higher quality service than more local facilities. In relation to public transport, affordability seemed to be more important than environmental considerations, with participants reluctant to commit to more sustainable forms of transport if the cost was too high. However, views were more mixed in relation to decisions about housing, with no clear preference between affordability of new housing developments and the convenience of their location.

Finally, the public's priorities were further illustrated in the final exercise in the workshops, where participants were asked to write a postcard to their future selves explaining what they hoped infrastructure in Scotland would look like in 30 years. Their overall priorities that emerged in the research were again articulated through comments such as: *"Clean, green urban and rural places, with excellent public services"; "In 30 years' time I would like to emergency services, health buildings and transport working properly and serving local communities,"* and *"A healthy and sustainable environment with thriving local communities."*

Appendix A: Review of existing research

Introduction

This document outlines headline findings from existing research (both primary and secondary) into Scottish public perceptions of some of the key infrastructure themes to be covered in the engagement research.

Transport

Patterns of transport usage in Scotland have changed in recent years, with an increase in road, rail, ferry and air travel. Cars remain the most used form of transport, with bus being the most commonly used form of public transport (74% of public transport journeys made in Scotland were by bus, while 19% were by rail, 5% by air, and 2% by ferry). However, the number of bus journeys halved between 1960 and 1975 and has roughly halved again since then. In contrast, the volume of car traffic on major roads has more than doubled since 1975, while rail usage has been steadily rising since 1994/5, and passengers by air and ferry are also increasing (*Scottish Household Survey 2017 Annual Report, 2018*); (*Scottish Transport Statistics, 2018*).

Moves toward 'newer', more environmentally friendly means of transport are also apparent. Electric and hybrid cars have a small but increasing share of the market; 7,509 new electric/hybrid vehicle registrations were made in 2017, 57% more than in 2016. (*Scottish Transport Statistics, 2018*).

Satisfaction with public transport is relatively high. 69% of people were very or fairly satisfied with public transport in 2017, however this is down from 72% in 2016. (*SHS 2017 Annual Report, 2018*). Satisfaction with road surface conditions, however, has fluctuated over the years and there are increasing concerns around numbers and management of potholes. Furthermore, car drivers perceived more delays due to congestion in 2017 compared with 2016. Transport Scotland's official statistics indicate that current maintenance expenditure on national roads is not enough to address the known maintenance backlog of £1.2 billion. (*Scottish Transport Statistics, 2018*). The Institution of Civil Engineers' (ICE) *State of the Nation Scotland 2018* research indicated that 52% of respondents in Scotland (from a GB-wide poll) would support the introduction of 'pay as you go' on the busiest roads as a replacement for both Vehicle Excise Duty and Fuel Duty, while 55% would support this being introduced if it meant more money would be spent on improving and maintaining roads in their local area.

Housing

Over nine in ten households (92%) reported that they were very or fairly satisfied with their housing in 2017, with 56% being very satisfied and 36% being fairly satisfied (*SHS 2017 Annual Report, 2018*). One of the most notable changes in the housing market in recent years has been the **change in profile of the private rented sector.** Between 1999 and 2017, the sector trebled in size, from 5% to 15% of households, (from 120,000 to 360,000), partly driven by a decrease in the affordability in home ownership and a reduction in social housing.

The composition of private rented households has also diversified. It is now the most common tenure amongst 16-34 year olds, increasing from 13% to 40% over the period. The proportions of 35-59 year old private renters (4% to 12%) and those aged 60+ (2% to 4%) have also increased. Similarly, there has been a substantial increase in the proportion of families with children in the sector, particularly those living in poverty. Demographic trends suggest the proportion of older people and families in the sector will steadily rise (*SHS 2017 Annual Report, 2018*).

Energy

In the ICE research, **50% of Scottish adults chose energy as a main priority for infrastructure spending** (compared to 39% UK-wide). In the same research, most stakeholders felt that the national grid was not designed to be used in the ways it is anticipated to be used in the future and will require reinforcement.

Homes in Scotland are increasingly more energy efficient, with an increase in the proportion in the more efficient EPC bands. However, only around half (54%) of households say they monitor their energy efficiency closely, while 18% report owning an energy monitoring device (*Scottish House Condition Survey, 2018*). **For many people, energy efficiency just isn't a priority:** in Ipsos MORI's qualitative research for Citizens Advice Scotland, almost half agreed with the statement "improving energy efficiency in my home is just not a priority for me right now", and reflecting this sentiment a similar proportion said they were reluctant to spend on energy efficiency measures (*Citizens Advice Scotland, 2017*). Levels of switching in the energy market are low, with just 24% having switched energy supplier in the last three years (compared with 35% who had switched telecoms supplier) (*Citizens Advice Scotland, 2016*).

Meanwhile, affordability is an issue. **A quarter of Scots are living in fuel poverty**, and this figure is higher among older owner/occupiers and those in flats or tenements (a household is in fuel poverty if, in order to maintain a satisfactory heating regime, it would be required to spend more than 10% of its income on all household fuel use). (*Scottish House Condition Survey, 2018*).

Water

In the ICE Station of the Nation research, **just 9% of Scottish adults chose water as a main priority for infrastructure spending**, much lower than comparable figures for energy.

Our qualitative research among water consumers, for Citizens Advice Scotland, showed that **consumers take a sense of pride in the high quality and abundance of 'pure' water in Scotland, but very few give much, if any, thought to their water and waste water services**, typically taking these things very much for granted. It also showed that while, in general, people believe in the importance of updating the water and waste water service infrastructure in Scotland to reduce the risk of failures and contamination, they see this as the responsibility of authorities rather than private individuals and are often unaware of who is responsible for the different aspects of their water supply.

Further, we know from our research with private water supply users that there is an appetite for improved support and advice for this type of customer, and a view that this support should be available from a single, impartial, source.

Digital Communications

SHS 2017 data showed **85% of Scottish households reported having internet access at home**, roughly double the proportion in 2003 (SHS 2017 Annual Report, 2018). Ofcom data shows that adults aged 65 and over were less likely than younger adults to have broadband. Broadband take-up in Scotland was 23 percentage points higher among adults in the ABC1 socioeconomic groups than among those in the C2DE groups (at 84% and 61% respectively). Households with children were also more likely to have broadband than those without (88% vs. 66%) (Ofcom, 2018). The Scottish Government has committed to delivering **superfast broadband access to 100% of homes and businesses across Scotland by 2021**.

Eight in ten broadband users in Scotland (82%) were either 'very' or 'fairly' satisfied with their overall broadband service in 2017. However, **rural respondents were less likely to be satisfied** than those in urban areas (Ofcom, 2018). This finding is echoed in recent research from Citizens Advice Scotland (2018), where 41% of respondents who reported that poor broadband signal was a barrier to them accessing the internet lived in rural areas.

Over half of respondents (53%) said they had used their mobile phone to access the internet in the previous week. Of these, **about nine in ten (87%) were 'very' or 'fairly' satisfied with their mobile reception in 2017**, in line with the UK average (86%) and unchanged since 2016. Mobile phone users in urban areas of Scotland were more likely than those in rural areas to say they were satisfied with their mobile reception (91% vs. 70%), while **users in rural areas of Scotland were more likely to say they were dissatisfied (17% vs. 4%)**. A quarter (25%) of mobile phone users in Scotland said O2 was the network they used most often. This was followed by Vodafone (22%) and EE (20%) (Ofcom, 2018).

Waste Management

The estimated total quantity of **waste from all sources generated in Scotland in 2017 was 11.82 million tonnes, an increase of 5.5%** from 2016. However, the long term trends show a **decrease in household waste** and higher levels of recycling instead of sending rubbish to landfill (SEPA, 2017). This is within a context of rising concerns about climate change and sustainability. More households are disposing of their food and **biodegradable waste in separate local authority-provided caddies (55% in 2017 compared with 26% in 2012)** (SHS, 2018). The Scottish Environment Protection Agency's figures for 2017 show that for the first time, there was **more Scottish waste recycled (1.12 million tonnes) than landfilled (1.11 million tonnes)**. (SEPA, 2017).

