



Department for
Science, Innovation
& Technology

Public Attitudes to Connected Places

Technical Report

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1. Research participant numbers

The Department for Science, Innovation and Technology (DSIT) originally requested a minimum of 25 participants (members of the public) to take part in the public attitudes to connected places research.

Pye Tait Consulting opted to recruit a higher number (37 in total) to allow for attrition between the research stages, as well as to ensure additional representation from individuals with physical and mental health conditions. It was important to achieve a mix of participants according to a range of sampling criteria (cf. chapter 4 and Appendix 1).

Once recruited, the same participants were carried forward through multiple iterative stages of primary research activity. This ensured continuity and allowed the research to explore initial views on connected places and then audience-test outputs developed in response to those initial views.

In summary:

- All 37 participants took part in an initial online survey
- Sub-group 1: Of the original 37, a total of 32 were carried forward to take part in two rounds of onward focus group activity
- Sub-group 2: Of the original 37, a total of 5 were carried forward to take part to two rounds of 1:1 interviews

Pye Tait Consulting designed the research and scripts, hosted the online survey and virtual focus groups, and analysed and reported on the findings. Participants were sourced and recruited for each stage by Zest Fieldwork via its research panel.

More about sub-group 2:

The 1:1 interviews represented an added value component of the research to ensure the views of those with physical or mental health conditions were sufficiently explored. Note that the focus groups also involved other individuals with physical and mental health conditions.

Individuals identified as having a physical or mental health condition (based on criteria set out below) were offered the choice of taking part in either virtual focus groups or 1:1 interviews.

Sampling continued until all available places were filled for the focus groups and 1:1 interviews, thus ensuring that the research reflected diverse perspectives and needs.

2. Overview of research stages

The following table sets out the research stages, showing dates, main activity and participation, taking part in each stage, including notes regarding attrition, where applicable.

| Dates | Activity | Participation |
|-----------------------|--|---|
| August 2023 | Initial online baselining survey | All 37 participants |
| September 2023 | First round of four virtual focus groups to gauge public attitudes and perceptions of connected places technologies | Subset of 32 Avg. 8 per focus group (see Note 1) |
| September 2023 | First round of 1:1 interviews with individuals with physical or mental health conditions to explore the same topics, along with additional accessibility considerations | Subset of 5 NB: These individuals took part in a 1:1 interview in place of a focus group |
| October 2023 | Development of the draft video explainer (via video production company Makematic) and draft infographic explainer | N/A |
| November 2023 | Second round of four virtual focus groups (November 2023) to gauge views on draft engagement tools (video and infographic) and to explore communications needs around connected places technologies (30 total participants, with 2 from the first round unable to join the second round) | Subset of 30 Avg. 8 per focus group (see Note 1) NB: Two out of 32 participants did not carry forward from the first round of focus groups due to last minute scheduling conflicts. |
| November 2023 | Repeat 1:1 interviews with individuals with physical and mental health conditions to explore the same topics, along with additional accessibility considerations | Subset of 5 NB: These individuals took part in a 1:1 interview in place of a focus group |

A target of eight participants per focus group was deemed appropriate based on good practice. This number was deemed sufficient to ensure thorough discussion and debate, whilst not too many to risk some individuals not being involved and having their say or the research questions not being fully covered.

3. Participant recruitment – panel approach

Participants were recruited for this research using the panel services of Zest Fieldwork.

A panel approach to conducting fieldwork typically involves drawing on an established pool of individuals who have signed up to being invited to take part in certain categories of market and research. This is usually through a dedicated independent panel agency, whose services often include recruitment, screening and selection to meet the needs of each client and project in question.

Use of a panel is an alternative to searching for individuals matching sample criteria through other communities and networks, such as social media, which may be more difficult for harder-to-reach audiences. Panel members are usually offered an appropriate incentive to take part in research work.

For this research, involvement of a panel was deemed appropriate given the need for participant diversity in terms of their characteristics and knowledge levels, and the need to recruit relatively quickly. Incentives were offered in agreement with DSIT that were considered fair and proportionate to the requirements of the research and the demand placed upon participants. The incentives offered were in line with the [Market Research Society \(MRS\) Code of Conduct](#) and associated [guidance](#) on incentives.

Benefits offered by the panel approach

Greater participant diversity

Panel members could be invited based on their known characteristics to ensure balance in terms of age, gender, ethnicity, physical or mental health conditions and geography, (urban/rural etc.).

Mixed levels of underpinning knowledge

In this case, achieved by initial screening of panel members' levels of self-identified technology knowledge/understanding.

Improved certainty of achieving target participant numbers

Use of a research panel potentially reduced the risk of low participation as might have been the case if seeking members of the public through other channels. This approach also

helped to ensure participation was maintained across multiple stages of research where needed (in this case an online survey, first round and second round focus groups).

Increased recruitment speed

The panel approach meant that participants could be drawn from a large pool relatively quickly, meaning that the focus groups could be undertaken promptly in line with the prescribed project timescales.

