

# Appendix 07.03.08

## Minimising disruption from our works

This output describes our overall approach to minimising the disruption caused by our streetworks, which is a key priority for our customers, stakeholders and communities. We want to achieve this by improving the satisfaction for customers who experience disruption caused by our works, keeping our promises, reducing average reinstatement times, and driving improved communication and coordination for major jobs.

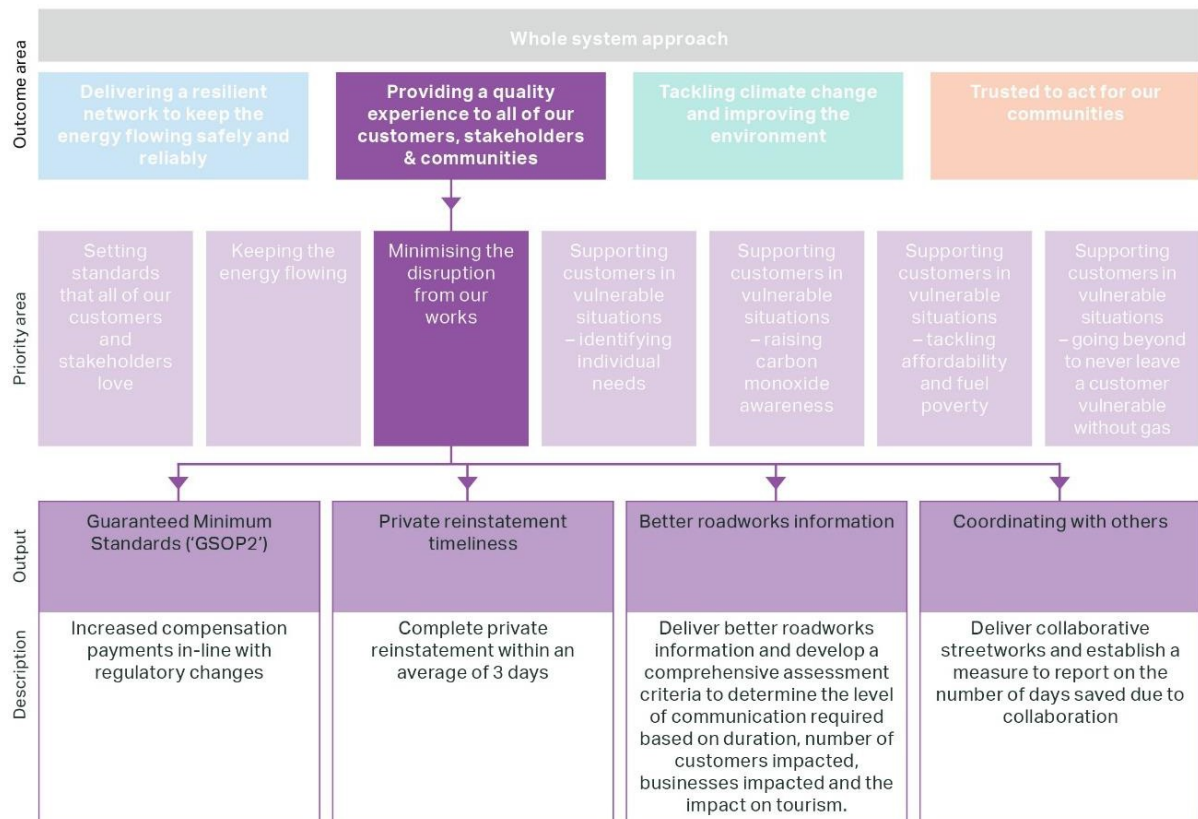
In RIIO-1 we were measured against Guaranteed Standard of Performance (GSOP) 2 – Reinstatement of customer premises. The minimum standard was to reinstate a customers’ property within 5 working days following the completion of engineering works. During RIIO-2, we will make the following enhancements to this measure:

- Continue to meet minimum standards and reinstate customer premises within 5 working days and increase compensation payments in-line with regulatory changes.

During RIIO-2 we want to stretch ourselves and deliver the following commitments to minimise disruption from our works:

- Commit to delivering private reinstatement on customer property within an average of 3 days.
- Provide additional roadworks information on specified jobs such as communicating roadworks timescales and alternative routes through multiple channels – including post, text, via an online portal or an app, social media, TV and radio. In doing this, we will develop a comprehensive assessment criterion to determine the level of communication required based on duration, number of customers impacted, businesses impacted, impact on tourism etc. We will build on our own experience operating a similar process in RIIO-1.
- We will also prioritise the needs of customers in vulnerable situations (CIVS) and utilise the latest techniques to support those with specific needs e.g. sound beacons to alert those who are blind or partially sighted.
- We will commit to greater coordination of planned works with other utilities and Local Authorities to jointly deliver streetworks. This will contribute to overall time saved in the road therefore reducing the impact our works have on communities.

**We will deliver:**



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## How we have developed our proposals

1. **We started with our vision** – We want to set standards that all our customers love, and others aspire to. We know that minimising the disruption caused by our streetworks is a key priority for our customers and stakeholders and will help us achieve our vision.
2. **There is no measure for minimising disruption in RIIO-1** – We do have minimum standards for notifying customers of planned work and reinstating customer property following an excavation, but we want to go beyond to help minimise the impact of any disruption caused by our streetworks.
3. **We have understood what our customers are telling us about how our works impact their lives** – Our customers are clear that they want us to go much further in minimising disruption, in particular regarding impacts associated with streetworks and coordinating work with other utilities and Local Authorities.
4. **This provided us with a clear problem statement** – We recognise the impact that our streetworks can have on our customers and communities that we work in, particularly our work in the roadway and within customers' private property. For RIIO-2, we must further understand these impacts and continue to tailor our commitments to satisfy the needs of our customers, stakeholders and communities.
5. **We gathered insights from targeted engagement** – Minimising disruption is very important to customers and they feel there is a lack of communication throughout our planned works. Once they understand why we are undertaking the work that we are, almost all customers accept that some disruption is inevitable. Stakeholders (in particular) emphasised the importance of collaborating with other parties and coordinating with local bodies and other utilities to minimise disruption if it's possible to do so.
6. **We have looked at what others are doing to minimise road works disruption** – Gas distribution networks (GDNs) are using innovative robotic techniques to reduce the number of excavations needed for works and the time spent in the road. Cadent, along with SGN and a number of other utilities / telecoms organisations such as Thames Water and BT have signed up to Transport for London's 'Roadworks Charter' that is focused on meeting the challenges of managing roadworks in London, while aligning with Vision Zero (eradicating deaths and serious injuries from roads and making London a safer, healthier and greener place).
7. **We have defined our objectives to ensure they align to customer and stakeholder needs and our delivery capabilities as a business** – We want to deliver improved satisfaction for customers who experience disruption caused by our works. We want to keep our promises, drive improved communication and coordination to mitigate the impact of our works but also ensure we can continue to deliver work efficiently.
8. **We've developed and considered a number of options** - Based on insights and best practice we have developed a number of options, ranging from maintaining the status quo by adhering to minimum standards for reinstatement through to using some enhanced communication for major jobs, accelerating reinstatement timescales, improving communication for all of our works, reinstating at a customer's property within a day and working with other utilities and authorities to share the road when appropriate and efficient.

9. **We tested these options with customers and stakeholders and have changed our focus between our July and October plans** – Customers did not want to fund us to complete reinstatement within one day. They were supportive of additional communications and coordinating with others to minimise disruption and congestion on roads.
10. **Our commitments** - We are proposing a continuation of GSOP 2 for reinstatement timescales and the following measures:
  - a. A reputational target to improve private reinstatement timeliness at no extra cost (bespoke measure)
  - b. A reputational measure of performance: publishing better streetworks information (bespoke measure)
  - c. A reputational measure of performance: publishing how we coordinate with others (bespoke measure)
11. **We are not asking for funding to deliver this** – Although there are costs up to £11.1m to deliver this commitment, we will absorb this and deliver with no impact on customer bills.

The tables below summarise our commitments in this area:

*Table 1 Summary of our commitments*

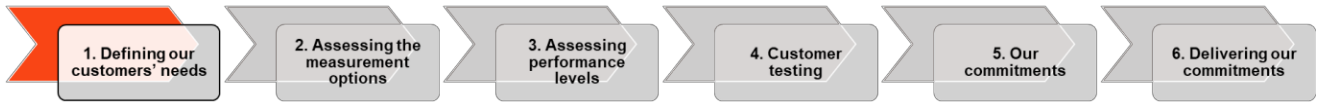
Guaranteed Standards of Performance (GSOP) 2 – Private reinstatement	
<b>Common / Bespoke</b>	Common
<b>Output type</b>	Licence Obligation
<b>Comment</b>	Increased compensation payments and caps and some updated targets
<b>Target</b>	Complete reinstatement on a customer’s premises within 5 working days following completion of engineering works
<b>Cost implications (annual)</b>	£0.3m efficient level of payment across GSOP2-14
<b>Incentive range</b>	N/A
<b>Consumer Value Proposition (CVP)</b>	N/A – This is a common measure

Private reinstatement timeliness	
<b>Common / Bespoke</b>	Bespoke
<b>Output type</b>	Output Delivery Incentive (R)
<b>Comment</b>	Complete reinstatement on a customer’s premises within an average of 3 days
<b>Target</b>	3 days on average in each network
<b>Cost implications (annual)</b>	No incremental cost
<b>Incentive range</b>	Reputational only
<b>CVP</b>	N/A

<b>Better roadworks information</b>	
<b>Common / Bespoke</b>	Bespoke
<b>Output type</b>	Output Delivery Incentive (R)
<b>Comment</b>	Reputation of publishing performance against a tiered approach depending on work type, location and impact on customers
<b>Target</b>	No target, we will monitor and publish performance
<b>Cost implications (annual)</b>	No incremental cost. We have absorbed £10.1m over RIIO-2 as an efficiency challenge into our overall cost base. See Table 09.09 of RIIO-2 BP
<b>Incentive range</b>	Reputational only
<b>CVP</b>	N/A

<b>Coordinating with others</b>	
<b>Common / Bespoke</b>	Bespoke
<b>Output type</b>	Output Delivery Incentive (R)
<b>Comment</b>	Reputation of publishing performance of the value of coordination (e.g. days saved in the road due to collaborative works)
<b>Target</b>	No target, we will monitor and publish performance
<b>Cost implications (annual)</b>	No incremental cost. We have absorbed £1m over RIIO-2 as an efficiency challenge into our overall cost base. See Table 09.09 of RIIO-2 BP
<b>Incentive range</b>	Reputational only
<b>CVP</b>	N/A

## 1. Defining our customers' needs



### 1.1. What is the area

Repairs to our network following an emergency gas escape, new connections and works to improve and upgrade our network with safer and longer lasting pipes are essential to keep our customers and communities safe. However, they often require us to excavate holes in the street and in customer properties to access our pipes. This can lead to significant disruption to the lives of our customers and members of our communities, including traffic congestion caused by streetworks or spoil in the street and on customer properties. Recognising the disruption caused by our works, we have explored how we can minimise this, including timely reinstatement, coordinating with others, and how we might communicate better with customers about our streetworks to minimise the impact.

