Britainthinks
Insight & Strategy

NATIONAL
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National Infrastructure Commission

Report from citizen research

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01 Key Insights

Key insights – infrastructure sectors

1. Infrastructure is considered critical to supporting a good quality of life
- Participants felt infrastructure - in particular transport and, increasingly, digital technology - underpins several aspects of quality of life

2. There are concerns about many areas of the UK's infrastructure, particularly transport and flood management
- Transport is considered vital and the sector most in need of improvement. But people are divided on whether they would be willing to pay more towards an improved system
- There are concerns that flood protection is inadequate, and there is support for increased investment to make it resilient

3. There are concerns about waste consumer trends, and a feeling the existing system won't deliver positive change
- There is therefore support for greater producer responsibility to encourage behaviour change

4. Expectations for digital communications are high
- It is the only sector where infrastructure is expected to improve over the next 30 years and many want to see the UK leading in this area
- There is appetite for smart appliances, for their potential to save consumers money, give greater control and reduce environmental impact

5. Water is the sector which participants found hardest to envisage the UK facing challenges with
- Information on the challenges facing this sector had the biggest impact on attitudes

6. Energy is seen through a consumer lens, with cost being the primary concern
- However, there is optimism that technology will find a solution to meet our energy needs

Key insights – a vision for infrastructure

1. Participants wanted infrastructure that protects the environment, is resilient to change and is invested in to save in the long-term
- Environmental concerns are high, with air quality the biggest priority
- Participants favoured investment now if it means a more efficient system in the long-term

2. Disruption to citizens was considered the lowest priority
- It is seen as an inevitable and acceptable side-effect of any improvements – so long as it leads to real change

3. Participants responded positively to NIC vision statements, all of which contained something that they could relate to
- There was a (slight) preference for a vision of infrastructure that tackles future challenges
- Messages focusing on timeliness, keeping to budget, being leaders in digital and an environmental ethos, were particularly favoured

Summary: Communications lessons emerging from the research

- **Question the core language you use and the extent to which it is understandable**
  - The term "infrastructure" leads the public to think of transport and housing, not all of the sectors
  - Technical language like 'decarbonising' can confuse and distract from the core message
  - Even some of the sector titles require explanation for a public audience (e.g. "digital communications")

- **People are more engaged with some forms of infrastructure than others**
  - While transport is front of mind, the public tend to be less engaged with water, and to a lesser extent energy
  - This means the challenges facing these systems are not as well known but information on them can significantly impact views

- **People struggle to consider a 30-year time-frame and need help understanding the drivers of change**
  - There is scope to further explore how these can be clearly communicated to citizens in a way that illustrates what it means for their lives
  - A co-creation approach, bringing together experts and citizens, would be a useful way of tackling this and shaping strategy

- **Expectations and aspirations can significantly differ between well connected and more remote areas**
  - People will respond differently to messaging (e.g. vision statements)

- **The 'running to stand still' challenge* is a difficult message to get right**
  - But this initial phase of research shows that illustrating the challenges our infrastructure faces and framing investment as a long-term saving may help

* That, due to the pressures it faces, UK infrastructure will need increased investment to maintain the existing levels of service

02 Background and methodology

Background to the research

- The National Infrastructure Commission (NIC) has begun work on the UK's first National Infrastructure Assessment (NIA)
  - The NIA looks 10-30 years ahead, across all the main economic infrastructure sectors, seeking to identify the UK's long-term infrastructure needs, the biggest challenges in meeting those needs, and the best options to address them
  - As part of the NIA, the NIC are due to publish a Vision and Priorities document in Summer 2017

- The NIC commissioned BritainThinks to conduct research to feed into this document as part of their commitment to consulting the public. Specifically, the research aims to:
  1. Provide insight into what the public understands by the phrase 'quality of life' and the ways in which infrastructure inputs into this
  2. Provide insight into what the public thinks about UK infrastructure, what they are worried about, and what they see as the key infrastructure challenges, both now and in the future
  3. Investigate what the public thinks the vision for UK infrastructure should be
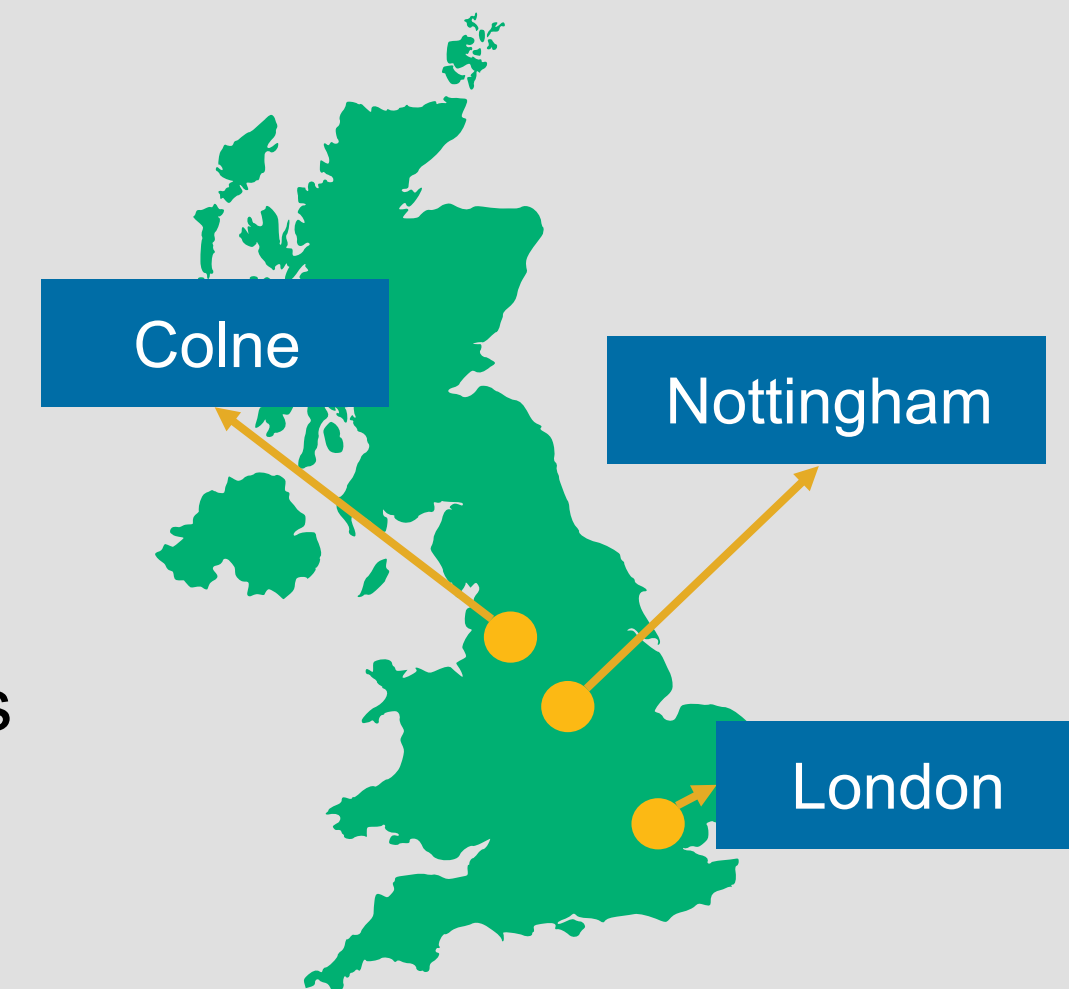
Methodology

This research followed a two-stage approach: citizen workshops followed by an online survey

1. Citizen workshops	**3 workshops across the country, each lasting 150 minutes and with 10 participants in each location** • Participants recruited from local areas to reflect a spread in terms of age, sex, ethnicity, family status and location (urban, rural, suburban) • Locations chosen to reflect a spread between well-connected, metropolitan areas (e.g. London), and more rural, less-connected areas (e.g. Colne, which is on the edge of a very rural area, with the Dales to the North, on the end of a rail line, and the end of the M65)

Colne

Nottingham

London

Methodology

This research followed a two-stage approach: citizen workshops followed by an online survey

2. Quantitative survey

Nationally representative, online omnibus survey of 2,028 adults aged 18+ living in Great Britain

- Fieldwork conducted between 29th and 30th March 2017

- Quotas set on age, sex, Socio-Economic Grade (SEG) & region

- Data weighted to the National Readership Survey

- A summary of the analysis variables used in the survey is available in the Appendix

Types of area survey respondents live in (self-selected response)

- Large city
- Small city
- Large town
- Small town
- Village
- Hamlet or other isolated dwelling
- Don't know

- 1%
- 2%
- 18%
- 24%
- 8%
- 26%
- 22%
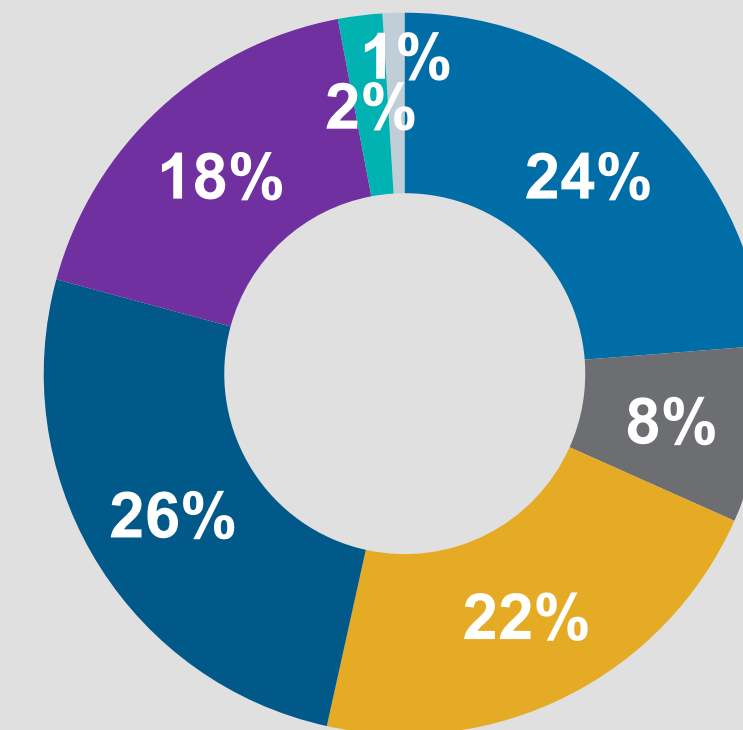
Q1. Which, if any, of the following best describes the area that you live in? Single code. Base = All respondents (n=2,028)

A note on figures presented in this report

- Please note that throughout this report where figures do not add up to 100%, or combined scores do not add up to the total of their constituent parts, this is due to rounding

  - For example, on slide 41 the apparent inconsistency in the combined "agree" figure is a result of rounding. The "strongly agree" figure is 14.9% (rounded to 15%) while the "agree" figure is 29.5% (rounded to 30%), so when combined it is 44.4% (rounded down to 44%)

03

What is quality of life?