Use of incentives

When conducting panel research, it is important that incentives are fair and proportionate to the requirements of the research in question, such as the specificity of sampling considerations and the nature/extent of input required of individuals).

It is also important that the offer of incentives does not interfere with the voluntariness of participants’ consent by acting as an inducement. In the case of this research, there was no coercion or undue influence on research participants to take part, and all participants did so based on choice.

Incentives paid to research participants were as follows:

| Activity | Incentive value per participant |
|---|---------------------------------|
| Online survey (n=32) | £10 |
| Round 1 focus groups (n=32) and round 1 in-depth interviews (n=5) | £60 |
| Round 2 focus groups (n=30) and round 2 in-depth interviews (n=5) | £60 |

Zest Fieldwork used an online payment system that allowed participants to claim an incentive either to their bank account, PayPal, or in vouchers, as they wished. As participants were already members of an established research panel, they were hitherto made aware of the potential impact of financial incentives in terms of tax implications and benefit entitlement.

The selected incentive options were considered vital to this project for four main reasons, namely the need to:

1. Recruit individuals very quickly
2. Recruit across a range of characteristics, including example age, gender, ethnicity, disability, geography (urban/rural etc.)

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3. Achieve representation among individuals with different levels of technology understanding
 4. Seek continuity over several research activities
 5. A high risk that removing the option of a monetary payment could undermine achievement across the desired variables and potentially mean minimum target participation might not have been achieved
 6. A high risk that some individuals might not be able to use a voucher easily or may simply not deem a voucher to be a fair incentive for the scale of the research requirement

The proposed incentive options were exceptionally agreed with DSIT and in line with the [Market Research Society \(MRS\) Code of Conduct](#), including associated [guidance](#) on incentives.

It is worth noting that where an incentive (or a choice of available incentives) is offered to members of a research panel, there is a risk that some may only take part for that purpose. However, expert and professional facilitation – involving seeking input from all participants, especially on a topic of public relevance such as connected places – helped to elicit a full involvement and genuine views in response to the subject matter.

4. Approach to sampling

Acting as a subsidiary to Pye Tait Consulting, Zest Fieldwork undertook preliminary random sampling and screening among an initial longlist of its panel members to explain the research requirements and seek expressions of interest in taking part. As part of that process, Zest obtained data from its members against each of the agreed sampling criteria (set out below) except where it already held that information based on consent as part of its existing panel arrangement.

Sampling criteria:

- a. Sex/Gender
- b. Age
- c. Ethnicity
- d. Physical or mental health condition
- e. Socio-economic measures
- f. Geography (Urban-Rural mix)
- g. Technological awareness/understanding

See Appendix 1: 'Sampling criteria – detail' for more information on the above categories and the demographics questions asked.

5. Rationale for the choice of virtual focus groups

Pye Tait Consulting proposed a virtual approach to conducting the focus groups using Zoom.

Virtual focus groups can offer greater convenience than in-person focus groups due to avoiding the need for participants to travel. They can also be more inclusive of those with certain disabilities and who might find travelling difficult and have the advantage of reducing the carbon footprint of research. Virtual focus groups can also be the preferred option when research timings would make it difficult to organise and fill venues in different geographical areas.

Whilst virtual focus groups may be at risk of excluding certain individuals who are less technologically savvy or that have a poor internet connection, those risks can be minimised through clear joining instructions, providing a contact point for individuals who have any questions in advance, and by offering an alternative way to contribute, such as in writing or by phone on a 1:1 basis.

Pye Tait Consulting determined that each focus group should be mixed and not segmented in terms of participants' pre-existing general understanding of technology. A gauge of technology understanding was determined via the initial online survey.

6. Rationale for mixed-knowledge focus groups

Pye Tait Consulting determined that mixed ability focus groups were appropriate for the following reasons:

- Permitting more reflective discussion and debate;
- Providing an opportunity for individuals with more limited understanding to flag up any instances where ideas put forward by those with more knowledge might need to be conveyed through the subsequent infographic and video in more straightforward language;
- Ensuring the target number of participants could be achieved, i.e. without needing to restrict the offered dates and times based on particular knowledge groups.

7. Analysis and production of research outputs

Analysis of the research findings was undertaken in two stages – following the round 1 focus groups/1:1 interviews; and again following the round 2 focus groups/1:1 interviews.

Research facilitators took detailed notes during the focus groups and interviews, which were cross-checked against the recording and refined as appropriate.

Key points made by each person in response to each question were subject to manual content analysis and thematic coding in MS Excel, leading to the creation of a series of main themes and sub-themes. Where appropriate to certain questions, this included segmentation of predominantly positive, predominantly negative and predominantly neutral views.

Two sets of code books were produced – following the first-round focus groups/interviews and then again following the second-round focus groups/interviews.

The content of the code books was then summarised into a narrative account as part of the complementary research report.