An Audit Scotland (2018) report showed **customer satisfaction levels with refuse collection were broadly similar in 2017 (79% satisfied) compared with seven years earlier in 2010 (81% satisfied)**. In the Scottish Household Survey 2017, **30% of respondents reported rubbish or litter lying around in their neighbourhood** (SHS, 2018).

Flood defence

It is estimated that flood risk could double in some areas of Scotland before the end of the century, according to the latest Scottish National Flood Risk Assessment (2018). In December 2018 YouGov, on behalf of the Scottish Environment Protection Agency (SEPA), found that **more than half (53%) of Scottish adults were concerned** about more frequent and severe flooding impacting Scotland, rising to 58% amongst those aged 55 and over. However **around seven in ten (69%) Scottish adults living in a flood-prone area had not considered putting flood control measures in place** (SEPA, 2018).

A 2017 report found that **public satisfaction with Floodline, Scotland's public flood warning service, was high** in relation to message content, timeliness and frequency (Geddes, A. et al, 2017).

Social Infrastructure

We have not been able to find any recent research into Scottish public perceptions of health, education or prison infrastructure specifically. Public perceptions research regarding these services has typically focused on aspects such as overall satisfaction with the service and views on how it is delivered, rather than on the infrastructure which underpins the services.

References

Audit Scotland, (2018) *Local government in Scotland Challenges and performance 2018*, Available at: https://www.audit-scotland.gov.uk/uploads/docs/report/2018/nr_180405_local_government.pdf [Accessed 20th June 2019].

Citizens Advice Scotland, (2018) *Disconnected Understanding digital inclusion and improving access*, Available at: https://www.cas.org.uk/system/files/publications/cas_disconnected_report.pdf [Accessed 20th June 2019].

Citizens Advice Scotland (2017) *Consumer Participation in Energy Policy*. Available at <https://www.cas.org.uk/publications/warming-scotland-energy-efficiency-putting-consumers-first> [Accessed 4th July 2019].

Citizens Advice Scotland (2016) *Paying More to Be Poor: The Poverty Premium in energy, telecommunications and finance in Scotland*. Available at <https://www.cas.org.uk/publications/paying-more-be-poor> [Accessed 4th July 2019].

Environment Analyst, *Further funding for flood protection has been earmarked in Scotland following findings that flood vulnerability is higher than previously estimated*. Available at: <https://environment-analyst.com/dis/74366/scottish-government-adds-700000-as-flood-risk-rises> [Accessed 20th June 2019].

Geddes, A., Cranston, M., Ambler, A. and Black, A. R., (2017) *Assessing the effectiveness of Scotland's public flood warning service: Summary report CRW2016_12*, Available at: <https://www.crew.ac.uk/sites/www.crew.ac.uk/files/sites/default/files/publication/Assessing%20of%20the%20eff>

[effectiveness%20of%20Scotlands%20public%20flood%20warning%20service_summary.pdf](#) [Accessed 20th June 2019].

Institution of Civil Engineers Scotland State of the Nation Steering Group, (2018) *Infrastructure Investment*, Available at: <https://www.ice.org.uk/ICEDevelopmentWebPortal/media/Documents/Media/Policy/state-of-the-nation-scotland-2018.pdf> [Accessed 20th June 2019].

Ofcom, (2018) *Communications Market Report 2017: Scotland*, Available at: <https://www.ofcom.org.uk/research-and-data/multi-sector-research/cmr/cmr-2017/scotland> [Accessed 20th June 2019].

Scottish Government Statistics, (2018) *Scottish Household Survey, 2017: Annual Report*, Available at: <https://www.gov.scot/publications/scotlands-people-annual-report-results-2017-scottish-household-survey/pages/10/> [Accessed 20th June 2019].

Scottish Government, (2019) *Infrastructure Investment Plan 2015 Progress Report for 2018-19*, Available at: <https://www.gov.scot/binaries/content/documents/govscot/publications/publication/2019/04/infrastructure-investment-plan-2015-progress-report-2018-19/documents/infrastructure-investment-plan-2015-progress-report-2018-19/infrastructure-investment-plan-2015-progress-report-2018-19/govscot%3Adocument/infrastructure-investment-plan-2015-progress-report-2018-19.pdf> [Accessed 20th June 2019].

Scottish Government Statistics, (2018) *Scottish House Condition Survey: 2017 Key Findings*, Available at: <https://www.gov.scot/publications/scottish-house-condition-survey-2017-key-findings/> [Accessed 20th June 2019].

SEPA, (2017) *Household waste summary data and commentary text*, Available at: <https://www.sepa.org.uk/environment/waste/waste-data/waste-data-reporting/household-waste-data> [Accessed 20th June 2019].

SEPA, (2017) *Waste from all sources – Summary data 2017*, Available at: https://www.sepa.org.uk/media/413267/wfas_2017_commentary_final.pdf [Accessed 20th June 2019].

SEPA, (2018) *Scotland urged to be prepared for festive season flooding*, Available at: <http://media.sepa.org.uk/media-releases/2018/scotland-urged-to-be-prepared-for-festive-season-flooding.aspx> [Accessed 20th June 2019].

Transport Scotland, (2018) *Scottish Transport Statistics*, 32. Available at: <https://www.transport.gov.scot/media/44207/sct01193326941.pdf> [Accessed 20th June 2019].

Appendix B: Questionnaire

Infrastructure Commission for Scotland Public Engagement: Online Panel Questionnaire

AGE – SCREEN OUT UNDER 16

ASK ALL

How old are you? [SINGLE CODE ONLY]

- _1 16– 24
- _2 25 – 34
- _3 35 – 54
- _4 55+

GENDER NON BINARY

ASK ALL

Which of the following describes how you think of yourself? [SINGLE CODE ONLY]

- _1 Male
- _2 Female
- _3 In another way
- _4 Prefer not to answer

UK MARKET SIZE

ASK ALL

Where do you live?

Please note:

This question may be considered personal. We would like to remind you that your participation is strictly voluntary and that your responses are used for research purposes only. The answers that you provide will be presented in aggregate form and none of them will be linked back to you in any way. All data will be collected and processed in adherence to the Market Research Society's Code of Conduct and the General Data Protection Regulation (GDPR).

- _1 Postcode
- _2 Postal Town
- _3 Prefer Not to Answer

WORKING STATUS

ASK ALL

And are you... [SINGLE CODE ONLY]

- _1 Working 30 hours or more a week (Full time)
- _2 Working 8 - 29 hours a week (Part-time)
- _3 Not working (under 8 hrs) – looking after home
- _4 Not working (under 8 hrs) - unemployed
- _5 Not working (under 8 hrs) - unemployed (not registered but seeking work)
- _6 Not working (under 8 hrs) - retired
- _7 Not working (under 8 hrs) - student
- _8 Not working (under 8 hrs) - other (including sick or disabled)
- _9 Other (SPECIFY)
- _99 Don't know

PLA_LIVE	Thinking about your local area, how would you rate it as a place to live these days? REVERSE THE SCALE FOR HALF THE RESPONDENTS. SINGLE CODE ONLY	
	Very good	1
	Fairly good	2
	Fairly poor	3
	Very poor	4

ASK ALL

COU_LIVE	And thinking about Scotland as a whole, how would you rate it as a country to live in these days? REVERSE THE SCALE FOR HALF THE RESPONDENTS. SINGLE CODE ONLY	
	Very good	1
	Fairly good	2
	Fairly poor	3
	Very poor	4

ASK ALL, SINGLE CODE PER ROW

INFRA1: Living in Scotland means we have access to different types of infrastructure - examples of these are listed below. Please indicate how important you feel each of these are to your day-to-day life:

RANDOMISE STATEMENTS

REVERSE THE SCALE FOR HALF OF RESPONDENTS

ROWS

1. Housing supply
2. Public transport (including rail, bus, tram)
3. Airport and ferry services
4. Road network
5. Energy supply
6. Water supply and sewerage
7. Digital and telecommunications infrastructure such as mobile and broadband
8. Emergency services
9. Flood prevention
10. Schools and other education buildings
11. Hospitals and other health buildings
12. Justice buildings (e.g. courts)
13. Cultural buildings (e.g. museums, libraries, galleries)