Participants were asked to bring objects to the workshops that they felt symbolise quality of life

*"I brought an inhaler for my asthma because it represents my **health** and keeps me alive, which is the most important thing."*
(Participant, Nottingham workshop)

*"I brought my walking shoes to represent my **personal freedom**. I've got the ability to be able to put my shoes on and just walk out of the door and just have a little bit of **peace**."*
(Participant, Colne workshop)

*"I brought earplugs because one of the most important things to me is having space and **privacy** when I want it."*
(Participant, London workshop)

*"I brought **a photo of my son** because when we're together I'm always **happy**."*
(Participant, Nottingham workshop)

*"I brought my house key because I think its important to have somewhere to go at the end of the day, somewhere to call **home**."*
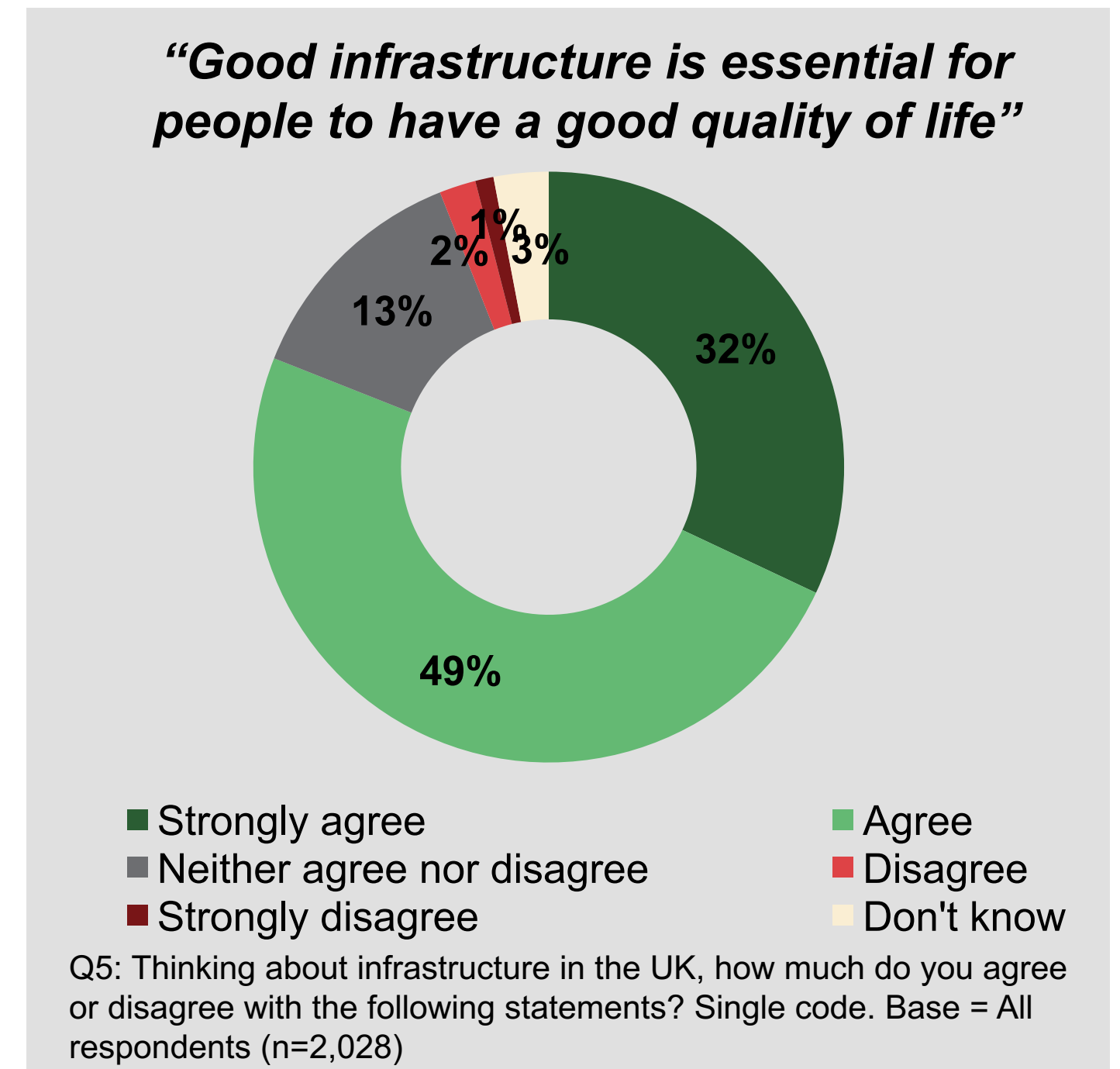(Participant, London workshop)

They defined quality of life as multi-faceted; the most important elements being human relationships, health and happiness

- Many workshop participants described the importance of **human relationships** to quality of life
  - Having friends and family to share and enjoy life experiences with
  - And for those with children or grandchildren, happy time with them is a priority

- **Health** was also very important, as without it you would be very limited

- **Comfort** and **security** were also highlighted
  - And this includes having a place to call home, financial security and the ability to treat yourself, such as bubble baths

- The ability to **de-stress** and to **'get away from things'** were also valued
  - Participants highlighted being able to travel and go on holiday
  - This also includes having privacy and peace when you feel you need it
  - And the value of nature/ being outdoors was also emphasised

Although infrastructure is not immediately thought of in relation to quality of life, it is recognised as critical to supporting it

- Infrastructure was not spontaneously mentioned in the workshops as a central part of quality of life
  - However, when probed, participants quickly pointed to the many ways in which it is critical in facilitating a good quality of life

- This is supported by the survey with the majority of respondents (81%) feeling that good infrastructure is required to support a good quality of life
  - The recognition that infrastructure supports quality of life rises with **age**, increasing from two thirds of people aged 18-24 (65%) to nine in ten people aged 65 or over (91%)
  - Very few disagree (2%) and this does not change significantly by age. Younger people are more likely not to give a view either way (28% of 18-24s do not agree or disagree or say 'Don't know')

"Good infrastructure is essential for people to have a good quality of life"

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree
- Don't know

32% · 49% · 13% · 2% · 1% · 3%

Q5: Thinking about infrastructure in the UK, how much do you agree or disagree with the following statements? Single code. Base = All respondents (n=2,028)

In the workshops, transport in particular was considered to be critical to supporting, and in some cases hindering, quality of life

- Having the ability to travel – holidays, and also feeling the freedom to go where you want to - were both spontaneously mentioned as being a part of quality of life

  - The transport sector is seen as crucial to enabling people to do these things and appreciated as a result

- However, when thinking about transport, workshop participants quickly moved to thinking about the ways in which it reduces quality of life

  - In London, long commutes and crowded trains/tubes are seen as increasing stress
  - Participants in Colne highlighted how essential it is to have a car in the area, feeling the limited public transport network means it is hard to travel using other means
  - And in all areas, congestion was flagged as a problem

"Living in London is the most stressful thing there is. It takes me an hour and 40 minutes to commute to work; I have to change onto 5 tube lines and at rush hour it's jam-packed."
(Participant, London workshop)

On further consideration, workshop participants felt that energy and digital infrastructure are facilitators of quality of life

- Forms of infrastructure that are seen as providing basic needs were also mentioned
  - Notably **energy** is seen as enabling comfort (e.g. you can turn the heating up and have a nice warm home)

- And **digital technology** was described as something that is heavily relied on and supports greater quality of life
  - Several participants said they felt 'lost' without their mobile phones when they lost signal and couldn't imagine being without this technology
  - And examples were given of digital technology saving us time to do the things we value most

- However, there were also fears about potential unintended consequences and impacts of our reliance on technology
  - For example, the perceived breakdown of family interaction and online bullying, both of which would reduce someone's happiness and therefore their quality of life

"You need a warm home so electricity and gas…when we go home it's a comforting feeling to be home, shut your door and be cozy."
(Participant, Nottingham workshop)

"I have got two relatively small children and a husband at home…and everybody seems to be switched on or plugged in to something and I think that without that you could perhaps argue that our quality of life would be better because we would maybe be talking to each other a bit more and going out a bit more."
(Participant, Colne workshop)

04

Concerns about UK infrastructure

Workshop participants' top of mind associations with the term infrastructure were focused on transport and travel
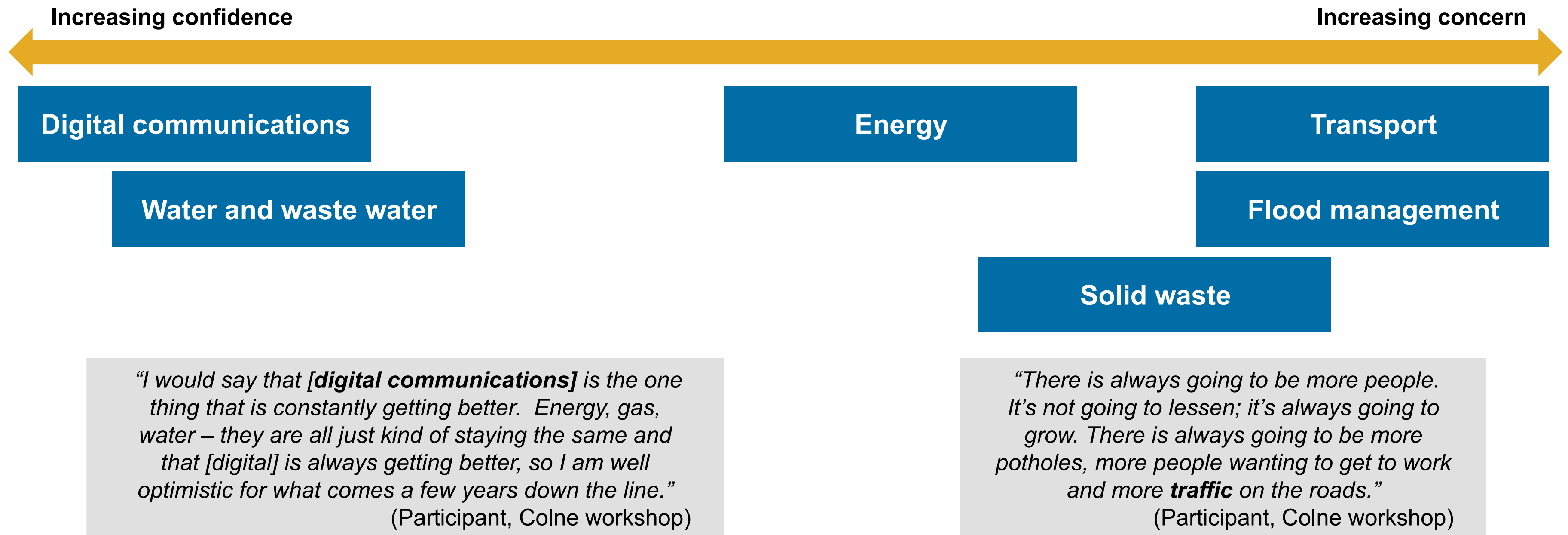

- **The public's spontaneous understanding of infrastructure tends to be limited to 'physical' services – 'the things that might need fixing'**
  - **Mainly transport, housing and, to a lesser extent, waste and energy.**
- **None of the citizens consulted mentioned water and waste water services or flooding**