Additional outputs from this research were delivered as follows:

- Video explainer – scripted by Pye Tait Consulting and produced by Makematic;
- Infographic explainer – designed and produced by Pye Tait Consulting;
- Local authority communications and consultation guide – developed by Pye Tait Consulting.

Multiple iterative drafts of the video and infographic were developed, each taking account of feedback from DSIT and research participants.

8. Profile of Panel Participants

The tables below set out the number and proportion of research participants demonstrating a range of characteristics.

Sex

| Base | 37 | % participants |
|--------|----|----------------|
| Male | 18 | 49% |
| Female | 19 | 51% |

Age

| Base | 37 | % participants |
|-------|----|----------------|
| 18-24 | 6 | 16% |
| 25-44 | 12 | 32% |
| 45-64 | 12 | 32% |
| 65-74 | 5 | 14% |
| 75+ | 2 | 5% |

Ethnicity

| Base | 37 | % participants |
|---------------------------------------|----|----------------|
| White | 25 | 68% |
| Mixed/Multiple ethnic group | 4 | 11% |
| Asian/Asian British | 5 | 14% |
| Black/African/Caribbean/Black British | 3 | 8% |
| Other ethnic group | 0 | 0% |

Physical or mental health condition

| Base | 37 | % participants |
|------|----|----------------|
| Yes | 8 | 22% |
| No | 29 | 78% |

Working status

| Base | 37 | % participants |
|-------------------------|----|----------------|
| Employed (part-time) | 8 | 22% |
| Employed (full-time) | 18 | 49% |
| Unemployed | 3 | 8% |
| Retired | 6 | 16% |
| Student | 2 | 5% |
| Other (please specify): | 0 | 0% |

Occupation classification

| Base | 37 | % participants |
|--|----|----------------|
| Higher managerial, administrative or professional. For example: Senior Manager or Senior Administrator, Company Director, Finance Manager, Personnel Manager, Senior Sales Manager, Senior Local Government Officer, Doctor, Accountant. | 3 | 8% |
| Intermediate managerial, administrative or professional. For example: Schoolteacher, University Lecturer, Systems Analyst, Middle Management, work that requires a degree level qualification. | 16 | 43% |
| Supervisor, clerical or administrative. For example: Clerical, Sales or Services, Foreman or Supervisor of Other Workers. | 9 | 24% |
| Skilled manual worker with training or apprenticeship. For example: Plumber, Electrician, Fitter, Train Driver, Cook, Hairdresser. | 2 | 5% |
| Semi-skilled manual worker. For example: Machine Operator, Assembler, Post-worker, Waiter/Waitress, Cleaner, Labourer, Driver, Bar-worker, Call Centre Worker etc. | 3 | 8% |
| Casual worker. For example: Cleaner | 0 | 0% |
| Unemployed | 4 | 11% |

Rural/urban mix

| Base | 37 | % participants |
|------------------------------|----|----------------|
| London | 8 | 22% |
| Core City (excluding London) | 8 | 22% |
| Other City | 3 | 8% |
| Large Town | 10 | 27% |
| Medium Town | 5 | 14% |
| Small Town | 1 | 3% |
| Village or smaller | 2 | 5% |

Nation

| Base | 37 | % participants |
|------------------|----|----------------|
| England | 29 | 78% |
| Scotland | 3 | 8% |
| Wales | 3 | 8% |
| Northern Ireland | 2 | 5% |

Technology awareness/understanding

| Base | 37 | % participants |
|--|----|----------------|
| You can recognise what information or content online may, or may not, be trustworthy (e.g. fact checked information, “fake news” or assess the trustworthiness of a company based on customer reviews). | 32 | 86% |
| You can communicate with others digitally using email or other messaging applications (e.g. WhatsApp or Messenger, direct messaging on social media such as Instagram, Facebook etc). | 37 | 100% |
| You can post messages, photographs, videos or blogs on social media platforms (e.g. Facebook, Instagram, TikTok, Twitter or Snapchat). | 35 | 95% |
| You can use search engines to find information you’re looking for (e.g. search for news, the weather, train times). | 35 | 95% |
| You can use the cloud to access content from different devices (e.g. smartphone, tablet, laptop and desktop). | 31 | 84% |
| You can fill in forms online to access the services you need (e.g. Voting registration, ordering repeat prescriptions, booking doctor appointments, booking train tickets or beauty appointments). | 36 | 97% |
| You can act with caution online and understand that there are risks and threats involved in carrying out activities online (e.g. use anti-virus software, classify and share information securely or avoid certain types of websites such as piracy websites). | 31 | 84% |
| You can identify secure Wi-Fi networks to connect to (e.g. Wi-Fi networks where a unique password is required, trusted source or padlock next to Wi-Fi network). | 34 | 92% |
| You can identify secure websites (e.g. by looking for the padlock and ‘https’ in the address bar) . | 33 | 89% |
| You can recognise suspicious links and know that clicking on these links or downloading unfamiliar attachments is a risk (e.g. Spam/phishing emails, texts, pop ups). | 31 | 84% |