Currently, to complete our works, we have to pay a charge in order to gain access to the street. Since 2014, more than 97% of our works are completed within the agreed standards stipulated within current legislation. This means our works are cleared away and off the road faster than ever, reducing disruption. Our dedication to minimising disruption is evident in our essential mains upgrade work in London in 2017. We were awarded a Gold Award by the City of London Considerate Contractor Scheme, for consistently exceeding good practice principles of care, cleanliness, consideration, co-operation and communication.

However, our customer insights inform us that disruption caused by our works is one of the key areas which lead to complaints and dissatisfaction. Therefore, we have engaged with customers for RIIO-2 to understand what more we can do to minimise disruption caused by our works.

### 1.2. Why is it important to customers and stakeholders?

Our customer insights inform us that disruption caused by streetworks lead to significant frustrations for customers and is a very important area for us to focus on and drive improvements in. Timeliness to complete reinstatement and site tidiness are consistently the most common reasons for low customer satisfaction scores, particularly for planned mains replacement work. Planned work customer satisfaction scores show that the questions related to 'reinstatement of excavations' and 'site tidiness' are two areas that score the lowest month on month.

### 1.3. What insights are shaping our thinking?

#### Sources of insight



We engaged with the following customers and stakeholders to discuss and understand how we can reduce and minimise the disruption caused by our works:

Table 2 Customers and stakeholders engaged

Customers	Industry
<ul style="list-style-type: none"> <li>• Domestic customers</li> <li>• Fuel poor customers</li> <li>• CIVS</li> <li>• Small businesses</li> <li>• Future customers</li> <li>• English as a second language (ESL) customers</li> <li>• Non-English-speaking customers</li> <li>• Non-customer (i.e. not on the gas network)</li> <li>• Employees</li> </ul>	<ul style="list-style-type: none"> <li>• Ofgem</li> <li>• Gas Distribution Networks</li> <li>• Other utilities (water, telecoms, suppliers)</li> </ul>
Influencers	Regional bodies
<ul style="list-style-type: none"> <li>• ULC Robotics</li> <li>• Citizens Advice</li> <li>• Transport for London</li> <li>• Streetworks UK</li> </ul>	<ul style="list-style-type: none"> <li>• Highway authorities</li> <li>• Local Authorities, councils or MPs</li> <li>• London Mayors Office</li> <li>• Greater London Authority</li> <li>• Emergency Services</li> </ul>

Insights were gathered through historical engagement, business as usual (BAU) insights, and our RIIO-2 engagement programme. We have summarised each activity, the questions asked (where applicable), the numbers involved, and a robustness score based on the following criteria:

Criteria	Robustness score	Relevance	
The score shown is based on a combination of the robustness of the source information (judged on whether it was recent, direct and representative) and the relevance to this area.	<=1	One or zero criteria met	Limited relevance
	1>=2	Two criteria met	Significantly relevant and contributory
	2>=3	All criteria met	Highly relevant and contributory

As we have three broad commitments in this area, we have scored each source against the following commitment area:

- C1 – Reinstatement timeliness
- C2 - Better roadworks information
- C3 - Coordinating with others

Table 3 Engagement activities

Phase	Date	Source name	Source description	Questions asked	# of stakeholders	Score		
						C1	C2	C3
Historical Engagement	May-18	Stakeholder advisory panel	As a precursor to our CEG, the Stakeholder Advisory Panel offered us a forum to raise and discuss issues with a range of interested parties including representatives from Citizens Advice, Age UK and the Energy and Utilities Alliance.	We presented to the panel on a range of topics across the years of its existence, including in particular build up for our RIIO-2 business plan including areas such as the environment, vulnerability and fuel poverty.	11	-	-	2.0
	N/A	London Collaboration forum - SGN & National Grid	We held a workshop with stakeholders in our London Network, including other utilities, charities, Local Authorities and Emergency Services. The purpose was to share the work we are doing on streetworks and customers and community and take feedback from stakeholders.	Attendees were shown our plans for streetworks such as no-dig techniques and asked to discuss the outcomes we should try to deliver. Following this, they were introduced to our plans for supporting those who need help the most and those in fuel poverty and asked to comment.	47	-	-	2.0
BAU Insights	Aug-18	Ofgem's RIIO-2 Customer and Social working group on 30 Aug 2018	We attended the Ofgem RIIO-2 Customer & Social Working Group where GDNs and the regulator discussed GSOPs, overall standards of performance and service and what, if any, changes may need to be made in the future.	N/A	12	3.0	-	-
	Nov-18	Energy UK Future Energy roundtable	We attended the Energy UK Future Energy roundtable, where participants discussed key challenges for electricity and gas.	N/A	25	-	-	3.0
	Ongoing	Social Media	We monitor social media for comments and posts relating to Cadent and try to resolve specific concerns in response. We also analyse social media trends over time to identify potential common issues.	N/A	1,068	1.5	1.5	-



BAU Insights	Ongoing	Rant & Rave	Rant & Rave SMS surveys allow customers to give real time feedback on our work, allowing immediate interventions to take place to improve customer experiences. We have implemented this over and above the standard CSAT postal surveys we are required to send out by Ofgem. We have analysed these based on common root causes of issues.	Customers provide a score for our work and then give comments to explain the reasons behind this. We will act based on this to try to rectify any low scores.	52,240	2.0	-	-
	Ongoing	CSAT	We are required to send postal surveys to a proportion of our customers following work on their properties to understand their views of our performance. This is used to determine our CSAT incentive.	Customers provide a score for our work across different areas relating to each process covered by CSAT, for example time off gas, competency and skills and respect to customer and property for the Emergency Response and Repair process.	24,067	2.0	-	-
Discovery	Nov-17	2017 regional stakeholder workshops	We held four workshops in different regions to seek feedback from key stakeholders on the early development of our business plan. Each workshop began with a short presentation, followed by roundtable discussions. Electronic voting was also used to ask stakeholders about preferred options.	The workshops explored a number of topics, including safeguarding (e.g. PSR awareness, partnerships and innovation opportunities); the future role of gas and the decarbonisation of home heating. Cadent's general approach to its business plan was also discussed, for example the importance and coverage of the four outcome areas identified, the extent to which the plan should respond to the needs of specific customer groups or regions. - How strongly do you feel that networks should collaborate?	127	2.5	3.0	3.0
	Aug-18	Stakeholder interviews	We interviewed stakeholders with a breadth of expertise across each of our region, based on our stakeholder content list. We held a 20-30-minute conversation with stakeholders to identify topics of interest to them.	The interviews sought to understand each stakeholder's awareness of Cadent and how they, and their community, were affected by gas distribution. Future challenges that Cadent may face were discussed and the 4 business plan outcomes were discussed with the aim of understanding their relevance and importance.	21	3.0	2.0	-

Discovery	Sep-18	Deliberative workshops	We delivered full day deliberative workshops in each of our regions to discuss what services customers find important, find our customer expectations of GDNs and gather feedback on our (at the time) four draft customer outcomes. The sessions began with information-giving and building knowledge of Cadent, then eliciting participants' views of services and priorities.	Participants were asked about their awareness of Cadent and expectations of a GDN. Participants were also asked for their views on the four draft outcomes in Cadent's business plan: keeping your energy flowing safely, reliably and hassle free; protecting the environment and creating a sustainable energy future; working for you and your community safeguarding those that need it most; value for money and customer satisfaction at the heart of all our services. The aim of the discussions was to shape these draft outcomes and identify any gaps.	206	3.0	2.5	3.0
	Oct-18	Domestic survey	We ran an online survey of a representative sample of our domestic customers (and non-customers). This aimed to test the findings of the earlier deliberative workshops and focus groups.	Participants were asked closed questions on 14 topics we could cover in the business plan (e.g. minimising leaks, affordability) and asked to rate how important they are. They were then asked more open questions about the level of importance and whether anything was missing from the list of 14. Finally, they were asked a multiple-choice question on their preferred engagement methods for the future.	2,332	2.5	2.5	2.5
	Oct-18	Focus groups with hard to reach groups	We held focus groups with individuals considered 'hard to reach' in each of our regions. Each group contained 8-10 participants and lasted two hours. Participants covered three groups: urban customers with English as a Second Language, Future Generations and Non-Customers (predominantly from rural areas). These built on our previous deliberative workshops, whose voices could otherwise become 'lost within the crowd'.	Participants were asked what they expected of Cadent. The four draft outcomes for the business plan were shared with participants and they were asked for their views on these, what they wanted to see from Cadent and whether there were additional outcomes that Cadent should include.	57	3.0	2.0	3.0

Discovery	Oct-18	Public survey	We ran an online survey that anyone could take part in (so unlike the domestic survey, it was not a representative sample). This followed the same approach as our domestic survey, aiming to test the findings of earlier deliberative workshops and focus groups.	Participants were asked closed questions on 14 topics we could cover in the business plan (e.g. minimising leaks, affordability) and asked to rate how important they are. They were then asked more open questions about the level of importance and whether anything was missing from the list of 14. Finally, they were asked a multiple-choice question on their preferred engagement methods for the future.	165	2.0	2.0	1.5
	Feb-19	ENA and Accent RIIO-2 stakeholder engagement (decarbonisation)	A broad range of stakeholders from across the country, across different areas of the sector and representing a range of organisations were brought together by all GDNs to understand their views of how the gas networks should individually and collectively support the decarbonisation of heat through their RIIO-2 business planning. Most stakeholders preferred taking a broad definition of 'whole systems' and wanted future-proofed assets and decision-making with the longer-term end goal in mind. But they emphasised the need for urgency in putting the stepping-stones in place to reach decarbonisation targets.	Stakeholders were asked what a whole energy system approach should look like, and what GDN RIIO-2 business plans should focus on in the context of decarbonising the gas system. The impact on customers in vulnerable situations, collaboration between gas networks and the funding of, and barriers to, decarbonisation were also discussed.	37	-	-	2.0
	Feb-19	Ofgem's Feb 2019 RIIO-2 stakeholder workshop	We attended Ofgem's RIIO-2 stakeholder workshop with other industry participants and gas networks.	N/A	N/A	-	-	2.5

<b>Discovery</b>	May-19	RIO-2 Employee engagement, May 2019	We engaged with 783 of our employees through a survey to test the latest RIO-2 business plan proposals to ensure that the plan was robust, fit for purpose and accurately represented what our customers want from us. Employees were asked for their views both as customers and as subject matter experts. Participants were asked for their priorities from their perspective as customers. Then, as subject matter experts, they were asked to rate, and provide their views, on different service offerings (Customer Contact, Emergency Response and Repair, Domestic Connections, Commercial Connections and Mains Replacement).	Employees were asked for their views both as customers and as subject matter experts. Participants were asked for their priorities from their perspective as customers. Then, as subject matter experts, they were asked to rate, and provide their views, on different service offerings (Customer Contact, Emergency Response and Repair, Domestic Connections, Commercial Connections and Mains Replacement).	783	1.0	-	-
	May-19	Wales and West Utilities (WU) regional community workshops	WU hosted a series of regional workshops to seek feedback from stakeholders on its current and future business activities. These deliberative workshops explored: stakeholder priorities, value for money, mains replacement and the theft of gas, future energy solutions and social obligations.	These deliberative workshops explored: stakeholder priorities, value for money, mains replacement and the theft of gas, future energy solutions and social obligations.	52	-	2.0	-