"[When you say infrastructure] I think of transport, electricity, gas, things being fixed, HS2." (Participant, Nottingham workshop)

"I personally really like the tube system. My wife is from Ireland and you can't get anywhere there. There's only 2 buses a day. If you want to get somewhere you have to get a lift or you have to get a taxi. I love the tube!" (Participant, London workshop)

Workshop participants had different levels of concern for infrastructure sectors, with digital communications being the sector they had most confidence in

Increasing confidence

Increasing concern

Digital communications

Energy

Transport

Water and waste water

Flood management

Solid waste

*"I would say that [**digital communications**] is the one thing that is constantly getting better. Energy, gas, water – they are all just kind of staying the same and that [digital] is always getting better, so I am well optimistic for what comes a few years down the line."*
(Participant, Colne workshop)

*"There is always going to be more people. It's not going to lessen; it's always going to grow. There is always going to be more potholes, more people wanting to get to work and more **traffic** on the roads."*
(Participant, Colne workshop)

Findings from the survey results are broadly in line with this

Increasing confidence

Decreasing confidence

■ Extremely confident ■ 4 ■ 3 ■ 2 ■ 1 ■ Not at all confident ■ Don't know

% Confident (3+4+5)

Category	Extremely confident	4	3	2	1	Not at all confident	Don't know	% Confident (3+4+5)
Digital communication	20%	37%	24%	8%	2%	1%	7%	82%
Water supply and waste water	9%	29%	35%	13%	5%	2%	7%	74%
Energy	8%	23%	35%	18%	7%	3%	6%	66%
Transport	8%	22%	31%	20%	9%	4%	6%	61%
Solid waste	6%	20%	32%	20%	7%	4%	12%	57%
Flood management	4%	15%	30%	25%	11%	6%	9%	49%
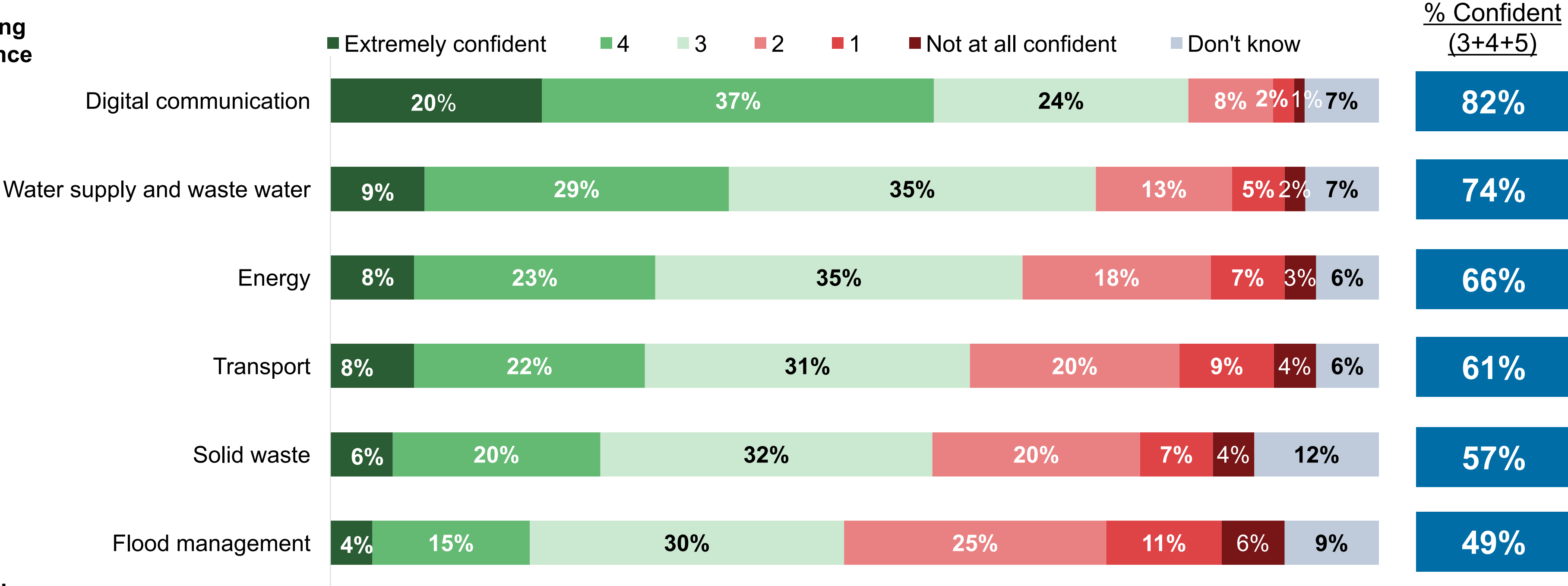
Q3. Thinking about the next 30 years, how confident are you, if at all, that each of the following forms of infrastructure in the UK will meet our needs? Please indicate on a scale from 0-5, where 0 means not at all confident and 5 means extremely confident. Base = All respondents (n=2,028)

Digital communications is the sector the public has most confidence in for the next 30 years

- Workshop participants found it harder to think of challenges facing this sector than they did for others, and were often limited to the level of the individual consumer experience, including:
  - Variable quality and speed
  - Problem of variable mobile reception depending on network provider
  - Inequality in access to digital infrastructure

- However, cyber security was raised as a concern by several participants, and some had concerns about the wider societal implications of the growth in digital

82%

Of survey respondents say they are confident in this sector over the next 30 years

The expectation is that the UK will continue to improve in this area

- Some participants highlighted that this will be necessary to remain competitive in the global marketplace

- However, a small number want a clearer articulation of why things have to keep getting faster and faster – what is the return on investment, what's in it for me?

"Technology is evolving faster than our ability to comprehend it, we're discussing ethical and social implications on what's now actually pretty dated technology because they're already working on the next thing."
(Participant, Nottingham workshop)

The public also has confidence in *water* services, which are expected to continue to be of a good standard in the future

- Workshop participants felt this sector is currently working well
  - There is always a supply of safe water to drink when you turn on the tap
  - In addition, it is not considered to be as expensive as other utilities
  - But some acknowledge that, as a form of infrastructure that is largely hidden, we tend to take it for granted

- Only a small number of participants identified challenges facing the sector
  - Some participants felt we are seeing the impacts of climate change on rainfall patterns (unpredictable/unclear seasons)
  - Others identified wasteful behaviours and welcomed the idea of water meters to encourage more sustainable behaviour
  - A small number of participants referred to the old age of water pipes and problems with leakage

- And overall, water supply was not considered to be a problem for the UK, nor was it felt likely to be one in future (due to the perceived abundance of water in the UK)

74%

Of survey respondents say they are confident in this sector over the next 30 years

"Because you know it's always there when you brush your teeth you don't turn the tap off. We take it for granted. You need to put water meters in to incentivise people a bit; they'll think this is costing me so I'll not use so much."
(Participant, London workshop)

Two thirds of the public have confidence in the *energy* sector, and workshop participants' primary concern was the cost to consumers

- Energy bills were perceived to be very expensive, and participants felt that they are constantly increasing
  - And while they know that it is possible to switch provider to try and get a better deal, most felt it is too complicated to do so or do not want to spend the time searching

- Cost is expected to get worse before it gets better and this is where concerns primarily lie

- Participants were positive about the long-term availability of energy
  - There was hopeful expectation that sustainable energy sources would increasingly be used
  - And energy is the sector that participants were most positive about the potential impact of technology; in terms of how it can enable us to change our behaviour (e.g. smart meters) and to find alternative forms of energy

66%

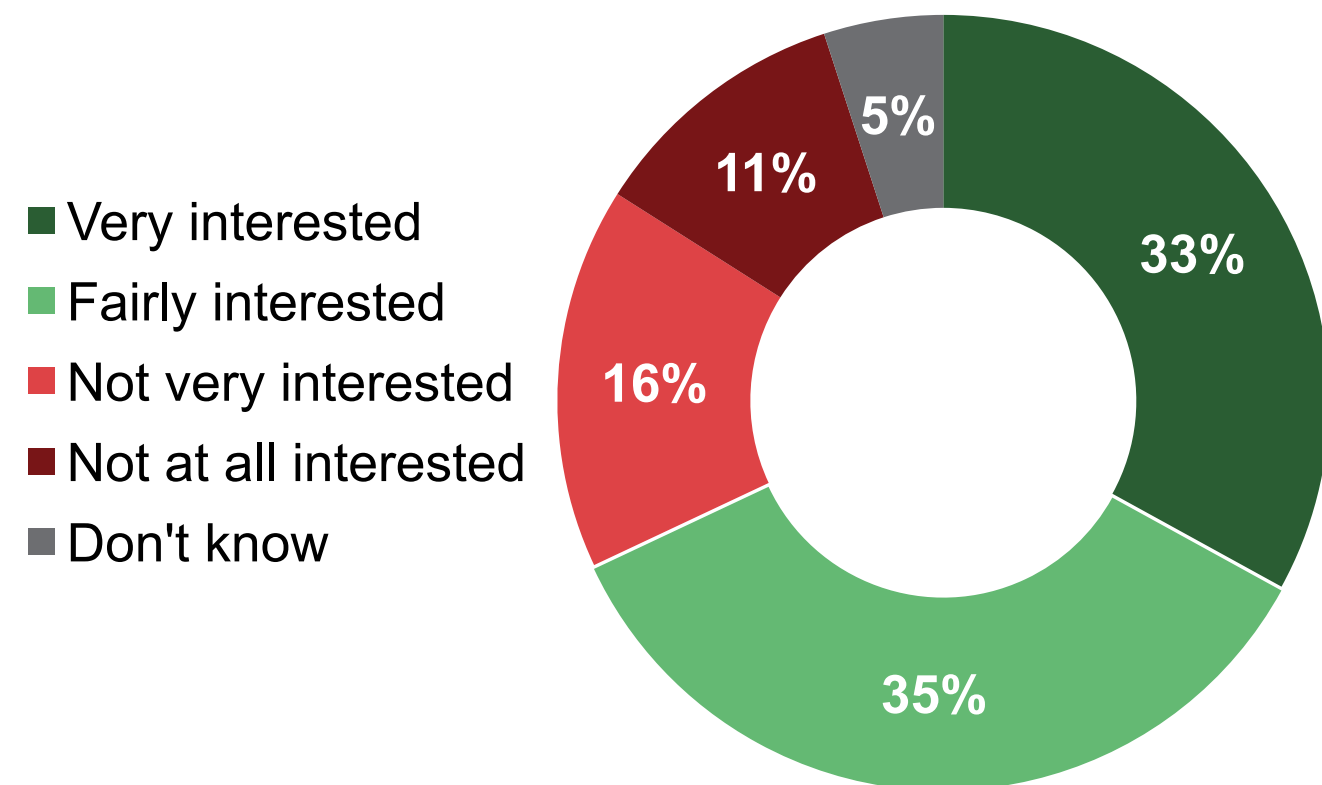**Of survey respondents say they are confident in this sector over the next 30 years**

"That's another one that consumes a lot of your salary. They try to offer you better deals but it's so complicated anyway that most people can't be bothered to research them." (Participant, Nottingham workshop)

Survey respondents were also positive about the use of smart appliances

Respondents were provided with with following text: Smart appliances are household items like fridges, washing machines and dishwashers that can communicate with the internet. This allows your electricity company to control the power supply to these appliances so that they reduce their power consumption for short periods of time. This is done in such a way that does not affect their performance (e.g. a fridge would still be kept at the required temperature). This helps reduce their environmental impact and can reduce your electricity bill. Smart appliances are expected to become more common.