Technological awareness/understanding (total number of response options selected)

| Base: | 37 | % participants |
|--------------|-----------|-----------------------|
| 1 | 0 | 0% |
| 2 | 0 | 0% |
| 3 | 0 | 0% |
| 4 | 1 | 3% |
| 5 | 3 | 8% |
| 6 | 1 | 3% |
| 7 | 0 | 0% |
| 8 | 2 | 5% |
| 9 | 4 | 11% |
| 10 | 26 | 70% |

Appendix 1. Sampling criteria – detail

This section sets out the sampling questions and wording used when sourcing and recruiting research participants, based on national harmonised standards and guidance.

A – Sex/Gender

What is your sex?

Male

Female

(Follow-up/voluntary) Is the gender you identify with the same as your sex registered at birth?

Yes

No

Guidance:

<https://analysisfunction.civilservice.gov.uk/policy-store/gender-identity/>

and

<https://www.ons.gov.uk/census/censustransformationprogramme/questiondevelopment/sexandgenderidentityquestiondevelopmentforcensus2021>

B – Age

What is your age?

18-24

25-44

45-64

65-74

75+

Guidance:

<https://analysisfunction.civilservice.gov.uk/policy-store/age-and-date-of-birth/>

C – Ethnicity

What is your ethnic group?

- White
- Mixed/Multiple ethnic group
- Asian/Asian British
- Black/African/Caribbean/Black British
- Other ethnic group

Guidance:

<https://www.ons.gov.uk/methodology/classificationsandstandards/measuringequality/ethnicgroupnationalidentityandreligion>

and

<https://analysisfunction.civilservice.gov.uk/wp-content/uploads/2016/03/P3-Ethnic-Group-June-16-1.pdf>

D – Disability

Do you have any physical or mental health conditions or illnesses lasting or expected to last for 12 months or more?

- Yes
- No

Does your condition or illness/do any of your conditions or illnesses reduce your ability to carry-out day-to-day activities?

- Yes, a lot
- Yes, a little
- No

A person is not considered disabled if they say “yes”, they have a physical or mental health condition or illness lasting or expected to last for 12 months or more, but it does not restrict their activities.

Guidance:

<https://analysisfunction.civilservice.gov.uk/policy-store/measuring-disability-for-the-equality-act-2010/>

and

<https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/disability/articles/measuringdisabilitycomparingapproaches/2019-08-06>

and

<https://analysisfunction.civilservice.gov.uk/policy-store/impairment/>

E – Socio-economic background

What is your current working status?

Student

Employed (part-time)

Employed (full-time)

Unemployed

Retired

Other (please specify):

What is your household income before taxes?

£0-£4,999

£5,000-£9,999

£10,000-£14,999

£15,000-£19,999

£20,000-£24,999

£25,000-£29,999

£30,000-£34,999

£35,000-£39,999

£40,000-£44,999

£45,000-£49,999

£50,000-£54,999

£55,000-£59,999

£60,000-£64,999

£65,000-£69,999

£70,000-£74,999

£75,000-£79,999

£80,000-£84,999

£85,000-£89,999

£90,000-£94,999

£95,000-£99,999

£100,000+

Prefer not to say

Which of the following best describes the occupation of the main income earner in your household? Note: if the main income earner is now retired, please base your answer on the occupation prior to retirement or if you are a student please answer based on your parents' occupation.

AB - Higher managerial, administrative or professional. For example: Senior Manager or Senior Administrator, Company Director, Finance Manager, Personnel Manager, Senior Sales Manager, Senior Local Government Officer, Doctor, Accountant.

AB - Intermediate managerial, administrative or professional. For example: Schoolteacher, University Lecturer, Systems Analyst, Middle Management, work that requires a degree level qualification.

C1 - Supervisor, clerical or administrative. For example: Clerical, Sales or Services, Foreman or Supervisor of Other Workers.

C2 - Skilled manual worker with training or apprenticeship. For example: Plumber, Electrician, Fitter, Train Driver, Cook, Hairdresser.

C2 - Semi-skilled manual worker. For example: Machine Operator, Assembler, Post-worker, Waiter/Waitress, Cleaner, Labourer, Driver, Bar-worker, Call Centre Worker etc.

DE - Casual worker. For example: Cleaner

DE - Unemployed

Guidance:

<https://analysisfunction.civilservice.gov.uk/blog/harmonising-socio-economic-background-across-the-government-statistical-service-gss/>

NB: A harmonised standard for socio-economic background does not currently exist.

F – Geography (Urban-Rural Mix)

England, Scotland, Wales

Sampled panel members were assigned to one of the categories shown below, based on their home post code.