COLUMNS

_1 Essential

_2 Very important

_3 Fairly important

_4 Not that important

_5 Not at all important

_99 Don't know [DO NOT REVERSE]

ASK ALL, SINGLE CODE PER ROW

INFRA2: And thinking about these same types of infrastructure, please indicate how you rate the quality of each in Scotland:

RANDOMISE STATEMENTS

REVERSE THE SCALE FOR HALF OF RESPONDENTS

ROWS

1. Housing supply
2. Public transport (including rail, bus, tram)
3. Airport and ferry services
4. Road network
5. Energy supply
6. Water supply and sewerage
7. Digital and telecommunications infrastructure such as mobile and broadband
8. Emergency services
9. Flood prevention
10. Schools and other education buildings
11. Hospitals and other health buildings
12. Justice buildings (e.g. courts)
13. Cultural buildings (e.g. museums, libraries, galleries)

COLUMNS

- _1 Very good
- _2 Fairly good
- _3 Neither good nor poor/No opinion
- _4 Fairly poor
- _5 Very poor

**ASK
ALL**

Infra_sat	Overall, how satisfied or dissatisfied are you with Scotland's infrastructure at present? REVERSE THE SCALE FOR HALF THE RESPONDENTS. SINGLE CODE ONLY	
	Very satisfied	1
	Fairly satisfied	2
	Neither satisfied nor dissatisfied	3
	Fairly dissatisfied	4
	Very dissatisfied	5

ASK ALL, SINGLE CODE PER ROW

INFRA3 Still thinking about infrastructure, to what extent do you agree or disagree with the following statements?

RANDOMISE STATEMENTS

REVERSE THE SCALE FOR HALF OF RESPONDENTS

ROWS

1. "Scotland is currently doing enough to meet its infrastructure needs"
2. "Investing in infrastructure is vital to Scotland's future economic growth"
3. "My local area gets its fair share of Scotland's investment in infrastructure"
4. "People living in my local area have access to good quality public services (including schools and hospitals)"

COLUMNS

- _1 Strongly agree
- _2 Tend to agree
- _3 Neither agree nor disagree
- _4 Tend to disagree
- _5 Strongly disagree

ASK ALL, SINGLE CODE PER ROW

ASK AS MAX DIFF

INFRA4 The Scottish Government has committed to increasing its annual investment in infrastructure by £1.5 billion by 2025-26. It may not be possible to invest equally in all types of infrastructure. Which of the following types of infrastructure, if any, do you personally think are the most important priorities for investment in Scotland? And which do you personally think are least important?

RANDOMISE STATEMENTS

REVERSE THE SCALE FOR HALF OF RESPONDENTS

ROWS

1. Housing supply
2. Public transport (including rail, bus, tram)
3. Airport and ferry services
4. Road network
5. Energy supply
6. Water supply and sewerage
7. Digital and telecommunications infrastructure such as mobile and broadband
8. Emergency services
9. Flood prevention
10. Schools and other education buildings
11. Hospitals and other health buildings
12. Justice buildings (e.g. courts)
13. Cultural buildings (e.g. museums, libraries, galleries)

COLUMNS

_1 Most important

_2 Least important

_99 Don't know

ASK ALL, OPEN TEXT

WHY_PRIOR Thinking about your answer to the previous question, why do you think those types of infrastructure should be made a priority for investment?

ASK

ALL

INFRA5	When deciding how best to invest in infrastructure, there are lots of factors to take into consideration. Below are some areas that <u>could</u> be focussed on when making decisions about how to invest in infrastructure, with some examples in brackets of what this might mean in practice. Please read these and then choose the 3 that you feel are most important. MULTICODE UP TO 3. ROTATE ORDER	
	A zero-carbon future (e.g. all road vehicles use electricity instead of petrol/diesel; all new homes are built to higher energy efficiency standards)	1
	Helping businesses to thrive (e.g. transport and internet connections are improved to meet the needs of businesses better)	2
	Making things last (e.g. instead of sending materials to landfill, they get re-used for as long as possible)	3
	Making best use of our existing infrastructure (e.g. instead of replacing infrastructure, we maintain what we have to a high standard)	4
	Making the most of our natural environment (e.g. we invest in flood prevention measures; natural water sources are looked after through new drainage systems)	5
	Joined-up places to live and work (e.g. decisions about infrastructure are based on the needs of local people and communities; our places balance economic, social and environmental priorities.)	6

	Delivering effective public services (e.g. more services are delivered using digital technology; some public buildings, like hospitals, become major providers of services and cover larger areas, while others get smaller)	7
	Making the most of new technology (e.g. new technology opens up new business opportunities; more people work from home and fewer people commute; new homes are better equipped to allow people living in them to use new technology such as online healthcare).	8

ASK ALL

Health_dig	Thinking about health services, which of these statements most closely matches your opinion? For a non-urgent problem... ROTATE ORDER OF STATEMENTS 1 AND 2. SINGLE CODE ONLY	
	I would prefer to have an online appointment (for example, a video or Skype call) with a doctor tomorrow, rather than waiting 10 days to see a doctor in person	1
	I would prefer to wait 10 days and have a doctor's appointment in person, rather than having an online appointment (for example, a video or Skype call) with a doctor tomorrow	2
	Don't know [DO NOT ROTATE]	99

ASK ALL

Health_inf	Some hospitals provide specialist services, such as cardiac surgery. Which ONE of the following two options do you prefer? ROTATE ORDER OF STATEMENTS 1 AND 2. SINGLE CODE ONLY	
	These services are provided in a single specialist hospital. The hospital is located further away from your home than your closest local hospital is, but has a higher treatment success rate than your closest local hospital.	1
	These services are provided at your closest local hospital. The hospital is located closer to your home than a single specialist hospital would be, but has a lower treatment success rate than a specialist hospital.	2
	Don't know [DO NOT ROTATE]	99

ASK ALL, SINGLE CODE PER ROW

TRANS_INF1 To what extent do you agree or disagree with the following statements?

RANDOMISE ORDER OF STATEMENTS.

REVERSE THE SCALE FOR HALF OF RESPONDENTS

COLUMNS

1. In five years' time, owning a car will be less important to me than having good access to a shared car
2. City centres in Scotland should have 'car-free zones' where it is not permitted to drive petrol or diesel cars
3. Thinking about travelling to work, what is most important to me is getting there as quickly as possible
4. If public transport in my local area was cheaper, I would be willing to spend up to 15 minutes more time travelling to work than I do at the moment
5. If public transport in my local area was more frequent, I would be willing to spend up to 15 minutes more time travelling to work than I do at the moment

ROWS

- _1 Strongly agree
- _2 Tend to agree
- _3 Tend to disagree
- _4 Strongly disagree
- _99 Don't know

ASK ALL

HOUS_INF1	Imagine a new housing development is planned for the town or city that is closest to where you live. Which of these statements most closely matches your opinion? ROTATE ORDER OF STATEMENTS 1 AND 2. SINGLE CODE ONLY	
	I would prefer the new development to be located centrally in the town or city, close to services such as GPs and transport links, however the cost of buying a home in the new development would be higher.	1
	I would prefer the new development to be located out of town, further from services such as GPs and transport links, however the cost of buying a home in the new development would be lower.	2
	Don't know [DO NOT ROTATE]	99

ASK ALL

ENERGY_EFF1	If you plan to take steps to improve the energy efficiency of your home in the next 12 months, what is the main reason why you plan to do this? REVERSE THE SCALE FOR HALF THE RESPONDENTS. SINGLE CODE ONLY	
	To reduce my energy bills	1
	To reduce the amount of carbon my home uses	2
	Another reason (PLEASE WRITE IN) [DO NOT REVERSE]	3
	Don't know [DO NOT REVERSE]	99
	I do not plan to take steps to improve the energy efficiency of my home in the next 12 months	98