<b>Targeted</b>	Apr-19	Cadent London stakeholder engagement event 25 April 2019	We conducted a poll of 92 stakeholders to understand their views on disruption to inform our business plan for RIIO-2. The poll explored what they found most disruptive (e.g. roadworks, customers being off gas or digging holes in the road or on private land), what improvements Cadent should focus on, and willingness to pay (WTP) for such improvements. Roadworks were considered most disruptive and multi-utility working to mitigate this was viewed positively.	<p>Questions asked included: When you consider disruption caused by utility providers, what do you consider 'disruption' to be in your role?</p> <p>The disruption that I would like Cadent to work hardest to eliminate is?</p> <p>For roadworks disruption, what kind of improvement would you like Cadent to focus on?</p> <p>For disruption caused by customers being off gas, what kind of improvement would you like Cadent to focus on?</p> <p>For disruption caused by digging holes in the road or on private land, what kind of improvement would you like Cadent to focus on?</p> <p>If Cadent could find ways of reducing disruption, how much more do you think bill payers would be willing to pay?</p>	92	2.0	-	2.0
	May-19	Cadent customer forums (April & May 2019): Interruptions and Reinstatements	The third round of customer forums was held at four locations (Ipswich, London, Manchester, Birmingham) involving 104 customers. The forums are designed to be ongoing conversations with customers, with engaged discussions around the role of Cadent within society. The third customer forum focused on planned and unplanned interruptions and public and private reinstatements to inform these sections of the RIIO-2 business plan. Within these themes, we investigated how customers are impacted and what level of customer service they think we should provide.	Customers were guided through different questions about the current service during planned and unplanned interruptions and new ideas Cadent were considering around: communication, length of interruption, provisions and timeslots to get gas back on. Discussions on public reinstatement focused on: impact of public reinstatement on customers, communication, and multi-utility working. Discussions on private reinstatements focused on the quality and duration of works.	104	3.0	2.5	3.0

WTP	Feb-19	NERA & Traverse: Estimating Customers' WTP for Changes in Service during RII02, 28 May 2019 (Stated preference)	We commissioned NERA and Traverse to design, implement and analyse a stated preference survey to estimate domestic and non-domestic customers' WTP for improvements in our service. Twelve different service attributes were considered. These covered issues relating to interruptions (probability, length and timeslots for restoration); the environment (leakage; green gas, clearing up disused sites); reinstatements (duration and number) and supporting the vulnerable and fuel poor (provisions during an interruption and connecting fuel poor to the network).	<p>The surveys consisted of twelve attributes related to the service provided by Cadent Gas, which were grouped into three sets of attributes to ensure customers were presented with a manageable number of attributes at any one time. Customers were asked to choose a preferred service package from a number of options in each of these areas, given the associated bill impact.</p> <ul style="list-style-type: none"> <li>▪ First set of attributes: <ul style="list-style-type: none"> <li>– Restoring gas supply after short unplanned interruptions (3-24 hours);</li> <li>– How long the short interruption lasts;</li> <li>– Restoring gas supply after an unplanned interruption lasting more than 24 hours; and</li> <li>– Offering customers time slots for restoring gas supply;</li> </ul> </li> <li>▪ Second set of attributes: <ul style="list-style-type: none"> <li>– Reducing the proportion of gas lost through leakage;</li> <li>– Proportion of gas that comes from green sources;</li> <li>– Clearing up disused sites; and</li> <li>– Reducing the number of excavations in roads;</li> </ul> </li> <li>▪ Third set of attributes: <ul style="list-style-type: none"> <li>– Providing welfare services during interruptions;</li> <li>– Measures to address fuel poverty;</li> <li>– Connecting households in fuel poverty to the network; and</li> <li>– Reducing the length of time it takes to carry out work.</li> </ul> </li> </ul>	3,103	3.0	-	-
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<b>WTP</b>	Feb-19	Benefits Transfer Study	We commissioned NERA to draw on evidence from the gas, electricity and water sectors, and on published guidance from government departments and agencies to provide information that we can use to help value potential changes under consideration for our RIIO-2 business plan.	N/A	0	2.0	-	-
	Jul-19	NERA & Traverse: Triangulation by attribute, July 2019	We commissioned NERA and Traverse to produce a report which 'triangulates' the WTP evidence previously prepared through desk-based research and surveys. This brought together the conclusions from previous studies including: (1) the benefit transfer report, which used desk-based research to survey existing valuation evidence available from published sources; (2) the targeted benefit transfer study, focusing on estimating the economic value of extending the gas network to new customers; (3) the stated preference study; and (4) the revealed preference study focused on surveying customers about their experiences of actual gas supply interruptions. The objective was to draw on a range of estimates to improve the reliability of any business planning assumptions that we make.	N/A	0	3.0	-	-

<b>Business Options Testing (BOT)</b>	Jun-19	Cadent customer forum, round 4, Traverse	<p>We held our fourth customer forum in Ipswich, London, Birmingham and Manchester to get customers' views on their priorities on a range of issues. This cross section of customers discussed with us various options (some proposed by us, some suggested by them) in a deliberative style session. Key topics discussed included: customer service, replacing pipes, reinstatement, interruptions, fuel poverty, carbon monoxide, decarbonising energy and becoming carbon neutral.</p>	<p>Participants were asked questions about a range of topics. On customer service, we explored what 'great' looks like. We also asked about timeliness and communication with respect to reinstatements. We also tried to understand the level and type of service customers want during an unplanned interruption, including views on provisions, length of time without gas, and timeslots for getting the gas turned back on. We also asked for views on our options for addressing fuel poverty and carbon monoxide.</p>	200	3.0	-	3.0
	Aug-19	Future generations workshops, Traverse	<p>We commissioned Traverse to hold workshops with 45 'future generations' participants (aged between 13 and 18) to understand their priorities. This mainly involved younger people to specifically ascertain their input, given that decisions that we make in RIIO-2 will ultimately impact them. They supported the views of other customer segments but stressed more urgency and a higher priority on our EAP. Most saw this area as a core requirement (on their hierarchy of needs), whereas other customers saw it less as core and more as a psychological need.</p>	<p>Customers were asked about their priorities. We also sought to understand how they thought Cadent should best decarbonise their assets and services, and minimise environmental impact, how Cadent should best approach pipe replacement, their views of new proposals for length of interruptions, provisions and compensation for MOBs, and their views of our proposals to protect customers in vulnerable situations.</p>	45	2.0	-	



<b>Business Options Testing (BOT)</b>	Aug-19	Business customer workshops, Traverse	<p>We commissioned Traverse to engage with 74 business customers through deliberative workshops to understand their views on options for our business plan in relation to a number of areas that would affect their businesses such as the supply and demand of gas, interruptions, reinstatements and minimum standards.</p> <p>One of the topics discussed was demand-side response. Many businesses said they could turn gas down or off to some extent but noted that education and awareness were critical.</p>	<p>Businesses were asked about their priorities. The future of gas, including decarbonisation, was also discussed in terms of business awareness of the issue and potential implications. The ability and willingness for businesses to reduce their demand under certain circumstances was also discussed.</p> <p>The impact of interruptions and reinstatements on their business was also explored including the need for provisions during interruptions, the desirability of timeslots when gas is switched back on, multi-utility working and communication.</p> <p>Businesses were also asked if they would be willing to pay for Cadent to go beyond minimum standards.</p>	74	2.5	-	2.5
	Aug-19	Employee workshop, Traverse	<p>We commissioned Traverse to engage with 80 Cadent employees (across grades and geographies) in a full day workshop. We sought views on our July draft business plan and held a number of exercises to gain input into further iterations. We gained a number of useful insights: influencing contractors was highlighted as a challenge for achieving carbon reductions, communication was noted as critical to great customer service, internal silos were highlighted as a barrier and some argued that greater ambition was possible for interruptions and reinstatements.</p>	<p>We sought views on our July draft business plan and held a number of exercises to gain input into further iterations. Topics discussed included:</p> <ul style="list-style-type: none"> <li>improving the environment (including future hydrogen and carbon neutral options),</li> <li>achieving a quality customer experience (including the length of, and provisions during, interruptions; and reinstatements);</li> <li>what trusted to act for society means and our obligations to customers and society;</li> <li>and safety and resilience (including our business plan options and how realistic / ambitious they are).</li> </ul>	80	2.5	-	2.5

<b>Business Options Testing (BOT)</b>	Aug-19	Workshops with customers in fuel poverty, Traverse	<p>We commissioned Traverse to engage with 83 customers in fuel poverty at deliberative workshops in Wolverhampton and Peterborough to understand their views on options for our business plan in relation to a number of areas of reliance to customers in fuel poverty or vulnerable situations. The option with the highest delivery targets (option 3) was chosen for each of CO awareness &amp; action, priority safety checks and fuel poor solutions (including income &amp; energy advice). The specific intention of this session was to ascertain the views of a different (typically hard to reach) group of customers to check if their views were consistent with other customer segments.</p>	<p>Customers were asked about their priorities. We also sought to understand their views on our business options in relation to carbon monoxide, proactive safety checks, addressing fuel poverty, PSR awareness, the length of, and provisions during interruptions.</p>	85	1.5	-	-
	Aug-19	Cadent customer forum, round 5, Traverse	<p>We held our fifth customer forum in Ipswich, London, Birmingham and Manchester with 130 participants to get customers' views on their priorities on a range of issues. This cross section of customers discussed with us various options (some proposed by us, some suggested by them) in a deliberative style session. Key topics discussed included: minimum standards and compensation; options for raising PSR awareness; interruptions - both acceptable length and appropriate provisions; supporting customers in vulnerable situations; options for Cadent's objective to become a carbon neutral business, the merits of connecting off-grid communities; and roadworks information and communication.</p>	<p>Participants were asked questions about a range of topics. On minimum standards, customers were asked whether current standards and levels of compensation were appropriate. With respect to PSR awareness, customers were asked about their preferred package of options. For interruptions, we discussed which provisions customers feel Cadent should provide as a core package and how customers would like to be informed of the availability of those provisions as what an acceptable duration for interruptions was. We also explored if there is an appetite for Cadent's engineers to be trained to do minor pipe and appliances repairs. On environmental options, we discussed Cadent's commitments around becoming a carbon neutral business and the connection of off-grid communities. Finally, we discussed which communications methods customers prefer with respect to roadworks.</p>	130	-	3.0	-