Core City
Other City
Large Town
Medium Town
Small Town
Village or smaller

Geographical assignments were based on data contained in the City & Town Classification of Constituencies & Local Authorities

Data reference:

<https://commonslibrary.parliament.uk/research-briefings/cbp-8322/>

Northern Ireland

Sampled panel members were assigned to one of the categories shown below, based on their home post code.

City
Large Town
Medium Town
Small Town
Intermediate Settlement
Village

Geographical assignments were based on Table 2 of the Northern Ireland Statistics and Research Agency's Review of the Statistical Classification and Delineation of Settlements

Data reference:

<https://www.nisra.gov.uk/sites/nisra.gov.uk/files/publications/review-of-the-statistical-classification-and-delineation-of-settlements-march-2015%20%281%29.pdf>

G – Technological awareness/understanding

Please select which of the following you feel you can accomplish (select all that apply):

1. You can recognise what information or content online may, or may not, be trustworthy (e.g. fact checked information, "fake news" or assess the trustworthiness of a company based on customer reviews).
2. You can communicate with others digitally using email or other messaging applications (e.g. WhatsApp or Messenger, direct messaging on social media such as Instagram, Facebook etc)
3. You can post messages, photographs, videos or blogs on social media platforms (e.g. Facebook, Instagram, TikTok, Twitter or Snapchat)
4. You can use search engines to find information you're looking for (e.g. search for news, the weather, train times).
5. You can use the cloud to access content from different devices (e.g. smartphone, tablet, laptop and desktop).
6. You can fill in forms online to access the services you need (e.g. Voting registration, ordering repeat prescriptions, booking doctor appointments, booking train tickets or beauty appointments)
7. You can act with caution online and understand that there are risks and threats involved in carrying out activities online (e.g. use anti-virus software, classify and

- share information securely or avoid certain types of websites such as piracy websites)
8. You can identify secure Wi-Fi networks to connect to (e.g. Wi-Fi networks where a unique password is required, trusted source or padlock next to Wi-Fi network)
 9. You can identify secure websites (e.g. by looking for the padlock and 'https' in the address bar)
 10. You can recognise suspicious links and know that clicking on these links or downloading unfamiliar attachments is a risk (e.g. Spam/phishing emails, texts, pop ups)

Source for the above list:

<https://www.ipsos.com/sites/default/files/ct/publication/documents/2023-03/230310-lloyds-uk-essential-digital-skills-for-work.pdf>

Skills for life (page 31)

Communicating

1. You can use software to create, write or edit documents (e.g. Microsoft Word/ Google docs/Pages for a CV/letter)
2. You can share files or links with others by attaching to an email, uploading to a website or an application (e.g. proof of address/identity, sharing an image, or link via WhatsApp)
3. You can make and receive video calls (e.g. Facetime, Zoom, Facebook Portal or WhatsApp call)

Handling Information and Content

1. You can recognise what information or content online may, or may not, be trustworthy (e.g. fact checked information, "fake news" or assess the trustworthiness of a company based on customer reviews).
2. You can use search engines to find information you're looking for (e.g. search for news, the weather, train times).
3. You can store and back up photos, messages, documents or other information (e.g. iCloud, Google Drive, Dropbox, OneDrive, desktop or storage drive).
4. You can use the cloud to access content from different devices (e.g. smartphone, tablet, laptop and desktop).
5. You can use the Internet to stream or download entertainment content (e.g. films, TV series, music, games or books through services like YouTube, Spotify, Netflix, BBC iPlayer)

Transacting

1. You can set up an account online that enables you to buy goods or services (e.g. Amazon, eBay, supermarkets or other retailers)
2. You can fill in forms online to access the services you need (e.g. Voting registration, ordering repeat prescriptions, booking doctor appointments, booking train tickets or beauty appointments)

3. You can buy goods/services online using online payments (e.g. Debit/credit card, PayPal, Apple Pay, Google Pay, Worldpay)
4. You can manage your money and transactions online (e.g. View balance or transfer funds via Internet or mobile banking app, manage spending through PayPal account, manage payments on finance plan)

Problem Solving

1. You can use the Internet to find information that helps you solve problems (e.g. by using search engines, web chat, FAQs and forums)
2. You can use the Internet to improve your skills and ability to do new things (e.g. using online tutorials, learning platforms and how-to guides)

Being Safe and Legal Online

1. You can act with caution online and understand that there are risks and threats involved in carrying out activities online (e.g. use anti-virus software, classify and share information securely or avoid certain types of websites such as piracy websites)
2. You can set privacy and marketing settings for websites and your accounts (e.g. managing social media privacy settings, managing cookie settings, updating contact preferences)
3. You can follow data protection guidelines online (e.g. following data storage and retention guidelines, not sharing or using other people's data or media such as movies or music without their consent)
4. You can respond to requests for authentication for online accounts (e.g. resetting your password when you've forgotten it, two factor authentication, using a remote access key or an authenticator app)
5. You can identify secure websites (e.g. by looking for the padlock and 'https' in the address bar)
6. You can recognise suspicious links and know that clicking on these links or downloading unfamiliar attachments is a risk (e.g. Spam/phishing emails, texts, pop ups)
7. You can update your device software/ operating systems when necessary to prevent viruses and other risks (e.g. enabling automatic updates, or installing when prompted to do so)
8. You can identify secure Wi-Fi networks to connect to (e.g. Wi-Fi networks where a unique password is required, trusted source or padlock next to Wi-Fi network)
9. You can be careful with what you share online as you know that online activity produces a permanent record that can be accessed by others (e.g. publicly shared photos, forums, personal information or opinions)