ASK ALL

Best_use	Imagine that your local council needs to decide where to provide a particular public service from. Which of these statements most closely matches your opinion? ROTATE ORDER OF STATEMENTS 1 AND 2. SINGLE CODE ONLY	
	The service should be housed in a refurbished part of an existing public building that is located in my local area	1
	The service should be housed in a new building that is 30 minutes' walk away from my local area	2
	Don't know [DO NOT ROTATE]	99

ASK ALL THOSE WORKING (THOSE WHO ANSWERED 1/2 AT WORK)

PSEC	Which of the following best describes where you work? SINGLE CODE ONLY	
	Private sector organisation/Self-employed	1
	Public sector organisation	2
	Charity/voluntary organisation	3
	Don't know	4

ASK ALL

DEM1	What is the highest educational or professional qualification you have obtained? SINGLE CODE ONLY	
	No formal qualifications	1
	'O' Grade; Standard Grade; GCSE; Intermediate 1; Intermediate 2	2
	Vocational qualification (SVQ1-2 or equivalent)	3
	Higher grade; A levels; SVQ level 3 or equivalent	4
	HND; HNC; RSA Higher Diploma; SVQ Level 4-5 or equivalent	5
	First degree; higher degree or equivalent professional qualification	6
	Other (WRITE IN)	7
	Don't know	8
	Prefer not to answer	9

ASK ALL

DEM2	Do you own your home, or rent it? SINGLE CODE ONLY	
	Owned outright	1
	Buying on mortgage	2
	Rent from council	3
	Rent from Housing Association/ Trust	4
	Rented from private landlord	5
	Other WRITE IN	6

ASK ALL

TRANS PORT	Which, if any, of the following modes of transport have you used <u>most often</u> to travel to or from work in the last month? Please select one answer only	
	MULTICODE. ROTATE STATEMENTS	
	Car as a driver	1
	Car, including taxis, as a passenger	2
	Bus	3
	Train	4
	Bicycle	5
	Van as driver or passenger	6
	Motorbike	7
	Aeroplane	8
	Tram or light railway	9
	None of these [SINGLE CODE] [DO NOT ROTATE]	10

ASK ALL

INTERN ET	Which methods do you normally use to access the internet for personal use?	
	MULTICODE. ROTATE STATEMENTS	
	Broadband/wi-fi connection at home	1
	Mobile broadband via mobile network (3G or 4G) via a mobile phone, smartphone or tablet	2
	Public wi-fi (e.g. on public transport, shops, cafes and bars)	3
	Broadband/wi-fi connection at my place of work	4
	I do not have access to the internet [DO NOT ROTATE]	5
	Other [DO NOT ROTATE]	6

ASK ALL

Health2	How is your health in general? Would you say it is...?	
	SINGLE CODE. REVERSE SCALE FOR HALF OF RESPONDENTS.	
	Very good	1
	Fairly good	2
	Neither good nor poor	3
	Fairly poor	4
	Very poor	5
	Don't know [DO NOT REVERSE]	99

Appendix C: Initial workshop discussion

guide

The objectives of this public engagement are to understand two things:

- What are the public's ambitions and priorities for Scotland's future infrastructure?
- Which infrastructure categories do they see as most important for future investment?

Time	Section, questions, prompts
5.30-6.00pm	<p>Arrival and registration</p> <ul style="list-style-type: none"> • ROOM TO BE SET UP WITH 2 TABLES (9-11 PARTICIPANTS AT EACH). TABLES TO BE DIVIDED BY AGE – ONE TABLE AGED 16-34. ONE AGED 35+ • HAVE SCREEN/ABILITY TO USE POWERPOINT IN THE ROOM • AT EACH TABLE HAVE A FLIPCHART. POST-IT NOTES, PENS ETC. • GIVE EACH PARTICIPANT A NAME STICKER ON ARRIVAL (FIRST NAME ONLY) <p>PARTICIPANTS WILL HAVE BEEN SET A "PRE-TASK" IN ADVANCE. THEY WILL HAVE BEEN ASKED TO LOOK OUT/LISTEN OUT FOR ANY REFERENCES TO "INFRASTRUCTURE" OR ANY STORIES THAT THEY THINK RELATE TO INFRASTRUCTURE AND TO BRING THESE ALONG.</p>
6.00-6.10pm (10 min)	<p>1. Plenary: Welcome</p> <p><i>Aim: to introduce the two Ipsos MORI moderators, note-takers and any ICfS observers, and explain the purpose of tonight's session.</i></p> <p>Welcome from lead moderator –</p> <ul style="list-style-type: none"> ▪ Introduce Ipsos MORI, the moderating team and their roles ▪ Outline the purpose of the evening and make it clear how much we value their time and contributions ▪ Introduce the observers and briefly explain who the Infrastructure Commission for Scotland are <p>Key points to emphasise:</p> <ul style="list-style-type: none"> ▪ We'll be having an important discussion about the future of infrastructure in Scotland, so this is an opportunity for them to influence future decisions

	<ul style="list-style-type: none"> ▪ Explain that the feedback they provide during the discussions will be analysed by Ipsos MORI, reported back to ICfS, and used by the ICfS to help inform their recommendations around what infrastructure in Scotland should look like in the future ▪ Set ground rules (Market Research Society code of conduct, confidentiality, note takers, no right/wrong answers, please speak one at a time). Explain that the workshop will be an informal discussion, everyone’s opinion is valid, interested in finding out a range of views / experiences, want to hear from everyone. There is a lot to cover, so the facilitator on your table may move you on from time to time. ▪ Explain how the evening is structured ▪ Facilitators on your table may deliberately challenge ideas you present ▪ Housekeeping – mobiles, toilets, fire exits, breaks, etc.
6.10-6.25pm (15 min)	<p>2. At tables: Warm up and introductions</p> <p><i>Aim: to warm up participants by having them introduce themselves to each other and gain an initial understanding of their baseline knowledge and comprehension of infrastructure, based on the pre-task exercise.</i></p> <p>REITERATE GROUND RULES, REASSURE THEM ABOUT CONFIDENTIALITY, HOW THE DATA WILL BE USED.</p> <p>GET PERMISSION TO RECORD AND THEN TURN ON DIGI-RECORDER</p> <p>PARTICIPANT INTRODUCTIONS: Introduce yourself with: your first name, where you’ve come from today, and what you’d be doing if you weren’t here today.</p> <p>TABLE DISCUSSION ON THE PRE-TASK EXERCISE: We asked you to have a look for stories that mentioned infrastructure or that you thought might be about infrastructure before coming along today.</p> <p>What did you find? ASK THEM TO SHARE ANY ARTICLES/ COMPLETED PRE-TASK SHEETS</p> <ul style="list-style-type: none"> ▪ What sort of infrastructure was this about? ▪ Why did this stand out? What was important/appealing/interesting about it? ▪ What was surprising? Exciting? Concerning? <p>MODERATOR TO COLLECT PRE-TASKS</p> <p>So thinking about these stories, and anything else you have heard, what words or phrases do you associate with “infrastructure”?</p> <p>FLIPCHART RESPONSES</p>