<p><b>Business Options Testing (BOT)</b></p>	<p>Aug-19</p>	<p>Domestic and business surveys, quantitative phase, Traverse</p>	<p>We commissioned Traverse to conduct a survey of more than 2000 domestic customers and more than 500 business customers to understand preferences between the different business options under consideration across 14 different service areas. The options presented combined service provisions e.g. educate 50,000 customers most at risk of CO poisoning and a monetary impact on the customer's annual bill. Across both the domestic and business surveys, the highest weighted average scores, supporting the options with the highest delivery targets, were achieved in areas relating to safety and protection of vulnerable customers: responding to carbon monoxide incidents, repairing and replacing faulty appliances, helping vulnerable customers without gas and carbon monoxide safety.</p>	<p>Domestic and business customers were asked their preferred options (with varying degrees of target delivery levels / cost) for 14 commitments:</p> <ol style="list-style-type: none"> <li>1. Carbon Monoxide Safety</li> <li>2. Responding to Carbon Monoxide incidents</li> <li>3. Repairing and replacing faulty appliances</li> <li>4. Helping vulnerable customers without gas</li> <li>5. Helping all customers without gas</li> <li>6. Getting customers back on gas</li> <li>7. Carrying out safety checks</li> <li>8. Minimising disruption from our works</li> <li>9. Tackling Fuel Poverty</li> <li>10. Awareness of Priority Services Register</li> <li>11. Priority Services Register training</li> <li>12. Becoming a Carbon neutral business</li> <li>13. Communities not currently connected to gas</li> <li>14. Keeping the energy flowing reliably and safely</li> </ol>	<p>2,547</p>	<p>3.0</p>	<p>-</p>	<p>-</p>
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<p><b>Business Options Testing (BOT)</b></p>	<p>Aug-19</p>	<p>Public consultation, BOT, qualitative phase, Traverse</p>	<p>We commissioned Traverse to conduct a survey of 2,605 members of the public to understand views on certain aspects of our business plan in each of the 4 outcome areas (environment, quality experience, trusted to act for society and resilience). The survey revealed strong support for utilities working together to minimise disruption and for outstanding customer service, as well as providing useful information on the relative importance to customers of different types of information and different environmental initiatives.</p>	<p>Participants were asked questions to understand their views and preferences on issues within each of the four outcome areas. On resilience, customers were asked which one single improvement we should make to reduce disruption the most. In relation to a 'quality experience', customers were asked what level of service they'd love the most and how much they'd be willing to pay to ensure a vulnerable customer could get enhanced help if their gas stopped working. On the environment, customers were asked their relative preference for initiatives to achieve carbon neutrality and eliminate avoidable waste to landfill. Customers were also asked how much they knew about the decarbonisation challenge. Finally, for 'trusted to act for society', customers were asked what the most important information to know about Cadent was and how we can help the customer / Cadent conversation flow. We also asked about their awareness of Cadent.</p>	<p>2,605</p>	<p>2.0</p>	<p>1.5</p>	<p>1.5</p>
<p><b>Acceptability Testing</b></p>	<p>Oct-19</p>	<p>Acceptability testing - customer forum</p>	<p>We commissioned Traverse to explore the acceptability of our plans and commitments in each of the three outcome areas (environment, quality experience and resilience) with 109 customers who had attended previous customer forums. Overall, participants found our plans to be both acceptable and affordable.</p>	<p>A group discussion was facilitated to discuss views on Cadent's plans in each of the three outcome areas and participants were also asked to complete a survey to rank levels of acceptability and affordability.</p>	<p>109</p>	<p>2.5</p>	<p>3.0</p>	<p>2.5</p>

<b>Acceptability Testing</b>	Oct-19	Acceptability testing - final survey report on domestic customers,	We commissioned Traverse to test the acceptability and affordability of Cadent's proposed plan amongst domestic customers. This consisted of surveying 4,446 domestic customers through on-line and face to face methods. This showed that the plan had achieved high levels of acceptability and affordability amongst domestic customers, including those who are fuel poor.	Customers were asked about the acceptability and affordability of Cadent's overall plan. If they said that the plan was unacceptable, they were asked to explain their response. If they said that it was neither acceptable nor unacceptable, they were asked what they would like to see in order to find it acceptable. Customers were also asked to rate the acceptability of the outcome areas (environment, quality experience and resilience). Then, having learnt about the outcome areas, customers were asked as 'informed customers' to rate the overall acceptability and affordability of the plan.	4,446	2.0	2.0	2.0
	Oct-19	Acceptability testing - focus groups with future customers	We commissioned Traverse to explore the acceptability of our plans and commitments in each of the three outcome areas (environment, quality experience and resilience) with 20 "future customers" (16-18 year olds) in 2 focus groups. Participants were supportive of our plans for the environment and resilience but questioned whether helping vulnerable customers was part our remit.	A group discussion was facilitated to discuss views on Cadent's plans in each of the three outcome areas and participants were also asked to complete a survey to rank levels of acceptability and affordability.	20	2.0	2.0	2.0
	Oct-19	Acceptability testing - focus groups with the general population	We commissioned Traverse to explore the acceptability of our plans and commitments in each of the three outcome areas (environment, quality experience and resilience) with 79 members of the public in regional focus groups. Participants were supportive of our plans for quality experience and resilience, but no consensus was reached on our environmental plans.	A group discussion was facilitated to discuss views on Cadent's plans in each of the three outcome areas and participants were also asked to complete a survey to rank levels of acceptability and affordability.	79	2.0	2.0	2.0

<b>Acceptability Testing</b>	Oct-19	Acceptability testing - fuel poor focus groups	We commissioned Traverse to explore the acceptability of our plans and commitments in each of the three outcome areas (environment, quality experience and resilience) with 35 customers in fuel poverty in regional focus groups. Overall, participants were supportive of our plans in all three areas.	A group discussion was facilitated to discuss views on Cadent's plans in each of the three outcome areas and participants were also asked to complete a survey to rank levels of acceptability and affordability.	35	2.0	2.0	2.0
	Oct-19	Acceptability testing – interviews with CIVS	We commissioned Traverse to explore the acceptability of our plans and commitments in each of the three outcome areas (environment, quality experience and resilience) by interviewing 20 CIVS. Overall, our plans were supported, and all found the plans affordable.	Throughout the interviews the CIVS were explained the elements of the plan, asked to comment on whether they found each outcome acceptable, which particular elements were important to them, and whether they had any additional comments. They were also asked whether the new business plan was affordable.	20	2.5	2.5	2.5
	Oct-19	Phase 4 - Business interviews and surveys	We commissioned Traverse to test the acceptability and affordability of Cadent's proposed plan amongst business customers. This consisted of an on-line / face to face survey of 504 business customers and in-depth qualitative telephone interviews with 45 business customers. This showed that the plan had achieved high levels of acceptability and affordability from a business customer perspective.	Business customers were asked about the acceptability and affordability of Cadent's overall plan. If they said that the plan was unacceptable, they were asked to explain their response. If they said that it was neither acceptable nor unacceptable, they were asked what they would like to see in order to find it acceptable. Business customers were also asked to rate the acceptability of the outcome areas (environment, quality experience and resilience). Then, having learnt about the outcome areas, customers were asked as "informed customers" to rate the overall acceptability and affordability of the plan.	549	2.0	2.5	2.0

Acceptability Testing	Oct-19	Verve business plan consultation	We commissioned Verve to gather views on our plans to reduce our carbon footprint from 25 customers. We did this through an online forum with customers and stakeholders to discuss the key components that we shared on our EAP. This included our intentions to support our employees to make a positive difference to tackling climate change.	Participants were asked about their awareness of Cadent, discussed the three outcome areas (environment, quality experience and resilience), discussed the bill impact breakdown (both at present and as a result of the plan), risks and uncertainties and innovation funding.	25	2.0	2.0	2.0
	Nov-19	Verve acceptability testing stakeholder interviews	We asked Verve to interview a small number of expert stakeholders and ask for feedback on our plan	We shared a summary of our October plan with stakeholders and asked them for feedback.	5	1.5	2.0	2.0

## 1.4. Engagement and insights

### *The importance of minimising disruption*

Through our enhanced engagement for RIIO-2 we have undertaken a domestic customer survey to understand what our customers consider to be the most important area we should focus on. The survey found that around half (52%) of respondents felt that minimum disruption is very important to them, and a further 36% said it was quite important.

Our public survey of 165 customers found that improving service by reducing disruption to people's lives was very important and that there is a lack of communication about planned road works. However, some respondents again said that they accept that some disruption is inevitable. At our customer forum on interruptions and reinstatements, the 104 customers in attendance stated that they are most impacted by traffic congestion as it impacts their daily routines.

Participants at our future generation's workshops, however, gave 'reducing roadworks and other disruptions from repairs' a fairly low prioritisation because they felt that disruption was a necessary inconvenience for safeguarding the gas supply. As we explored this further, most did not drive or commute to work which explained their differing priority levels to a point. Cadent employees surveyed (783 in total) indicated that our attempts to minimise the impact of our works on road users are not satisfactory, scoring this service on average at 3.3 out of 5.

### *Congestion causes the most disruption*

Attendees at our Innovative Technology stakeholder event felt that the most significant single area of disruption is streetworks and the subsequent congestion caused by our works – 75% of 92 attendees thought that this should be our top priority, compared to having no gas supply (14%) or excavations required to complete our works (11%). Stakeholders suggested that more regular interaction was crucial for developing more productive relations. They suggested more coordination as part of all stages of the planning process and working with further bodies like the local police and Local Authorities who might have traffic management information.

The analysis of Cadent social media posts showed that congestion caused was the most common cause for post, accounting for 14%. Separately, traffic management issues accounted for 8% of social media posts e.g. issues with the setup of traffic management such as faulty lights.

### *Timely reinstatement and finishing streetworks on time*

Based on our analysis of 2,000 CSAT scores and 4,352 Rant & Rave scores, timeliness to complete reinstatement and site tidiness are consistently the most common reasons for low satisfaction scores, in particular for planned mains replacement work.

During deliberative workshops, customers also stressed the importance of finishing streetworks within the initially announced timetable – failure to meet these proposed timescales increased the level of dissatisfaction amongst our customers. They also gave the feedback that Cadent should 'stick to its promises' in terms of completing work on time. Participants in customer focus groups echoed the importance of completing road works quickly.

### *High quality job is more important than timeliness*

In contrast to some insights, only 31% of stakeholders at our Innovative Technology event felt that we should seek to complete roadworks more quickly. This was confirmed by the 104 customers engaged in our forum on



interruptions and reinstatements, who indicated that they prefer a good quality job, with high quality contractors and materials, over a short time frame.

#### *Keeping customers informed with up to date information*

Customers at the deliberative workshops also asked for up to date information on start and end dates of works in the road to be made easily available. and asked that they are combined with work by other utilities to reduce the time when roads are closed. Respondents to our public survey felt that there was a lack of communication about our planned road works, although they understood that disruption is inevitable.

Employees reiterated the importance of site teams or engineer being visible on site and approachable, and some suggested having signs when staff are not on site explaining why (for example, “no one is on site because testing is taking place”).

Stakeholders at regional workshops also suggested that Cadent provide email addresses and contact details on site to customers so that they know who to contact.

#### *The impact of our streetworks can be significant on businesses*

At workshops with 74 business customers, ‘minimising the disruption from our works’ had the highest importance ranking among business customers. This was due to inconvenience and travel, and because they result in shut-down of operations and direct financial impacts for some businesses. ..

#### *Notice periods*

At the May 2019 Wales & West Utilities (WWU) stakeholder workshops with 52 participants, there was broad agreement that WWU should send an advance notice ahead of the issuing of the standard GSOP 13 notification letter at least 5 working days before the interruption occurs. Whilst it was acknowledged that too much warning can lead to feelings of anxiety for some customers, particularly those in vulnerable situations, it was commented by others, including those representing businesses, that more notice is helpful in that it enables businesses to plan for any disruption.