Appendix 2. Research Tools and Scripts

Advance screening questions

Aim (internal): To create a longlist of willing panel members who can then be drawn upon to take part in the multi-stage research (ensuring a spread across various demographics and levels of technology understanding)

Undertaken via Zest and comprising:

- Brief introduction to the research
- Commitment to taking part, including agreement on incentive
- Demographics questioning
- Understanding of technology questioning

Online survey questionnaire

Aim (internal): To gauge baseline understanding and concerns about connected places.

The online survey was hosted by Pye Tait Consulting and distributed by Zest.

Public Attitudes to Connected Places

Thank you for taking part in this research, which is being undertaken by Pye Tait Consulting on behalf of the government department for Science, Innovation and Technology (DSIT).

This short online survey is the first of three stages. You are also being asked to take part in two online focus groups (the first in mid-September, the second in mid-November) each lasting 90 minutes. There are different dates available to choose from – provided at the end.

Your answers to the following questions will help us to understand your initial awareness, perceptions and concerns (if any) relating to the subject of connected places (which are sometimes referred to as 'smart cities'). There are no right or wrong answers and you don't need to have a minimum level of knowledge to take part in this research. The answers you give will be treated confidentially by Pye Tait Consulting and reported anonymously to DSIT. You will not be identified for what you say.

PART 1 – Main questions

Respondent panel ID no. (seeded in/not asked directly)

1. Had you heard of the term 'connected places' before being approached about this research?

- a. Yes
- b. No

2. Had you heard of the term 'smart cities' before being approached about this research?

- a. Yes
- b. No

A **connected place** is a community where a system of sensors, networks, and applications collect data, with the aim of improving how the place operates and improving the quality of life for citizens. This can relate to aspects of a community such as transport, buildings, utilities, the environment, infrastructure and public services. When used in some locations, connected places are sometimes referred to as smart cities.

Examples of connected places can include:

- **Transport and new mobility solutions:** For example, the installation of smart traffic light systems to reduce congestion on busy roads, or futuristic air transport solutions such as drones to make home deliveries or transport medical supplies.
 - **Social care, health and wellbeing:** For example, the deployment of temperature and moisture sensors in houses so local councils/social care home managers/contractors can monitor and improve living conditions, or the use of sensors that help facilitate assisted living and improve accident response times.
 - **Environmental monitoring:** For example, the use of sensors to monitor water levels in areas at risk of flooding, or to monitor air quality to provide citizens with clean air walking routes.
 - **Critical infrastructure and utilities:** For example, crowd monitoring to better understand levels of town centre business and provide citizens with information on best times to shop, or the use of smart local energy systems to reduce pressure on the grid.
 - **Built environment efficiency and safety:** For example, technologies to monitor energy efficient street lighting, waste levels in public bins, or smart security cameras in public places, including facial recognition technology.
3. On a scale from 1 'fully against' to 10 'fully in favour', how do you feel about each of the following in public places? If you're not sure, please select 'don't know'.
- a. Artificial intelligence (AI) enabled security cameras, for example to monitor traffic or anti-social behaviour

1-10 rating/don't know

- b. Internet of Things (IoT) sensors that collect data such as footfall (how many people pass through a particular area) and air quality

1-10 rating/don't know

- c. Technologies and services that gather data and insights, such as smart meters/smart local energy systems

1-10 rating/don't know

- 4. [If Q3a=<6] Please tell us the main reason for your rating, including any concerns you may have about [insert Q3a brief text].

Repeat Q4 as necessary tied to Q3b/Q3c

- 5. Please tell us your level of concern regarding each of the following when thinking about connected places and the types of technologies involved.

| | Very concerned | Somewhat concerned | Not very concerned | Not at all concerned | Don't know |
|---|----------------|--------------------|--------------------|----------------------|------------|
| People's privacy | | | | | |
| Security of people's personal data | | | | | |
| The sensitive nature of the data being collected | | | | | |
| Cyber security concerns, including risk of hacking | | | | | |
| How feasible it is to implement the technology | | | | | |
| Not all locations being able to access the technology | | | | | |

Thank/submission page.

Round 1 focus group

Aim: To explore public attitudes and perceptions towards connected places technologies

PART 1: Welcome, explanations and reassurances

5 minutes

PART 2: Participant round robin

5 minutes

PART 3: Overview of connected places

5 minutes

Technology, including the internet, has prompted radical changes in the way national and local governments, such as local councils, manage places, gather and analyse information, and interact with businesses and citizens.