Interest in using smart appliances in the future

- Very interested
- Fairly interested
- Not very interested
- Not at all interested
- Don't know

33%
5%
11%
16%
35%

- Two thirds (68%) are interested in smart appliances. Interest decreases with age (83% of 18-24 year olds versus 57% of those aged 65+)

- The most common attractions of smart appliances were: saving money, giving greater control and reducing energy use, environmental impact and embracing advances in modern technology

- Those not interested cited: lack of any need, hacking risks, concerns over access to personal data, risk of failure and fear of being reliant on energy companies, as the reasons behind their reservations

Q9: If the cost of buying a smart appliance was the same as for a non-smart appliance, how interested, if at all, would you be in using a smart appliance in the future? Single code. Base = All respondents (n=2,028)

There is some confidence in the *transport* sector overall, although workshop participants raised strong concerns about elements of it

- Participants felt there were several challenges facing this sector and expect many aspects to worsen over the next 30 years
  - Prices and affordability
  - Congestion – particularly with population increase
  - The ability of services to cope with increased demand

- Rail was the dominant concern and is expected to get worse
  - High prices, Southern Rail strikes, overcrowding, and lack of clarity due to multiple providers all added to a sense that the rail network is not fit for purpose

- In Colne, the emphasis was placed on the road network (felt to be critical to personal mobility) – especially buses and the condition of local roads
  - Participants felt the area has been left out with services being removed and proposed improvements or extensions not materialising

- By contrast, airports were rarely mentioned, indicating a perception that this part of the sector is working well

61%
Of survey respondents say they are confident in this sector over the next 30 years

"When they're doing roadworks they just take forever and a day so it might say 12 weeks, but months later it's still continuing..."
(Participant, Colne workshop)

The public has less confidence in the *solid waste* sector and workshop participants highlighted the negative impact of consumer trends and attitudes

- There was a strong sense that we are living in an increasingly throw-away society, which is hard to avoid
  - In part, this is seen as a result of cheap and poorly-made products that do not last
  - Also part of the race to 'keep up' and have the latest model of technological items in particular

- Excessive packaging was commonly highlighted as a problem
  - Supermarkets are seen as culprits along with the rise in deliveries from companies like Amazon

- Participants felt local council collection schemes are confusing, with too many variations in the individual systems across the country
  - Scandinavian and German models were held up by some as what we should be aiming for, especially encouraging better behaviour through incentives e.g. recycling packaging for a discount on shopping

- The situation is expected to worsen over the next 30 years due to increasing consumerism, population increase and a move away from/ inability to continue with traditional forms of disposal (i.e. landfill)

57%

Of survey respondents say they are confident in this sector over the next 30 years

"When I think about my first phone a Nokia 3310, that probably would still work but the product lifecycle means I've had several phones since." (Participant, Nottingham workshop)

"You buy things off of Amazon and it can be the smallest thing and it comes in the biggest box." (Participant, Colne workshop)

Flood management is the infrastructure sector the public has least confidence in

- Workshop participants felt flooding is a problem that has increased in recent years as a result of:
  - Changeable rainfall patterns – which many felt was a result of climate change
  - Building on floodplains
  - A few also noted the impact paving of green areas/front drives and agricultural practices

- There was an expectation that flood defences should resolve the problem and that instances of repeat flooding are unacceptable

- Overall participants expected flooding to get worse over the next 30 years as a result of increasingly changeable rainfall patterns and continued building on floodplains
  - And while this did not directly impact any of the citizens consulted, there was overwhelming support for protecting those in flood risk areas
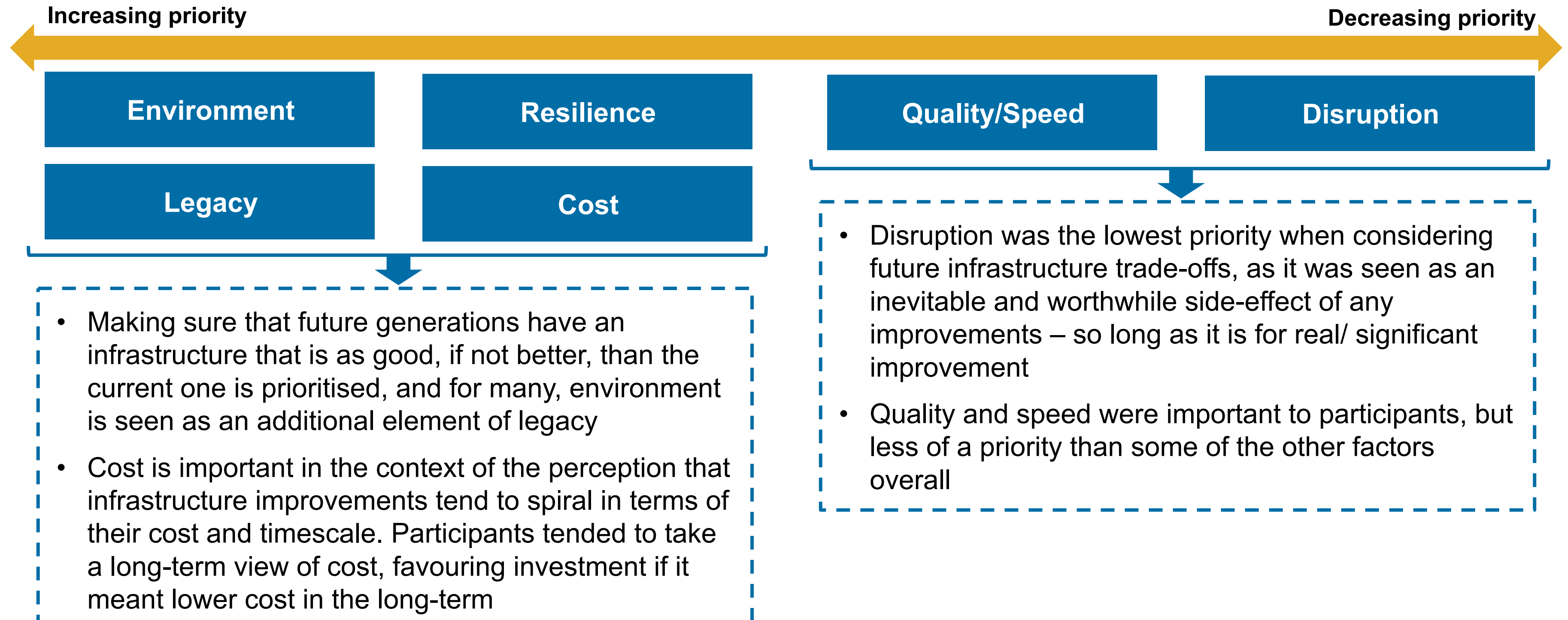
49%

Of survey respondents say they are confident in this sector over the next 30 years

"We're getting more floods; the weather is so changeable. We're getting crazy weather when it should be sunny and nice and when we're in summer and we're getting heavy rain storms and the coastal erosion, everything's getting worse I think."
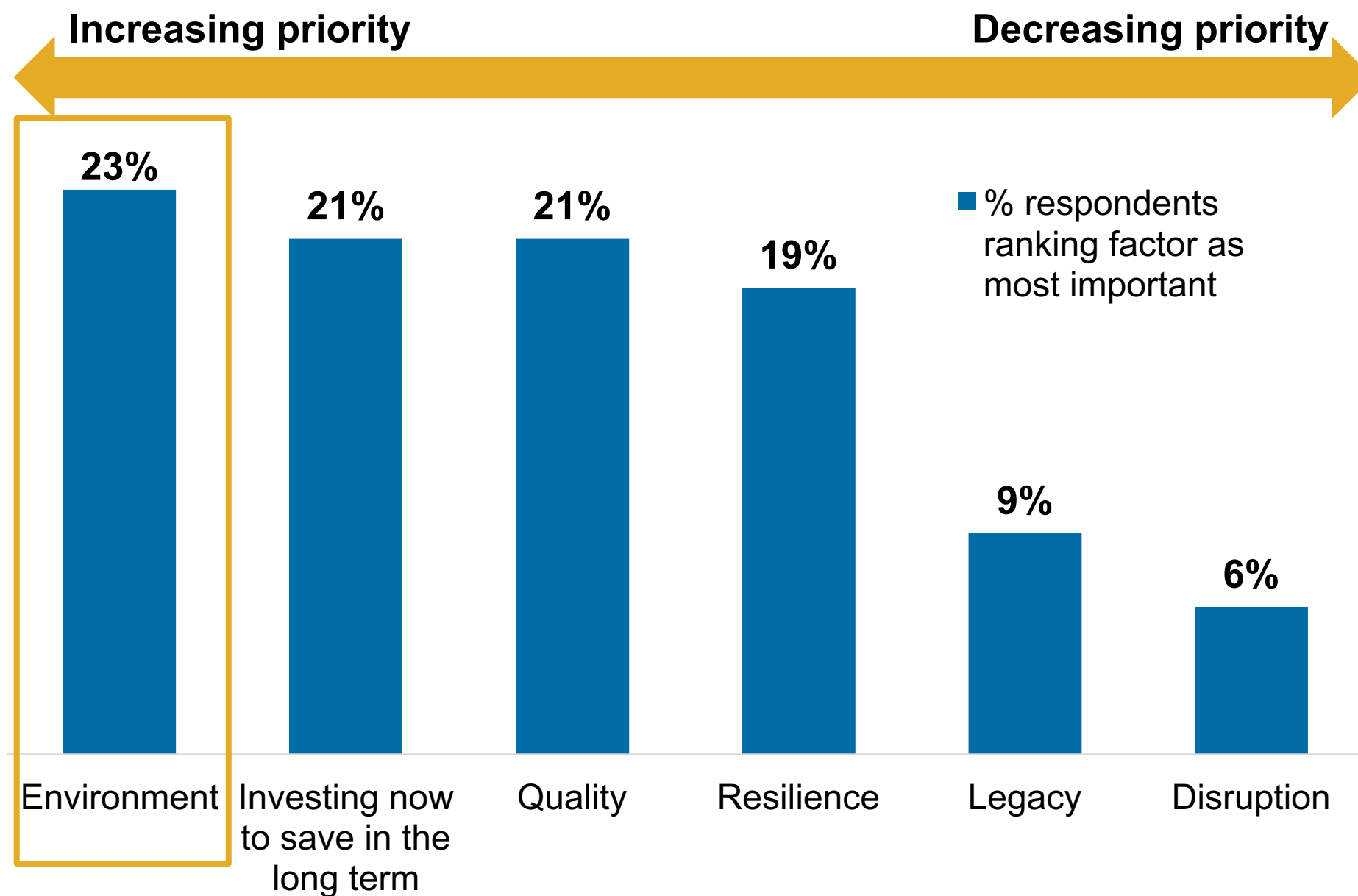(Participant, Nottingham workshop)