When asked how much notice should be given to customers ahead of any works, the most prevalent answer given was one month, with 60% of stakeholders voting for this option, although it was commented that the level of notice should take into consideration the time of year and issues relating to customers’ vulnerability. When asked how much notice should be given to businesses, the most prevalent answer was two months, although a quarter of stakeholders were of the view that six months’ notice should be given.

#### *Working during the least disruptive times*

During focus groups, stakeholders encouraged us to use local knowledge to identify the least disruptive times to conduct streetworks. To finish our works on time, stakeholders at regional workshops asked us to engage earlier with local authorities and extend our working hours over the weekend.

#### *Efficient working practices*

Stakeholders at regional workshops also suggested that we ensure streetworks teams are briefed on reasons behind security protocols in protected areas and that more information is provided directly to teams on site to cut out complex chains of command.

### *Implementing road diversions suited to local needs*

Customers at our forum on interruptions and reinstatement indicated that we could also consider researching diversions better to suit the local area, signposting diversions further in advance, and managing traffic flow manually instead of with contra-flow traffic lights, especially during rush hour.

### *Coordinating with others and multi utility working*

Our engagement shows us that coordinating with a range of expert stakeholders is key to minimising disruption to our customers and communities. We should work together with other utilities when carrying out works as well as with Local Authorities to incorporate local knowledge to reduce disruption.

At the employee workshops, the majority of the 80 participants ranked the priorities that are fundamental to Cadent's operations as most important such as 'minimising disruption from our works'. Groups often spoke about working with Local Authorities. They suggested that further engagement with Local Authorities could support better traffic diversion planning, advanced planning of works, and ensure that work is efficient and of a higher quality.

Stakeholders (e.g. Highway Authorities) at all our 2017 regional workshops with a total of 127 attendees, discussed the importance of collaborating with other parties and coordinating with local bodies and other utilities. Feedback from our deliberative workshops with 206 customers, focus groups with 48 hard to reach people, and customer forum on interruptions and reinstatement with 104 attendees was supportive of carrying out joint roadworks with other utilities. Those in the customer forum on interruptions and reinstatement were concerned about pushback from utilities on accountability, responsibility, and cost, and suggested that legislation may be required.

### **Valuation of traffic disruption caused by utility works**

We commissioned our research partners NERA to undertake a benefit transfer exercise to understand the value of traffic disruption caused by our utility works. They found the cost per hour of delay per average vehicle falls between £13 and £29 for our four networks based on a research study undertaken by UK Water Industry Research (UKWIR) published in 2011, which values lost time due to road works caused by utilities.

Time lost due to road works can be classified as work or non-work time:

- Work time, where we assume traffic disruption substitutes productive time for unproductive time; generally reflected in wage rate. Does not include commuting to/from work.
- Non-work time, calculated by the Department for Transport (DfT) by implied preferences for reduced journey times (at cheaper costs) compared to more expensive, faster transport options.

The table below shows the valuation for the cost per hour of delay per average vehicle on a weekday or on a weekend day. Regional adjustments for the areas serviced by Cadent are shown to reflect the varying levels of productivity in these areas.

**Table 3.3**  
**Cost of Delay (2017/18 Prices)**

Vehicle Type <sup>41</sup>	Average Proportion of Vehicles <sup>42</sup>	Weekday Value of Time (£ per hour) <sup>43</sup>	Contribution to Weekday Valuation (£)	Weekend Value of Time (£ per hour) <sup>44</sup>	Contribution to Weekend Valuation (£)
Cars	0.816	15.30	12.48	14.08	11.49
LGV	0.114	16.45	1.88	17.71	2.02
OGV1	0.028	16.91	0.47	16.91	0.47
OGV2	0.031	16.91	0.52	16.91	0.52
PSV	0.011	112.17	1.23	107.08	1.18
Weighted Average UK Valuation: <sup>45</sup>		Weekday:	16.59	Weekend:	15.69
Regionally Adjusted Valuation for England <sup>46</sup>		Weekday:	17.05	Weekend:	16.13
Regionally Adjusted Valuation for West Midlands		Weekday:	13.92	Weekend:	13.16
Regionally Adjusted Valuation for North West England		Weekday:	14.38	Weekend:	13.60
Regionally Adjusted Valuation for East of England		Weekday:	15.39	Weekend:	14.56
Regionally Adjusted Valuation for London		Weekday:	29.11	Weekend:	27.53

Source: NERA Analysis

Other externalities associated with traffic disruption include:

- Changes in accident incidence – ambiguous effect of increasing probability of minor incidents, but reducing traffic speeds, thus reducing more major incidents (including fatalities)
  - Traffic noise – roadworks reduce travel speeds, which reduces noise levels, but increases time spent on the road, which may increase road noise
- Environmental costs – traffic may increase carbon emissions, but to a small extent relative to other project costs and benefits. The effect likely to be internalised in private vehicle operating costs (e.g. fuel taxes).

UK residents place a significant value on reduced disruption caused by utility works which supports what we have heard whilst engaging with our own customers and stakeholders.

*There is zero WTP for reducing the number of excavations*

We worked with our partners NERA and Traverse to conduct a stated preference study to estimate domestic and non-domestic customers' WTP (WTP) for improvements in our reinstatement service. The WTP for both customer groups was zero for a reduction in the number of excavations in roads per month, for 14,000, 16,000, and 18,000 out of 21,000.

This was confirmed at our Innovative Technology stakeholder event, where stakeholders were asked how much they thought bill payers would be willing to pay for Cadent to find ways of reducing all types of disruption. 50% of stakeholders said 'nothing', 29% said 'less than £2', and 21% said 'between £2 and £3'. These results

indicate that while customers care about these issues, the majority of customers do not feel that they should pay a higher bill in order to achieve improvements.

*There is a WTP for reducing the timeliness of reinstatement*

The stated preference study indicated that for each day reduction in average reinstatement times, the valuations per domestic customer per year, on average across all regions were, for the low and central-case, £3.14 for a change in service level from 3 to 2 days and £2.46 for a change in service level from 2 to 1 days. Across service levels, the high case valuation was £4.26. For non-domestic customers, the low-case valuation across service levels was zero and the central and high-case valuation was £8.23.

Generally, domestic customers' WTP was higher than average in North West England, North London and the East of England and lower than average in the West Midlands. For non-domestic customers, there was no variation across regions.

*Table 4 Summary of insights*

<b>Feedback / Insight</b>	<b>How we have addressed this</b>
Several insights from customers highlighted the importance of completing works quickly and sticking to agreed timelines.	As part of developing our commitment options we explore various good practice on how to complete works quicker and minimise the length of reinstatement completion. For planned works we will stick to agreed timelines and provide prior notification if dates change.
Customers want up to date information on start and end dates of works in the road to be made easily available.	We explore how to enhance our roadwork information including start and end dates and seek to adopt various digital and non-digital methods of communication.
Customers encouraged us to combine streetworks with other utilities to reduce the overall time when roads are closed.	We explore how to work more closely with utilities to coordinate streetworks to minimise overall disruption and congestion.
Our employees indicated that further engagement with Local Authorities could support better traffic diversion planning, advanced planning of works, and ensure that work is efficient and of a higher quality.	As part of our commitment options to coordinate with others, we want to engage with local authorities and wider stakeholders to share our plans and roadworks information.
Employees also highlighted the importance of site teams or engineer being visible on site and approachable, and some suggested having signs when staff are not on site explaining why.	Our commitment options for better roadworks information includes direct conversations and usage of signs and banners to keep customer informed.
Business customers highlighted the inconvenience of our works on travel and business operations leading to direct financial impacts.	We recognise the different impacts of our works on different segments of customers and therefore our communication proposals will ensure a tailored approach considering traffic sensitivity and business density of the location of our works. In addition, we already have in place 'loss of business' compensation arrangements which we will inform impact businesses about during our works.
Businesses customers would like more notification of our planned works to allow them to prepare for the disruption caused. When asked how much notice should be given to customers ahead of any works, the most prevalent answer given was one month.	Currently there is a minimum guaranteed standard to provide 5 working days' notice of planned works. This will be increasing to 7 days. In addition, we provide 90-day advance notification letters which we will continue to do in RIIO-2.
Customers asked us to identify the least disruptive times to conduct streetworks and potentially extend our working hours over the weekend.	We have explored this in specific circumstances e.g. major events or highly traffic sensitive areas, however in most cases customers have highlighted that they do not

	want us to work during unsociable hours or weekends as this can cause other types of disruption e.g. noise.
Customers in vulnerable situations should be prioritised with tailored services where possible.	<p>We will ensure that the needs of CIVS are prioritised and utilise the latest techniques to support those with specific needs e.g. sound beacons to alert those who are blind are partially sighted.</p> <p>This is an area where we are looking to continually innovate to best meet the needs of CIVS, making the most of our working relationships with partners to use their expertise in developing and shaping new products and services.</p> <p>For more information on how we are innovating to best support CIVS across all our services, please see output Appendix '07.03.09 Identifying your needs and joining up support services'.</p>
There is zero WTP for reducing the number of excavations, however there is WTP for reducing reinstatement timeliness.	Based on this insight, our proposals for reinstatement focus on the timeliness of completing reinstatement rather than reducing the number of excavations.

## 2. Assessing the measurement options



### 2.1. How is it currently measured?

In RIIO-1, there are no specific output commitments relating to minimising disruption. However, we do have Guaranteed Minimum Standards (GSOPs) for:

- GSOP 2: Reinstatement of customers' premises
  - If the Gas Transporter (GT) works on your premises, your premises will be permanently reinstated within 5 working days of the completion of the engineering works
  - If the GT fails you will receive a payment of £50 if you are a domestic customer, and £50 for each succeeding period of 5 working days thereafter. If you are non-domestic customers, the payment will be £100 for the failure and £100 for each succeeding period of 5 working days thereafter.
- GSOP 13: Notification in advance of planned supply interruptions
  - When the GT carries out planned work to replace pipes or maintain the integrity of the gas system, they may need to interrupt your gas supply. If so, your GT will inform you of the date they expect to interrupt you and reason why your supply needs to be interrupted, at least 5 working days before the interruption occurs.
  - If the GT fails and you inform them of their failure within 3 months of the interruption you will receive a payment of £20 if you are a domestic customer and £50 if you are a non-domestic customer.

Internally, we measure the average number of days it takes us to reinstate customer premises across all our networks, allowing us to monitor and improve performance.

We don't have formal measures for providing information on roadworks or co-ordinating with others. Our delivery partners have a decision-making process that considers the number of customers impacted by a streetworks job, the duration of the work, business impact and tourism impact. It is informed in part through a desktop analysis and through our ongoing proactive engagement in the area. For example, our Network Directors maintain ongoing relationships with Local Enterprise Partnerships, Local Authorities and planning departments. We take feedback from these engagements to help identify additional factors that could be considered such as specific local events. This approach will be embedded in our new contracting model for RIIO-2.

We also run social media campaigns for major projects and works that provide us with comments and feedback from customers that help us to learn and improve in these areas. We take on learning from any enquiries or complaints we receive in relation to any disruption caused by our works. As with other utility organisations we provide planned work timescales to the Department for Transport (DfT) to publish on roadworks.com.