A **connected place** is a community where a system of sensors, networks, and applications collect data, with the aim of improving how the place operates and improving the quality of life for citizens. This can relate to aspects of a community such as transport, buildings, utilities, the environment, infrastructure and public services. When used in some locations, connected places are sometimes referred to as smart cities.

When talking about connected places technologies, we are referring to devices which collect data about a particular area, with the aim of improving the quality of life for people – usually by improving a public service.

Connected places and associated technologies are intended to help people's daily lives in a variety of ways. Below are some of the most common themes and examples of connected places technologies:

- **Transport and new mobility solutions:** For example, the installation of smart traffic light systems to reduce congestion on busy roads, or futuristic air transport solutions such as drones to make home deliveries or transport medical supplies.
- **Social care, health and wellbeing:** For example, the deployment of temperature and moisture sensors in houses so local councils/social care home managers/contractors can monitor and improve living conditions, or the use of sensors that help facilitate assisted living and improve accident response times.
- **Environmental monitoring:** For example, the use of sensors to monitor water levels in areas at risk of flooding, or to monitor air quality to provide citizens with clean air walking routes.
- **Critical infrastructure and utilities:** For example, crowd monitoring to better understand levels of town centre business and provide citizens with information on best times to shop, or the use of smart local energy systems to reduce pressure on the grid.
- **Built environment efficiency and safety:** For example, technologies to monitor energy efficient street lighting, waste levels in public bins, or smart security cameras in public places, including facial recognition technology.

Outside the scope of connected places: Devices and technology for consumer use, such as smart televisions or smartphones; devices and technology targeted at businesses, such

as smart printers or CCTV in offices or shops; and devices or technology used within local government buildings.

The purpose of today's focus group today is to explore and understand your attitudes and perceptions towards connected places technologies, including any concerns or risks.

The findings will inform our onward development of information to help members of the public better understand connected places and how they work, and to take account of concerns raised. This information will comprise:

- A visual document (infographic) aimed at members of the public
- A supporting video
- A guidance document to help managers of connected places to explain the types of technologies involved to members of the public. This will mainly be used by local councils, but other organisations such as rail station operators, airport operators and university campus operators might also want to make use of it.

The second focus group (in November) will seek your feedback on the draft infographic and video and what's important in how managers of connected places communicate with members of the public.

PART 4: Main discussion questions

Show definition/examples from introduction on screen (recap as necessary)

1. Thinking about these examples of how connected places work and the types of technology involved, how do you feel they play a part in people's everyday lives?

What other examples can you think of, or have you experienced?

10 minutes

2. What are your views about these different types of connected places technologies? Are you positive, negative or neutral?

Do you feel broadly the same way about all these technologies, or do you prefer some to others? What are your reasons?

Have your views changed in the last five years? If so, what has caused that?

PROMPTS: How well places function; convenience; environment friendliness; whether you feel safe; value placed on technology; privacy; information security; opportunity to have a say in how connected places are designed, things you have read

15 minutes

-
3. What types of benefits do you think connected places technologies can bring?

Who can benefit and in what ways?

Do you believe in these benefits?

PROMPTS: Better social experience of public places; better traffic management; more efficient public services such as bin collection

10 minutes

4. What risks or concerns come to mind when thinking about connected places technologies?

Do these concern you? What are your reasons?

Should managers of connected places – often local councils – be worried about these?

PROMPTS: Willingness to provide personal data; privacy concerns; security of people's personal data once collected; cyber security, including risk of hacking

10 minutes

5. Do you trust local authorities to use your data and to keep it secure? What about private companies, such as manufacturers of connected places technologies?

Who do you trust more? What are your reasons?

(a) What would help to improve your perceptions of the security of these technologies and the security of any data they collect?

(b) Are there any particular data that a connected place could gather about you which you would or would not feel comfortable with?

10 minutes

6. If your local council was to create a new connected place project or amend an existing project, what are some of the things that they should do first?

PROMPTS: Engage with the public; train their employees on cyber security; conduct an impact assessment report; cost/benefit analysis; public awareness campaign

10 minutes

-
7. What would you like an information resource (visual document and video) to tell you about connected places to help you better understand them and feel reassured about the technologies involved?

10 minutes

Thank and close.

Round 1 interviews

Introduction adapted from the round 1 focus group equivalent.

Main discussion questions

1. What are your initial views about these different types of connected places technologies? Are you positive, negative or neutral? Do you feel broadly the same way about all these technologies, or do you prefer some to others?

What are your reasons? Have your views changed in the last five years? If so, what has caused that?