	<p>(IF NOT COVERED) What different types of infrastructure are there?</p> <p>FOR ANY AREAS NOT ALREADY MENTIONED, PROBE ON AWARENESS (e.g. PUBLIC SERVICES, EMERGENCY SERVICES ETC). REFER TO PROMPT SHEET LISTING THE 11 INFRASTRUCTURE CATEGORIES. How about [AREA] – would you include that as ‘infrastructure’?</p> <p>SHOW PRE-PREPARED FLIPCHART WITH 11 CATEGORIES ON IT.</p> <p>This list includes different types of infrastructure we have here in Scotland. Of these, what types of infrastructure are most important...</p> <ul style="list-style-type: none"> ▪ To you/ your family? ▪ In your local area? ▪ For Scotland as a whole?
6.25-6.55pm (30 min)	<p>3. At tables: initial views on different infrastructure categories</p> <p><i>This section explores participants' knowledge and attitudes towards each of the infrastructure categories under the ICfS remit, including their own needs in relation to each. The aim is not to arrive at a definitive list of improvements, but to start to uncover some of the themes that they see as important.</i></p> <p>I'd now like you to think about some of the specific aspects of infrastructure and how these affect your day-to-day lives.</p> <p>HAVE EACH INFRASTRUCTURE CATEGORY WRITTEN ON PRE-PREPARED CARD – SPLIT THESE BETWEEN THE 2 TABLES SO THAT EACH TABLE DISCUSSES 5/6 TOPICS.</p> <p>(NOTE ROTATE ORDER OF CATEGORIES BETWEEN GROUPS)</p> <p>TABLE 1:</p> <ul style="list-style-type: none"> • HOUSING • ENERGY • EMERGENCY SERVICES • FLOOD MANAGEMENT • EDUCATION BUILDINGS/FACILITIES • JUSTICE BUILDINGS/FACILITIES <p>TABLE 2:</p> <ul style="list-style-type: none"> • TRANSPORT • WATER AND WASTE WATER • TELECOMMUNICATIONS AND DIGITAL COMMUNICATIONS • HEALTH BUILDINGS/FACILITIES • CULTURAL BUILDINGS/FACILITIES

	<p>NB: WE ARE INTERESTED IN THE PHYSICAL/TECHNICAL ASPECTS OF THESE, RATHER THAN VIEWS ON HOW THE SERVICE IS DELIVERED. E.G. WE ARE INTERESTED IN PARTICIPANTS' VIEWS ON ASPECTS SUCH AS THE NUMBER, PROXIMITY AND CONDITION OF SCHOOLS/HOSPITALS, RATHER THAN THE TEACHING QUALITY OR HEALTHCARE STANDARDS. TRY TO STEER CONVERSATION AWAY FROM SERVICE STANDARDS.</p> <p>TAKE EACH CATEGORY IN TURN AND ASK: Thinking about how you use or would like to use this type of infrastructure, would you say your needs are being met at the moment? PROBE FULLY FOR REASONS WHY/WHY NOT</p> <p>What's good about this type of infrastructure in your area?</p> <p>And what requires improvement?</p> <p>PLENARY: MODERATOR/ SPOKESPERSON FROM EACH TABLE SPENDS A COUPLE OF MINUTES SUMMARISING DISCUSSIONS ON THE INFRASTRUCTURE CATEGORIES TO THE WHOLE GROUP</p>
<p>6.55-7.10pm (15 minutes)</p>	<p>4. Plenary: The challenge ahead (Presentation from ICfS)</p> <p><i>This section aims to let participants know more about the remit of the ICfS and its focus on helping to inform the long term strategy for infrastructure in Scotland. By providing participants with information about the challenge ahead, this information will help to frame the remainder of the discussion and get participants thinking about why it is important to consider future needs.</i></p> <p>LEAD MODERATOR TO INTRODUCE ICFS REPRESENTATIVE.</p> <p>ICFS PRESENTATION TO COVER:</p> <ul style="list-style-type: none"> - FACTUAL INFORMATION ABOUT THE ROLE OF THE ICFS AND WHAT IT HAS BEEN TASKED WITH, INCLUDING 30-YEAR TIMEFRAME - SLIDE SUMMARISING BIG TRENDS WHICH ARE LIKELY TO IMPACT ON SCOTLAND'S INFRASTRUCTURE NEEDS OVER THE NEXT 30 YEARS: E.G. AGEING POPULATION, POPULATION SHIFT FROM WEST TO EAST, CLIMATE CHANGE, TECHNOLOGICAL DEVELOPMENTS, RURAL ISSUES - (NB: AVOID ANYTHING THAT SUGGESTS WHAT WE "SHOULD" OR "SHOULD NOT" DO IN THE FUTURE: WE DON'T WANT TO LEAD PARTICIPANTS IN ANY DIRECTION, OR TO PLACE ANY VALUE JUDGEMENTS ON THEIR OWN PRIORITIES FOR THE FUTURE) <p>LEAD MODERATOR TO TAKE BRIEF Q&A FROM PARTICIPANTS (5 MINUTES)</p>

7.10-7.30pm
(20 minutes)

- **Plenary: What could the future of infrastructure look like?**

This section of the workshop will encourage participants to start thinking about what the future of infrastructure in Scotland might look like, and start to uncover some of the factors that are of most importance to them.

For the next exercise, we would like you to start thinking about what's most important to take into account when deciding what infrastructure in Scotland might look like in the future.

To help with this, we are going to show you some ideas that have been suggested in previous work the Commission has carried out, and we would like to hear your views on these.

LEAD MODERATOR TO INTRODUCE THE FUTURE THEMES, WHICH WILL BE DISPLAYED ON POSTERS AROUND THE ROOM AND EXPLAIN THE TASK.

- **There are posters around the room that show 8 different themes. Each of these themes represent different issues the Commission *could* focus on when making decisions about the future of infrastructure in Scotland.**
- **The themes are not mutually exclusive and there may be elements of each one that you like the look of. But they've been designed to show some of the decisions that could be made about infrastructure in the future.**
- **Take 15 minutes to look at the different themes – make sure you have a chance to look at each one.**
- **As you're going around, please jot down, on a post it, the one that you like the most and why.**

ENCOURAGE PARTICIPANTS TO ROAM AROUND THE ROOM. AFTER 15 MINUTES, PARTICIPANTS ARE ASKED TO GO BACK TO THEIR TABLES AND WRITE DOWN THEIR THOUGHTS ON A POST-IT. THEN ASKED TO GO ON TEA/COFFEE BREAK

INFRASTRUCTURE THEMES:

- 1) *"A zero-carbon future"* (Desi*Designing for a zero carbon future*)
 - Carbon dioxide emissions are reduced and balanced by removal of carbon
 - All road vehicles use electricity or hydrogen, instead of petrol or diesel
 - All new homes are built to higher energy efficient standards
 - Reducing carbon emissions involves using new technology, and this creates new jobs

- 2) **"Helping businesses to thrive"** (*Enabling businesses to thrive and prosper*)
 - Businesses are located closer to where people live and socialise
 - Businesses are part of our communities, changing how places look
 - Transport and internet connections are improved so that they meet the needs of businesses better

- 3) **"Making things last"** (*Creating a circular economy for people and resources*)
 - Instead of sending materials (e.g. construction, household waste such as appliances, and personal waste such as unwanted clothing) to landfill, they get re-used for as long as possible and are used to create new products at the end of their life
 - Re-using materials for different purposes creates new jobs

- 4) **"Making best use of our existing infrastructure"**
 - Instead of replacing infrastructure (e.g. roads/buildings) we maintain what we already have to a high standard
 - The infrastructure we already have is adapted and updated to make it fit for today's needs

- 5) **"Making the most of our natural environment"** (*Making the most of our blue and green assets*)
 - We provide infrastructure that allows everyone better access to the environment, such as cycling and walking routes
 - Our environment is safer because we invest in flood prevention and protection measures
 - Our natural water sources are looked after e.g. through new drainage systems

- 6) **"Joined-up places to live and work"** (*Supporting coherent places*)
 - Decisions about infrastructure are based on the needs of local people and communities
 - Local places feel different from one another, because the people who live there are involved in their design and development

- 7) **"Delivering effective public services"**
 - Public buildings deliver more than one service (e.g. council offices, libraries and support services all under one roof)
 - More services are delivered using digital technology (e.g. people are able to consult a GP online)
 - Some public buildings become major providers of public services (e.g. hospitals covering larger areas and more people), while others get smaller