### 2.2. Assessing good practice

#### Reduced excavations and faster reinstatement

- **Live Mains Insertion:** Mains replacement projects have traditionally been completed via the 'dead insertion' technique, which encourages multiple excavations. The lifespan of the first excavation, through to backfill and reinstatement could be between five to eight days and require two visits to relay or transfer a main. The live insertion technique is designed to reduce the number of excavations when relaying services, reduce the lifespan of the excavation to one or two days and limit the number of engineer visits to one. Ultimately, this improves the customer experience. However, there are some drawbacks to using this technique. It can lead to increased downsizing of gas mains which can cause pressure problems in the network. It can also sometimes increase the requirement to reinforce the network or upgrade governor installations where dead insertion or a large-diameter pipe may not have done.



- **CISBOT:** Following feasibility testing and successful field trials, we have been using US based technology provider 'ULC Robotics' Cast Iron Joint Sealing Robot ('CISBOT') to fix, rather than replace, lengths of gas pipe in some of London's most high-profile locations. The robotic kit works by 'crawling' along the inside of a gas main, sealing any leaks in the joints. The robot drastically reduces our impact on local road users and stakeholders, as the unit can be deployed with just a single excavation.
- **OptoMole:** OptoMole is a sensing system which can locate gas leaks in buried ducts quickly, accurately and safely. It reduces the need for major excavations.
- **Sensit APL:** For engineers repairing our underground pipes, finding the exact location of polyethylene pipes (PE) can be difficult. Previous techniques involved digging trial holes and then excavating further until we found them. The Sensit Acoustic Pipe Locator (APL) helps by using a ground penetrating radar to quickly detect buried pipes and ducts to a depth of 3m. It reduces the number of excavations and can be done by a single technician, rather than a team in many cases. The APL can pass through most surfaces including soil, grass, gravel and asphalt. It can also detect drains, fibre optics and other non-gas material. This allows us to identify where other parties' kit, is located.
- **Mini Mole (SP Energy Networks, now used by Cadent):** Renewing and upgrading underground low voltage (LV) cables and service connections can be costly and time-consuming. The standard unit cost for this does not take into consideration different circumstances which can significantly increase costs and inconvenience to customers (e.g. the increased excavation and reinstatement of ornate or decorative paving). These types of excavations can be significantly more expensive and time consuming, removing limited resources from front line activities, and reducing efficiencies. SP Energy Networks has been working with Tracto-Technik to design an innovative trenchless technology system (Mini-Mole) which could be used as a viable alternative to traditional open cut trenching method currently utilised for LV cable applications.
- **Mains and Service Replacement through Keyhole (iCore) (SGN, Cadent):** These are new techniques, products and methods that reduce or eliminate the requirement for excavation, significant operational footprint, multi-stage reinstatement, complex traffic management and minimise disruption for customers. SGN have been working with TRACTO-TECHNIK to significantly extend the range of distribution network operations that can be undertaken in keyhole excavations. This project is concentrating on network improvements including insertion of PE in iron mains, trenchless insertion of PE services, and making service connections to facilitate the mains replacement programme.

## Better communication

A number of organisations are also seeking to use creative and effective method of communication utilising the latest technology and social channels to inform customers about streetworks and minimise disruption. In 2018 we won the 'Communication Leaders' Street Works UK Award for our efforts to effectively communicate with the local community in Stratford-Upon-Avon whilst completing our mains replacement works. Although it would not be feasible and cost-effective to roll out this initiative for every planned project, several insights and best practice can be applied to more of our works to improve the overall communication customers and communities receive whilst we are undertaking streetworks.

### *Stratford-Upon-Avon case study*

In one of our biggest and highest-profile mains upgrade projects of 2018/19, we spent three months replacing half a kilometre of mains outside Shakespeare's birthplace in Stratford-Upon-Avon. This is one of the UK's centrepiece tourist attractions, welcoming three million visitors every year.

Getting the communication right was critical. Through a combination of novel ideas and sound engagement with those affected by our work, we carried out potentially disruptive work outside one of Britain's busiest tourist destinations without a single complaint.

### The team's approach included:

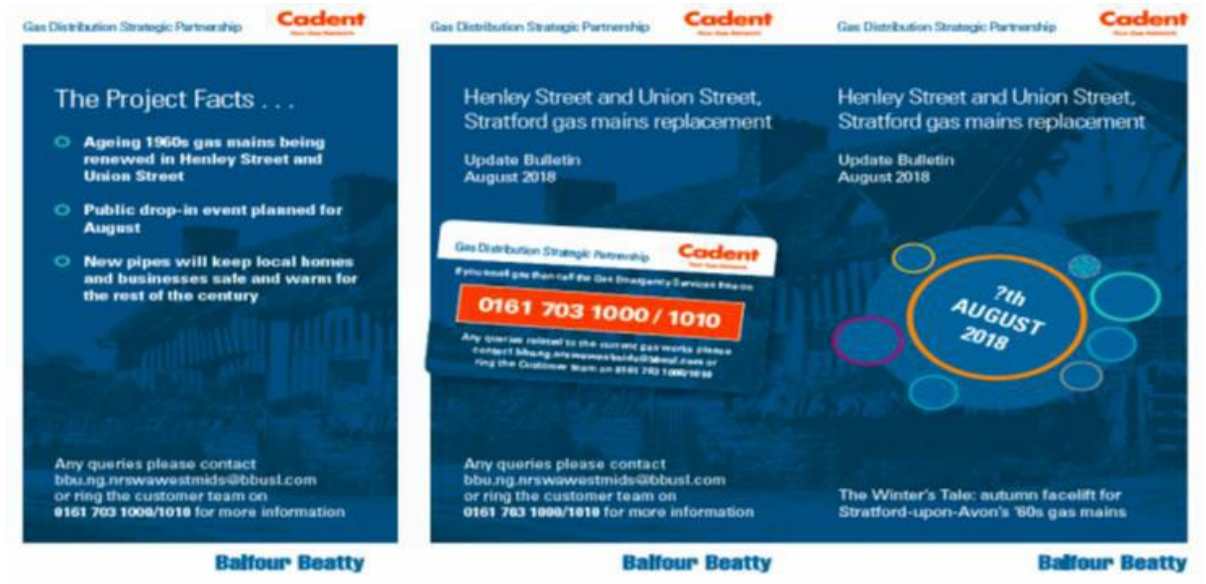
- **Engaging** with the public, councils, businesses and local organisations ahead of work
- **Creating** bespoke banners, featuring Stratford landmarks, to screen our excavations

- **Trialling** a text message service, known as a ‘listening post’, to act on real time feedback.

**Creating press releases and letters and leaflets**

An ingenious idea used the history of Shakespeare’s birth place to create advanced communications in the form of leaflets and poetic press releases to catch the eye of local residents and businesses in Stratford-Upon-Avon.

*Figure 1 Example communications used for Stratford-Upon-Avon project*



**Bespoke communications branded signs and banners unique to the area**

The team developed signs and barriers incorporating images and photographs of famous historic buildings within Stratford to display important information and improve the visual impression whilst works were being undertaken.

*Figure 2 Example banner used for Stratford-Upon-Avon project*



**Innovative Technology BIM (Building Information Modelling)**



To help bring the project to life during a customer and stakeholder open day for the first time ever in such an event, the team used a model known as BIM (Building Information Modelling), which designs a virtual 3D model of the landscape including the actual size of excavations, pipes, vehicles and plant in relation to the surrounding landscape. This technology has been predominantly developed with the construction industry for visual planning however, like modern gaming technology, the graphics clearly demonstrate how the street scene will be viewed whilst the project is under construction. Feedback was extremely positive, and this technology is a major progression in breaking away from the use of traditional visual communication.

### Real-Time Feedback and social media

Figure 3 'Have Your Say' sign



We wanted to know how we were doing as the job progressed. A 'listening post' was installed on site to gauge real time feedback as works progressed. Its simplicity appealed to customers who just needed to text the number provided, quote the scheme number followed by their feedback. This allowed us to positively react to the feedback in real time.

Living in a world of online communities and a demand for real time information, the team utilised social media to target tourists and residents planning to visit the area, particularly during the city's events such as their food festival and Mop Fair.

### Face to face meetings and relationship building

Building relationships in order to gain local support was an integral part of the project, therefore early engagement forums and meetings were set up with Warwickshire County Council, Warwickshire Historical and Archaeology Group and businesses. Drop in centres were also arranged to set expectations for local residents and businesses. Cadent recognised the potential impact this project could have on local tourism and its associated economy and used its wider business network to engage with national and local politicians to keep them informed of plans and progression. One of the early successes of the communication plan was to convince Warwickshire Council that a robust communications and stakeholder-engagement strategy were in place to allow the scheme to commence in September while the tourism season was still at its peak.

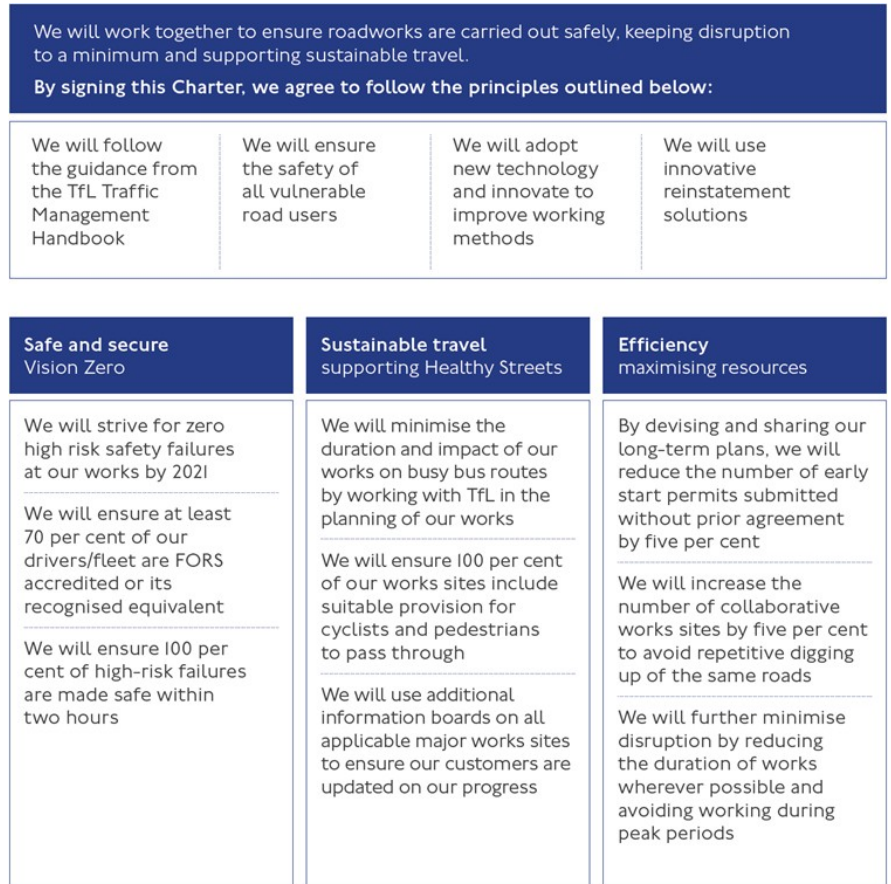
**Multi-utility working**

*The Roadworks Charter*

Cadent, along with SGN and a number of other utilities and telecoms organisations such as Thames Water and BT have signed up to Transport for London’s ‘Roadworks Charter’. This Charter is focused on meeting the challenges of managing roadworks in the UK’s largest growing city, while aligning with Vision Zero.