PROMPTS: How well places function; convenience; environment friendliness; whether you feel safe; value placed on technology; privacy; information security; opportunity to have a say in how connected places are designed, things you have read

2. What types of benefits do you think connected places technologies can bring? Do you believe in these benefits?

PROMPTS: Better social experience of public places; better traffic management; more efficient public services such as bin collection

3. What risks or concerns come to mind when thinking about connected places technologies? Do these concern you? What are your reasons? Should managers of connected places – often local authorities – be worried about these?

PROMPTS: Willingness to provide personal data; privacy concerns; security of people's personal data once collected; cyber security, including risk of hacking

4. We understand that you experience a physical or mental health condition. Would you say connected places technologies offer benefits or opportunities to you that you might not otherwise experience? If so, what are they? Have you experienced these first hand?

5. Are there any challenges (if any) in accessing connected places technologies that directly relate to your physical or mental health condition? If so, what are they? Have you experienced these first hand?

-
6. How likely are you to trust connected places technologies, as well as the companies that use your data to keep it secure? What would help to improve your perceptions of the security of these technologies and the security of any data they collect?
 - a. Are there any particular data that a connected place could gather about you which you would or would not feel comfortable with?
 - b. Would you trust local authorities to a different extent than manufacturers of connected places technologies, especially relating to cyber security? What are your reasons?
 8. If your local council was to create a new connected place project or amend an existing project, what are some of the things that they should do first?

PROMPTS: Engage with the public; train their employees on cyber security; conduct an impact assessment report; cost/benefit analysis; public awareness campaign
 9. What would you like an information resource (visual document and video) to tell you about connected places to help you better understand them and feel reassured about the technologies involved?
 10. Taking into account your physical or mental health condition, are there any particular considerations that we should factor into its design?

Round 2 focus group

Aim: To gauge responses to the draft engagement materials and determine what types of communications are needed to deliver effective connected places information.

Infographic and link to the draft video to be circulated in advance but also screen-shared during the session for those who may not have looked at either.

Welcome, explanations and reassurances

5 minutes

PART 2: Participant round robin

5 minutes

PART 3: Main discussion questions

8-9 minutes per question

Show draft video

1. What are your initial reactions to the video?

- a. What do you like about it? What stood out?
 - b. What could be improved?
 - c. How helpful is it to your understanding of connected places and how they work, including the technologies involved?
2. What messages does the video leave you with about connected places technologies?
 3. What are your views on the following aspects of the video? What do you think could be better? Is there anything that left you confused?
 - a. The words and terminology
 - b. Imagery and animation
 - c. Pace
 - d. Accessibility

Screenshare draft infographic.

4. What are your initial reactions to the infographic?
 - a. What do you like about it? What stood out?
 - b. What could be improved?
 - c. How helpful is it to your understanding of connected places and how they work, including the technologies involved?
5. What messages does the infographic leave you with about connected places technologies?

General

6. Do you feel any differently about connected places technologies now compared to before you attended the first focus group?

If so, how? What has helped to shape your opinions?

PROMPTS: Understanding of connected places technologies; trust in organisations to keep important and personal data secure

7. Are there any aspects of connected places are you are still uncertain or confused about?

If so, what are they? What would help to alleviate those concerns?

8. What else would you like to know or understand about connected places technologies?

Why is that important to you?

What information would you like your local council to provide you with about connected places?

9. As a member of the public, would you like to be involved in how connected places are designed and what technologies are used within your communities?

If so, how would you like to be involved?

What information would you need? How should that best be communicated?

Thank and close.

Round 2 interviews

Introduction adapted from the round 1 focus group equivalent.

Show draft video.

1. What are your initial reactions to the video?
 - a. What do you like about it?
 - b. What could be improved?
 - c. How helpful is it to your understanding of connected places and how they work, including the technologies involved?
2. What messages does the video leave you with about connected places technologies?
3. What are your views on the following aspects of the video? What do you think could be better? Is there anything that left you confused?
 - a. The words and terminology
 - b. Imagery and animation
 - c. Pace
 - d. Accessibility, particularly in relation to your physical or mental health condition

Screenshare draft infographic.

4. What are your initial reactions to the infographic?
 - a. What do you like about it?
 - b. What could be improved?
 - c. How helpful is it to your understanding of connected places and how they work, including the technologies involved?
 - d. Is it accessible, thinking in relation to your physical or mental health condition?

-
5. What messages does the infographic leave you with about connected places technologies?

General

6. Do you feel any differently about connected places technologies now compared to our previous discussion? If so, how? What has helped to shape your opinions?

PROMPTS: Understanding of connected places technologies; trust in organisations to keep important and personal data secure

7. Are there any aspects of connected places you are still uncertain or confused about? If so, what are they? What would help to alleviate those concerns?
8. What else would you like to know or understand about connected places technologies? Why is that important to you? What information would you like your local council to provide you with about connected places? Are there any particular accessibility considerations, thinking in relation to your physical or mental health condition?
9. As a member of the public, would you like to be involved in how connected places are designed and what technologies are used within your communities? If so, how would you like to be involved? What information would you need? How should that best be communicated?

Thank and close.