05 What do people want from infrastructure?

Workshop participants felt that considerations of the environment and legacy were most important for future infrastructure
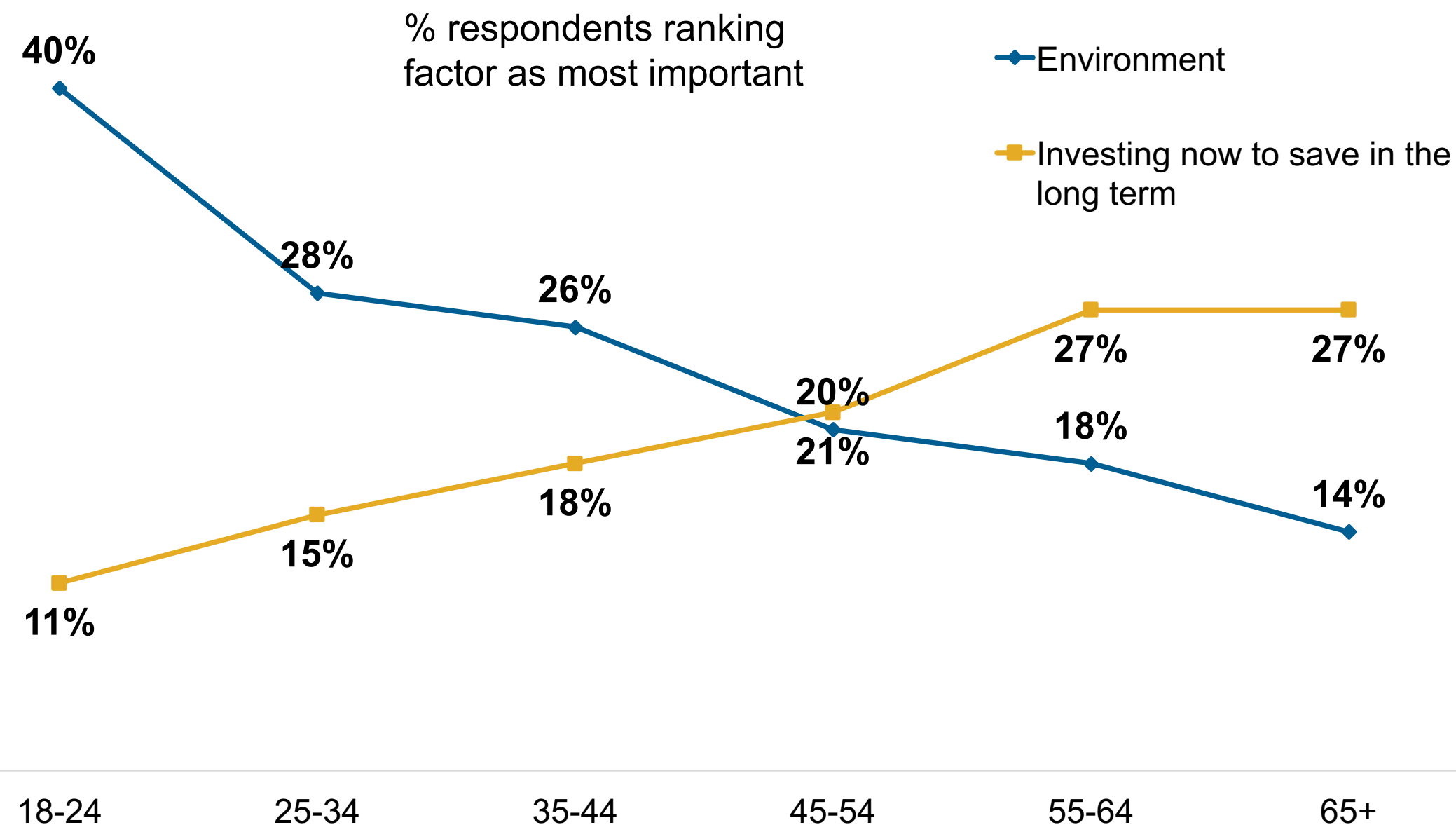
Increasing priority

Decreasing priority

Environment	Resilience		Quality/Speed	Disruption
Legacy	Cost			

- Making sure that future generations have an infrastructure that is as good, if not better, than the current one is prioritised, and for many, environment is seen as an additional element of legacy
- Cost is important in the context of the perception that infrastructure improvements tend to spiral in terms of their cost and timescale. Participants tended to take a long-term view of cost, favouring investment if it meant lower cost in the long-term

- Disruption was the lowest priority when considering future infrastructure trade-offs, as it was seen as an inevitable and worthwhile side-effect of any improvements – so long as it is for real/ significant improvement
- Quality and speed were important to participants, but less of a priority than some of the other factors overall

The importance of the environment was also reflected in the survey results, with disruption least important

Increasing priority   **Decreasing priority**

- % respondents ranking factor as most important

23% — Environment
21% — Investing now to save in the long term
21% — Quality
19% — Resilience
9% — Legacy
6% — Disruption

Q4. When putting together this plan [the NIA], which of the following factors do you think are the most important to consider? Please rank the following, in order of most to least important. Base = All respondents apart from those who say 'Don't know' (n=2,010)
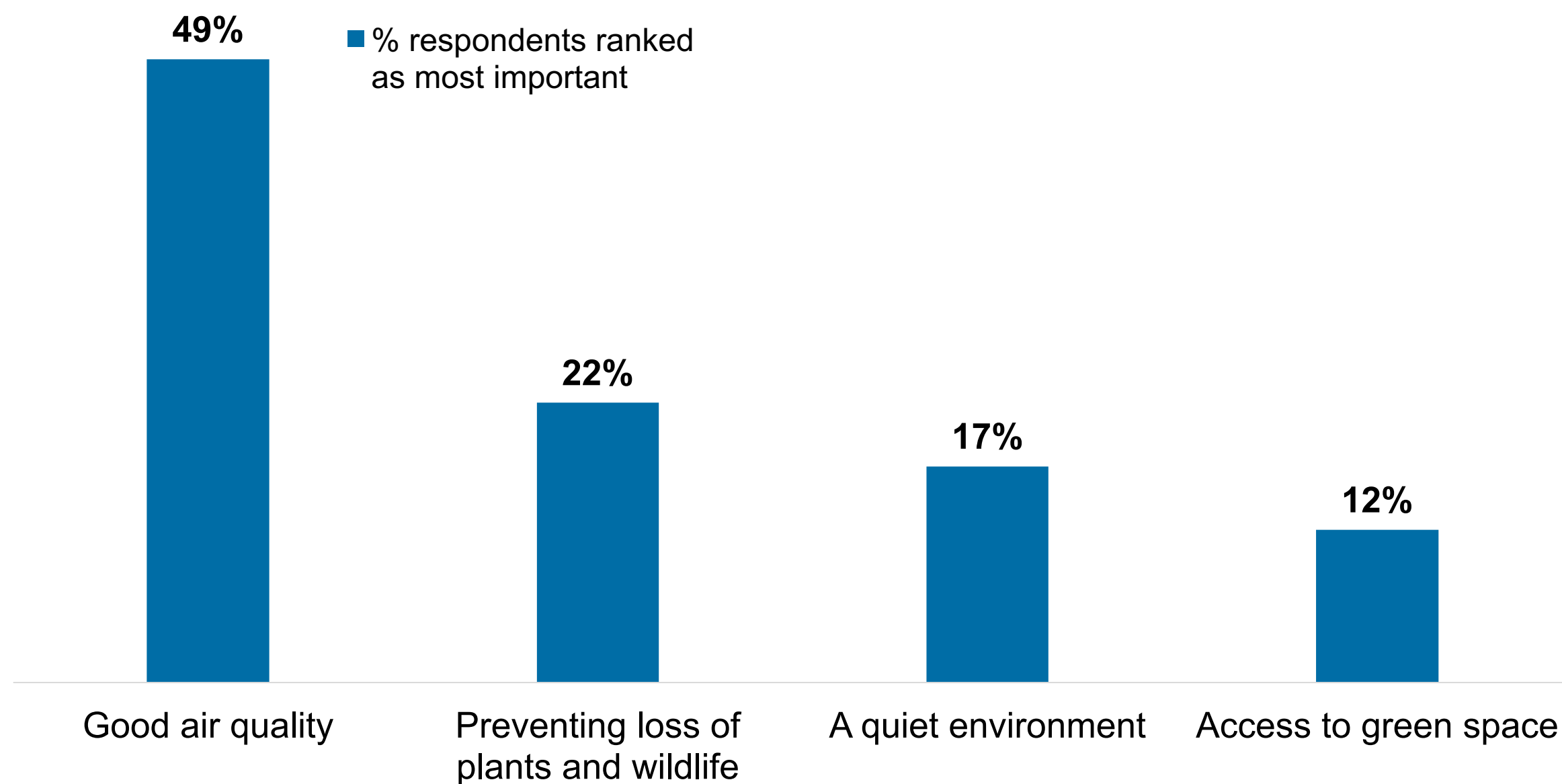
- In both the workshops and the survey results environmental concerns are high while disruption is the lowest priority

- Concerns over **legacy** differed between the survey and the workshops
  - Legacy was a high priority in the workshops but relatively low in the survey
  - In the workshops participants thought of 'legacy' partly in environmental terms (and therefore prioritised it)

- Respondents in London are more likely to prioritise **resilience** to setbacks like population growth and climate change than other regions (27% versus 19% across the whole country)

Younger people are more likely to prioritise the environment, while support for investing for long-term savings increases with age

% respondents ranking factor as most important

◆ Environment

■ Investing now to save in the long term

40%
28%
26%
20%
21%
18%
14%

11%
15%
18%
27%
27%

18-24   25-34   35-44   45-54   55-64   65+

- Prioritising the environment when considering future infrastructure needs decreases with age
  - 40% of those aged 18-24 say this is the most important factor, reducing to 14% of those aged 65+

- Meanwhile, older respondents are more likely to prioritise investing now to save in the long term
  - 27% of those aged 65+ say this is the most important factor, versus 11% of those aged 18-24

Q4. When putting together this plan [the NIA], which of the following factors do you think are the most important to consider? Please rank the following, in order of most to least important. Base = All respondents apart from those who say 'Don't know' (n=2,010)
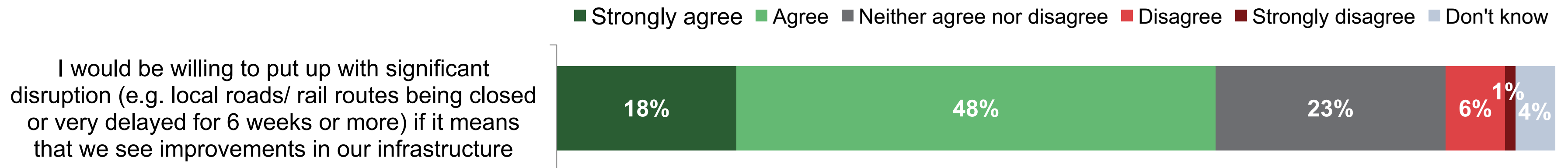
Environment is the top priority for the public when considering future infrastructure, and within this almost 1 in 2 say air quality is most important