We will be engaging with local authorities, utilities and other stakeholders in our other networks to develop and adopt similar charters and deliver a high-quality service for all customers across our footprint.

*Figure 4 The Roadworks Charter*



**Greater London Authority (GLA) collaborative works initiative**

The GLA convened Chief Executive’s (CEOs) of the regulators, utility network companies, boroughs, National Infrastructure Commission and Infrastructure Projects Authority via the Mayor’s Infrastructure High Level Group to address cross-cutting challenges in planning and delivering London’s infrastructure. This group includes Cadent.

In April 2018, the group endorsed a business case for the GLA to establish resources, including a new team, to support infrastructure coordination in London, with a focus on high growth areas and piloting new approaches. Funding of £2.9m was awarded from the London’s Lane Rental Scheme Surplus Income in August 2018 to fully fund the first two years of the work.

As priorities, the GLA is pursuing in partnership with stakeholder’s initiatives that aim to (a) minimise the disruption caused by streetworks, (b) facilitate better forward planning of infrastructure in high growth locations and (c) intervene to improve the connections process for new developments. Much of the work programme is supported by collection of data through tools such as the London Infrastructure Mapping Application and is underpinned by strong monitoring and evaluation to ascertain benefits.

### Case Study: Staffordshire Connected Roadworks project

The Staffordshire Connected Roadworks project<sup>1</sup> was a £0.65M Innovate UK-funded project aiming to expand implementation of joint streetworks in Streethay and other areas of Stafford over an 18-month period. The project involved combining maintenance programmes from Staffordshire Highways, utility providers and telecommunications companies. The project aimed to reduce the total cost of the highways network, reducing the impact on the environment and local economy, and minimising disruptions and inconvenience to residents.

The project achieved this by:

- Developing an interactive mapping tool, and a central data hub;
- Promoting collaboration between utilities and the local authority;
- Identifying joint streetworks opportunities, and regulatory barriers to their adoption; and
- Making the evidence-based business case for joint streetwork.

Staffordshire Highway Authority has been delivering joint roadworks schemes for many years. The Staffordshire Network Hub track the number of days of roadworks avoided by better planning and joint working. There were 35 projects recorded in 2015/16, of which 31 involved joint works. Joint occupation projects resulted in an estimated **366 fewer days of roadworks throughout the year**, with six of these projects leading to over 20 days of roadworks saved each.

In addition, Future Cities Catapult cite a number of specific joint streetworks projects, each of which demonstrate significant value when compared to the status quo.

A scheme to install 3.7km of gas main and resurface 3km of the carriageway on the A449 Wolverhampton Road in Stafford was undertaken collaboratively. This resulted in **a 25 weeks individual works estimated duration reduced to a 12 weeks combined duration**, resulting in estimated delivered economic benefits of **£1.372m**, the majority of which were time savings to road users, with additional non monetizable benefits in the political and social benefit areas.

#### Key Benefits:

- 31 joint works projects
- 366 fewer days of roadworks throughout the year
- 25 weeks' individual works estimated duration reduced to a 12 weeks combined duration (for the Wolverhampton gas mains scheme)
- Economic benefits of £1.372m.

#### Summary of good practice

An assessment of best practice from across the industry and within our business indicates that disruption can be minimised through a number of approaches.

- There are known innovative techniques to reduce the number of excavations, the size of excavations and the time taken to reinstate. Implementation of techniques will allow us to reduce disruption from an engineering perspective.
- There is best practice around better communication about utility works and keeping customers informed in a reliable, creative and tailored way.
- Coordinating with other utilities and local authorities can lead to significant benefits and overall reduction in the disruption caused by streetworks.

<sup>1</sup> Future Cities Catapult., 2017. *Staffordshire Connected Roadworks*. Future Cities Catapult [ONLINE]. Available at: <http://futurecities.catapult.org.uk/resource/staffordshire-connected-roadworks-report/>. Accessed: 09/04/2018.

### 2.3. What options have we considered?

#### Defining objectives

Reflecting on the insights we have received from our customers and stakeholders, the good practice across the industry and our experiences (and successes) in RIIO-1, we have defined the objectives the disruption output measures should deliver in RIIO-2.

*Table 5 Output objectives*

Objective	Business insights	Customer and stakeholder insight/feedback	Best practice	Strategy / Policy
<b>Deliver improved satisfaction for customers who experience disruption caused by our works</b>	Site tidiness, reinstatement and disruption rank within the top ten reasons for complaints and cause dissatisfaction.	Reducing the disruption in people's lives from our works is a high priority for customers and stakeholders.  We need to ensure we deliver improved satisfaction for all customers, prioritising those in vulnerable situations.		
<b>Keep our promises by completing reinstatement on the dates/times we agree with our customers</b>	Customers get frustrated with the length of time it can take for us to complete works on their premises or in the road.	Timetable delays are a key cause of frustration for customers and stakeholders.		
<b>Ensure work continues to be delivered efficiently and safely</b>			We continue to work with partners to develop innovative techniques (e.g. robotics to speed up our works, make them more efficient and less invasive).	We need to balance delivery with business efficiency. We must challenge ourselves as a business to reduce disruption to daily lives but still need to get the job done safely.
<b>Drive improved communication and coordination to mitigate the impact of our works</b>	Our customers and stakeholders have raised concerns about communication timetables. Sometimes there is a lack of communication about Cadent's planned works.	There is strong support from stakeholders to work with other utilities when carrying out works as well as local authorities to incorporate local knowledge to reduce disruption.	Several organisations are seeing the benefits of collaborative works and are taking steps to enable this.	

Table 6 Options we have considered

Option 1: Maintain the status quo	
<ul style="list-style-type: none"> <li>• <b>Adhering to minimum standards for reinstatement</b> – Reinstating customer’s property within five working days (GSOP2), paying existing compensation levels if requirement is not met</li> <li>• <b>Provide drop cards for roadworks / reinstatement on site for all jobs</b> – Use enhanced communication and social media for major jobs only</li> <li>• <b>Coordination</b> – limited collaboration with other utilities or highway authorities.</li> </ul>	
Assessing the merits and drawbacks	
Pros	Cons
<ul style="list-style-type: none"> <li>• Customers are compensated for reinstatement completed beyond five working days</li> <li>• A traditional ‘catch-all’ way to inform customers about roadworks and reinstatement.</li> </ul>	<ul style="list-style-type: none"> <li>• No incentive to deliver beyond minimum standards</li> <li>• Does not deliver desired customer outcomes to minimise disruption caused by our works</li> <li>• Limited information of roadworks through a single communication channel</li> <li>• Risk of many customers missing important communications about road works</li> <li>• Limited coordination does not correspond to what customers have asked for</li> <li>• Limited coordination when planning roadworks will lead to increased disruption.</li> </ul>
Potential unintended consequences	
<ul style="list-style-type: none"> <li>• Cadent does not build positive brand awareness as the approach to minimising disruption and being proactive to improve the customer experience in this area is limited</li> <li>• Customer satisfaction scores reduce as Cadent does not do enough to maintain and improve its current service to minimise the impact of disruption resulting from streetworks</li> <li>• Our reputation with stakeholders could diminish if we are not seen to be keeping up with or ahead of developing trends to minimise disruption.</li> </ul>	
Option 2: Accelerate reinstatement timescales and improved communication	
<ul style="list-style-type: none"> <li>• <b>Reducing the average number of days to reinstate customers’ property</b> – Implement known innovative techniques to reduce disruption through reduced excavations and faster reinstatement</li> <li>• <b>Improved communication of our works</b> – Communicate roadworks timescales and alternative routes through selected channels – improved signage, post, text, online portal/app, tailoring communications to customers in vulnerable situations.</li> </ul>	
Assessing the merits and drawbacks	
Pros	Cons
<ul style="list-style-type: none"> <li>• Drives reinstatement timeliness beyond minimum standards</li> <li>• Encourages implementation of known innovations to reduce disruption</li> <li>• Enhanced communication minimises any potential negative impacts of works on customers.</li> </ul>	<ul style="list-style-type: none"> <li>• Focuses on existing innovations only</li> <li>• Focuses on reinstatement timeliness rather than quality</li> <li>• Could encourage unsociable working hours and cause other forms of disruption e.g. noise</li> <li>• Limits the media channels used to disseminate information.</li> </ul>
Potential unintended consequences	
<ul style="list-style-type: none"> <li>• A squeeze on reinstatement times could lead to a reduction in quality of the reinstatement itself, resulting in repairs being required which in-turn would create further disruption</li> <li>• Where timescale promises are not met, improved communications may mis-manage some customer expectations inadvertently. Needs careful management.</li> <li>• These services can sometimes increase complexity of both planning and executing work, which can have unintended negative consequences to communication and quality of execution.</li> </ul>	

Option 3: Multi-utility working and enhanced communication	
<ul style="list-style-type: none"> <li>• <b>Reducing the average number of days to reinstate customers' property</b> – Implement known innovative techniques and explore new innovations to reduce disruption through reduced excavations and faster reinstatement</li> <li>• <b>Enhanced communication via multiple channels</b> – Communicate roadworks timescales and alternative routes through all channels – including post, text, the online portal or an app, social media, TV and radio, tailoring communications to customers in vulnerable situations</li> <li>• <b>Work with other utilities and local authorities to coordinate works when appropriate and efficient</b> – consider detailed plan alignment and collaborative works.</li> </ul>	
Assessing the merits and drawbacks	
Pros	Cons
<ul style="list-style-type: none"> <li>• Drives GDNs to complete work as soon as possible</li> <li>• Limits disruption caused by excavations</li> <li>• Enhanced communication mitigates the impact on customers</li> <li>• Use of all communication channels means most customers benefit</li> <li>• Coordination of works benefits all customers and businesses.</li> </ul>	<ul style="list-style-type: none"> <li>• Could compromise quality due to demanding timescales</li> <li>• Likely to be expensive and could exceed WTP</li> <li>• Could be costly and difficult to manage enhanced communications</li> <li>• TV and radio ads could be too general and not achieve the desired impact</li> <li>• Coordination of works with others could be costly and inefficient.</li> </ul>
Potential unintended consequences	
<ul style="list-style-type: none"> <li>• Coordination and potential sharing of excavations could lead to confusion in accountabilities and defining which organisation is responsible for streetworks compliance</li> <li>• Compliance with Construction Design and Management Regulations and other safety legislation may become more challenging, which could have safety implications.</li> </ul>	

## 2.4. Why are these the options?

When discussing these options with customers, we considered each component part of the options separately – i.e. it was possible for customers to place strong preference on part of Option 2 and part of Option 3. However, for presentational purposes and to enable effective conversations, we developed our options as those above. Initial insights show that customers want us to reduce the impact of disruption from our works by providing better communications, improve coordination and reduce the overall time it takes us to back-fill excavations following works. Plus, there is an expectation from customers and the industry that utilities need to do more in order to ease the amount of disruption caused to customers and the public resulting from streetworks

We recognise that the time we spend in the road in order to complete our engineering works can be a significant disrupter to customers and communities. However, customers do understand the drivers for the works and are prepared to accept some disruption. In order to help mitigate this disruption we propose to improve our communication package for our streetworks and commit to greater coordination with other utilities.