	<p>8) “Making the most of new technology” (<i>Driving the 4th industrial revolution</i>)</p> <ul style="list-style-type: none"> • More business opportunities are possible because of better digital connections • New homes are better equipped to allow people living in them to use new technology e.g. health being monitored remotely allowing the elderly to stay at home longer. • More people work from home and fewer people commute
7:30-7:45pm	BREAK
7.45-8.15 pm (30 min)	<p>5. At tables: Views on the future of infrastructure</p> <p><i>This section of the workshop will gather participants' top of mind views on the different themes, getting a sense of their immediate priorities, preferences and potential trade-offs.</i></p> <p>MODERATOR TO ASK EACH PERSON FOR THEIR TOP “THEME” (REFERRING BACK TO POST ITS THEY PREPARED) AND THEN TALLY VOTES.</p> <p>START THE DISCUSSION WITH THE MOST POPULAR THEME AND THEN MOVE ON TO AS MANY AS CAN BE COVERED IN THE TIME (AIMING FOR 4 AT EACH TABLE). FOR EACH WORKSHOP, MODERATORS WILL DECIDE IN ADVANCE ON POTENTIALLY “UNPOPULAR” THEMES THEY WILL TEST TO MAKE SURE THEY ARE COVERED</p> <p>E.G. IN EDINBURGH AIM TO COVER THEMES 1-4 IF THEY DO NOT ARISE SPONTANEOUSLY; IN MOFFAT WE WILL AIM TO COVER 5-8.</p> <p>What made you choose this option...? NOTE KEY POINTS ON FLIPCHART</p> <ul style="list-style-type: none"> ▪ In what ways would this be the best option (for you/your family, this local area, the country)? <p>What questions does this theme raise for you? NOTE ON FLIPCHART</p> <ul style="list-style-type: none"> ▪ Who might benefit? Who might lose out? ▪ What would this mean for you/your family? ▪ What would this mean for your local community/people round here? ▪ What would this mean for Scotland? (IF NOT MENTIONED: Would it have any impact on the economy, for example jobs, or the amount of money we have available?) ▪ Is there anything that would make this difficult to achieve? <p>REFER BACK TO THE TRADE-OFFS FOR EACH THEME (MODERATORS WILL HAVE THESE LISTED ON A SHEET) AND PROBE ON WHETHER THIS WOULD MAKE THIS THEME MORE OR LESS ATTRACTIVE TO THEM:</p>

	<p>Would this change your view about this theme?</p> <ul style="list-style-type: none"> ▪ In what way? ▪ Would you be more or less likely to support this? <p>AFTER YOU HAVE GONE THROUGH 4 THEMES:</p> <p>So to sum up, which appeals to you the most? Why?</p> <ul style="list-style-type: none"> ▪ And which is the least appealing? Why? <p>RECAP AT TABLES ON THE 2 OR 3 THEMES THAT APPELLED MOST, AND THOSE THAT APPELLED LEAST</p>
8.15-8.50pm (35 min)	<ul style="list-style-type: none"> • At tables: Infrastructure themes <p><i>This section of the workshop will explore participants' views of specific aspects of infrastructure in more detail. It will aim to identify what risks they are prepared to bear, and for what return?</i></p> <p>So we've thought about some ideas for the future, and the way we would most like to see Scotland making decisions about infrastructure. Now I'd like to go back to the different types of infrastructure and think in more detail about what we would like to see happen in the next 30 years.</p> <p>We need to think about what infrastructure is <u>most important</u> for Scotland to invest in. There won't be enough budget to invest in <u>everything</u> – so the Infrastructure Commission needs to look at what should be top priority.</p> <p>MODERATOR USES PRE-PREPARED FLIPCHART TO REMIND THE GROUP OF THE 11 INFRASTRUCTURE CATEGORIES. BRIEF RECAP ON THEIR VIEWS ABOUT THESE FROM THE EARLIER DISCUSSION</p> <p>I'm going to give you each ten sticky dots. Please come up to the flipchart and stick your dots on the infrastructure areas you think are most important for Scotland to invest in. You can use the dots any way you like – so you can put them all on one if you feel really strongly about it, or can spread them across two or three, or spread them across more than that – that is up to you.</p> <p>MODERATOR TO SUMMARISE THE <u>THREE</u> AREAS WITH MOST DOTS, AND PROBE:</p> <ul style="list-style-type: none"> ▪ What makes those the most important? ▪ What makes the others less important? ▪ How easy was it to decide on your top three?

	<p>EACH TABLE TO SPEND 7-8 MINUTES DISCUSSING EACH OF THE 3 INFRASTRUCTURE CATEGORIES THEY IDENTIFIED AS HIGHEST PRIORITY. QUESTIONS FOR EACH:</p> <p>How would you like to see <INFRASTRUCTURE CATEGORY> in Scotland change in the future – if at all? Remember, the ICfS needs to think about the next 30 years, till 2050.</p> <ul style="list-style-type: none"> - What, if anything should change/be improved - What particular aspects of the current system should be maintained/protected? - How this fits with their preferred vision for Scotland’s future infrastructure <p>Who would benefit from this future approach to <INFRASTRUCTURE CATEGORY>? Who might lose out?</p> <p>What changes would you personally be prepared to make to help realise this vision?</p> <ul style="list-style-type: none"> ▪ (e.g. using less water, installing energy efficiency measures at home, moving to electric vehicles, etc) <p>What changes would you <u>not</u> be prepared to make?</p> <p>And would you be willing to pay more for this service in order to help achieve these goals?</p> <ul style="list-style-type: none"> ▪ Should everyone (i.e. taxpayers) pay for this regardless of whether they are using it/have access to it? Or should only those using it pay? <p>If investment in <INFRASTRUCTURE CATEGORY> meant that some of these other areas did not receive any investment, would that change your view at all?</p> <ul style="list-style-type: none"> ▪ Which categories would you be prepared to see NOT receive investment, so that <INFRASTRUCTURE CATEGORY> was prioritised?
<p>8.50-9.00pm (10 min)</p>	<p>6. Plenary: Feedback, thank you and close</p> <p>MODERATORS FEEDBACK KEY POINTS FROM THEIR TABLES DISCUSSION, FOCUSING ON</p> <ul style="list-style-type: none"> - FUTURE THEMES THAT APPEALED TO THEM MOST - INFRASTRUCTURE CATEGORIES THAT WERE MOST IMPORTANT TO THEM - KEY CHANGES THEY WOULD LIKE TO SEE ACHIEVED IN FUTURE <p>BEFORE/WHILE INCENTIVES ARE BEING DISTRIBUTED AND SIGNED FOR ASK PARTICIPANTS TO WRITE A “POSTCARD TO THEIR FUTURE SELVES”, WHICH HAS ONE SENTENCE DESCRIBING WHAT THEY WOULD WANT INFRASTRUCTURE IN SCOTLAND TO LOOK LIKE IN 30 YEARS TIME.</p>

Appendix D: Later workshops discussion

guide

Time	Section, questions, prompts
5.30-6.00pm	<p>Arrival and registration</p> <ul style="list-style-type: none"> ROOM TO BE SET UP WITH 2 TABLES (9-11 PARTICIPANTS AT EACH). TABLES TO BE DIVIDED BY AGE – ONE TABLE AGED 16-34. ONE AGED 35+ AT EACH TABLE HAVE A FLIPCHART. POST-IT NOTES, PENS ETC. GIVE EACH PARTICIPANT A NAME STICKER ON ARRIVAL (FIRST NAME ONLY)
6.00-6.05pm (5 min)	<p>7. Plenary: Welcome</p> <p><i>Aim: to introduce the two Ipsos MORI moderators, note-takers and any ICfS observers, and explain the purpose of tonight's session.</i></p> <p>Welcome from lead moderator –</p> <ul style="list-style-type: none"> Introduce Ipsos MORI, the moderating team and their roles Outline the purpose of the evening and make it clear how much we value their time and contributions Introduce the observers and briefly explain who the Infrastructure Commission for Scotland are <p>Key points to emphasise:</p> <ul style="list-style-type: none"> We'll be having an important discussion about the future of infrastructure in Scotland, so this is an opportunity for them to influence future decisions Explain that the feedback they provide during the discussions will be analysed by Ipsos MORI, reported back to ICfS, and used by the ICfS to help inform their recommendations around what infrastructure in Scotland should look like in the future Set ground rules (Market Research Society code of conduct, confidentiality, note takers, no right/wrong answers, please speak one at a time). Explain that the workshop will be an informal discussion, everyone's opinion is valid, interested in finding out a range of views / experiences, want to hear from everyone. There is a lot to cover, so the facilitator on your table may move you on from time to time. Explain how the evening is structured Facilitators on your table may deliberately challenge ideas you present Housekeeping – mobiles, toilets, fire exits, breaks, etc