49%

■ % respondents ranked as most important

22%

17%

12%

Good air quality

Preventing loss of plants and wildlife

A quiet environment

Access to green space

- Air quality is more important for people **aged 65+** and those with **children under 18**
  - 65+: ranked as most important by 54% versus 49% overall
  - With children under 18: 55% versus 46% of those without children

- Importance of preventing loss of plants and wildlife decreases with **age**
  - 32% of 18-24 year olds selected this as the most important factor, versus 17% of those aged 65+

Q11. Infrastructure can affect people's wellbeing and the environment. For example, it can reduce air quality, increase noise pollution, and reduce our access to green space. Looking at the list below please rank them from the one that is most important to you to the least important to you. Single code. Base = All respondents apart from those that say 'Don't Know' (n=2,014)

Disruption is the lowest priority for the public, and 2 in 3 say they would be willing to put up with significant disruption if it leads to infrastructure improvements

■ Strongly agree ■ Agree ■ Neither agree nor disagree ■ Disagree ■ Strongly disagree ■ Don't know

I would be willing to put up with significant disruption (e.g. local roads/ rail routes being closed or very delayed for 6 weeks or more) if it means that we see improvements in our infrastructure

18%	48%	23%	6%	1%	4%

- In line with workshop participants, a majority of survey respondents (65%) say they would be willing to put up with disruption IF it leads to change
  - **Car owners** are less concerned with disruption than those without a car (67% and 60% agree respectively), suggesting they might feel better able to cope

"Disruption, I am sure that we all don't mind a little bit of disruption as long as we know that we're going to get results at the end."
(Participant, Colne workshop)

Q5: Thinking about infrastructure in the UK, how much do you agree or disagree with the following statements? Single code. Base = All respondents (n=2,028)

Workshop participants were provided with a potential future trade-off scenario for each sector

- For each sector, participants were provided with two options for the future of the sector

- Participants were asked to assess the scenario and decide which option they preferred

Transport

As the UK population grows and the climate changes, there will be increased strain on existing transport infrastructure and a demand for new transport projects.

Option A

- You pay the same amount for transport infrastructure (through taxation) as you currently do

- We choose to live with an ageing transportation network

- Public transport, including the roads, likely to become increasingly congested

- Investment in transportation would need to happen at a later date

Option B

- You pay £100 more each year, through taxes, for the next 10 years

- This would allow the government to fund new transportation projects that they currently cannot, such as those on the scale of High Speed Rail 2 (HS2)

- This would provide better transport infrastructure for future generations

In the *transport* sector scenario, workshop participants favoured investing now in future improvements/ projects

- Transport is the sector participants were most frustrated with, and concerned about for the future

- Participants supported investment in transport infrastructure, believing it is necessary to progress and maintain competitiveness

Transport

As the UK population grows and the climate changes, there will be increased strain on existing transport infrastructure and a demand for new transport projects.

Option A

- You pay the same amount for transport infrastructure (through taxation) as you currently do
- We choose to live with an ageing transportation network
- Public transport, including the roads, likely to become increasingly congested
- Investment in transportation would need to happen at a later date

Option B

- You pay £100 more each year, through taxes, for the next 10 years
- This would allow the government to fund new transportation projects that they currently cannot, such as those on the scale of High Speed Rail 2 (HS2)
- This would provide better transport infrastructure for future generations

- Almost unanimously, participants across all three workshops felt option B was preferable

- £100 extra per year does not feel like a lot to pay for this – as long as it is guaranteed to be spent on transport and has the intended impact

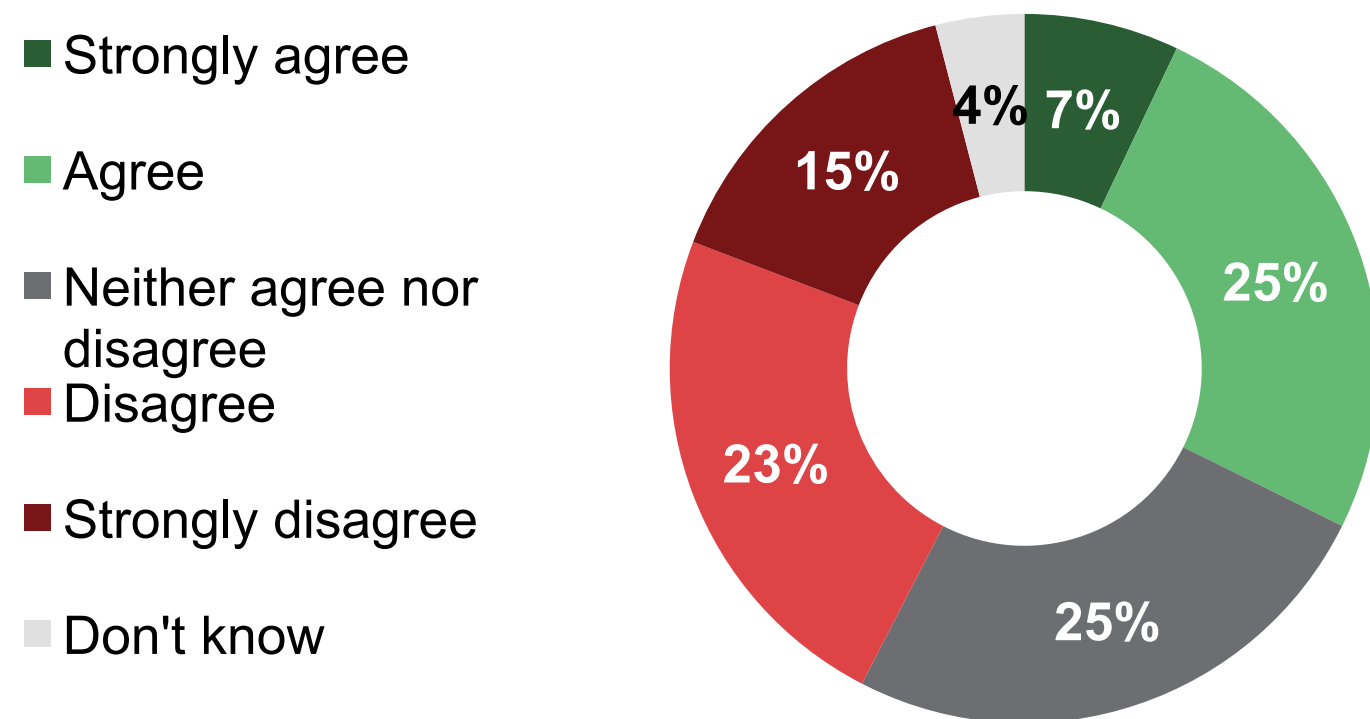- However, those in Colne raised concerns that new projects might leave their area out

"There's no choice. For me it would be option B. It's bad enough as it is, why would you want to stick with A? You want progress."
(Participant, Nottingham workshop)

"[Option B] would make it better for everyone really, and it's not a silly amount of money per person."
(Participant, Colne workshop)

Survey respondents were provided with a similar scenario, but were more evenly split on favouring increased investment now

Respondents were provided with with following text: As the UK population grows and our climate changes, there will be increased strain on existing transport infrastructure. The amount that we currently pay towards the transport network will pay for keeping it running, but it will not allow for investment in new transport projects. Without increased investment, transport infrastructure will get increasingly old, more congested and more unreliable.

I would be willing to pay £100 more in taxation per year for the next 10 years, if it means that the transport network runs more reliably and can respond to future challenges

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree
- Don't know

4% 7% 25% 25% 23% 15%

- Slightly more say they would not be willing to pay more (39%) than would (32%). The difference with the workshop findings reflects the importance of framing, with survey respondents not having been exposed to the same level of discussion about infrastructure challenges.
  - **Men** are more likely to be willing to pay more (39% agree versus 26% of women)
  - **People aged 18-24** are most likely to say they would pay more (42% of 18-24s agree)
  - **Car owners** more likely to agree (34% versus 26% without a car)
  - No significant differences across different **regions** or between those living in **urban/rural** areas

Q7: How much, if at all, do you agree or disagree with the following statement? Single code. Base = All respondents (n=2,028)

In the *waste* sector scenario, workshop participants favoured greater responsibility on producers, even if it means increased prices
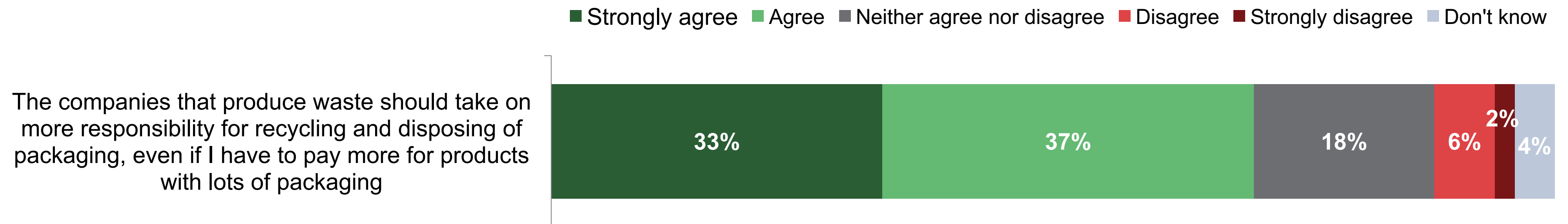
- The level of waste we are producing was a key concern for participants

- They expect improvement in the situation and believe that more should be done

- In addition, many talked about problems with the current system (e.g. not knowing what can be recycled/ different rules for different councils)

Waste

44% of household waste in England is recycled - in 2015, for the first time, the recycling rate fell. On average, we each produce over 400kg of waste / year.

Option A
- Local councils are responsible for providing recycling and reprocessing facilities for household waste
- Residents pay to recycle and dispose of their waste through council tax

Option B
- The producers of packaging (e.g. supermarkets, food suppliers) bear more of the cost for recycling and disposal
- Local councils are still responsible for recycling and reprocessing household waste but producers pay towards local authority collection services
- Your council tax is slightly reduced but you pay slightly higher prices for the packaged goods you buy. The amount you pay to process waste would therefore be more tied to how much you consume

"I find it hard to believe it would actually cost more to package less. I'd support doing it that way because I think competition would encourage supermarkets to keep prices low."
(Participant, Nottingham workshop)

- Participants wanted to see producers take greater responsibility for packaging

- They want to see retailers reducing packaging, and making them pay for recycling felt like the financial incentive needed to encourage this behaviour

- They were willing to pay more but felt that competition would help keep prices fairly low – and some questioned why reducing packaging would mean increased costs for them as a consumer

The majority of survey respondents agree that there should be greater producer responsibility for packaging waste

■ Strongly agree ■ Agree ■ Neither agree nor disagree ■ Disagree ■ Strongly disagree ■ Don't know

The companies that produce waste should take on more responsibility for recycling and disposing of packaging, even if I have to pay more for products with lots of packaging

| 33% | 37% | 18% | 6% | 2% | 4% |

- **70% agree with increased producer responsibility for packaging waste, and are willing to pay for it.**

- **There is broad agreement with this across different groups of people, with the only significant difference based on social grade**
  - **Those of a higher SEG are more likely to agree (76% of ABC1 respondents, versus 65% of C2DE respondents)**

Q5: Thinking about infrastructure in the UK, how much do you agree or disagree with the following statements? Single code. Base = All respondents (n=2,028)

In the *energy* sector scenario, most workshop participants were financially motivated, needing to see a saving overall

- While participants could see the benefit of short-term cost for long-term savings, many were concerned about how long it would take to get the money back and whether they would be in the same house for that length of time

- Disruption was not a significant concern

Energy

To address climate change, the UK has committed to radically reduce its carbon emissions by 2050. One implication of this is that we will need to find an alternative to natural gas to heat our homes and provide hot water.
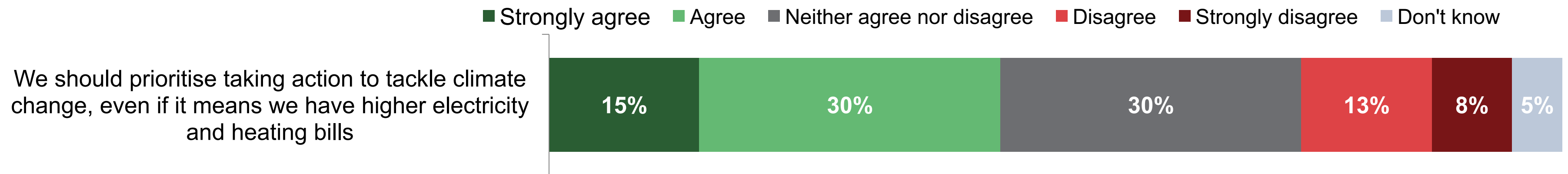
Option A	Option B
• You can choose to make your home more energy efficient by installing loft insulation.	• You choose not to install loft insulation.
• It costs around £240 up-front for an average house.	• You pay nothing upfront and would experience no disruption to your home.
• It saves you approximately £15 per year on your gas bill and reduces your personal carbon emissions.	• There is no saving on your heating bill and your personal carbon emissions would remain the same.
• Installation requires temporarily moving anything that is stored in your loft.	• However, since this would make it harder for the UK to decarbonise its heat supply, your energy bill could increase significantly in the longer term

- Some participants preferred this option – and felt that they would simply use their heating less to compensate

- They found the decarbonising argument less convincing (and less of a motivator)

  - And questioned the impact that behaviour on this level could have on a global problem

"I wouldn't want to spend that money if I wasn't staying for very long."
(Participant, Nottingham workshop)

"It depends how many years you're going to live in your house, if you're going to see your money back."
(Participant, Colne workshop)

While the primary concern with energy is over cost, there is some support for tackling climate change even if this increases energy bills

Legend: ■ Strongly agree ■ Agree ■ Neither agree nor disagree ■ Disagree ■ Strongly disagree ■ Don't know

We should prioritise taking action to tackle climate change, even if it means we have higher electricity and heating bills

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	Don't know
15%	30%	30%	13%	8%	5%

- Twice as many agree than disagree (44% versus 21%) that we should take action on climate change even if this leads to higher energy bills
- Support decreases with **age:**
  - Over half of 18-24 year olds (61%) agree versus around a third of those aged 65+ (35%)
- Those of a higher **SEG** are more likely to agree (52% of ABC1, versus 36% of C2DE)

Q5: Thinking about infrastructure in the UK, how much do you agree or disagree with the following statements? Single code. Base = All respondents (n=2,028)

In the *flood management* scenario, workshop participants wanted a resilient system paid for by all – not just those at risk

- Flooding is something that participants were concerned about - not for themselves but for others

- This means they supported a greater level of investment, feeling existing defences were insufficient

- And there was concern about whether or not those likely to be affected would be able to shoulder the extra cost

Flood Management

Around one million homes* are at medium or high risk of flooding. Current levels of investment are likely to keep pace with climate change and allow existing defences to be replaced, but will not reduce the numbers at risk.

Option A

- We continue the current approach to flood risk management

- There is a small increase in investment over time to cope with climate change

- People living in areas that are not protected are increasingly likely to be flooded, and would pay themselves for additional protection e.g. through high insurance premiums

- More of our communities and infrastructure are likely to be affected

Option B

- We invest in improving protection to reduce the risk we face from flooding

- This would cost an extra £10 per household per year, paid for through taxation – we would all pay to protect those most at risk of flooding

- It means people living in risk areas would be less likely to be affected, or suffer less damage if they are flooded

- Across all three workshops, participants unanimously decided that the better option was for everyone to burden the cost of protection

- For many, the cost was not very much to pay – and there was a sense that if the amount was significantly higher (e.g. £100) they might reconsider
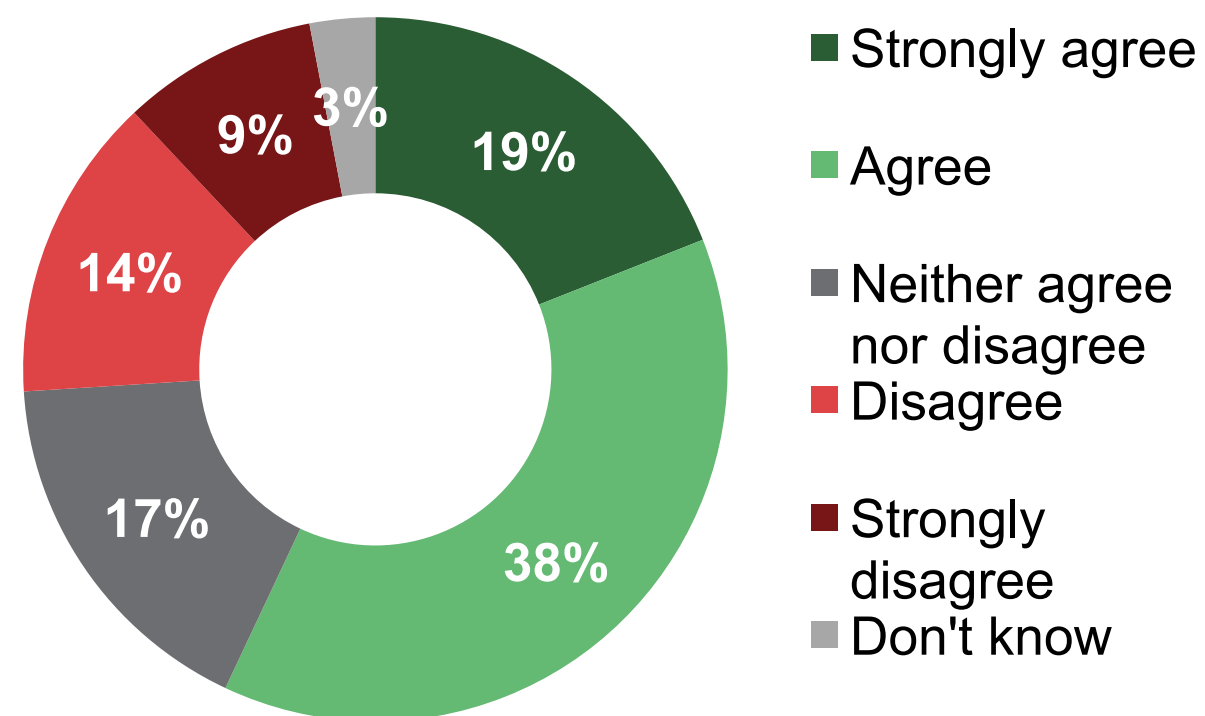
"It doesn't bother me, I live in the third floor of a flat, I'm not going to get flooded. But we're all responsible, we should all band together, we're one community."
(Participant, London workshop)

"Option B, £10 is nothing over a year for me and yes I don't live in a flood area but I know people that do and I think it's not much to ask."
(Participant, Colne workshop)

Survey respondents were provided with a similar scenario, and the majority were also willing to pay more for flood protection

Respondents were provided with with following text: Natural disasters such as flooding have a big impact on people, communities and businesses. Such events are expected to become more likely over the coming decades. Flood protection in the UK is paid for by everyone through taxes. This means that households in areas that are unlikely to be flooded contribute the same amount as households in areas at high risk of flooding. If every household in the UK paid £10 more per year towards flood protection, this could significantly reduce the impact of flooding on people living in areas at high risk of flooding

I would be willing to pay £10 more per year towards protecting people in the UK from the impacts of flooding, even if my household is not at risk of flooding

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree
- Don't know

19%
38%
17%
14%
9% 3%

- Over half (57%) are willing to pay an additional £10 towards flood protection
  - **Older people** are most likely to be willing to pay (65% versus 57% overall)
  - Three quarters of people living in Hamlets (75%) are willing to do so

Q8: How much, if at all, do you agree or disagree with the following statement? Single code. Base = All respondents (n=2,028)

In the *digital* communications scenario, most workshop participants based their decision on their existing use and needed help in understanding the benefits of the investment

- Most participants were content with their current level of service

- Irritations with the consistency and reliability of the service were seen to be minor and not worth spending more on

Digital

The average UK home now has over 8 internet-connected devices. This is likely to continue to increase as more devices such as water meters, heating systems and refrigerators become connected to the internet and controlled by smartphone

- You have a choice of different broadband offers

Your current service	An upgraded service
- You receive download speeds of 25 mb per second	- Your download speed is increased to 100 mb per second and is more consistent
- This means that your household can play Netflix in Ultra HD on one device	- Your household can play Netflix in Ultra HD on 4 devices simultaneously
- It costs £27 per month	- You would not need to increase the amount you pay in the future in order to use new internet-connected devices
	- Repair times are quicker
	- You pay an extra £20 per month

- Digital is not seen as a sector requiring improvement as is the case for many other forms of infrastructure

- Participants struggled with the idea of paying more now to future-prof against increased usage in future

- The exception was for participants who feel they need faster speeds now (e.g. multiple user households that do use multiple devices at once)

"I would rather save that £20 a month for holidays or anything else, so- and there will probably be an offer on in ten years' time when I do need it anyway."
(Participant, Colne workshop)

"My flat that I live in, there's three of us that live there. When we all get home we want to relax and we don't have a TV and if my Netflix was buffering it would be really annoying."
(Participant, London workshop)

In the *water* sector scenario, participants wanted a more resilient system and were strongly against waste

Water

In England and Wales, more than 3 billion litres of water is wasted every day through leakage. This is the equivalent to the amount of water used by 22 million people – or more than one third of the entire UK population – each day

- Despite this, fixing leaks is not the only solution to projected water shortages. Another option is to build a reservoir.
- Both options would cost the same amount of money and be paid for through customer water bills.
- Do you think it's important to reduce wastage even if water shortages can be addressed using other solutions?
- Would it matter if fixing leaks meant travel disruption for several days at a time on a number of roads due to roadworks (and other solutions such as building a reservoir did not)?