<p>6.05- 6.15pm (10 min)</p>	<p>8. At tables: Warm up and introductions</p> <p><i>Aim: to warm up participants by having them introduce themselves to each other and gain an initial understanding of their baseline knowledge and comprehension of infrastructure</i></p> <p>REITERATE GROUND RULES, REASSURE THEM ABOUT CONFIDENTIALITY, HOW THE DATA WILL BE USED.</p> <p>GET PERMISSION TO RECORD AND THEN TURN ON DIGI-RECORDER</p> <p>ASK PARTICIPANTS TO INTRODUCE THEMSELVES</p> <p>As you heard, we are here this evening to talk about “infrastructure”. You will be hearing more about what infrastructure means over the course of this evening, but for now I am interested in what that word means to you. So what words or phrases do you associate with “infrastructure”?</p> <p>FLIPCHART RESPONSES</p> <p>(IF NOT COVERED) What different types of infrastructure are there?</p> <p>NOTE UNPROMPTED SUGGESTIONS FIRST, AND THEN SHOW PRE-PREPARED FLIPCHART WITH 11 CATEGORIES ON IT.</p> <p>This list includes different types of infrastructure we have here in Scotland. Of these, what types of infrastructure are most important to you? What makes you say that?</p>
<p>6.15- 6.45pm (30 min)</p>	<p>9. At tables: initial views on different infrastructure categories</p> <p><i>This section explores participants' knowledge and attitudes towards each of the infrastructure categories under the ICfS remit, including their own needs in relation to each. The aim is not to arrive at a definitive list of improvements, but to start to uncover some of the themes that they see as important.</i></p> <p>I'd now like you to think about some of the specific aspects of infrastructure and how these affect your day-to-day lives.</p> <p>HAVE EACH INFRASTRUCTURE CATEGORY WRITTEN ON PRE-PREPARED CARD – SPLIT THESE BETWEEN THE 2 TABLES SO THAT EACH TABLE DISCUSSES 5/6 TOPICS.</p> <p>(NOTE ROTATE ORDER OF CATEGORIES BETWEEN GROUPS)</p> <p>TABLE 1:</p> <ul style="list-style-type: none"> • HOUSING • ENERGY • EMERGENCY SERVICES • FLOOD MANAGEMENT • EDUCATION BUILDINGS/FACILITIES • JUSTICE BUILDINGS/FACILITIES

	<p>TABLE 2:</p> <ul style="list-style-type: none"> • TRANSPORT • WATER AND WASTE WATER • TELECOMMUNICATIONS AND DIGITAL COMMUNICATIONS • HEALTH BUILDINGS/FACILITIES • CULTURAL BUILDINGS/FACILITIES <p>NB: WE ARE INTERESTED IN THE PHYSICAL/TECHNICAL ASPECTS OF THESE, RATHER THAN VIEWS ON HOW THE SERVICE IS DELIVERED. E.G. WE ARE INTERESTED IN PARTICIPANTS' VIEWS ON ASPECTS SUCH AS THE NUMBER, PROXIMITY AND CONDITION OF SCHOOLS/HOSPITALS, RATHER THAN THE TEACHING QUALITY OR HEALTHCARE STANDARDS. TRY TO STEER CONVERSATION AWAY FROM SERVICE STANDARDS.</p> <p>TAKE EACH CATEGORY IN TURN AND ASK:</p> <p>Thinking about how you use or would like to use this type of infrastructure, would you say your needs are being met at the moment?</p> <p>PROBE FULLY FOR REASONS WHY/WHY NOT</p> <p>What's good about this type of infrastructure in your area?</p> <p>And what requires improvement?</p> <p>PLENARY: MODERATOR/ SPOKESPERSON FROM EACH TABLE SPENDS A COUPLE OF MINUTES SUMMARISING DISCUSSIONS ON THE INFRASTRUCTURE CATEGORIES TO THE WHOLE GROUP</p>
<p>6.45- 7.25pm (40 min)</p>	<p>10. At tables: prioritising infrastructure spending</p> <p><i>Aim: To provide more detail on infrastructure spending, and identify in more detail the priorities for investment, within the context of having a finite budget from which to allocate spending. By thinking about a finite "budget" for infrastructure investment, participants will identify their priority areas, and explain what factors they took into consideration when doing so.</i></p> <p>For the next exercise, I would like you to think a bit more about those same infrastructure categories, and how spending on infrastructure might be allocated. Before you do that, it is useful to have a think about how much money is currently spent.</p> <p>INCLUDE HERE A SLIDE SHOWING INFRASTRUCTURE BUDGET: HOW MUCH SCOTLAND SPENDS AT PRESENT ON INFRASTRUCTURE AND HOW MUCH ON SPECIFIC CATEGORIES.</p> <p>WHEN EXPLAINING FIGURES ADD:</p> <p>The spending shown is only for one year, and only shows the amount that comes from government only – some of the categories will also be funded privately (for example housing developments, and energy provision).</p>

	<p>It is worth noting that since 2007, Scottish Government infrastructure investment has been around £11bn which is dominated by transport, health and education and includes maintenance spend. Also, more than a quarter of spend has been in Glasgow or Edinburgh, followed by North Lanarkshire and West Lothian.</p> <p>ASK IMMEDIATE REACTIONS:</p> <ul style="list-style-type: none"> - Is the amount spent overall more or less than you would expect? - Is the amount spent on specific areas more or less than you would expect? <p>ASK TABLE TO GET INTO GROUPS (E.G. 2 GROUP OF 4-5) AND EXPLAIN TASK.</p> <ul style="list-style-type: none"> - Imagine you are in charge of deciding how Scottish Government spends money on infrastructure for the next 5 years. You need to present back your proposal about how money should be spent. - On this flipchart, where all the categories are listed, indicate where you think more money should be spent with a '+' sign, and areas where you think less money should spend with a '-' sign. - You can also highlight things that you do not want to change ie; categories where no more money should be spent - When feeding back, we will want to know what factors you took into consideration when making your decisions; in other words, why you thought investment in one area was more important than in other areas. <p>ALLOW 10 MINUTES FOR THE TASK THEN ASK THEM TO FEEDBACK AND EXPLAIN <u>WHAT FACTORS THEY TOOK INTO CONSIDERATION</u> WHEN MAKING THEIR DECISIONS – AIM IS TO TRY AND UNCOVER WHAT IS MOST IMPORTANT TO THEM WHEN DECIDING HOW TO PRIORITISE.</p> <p>PROMPTS TO INCLUDE:</p> <ul style="list-style-type: none"> - What makes that/those area(s) more important than others? - What factors did you take into consideration when making your decision? And why were they important to you? <p>NOTE DOWN RESPONSES ON FLIPCHART, FOCUSING ON THE FACTORS THEY TOOK INTO CONSIDERATION, AND RECAP TO THE TABLE BEFORE THE BREAK.</p>
7:25-7:35pm (10 min)	BREAK
7.35-8.50 (75mins) 25 mins for each scenario	<ul style="list-style-type: none"> - At tables: Infrastructure trade-offs. <p><i>Aim: To present views on potential areas where infrastructure investment could be spent, and test reaction to them. Rather than simply identifying participants preferred areas of spending, this section aims to explore the reasons why certain aspects should be prioritised over others, and identify the "trade offs" they would be prepared to make.</i></p>

(10
minutes
doing, 15
minutes
discussion)

So far we have been thinking about different types of infrastructure and what they mean to us, and different ways that we might improve infrastructure in Scotland. And just before the break we were starting to make some difficult decisions about how money might be allocated.

For the next exercise, we are going to look at some of the ways that infrastructure funding might be spent in your area. Working in groups again, I want you to keep imagining you are in charge of infrastructure spending, but this time in relation to some more specific projects in your area.

GROUPS WILL BE GIVEN 3 SCENARIOS TO WORK WITH. FOR EACH ONE THEY SHOULD BE GIVEN THE CHANCE TO COME UP WITH THEIR OWN SUGGESTIONS FIRST, BUT THEN MODERATORS WILL FOLLOW VERY SPECIFIC PROBES FOR EACH ONE TO TEST THE EXTENT TO WHICH EACH "TRADE OFF" HAS AN IMPACT ON THEIR VIEWS.

HAVE EACH INDIVIDUAL SCENARIO WRITTEN ON CARD, WHICH ARE TO BE READ OUT AND THEN GIVEN TO THE GROUP.

GIVE GROUP A BLANK FLIPCHART: ENCOURAGE THEM TO WRITE DOWN OR DRAW THEIR IDEAS TO HELP VISUALISE THEIR SUGGESTIONS.

- **Scenario 1:** You are responsible for the budget available for healthcare facilities in your area. For now, assume there is no increase in the budget, so you are working with the same amount as is available now. How will you spend this budget?

It might help to think about what healthcare facilities – like hospitals and GP surgeries - are like at the moment, including those quite close to you and those a bit further away, and what you would like those facilities to be like in future.

You might decide to -

- improve facilities that already exist?
- build new ones that offer a bigger range of services and serve a larger area, but close or provide fewer services at others?
- consider different ways that healthcare might be provided in future, including use of new technology?

ASK THEM TO FEEDBACK INCLUDING REASONS FOR THEIR DECISION.

AFTER THEY FEED BACK, PROBE:

- What factors did you think about when deciding how to spend the money?
- I now want to ask you about some additional factors that might or might not have an impact on how you choose to spend the budget: FOR ALL PROBE FOR REASONS WHY/WHY NOT:
 - o Some hospitals provide specialist services, such as cardiac surgery and cancer care. You might choose to spend money on specialist services that are located further

away from you, so people need to travel further to use them, or you might choose to have these services provided closer to you, so people do not need to travel as far to use them. The evidence suggests that providing these services in a single specialist hospital covering a larger area gives higher success rates than providing these services in more hospitals in that same area. Which of these would be more appealing to you?

- o In future some healthcare services could be provided using digital techniques, for example consulting with a doctor online rather than face-to-face. Would that offer any benefits? Who do you think would benefit most? How would that impact on your decisions about spending?
- o What if you could get a digital appointment with a doctor quicker – say, the next day – than a face-to-face appointment which would take up to 10 days. Would that make digital healthcare more or less attractive? What if a face-to-face appointment took longer than that, say more than 2 weeks?
- ASK THEM TO REVISIT/RECAP ON THEIR PROPOSAL HAVING REFLECTED ON THE TRADE OFFS
- And if healthcare facilities in this area were to change/improve in the ways we have discussed, what would that mean to you personally? Would you do anything differently?
- **Scenario 2: You are responsible for the budget available for transport spending in Glasgow/Kinross. For now, assume there is no increase in the budget, so you are working with the same amount as is available now. How will you spend this budget**

You might decide to

- Introduce more or less public transport? Or different types of transport such as electric vehicles and electric bikes?
- Upgrade existing public transport vehicles, or introduce newer vehicles?
- Improve existing roads or build new ones?
- Introduce more cycle lanes?
- Introduce more electric vehicle charging points?
- Or improve transport in a particular area?

ASK THEM TO FEEDBACK INCLUDING REASONS FOR THEIR DECISION.

AFTER THEY FEED BACK, PROBE:

- What factors did you think about when deciding how to spend the money?
- I now want to ask you about some additional factors that might or might not have an impact on how you choose to spend the budget: FOR ALL PROBE FOR REASONS WHY/WHY NOT:
 - o Sometimes spending on public transport means upgrading what you already have, like existing buses or trains, and sometimes it means replacing these with brand new stock. Which of these would you prefer to allocate spending towards? What would be the benefits or drawbacks of each?

- What if having new vehicles was the most environmentally friendly option – for example because they generate less carbon – but were more expensive than refurbishing existing fleets. What impact would that have on your decision?
- What if the public would have to pay more through taxes to ensure public transport vehicles were as environmentally friendly as possible? Would that have any impact on your decision?
- And thinking about electric cars, would you use any investment to encourage their use? And how? What if this meant that buying and running a car became more expensive for people like you?
- ASK THEM TO REVISIT/RECAP ON THEIR PROPOSAL HAVING REFLECTED ON THE TRADE OFFS
 - And if transport was to change/improve in the ways we have discussed, what would that mean to you personally? Would you do anything differently?
 - Would you personally be willing to pay more to ensure public transport was environmentally friendly? How much more – 20% more than current prices? Less/more than this?
 - Would you be personally willing to use more public transport, even if it added to your journey times?
 - Would you personally be willing to change your car to help achieve environmental impacts? And would you be willing to pay more to do that?
- **Scenario 3:** You are responsible for the budget available for education facilities in your area. How will you spend this budget?

It might help to think about what education facilities – pre-schools, schools, colleges - are like at the moment, including those quite close to you and those a bit further away, and what you would like them to be like in future.

You might decide to:

- Invest in improving existing schools, invest in new schools?
- Reduce the number of schools in your area, but expand others to make them larger, covering larger areas?
- Have separate facilities for pre-school, primary and secondary, or have them all under one roof?

ASK THEM TO FEEDBACK INCLUDING REASONS FOR THEIR DECISION.

AFTER THEY FEED BACK, PROBE:

- What factors did you think about when deciding how to spend the money?

	<ul style="list-style-type: none"> o If you invest in existing facilities that are in the same location, there may be constraints on the space available; for example, there may not be enough study space for an entire year group to use together. Would that change your decision at all? o What if you could provide more space for teaching and study in a larger school, but this would be located further away from you and serve a larger catchment area. Would that offer any benefits? o What if these larger facilities would allow preschool, primary school and secondary schools to be provided under one roof? What impact would that have on your decision? o What about using technology, such as providing teaching online so that people can learn from home. Would that offer any benefits? What if having online teaching meant that education facilities were smaller and located closer to you – would that be more or less appealing than having everything delivered face-to-face but further away? <ul style="list-style-type: none"> - ASK THEM TO REVISIT/RECAP ON THEIR PROPOSAL HAVING REFLECTED ON THE TRADE OFFS - And if education facilities in this area were to change/improve in the ways we have discussed, what would that mean to you personally? Would you do anything differently? What about your family and friends, would it impact on them at all? -
8.50-9.00	<p>11. Plenary: Feedback, thank you and close</p> <p>MODERATORS (OR NOMINATED INDIVIDUALS) FEEDBACK KEY POINTS FROM THEIR TABLE DISCUSSION, FOCUSING ON HOW THEY DECIDED TO SPEND THEIR BUDGETS AND WHY.</p> <p>BEFORE/WHILE INCENTIVES ARE BEING DISTRIBUTED AND SIGNED FOR ASK PARTICIPANTS TO WRITE A "POSTCARD TO THEIR FUTURE SELVES", WHICH HAS ONE SENTENCE DESCRIBING WHAT THEY WOULD WANT INFRASTRUCTURE IN SCOTLAND TO LOOK LIKE IN 30 YEARS TIME.</p>

Emily Gray

Managing Director

emily.gray@ipsos.com

Ciaran Mulholland

Associate Director

ciaran.mulholland@ipsos.com

Rachel Warren

Senior Research Executive

rachel.warren@ipsos.com

For more information

4 Wemyss Place

Edinburgh

Eh3 6DH

t: +44 (0)131 220 5699

<https://www.ipsos.com/ipsos-mori/en-uk/ipsos-mori-scotland>

<http://twitter.com/IpsosMORIs Scot>

About Ipsos MORI's Social Research Institute

The Social Research Institute works closely with national governments, local public services and the not-for-profit sector. Its c.200 research staff focus on public service and policy issues. Each has expertise in a particular part of the public sector, ensuring we have a detailed understanding of specific sectors and policy challenges. This, combined with our methods and communications expertise, helps ensure that our research makes a difference for decision makers and communities.