- Most participants felt that fixing leaks should be prioritised as a reservoir would not resolve the issue of wastage
  - And there was little concern about the travel disruption that this would lead to, as it would be temporary and worthwhile to reduce the amount of water being wasted
- Once leakage has been reduced, many participants were then in favour of building a reservoir
  - Although there was some concern about the location of a new reservoir and the extent to which it would disrupt homes and communities

"Well, I think, you know, we can always probably do with another reservoir. Sometimes there is a lot of downfall and it's not captured, and it might be good to build a reservoir to capture it."
(Participant, Colne workshop)

"Personally, I think repairing pipe work is the way to go. Unless you repair it, it's going to keep happening whether or not you do the reservoir."
(Participant, Nottingham workshop)

Workshop participants wanted to see tangible and long-term benefits as measures of success

- For many, the most important thing was that they can **see and benefit from the end product**
  - For example, train journey times being faster, less congestion on the roads
  - And if it is not visible, the benefits need to be clearly articulated and communicated (e.g. in the case of fixing leakage in water infrastructure)

- **Resilience** was also important here
  - There was an expectation that a fix to a service should be long-term – repeat problems (e.g. repeat flooding) would be a strong sign that investment was not up to scratch

- Some expected to see wider improvements on other aspects of the economy and life

  - Such as increased employment, job opportunities and investment in the area benefiting from the infrastructure

- And there is also a place for **independent measurement and analysis**
  - Especially for things like carbon emissions and how the UK's digital communications compares with the rest of the world

"I think that it's got to be visible. We have to be able to see that it's getting better. Digging up the roads is all very well but if we don't get any report that the leakage has gone down by 5% or something, we wouldn't know. We can see the potholes and we can see the electric stuff, and we can see most things, but it's important to be told."
(Participant, Colne workshop)

"Not measuring according to opinion but via a statistical basis."
(Participant, London workshop)

06 The NIC vision

We tested a series of draft vision statements with workshop participants and survey respondents

- Participants responded positively to the statements and there was no clear 'winner' across the research
  - All vision statements have some appeal, with a focus on tackling future challenges proving slightly more engaging

Statement	%
UK infrastructure should cope with future challenges, such as increasing population and climate change	37%
We should use long-term planning, ensuring we take decisions quickly and efficiently to deliver the infrastructure we all need on time and to budget	31%
Our infrastructure should help the UK lead the fight against climate change, by reducing greenhouse gas emissions from our electricity, heating and transport systems	26%
Our infrastructure strategy should aim to help the UK become a leader in the new digital and technological revolution, to help secure the jobs and growth of the future	26%
Infrastructure doesn't need to change the world - it just needs to help us power our homes and businesses, communicate with our loved ones and allow us to travel where we need to go safely and quickly	25%
Infrastructure should drive regional growth, rebalancing economic growth more fairly across the country	24%
Don't know	10%

More favourable in Scotland (31%) and the North (30%) and least so in the South (18%)

Q6. The following statements all outline a 'vision' for the UK's infrastructure in 2050. Please select your two most preferred statements. Multi Code. Base = All respondents (n=2,028)

Workshop participants responded well to messages of timeliness, keeping to budget, being leaders in digital and an environmental ethos

Planning:
The UK should utilise long-term infrastructure planning, ensuring that we take decisions quickly and efficiently to deliver the infrastructure we all need on time and to budget

New technology:
Our infrastructure strategy should aim to help the UK become a leader in the new digital and technological revolution, and focus on turning challenges into opportunities to help secure the jobs and growth of the future

Climate change:
Our infrastructure should increasingly be designed to help the UK lead the fight against climate change, by protecting our homes and businesses from floods and droughts, decarbonising our economy and backing green technology and jobs

- Participants liked the reference to delivering investment *'on time and to budget'* – many were concerned that costs could spiral as they felt was often the case for large scale public projects
- They also want to know that the money for infrastructure investment is ring-fenced for a particular purpose

- Participants, especially in Colne, liked the sense of ambition for the UK in this statement
- There is a sense that technology is the future, and the reference to turning this into jobs and growth in the future was important

- Many supported this ethos and liked the statement, as it is a clear explanation of the environmental challenge
- In particular, participants liked the fact it referred to protecting homes and livelihoods
- 'Decarbonising' needed explanation

Supporting regional growth, addressing future challenges and a functional approach received a more mixed response in workshops

Regional growth:
Infrastructure should drive regional growth in the UK, rebalancing economic growth more fairly across the country

Meeting future challenges:
UK infrastructure should adapt to address future challenges, such as those posed by an increasing and ageing population, and climate change

Functionality:
Infrastructure doesn't need to change the world - it just needs to be there when we want to power our homes and businesses, communicate with our loved ones and allow us to travel where we need to go safely and quickly

- This was seen as important and interestingly, participants in different locations connected with it for different reasons
- Those in Nottingham and Colne felt the statement referred to the North/South divide
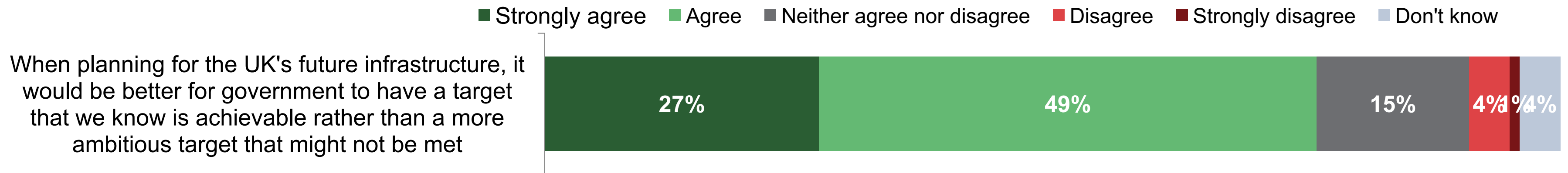- While some in London said it should be based on demand (i.e. more in London)

- Planning for the future is seen as essential for infrastructure, so some participants really liked this statement
- However, the statement was too specific and too reactive for some – they would prefer to be ahead of future challenges rather than be just keeping up with them

- This tended not to be the most popular statement because it lacks ambition
- For those that liked it, it seemed simple and met their fundamental desire for a service that works – especially in Colne
- Others praised it for being realistic

3 in 4 survey respondents expressed a preference for a more achievable target rather than an ambitious one that might not be met

■ Strongly agree ■ Agree ■ Neither agree nor disagree ■ Disagree ■ Strongly disagree ■ Don't know

| When planning for the UK's future infrastructure, it would be better for government to have a target that we know is achievable rather than a more ambitious target that might not be met | 27% | 49% | 15% | 4% | 1% | 4% |

- In line with this preference, the words and phrases that workshop participants particularly liked refer to making sure that targets are met:
  - Delivering investment '**on time and to budget**' as this is something that taps into citizens' existing concerns
  - Reference to the **things that really matter to people** (e.g. protecting homes and livelihoods in the climate change vision, or infrastructure 'being there when we want it' in the functionality statement)

- While overall, workshop participants stressed that there is a need to aim high, to prevent infrastructure being substandard

"I understand that you've got to get the basics right, that you've actually got to be repairing the roads rather than saying that you're going to be increasing loads of traffic through to two different areas, but if you don't aim that little bit higher and you don't progress and move then I think that you just end up staying still and I don't think that that benefits anybody."
(Participant, Colne workshop)

Q5: Thinking about infrastructure in the UK, how much do you agree or disagree with the following statements? Single code. Base = All respondents (n=2,028)

07 Key Insights

Key insights – infrastructure sectors

1. Infrastructure is considered critical to supporting a good quality of life
- Participants felt infrastructure - in particular transport and, increasingly, digital technology - underpins several aspects of quality of life

2. There are concerns about many areas of the UK's infrastructure, particularly transport and flood management
- Transport is considered vital and the sector most in need of improvement. But people are divided on whether they would be willing to pay more towards an improved system
- There are concerns that flood protection is inadequate, and there is support for increased investment to make it resilient

3. There are concerns about waste consumer trends, and a feeling the existing system won't deliver positive change
- There is therefore support for greater producer responsibility to encourage behaviour change

4. Expectations for digital communications are high
- It is the only sector where infrastructure is expected to improve over the next 30 years and many want to see the UK leading in this area
- There is appetite for smart appliances, for their potential to save consumers money, give greater control and reduce environmental impact

5. Water is the sector which participants found hardest to envisage the UK facing challenges with
- Information on the challenges facing this sector had the biggest impact on attitudes

6. Energy is seen through a consumer lens, with cost being the primary concern
- However, there is optimism that technology will find a solution to meet our energy needs

Key insights – a vision for infrastructure

1. Participants wanted infrastructure that protects the environment, is resilient to change and is invested in to save in the long-term
- Environmental concerns are high, with air quality the biggest priority
- Participants favoured investment now if it means a more efficient system in the long-term

2. Disruption to citizens was considered the lowest priority
- It is seen as an inevitable and acceptable side-effect of any improvements – so long as it leads to real change

3. Participants responded positively to NIC vision statements, all of which contained something that they could relate to
- There was a (slight) preference for a vision of infrastructure that tackles future challenges
- Messages focusing on timeliness, keeping to budget, being leaders in digital and an environmental ethos, were particularly favoured

Summary: Communications lessons emerging from the research

- **Question the core language you use and the extent to which it is understandable**
  - The term "infrastructure" leads the public to think of transport and housing, not all of the sectors
  - Technical language like 'decarbonising' can confuse and distract from the core message
  - Even some of the sector titles require explanation for a public audience (e.g. "digital communications")

- **People are more engaged with some forms of infrastructure than others**
  - While transport is front of mind, the public tend to be less engaged with water, and to a lesser extent energy
  - This means the challenges facing these systems are not as well known but information on them can significantly impact views

- **People struggle to consider a 30-year time-frame and need help understanding the drivers of change**
  - There is scope to further explore how these can be clearly communicated to citizens in a way that illustrates what it means for their lives
  - A co-creation approach, bringing together experts and citizens, would be a useful way of tackling this and shaping strategy

- **Expectations and aspirations can significantly differ between well connected and more remote areas**
  - People will respond differently to messaging (e.g. vision statements), which should be fully tested before being finalised

- **The 'running to stand still' challenge is a difficult message to get right**
  - But this initial phase of research shows that illustrating the challenges our infrastructure faces and framing investment as a long-term saving may help

08 Appendix: Key analysis variables

Throughout this report, we have analysed the quantitative results by a number of survey variables. A full list of these variables is outlined below:

- Socio-economic grade (SEG)
  - AB
  - C1
  - C2
  - DE

- Car ownership
  - No cars in household
  - 1 or more car in household

- Children aged 18 and under
  - No children
  - 1 or more children

- Gender
  - Male
  - Female

- Age
  - 18-24
  - 25-34
  - 35-44
  - 45-54
  - 55-64
  - 65+

- Region
  - Scotland
  - Wales
  - North East
  - North West
  - Yorkshire & Humber
  - West Midlands
  - East Midlands
  - Eastern
  - London
  - South East
  - South West

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Thank you

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