Customers find excavations on their property equally as disruptive, and this is an area that is completely within our control, therefore we are making the commitment to improve our timeliness to complete reinstatement on customer properties.



We have assessed how these options deliver against our defined objectives:

*Table 7 Options appraisal against objectives*

	Option 1: Maintain status quo	Option 2: Accelerate reinstatement timescales and improved communication	Option 3: Multi-utility working and enhanced communication
Deliver improved satisfaction for customers who experience disruption caused by our works	Red	Light Green	Dark Green
Keep our promises by completing reinstatement on the dates/times we agree with our customers	Yellow	Light Green	Light Green
Ensure work continues to be delivered efficiently	Yellow	Dark Green	Light Green
Drive improved communication and coordination to mitigate the impact of our works	Red	Light Green	Dark Green

No delivery	Weak delivery	Some delivery	Delivery	Strong delivery
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## 2.5. Customer and stakeholder preference

Based on initial insights from customer and stakeholder engagement, the preferred option is Option 2 with an ambition to move towards Option 3 by the end of the RII0-2 period. Our customers currently express dissatisfaction with the length of time it can take us to reinstate excavations following works and the disruption caused by streetworks. Therefore, we aim to complete reinstatement sooner following the completion of engineering activity, better planning and the deployment of innovative techniques should help to deliver a much more positive outcome for customers and set a standard that others aspire to. However, we are also aware that customers are equally concerned about ensuring quality and the challenges associated with coordination of works which need to be carefully considered. Although reinstatement is only one aspect of disruption, it provides a tangible indicator for getting the job completed quickly and mitigating other causes of disruption such as traffic congestion and blocked pavements.

In addition, we propose to communicate more effectively with customers to minimise the impact before, during and after our works e.g. by providing information on alternative routes through various communication channels, and where possible we will innovate to reduce the amount of excavations we undertake. When we excavate on a customer's property, we will manage the customer relationship to ensure customers know what to expect. We will also coordinate with other utilities, Local Authorities and stakeholder to align our streetworks plans and undertake joint streetworks so that where it can be avoided customers are not continuously impacted on separate occasions.

### 3. Assessing performance levels



#### 3.1. RIIO-1 performance

As described above, there is no direct disruption measure that applies to all GDNs for RIIO-1. However, feedback from customers and stakeholders helps to identify relevant proxy measures, such as reinstatement timescales. Excavations on a customer’s property, or on the highway takes place to facilitate access to our apparatus to enable us to undertake repairs following an emergency situation or during our gas mains replacement work. The table below shows the average number of days it takes us to reinstate across our four networks for both public and private reinstatement.

*Table 8 Timeliness to complete reinstatement – current performance (18/19)*

Network		Repair	Mains Replacement
East of England	Average no. of days (public)	1.41	1.40
	Average no. of days (private)	1.49	1.45
	No. of excavations	21721	74659
North London	Average no. of days (public)	1.05	1.11
	Average no. of days (private)	1.12	1.63
	No. of excavations	20054	60755
North West	Average no. of days (public)	2.81	6.20
	Average no. of days (private)	3.69	5.47
	No. of excavations	18989	26617
West Midlands	Average no. of days (public)	2.14	5.11
	Average no. of days (private)	3.18	3.38
	No. of excavations	12850	22118

Our current performance indicates that reinstatement timeliness is on average below 2 days in East of England and North London, but between 3-6 days in the North West and West Midlands. The difference in performance between networks can be explained by the work and contract models we have in place in the East and West. In the East the process to complete reinstatement has the flexibility to respond more efficiently to requests and therefore allows us to complete reinstatement of excavations quicker.

Although we seek to communicate with customers effectively during works through various means and methods, we do not currently record or report on what we do in this area. Likewise, we have undertaken a small number of collaborative works on large projects (e.g. London medium pressure works), however we have not robustly measured the impact of the reduction in disruption these works have led to.

#### 3.2. What performance levels have we considered for RIIO-2?

We are targeting three areas of improvement to reduce disruption; private reinstatement timeliness, better roadworks information, and coordination with others.

##### Private reinstatement timeliness

*Table 9 Private reinstatement timeliness target range and cost to achieve*

	Low	Medium	High
<b>Target</b>	Reinstate holes in customer premises within 5 days (current minimum standard).	Reinstate holes in customer premises within 3 days across all networks.	Reinstate holes in customer premises within a day.
<b>Cost to achieve (RIIO2 period)</b>	No additional cost	No additional cost	£68,794,870



<b>Cost assumptions/ calculation</b>	N/A	N/A	Estimated and indicative view on the annual incremental cost for D+1 private reinstatement based on response from reinstatement suppliers to a tender question.  (number of excavations x incremental cost of D+1 private reinstatement) + 8% overhead costs).
<b>Annual bill impact (average Cadent customer)</b>	£0.00	£0.00	£0.18 in 2021, increasing to £0.53 by 2026.

*Why these target delivery levels?*

Our options ranged from the current minimum standard (Option 1), to current levels of performance (Option 2), to the highest target level that is deliverable through improvements and investment (Option 3). For the first two options there is no incremental cost as we forecast that we will be able to deliver these levels of performance with no, or very limited, additional cost. However, Option 3 comes at a significant cost to achieve.

**Better roadworks information**

Along with reducing timeliness for completing reinstatement on customers' premises we will improve our communication surrounding our works (please refer to the output Appendix '07.03.05 Measuring and enhancing inclusivity and accessibility' for our complete proposal on improving overall customer communication). To minimise the impact of disruption we will provide better communication around road works. This could include information on:

- Start and end of road works
- Roads/streets affected (e.g. closed, traffic management, shuttling)
- Alternative routes / diversions
- Access routes to homes/businesses
- Information on the other partners/utilities we are working with (during multi-utility works)

In terms of how we disseminate this information, this could include:

Non-digital communication	Digital communication
<ul style="list-style-type: none"> <li>• Verbal conversation with local customer(s)</li> <li>• Streetworks permit board with complete information</li> <li>• Letters/leaflets to notify customers of planned works (key dates), roads closed or affected, alternative routes and diversions.</li> <li>• Dropcards to keep customers informed of works and next steps</li> <li>• Customer update boards</li> <li>• Large Cadent fencing banners.</li> </ul>	<ul style="list-style-type: none"> <li>• Up to date information available on roadworks.org</li> <li>• Digital update boards</li> <li>• Use of interactive 'have your say' listening posts to capture real-time feedback</li> <li>• Information on Cadent's website allowing customers to enter their postcode or project number to access info</li> <li>• Social media updates to our own Cadent pages</li> <li>• Localised paid social media advertising (Facebook/Youtube/Twitter) with regional focus advertising budget</li> <li>• Short videos on Cadent website/social media pages informing customers of the works and what to expect</li> <li>• Google Display Network Advertising targeting local communities</li> </ul>

	<ul style="list-style-type: none"> <li>Digital PR articles and outreach to the media (News, Radio, TV).</li> </ul>
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*Table 10 Better roadworks information target range and cost to achieve*

	Low	Medium	High
<b>Target</b>	We will improve communications associated with streetworks on our higher impact works (major roads with long duration works) using a tiered approach based on traffic sensitivity, duration of works and other local information.	We will improve communications associated with streetworks on our medium & higher impact works (major & other roads with long duration works) using a tiered approach based on traffic sensitivity, duration of works and other local information.	We will improve communication associated with streetworks on all works using a tiered approach based on traffic sensitivity, duration of works and other local information.
<b>Cost to achieve (RIIO2 period)</b>	£7,060,000	£8,300,000	£10,120,000
<b>Cost assumptions</b>	<p>Printed materials - £180k p.a. (£15k /month)</p> <p>Non-digital customer update boards £175k p.a. (£50 for 3500 boards)</p> <p>Large fencing banners - £28k p.a. (£8 for 3500)</p> <p>Digital update boards £539k p.a. (£385 for 1400) + £490k p.a. maintenance (£50 x 1400 x 7 days)</p> <p>Total cost: £1,412,000 p.a. (£7,060,000 over RIIO2)</p> <p>Media campaign costs within accessibility output case</p>	<p>Printed materials - £204k p.a. (£17k /month)</p> <p>Non-digital customer update boards £200k p.a. (£50 for 4000 boards)</p> <p>Large fencing banners - £32k p.a. (£8 for 4000)</p> <p>Digital update boards £616k p.a. (£385 for 1600) + £560k p.a. maintenance (£50 x 1600 x 7 days)</p> <p>Total cost: £1,672,000 p.a. (£8,300,000 over RIIO2)</p> <p>Media campaign costs within accessibility output case</p>	<p>Printed materials - £264k p.a. (£22k /month)</p> <p>Non-digital customer update boards £250k p.a. (£50 for 5000 boards)</p> <p>Large fencing banners - £40k p.a. (£8 for 5000)</p> <p>Digital update boards £770k p.a. (£385 for 2000) + £700k p.a. maintenance (£50 x 2000 x 7 days)</p> <p>Total cost: £2,024,000 p.a. (£10,120,000 over RIIO2)</p> <p>Media campaign costs within accessibility output case</p>
<b>Annual bill impact (average Cadent customer)</b>	£0.11	£0.12	£0.15

*Serving customers in vulnerable situations*

To minimise the impact of our works for customers in vulnerable situations specifically, we already have a number of innovative products and services that are either being tested, in pilot across our networks or will be developed in RIIO-2. These include Bluetooth Beacons and Sightline Barrier Rumble Strips. For more information on these and other things we are doing to support customers in vulnerable situations please see our Appendices '07.03.05 Measuring and enhancing accessibility and inclusivity' and '07.03.09 Identifying your needs and joining up support services'.

*Why these target delivery levels?*

Our options range from enhanced communication for major works which cause the most significant disruption due to the road type and length of job (Option 1), to providing for most jobs including medium level projects (Option 2), to providing enhanced communication for every job (Option 3). We recognise that all jobs are different and communication requirements must be tailored based on the extent of disruption caused. Therefore, we will define clear criteria on the level of communication required for each road type, accounting for traffic sensitivity, number of customers impacted, the duration of the work, business impact and tourism impact.

**Coordinating with others**

In addition, we will actively seek ways to work with other utilities, Local Authorities and highway authorities to share and align our plans so that customers are not disrupted with utility works on several occasions. This may mean the disruption lasts longer, but all the required works are carried out together, leading to reduced excavations and waste as the same land is not excavated multiple times. To avoid situations where customers simultaneously lose a number of essential services we will ensure that worked linked to service loss (i.e. loss of gas/electricity/water supply or internet) are not carried out at the same time.

*Table 11 Coordination target range and cost to achieve*

	<b>Low</b>	<b>Medium</b>	<b>High</b>
<b>Target</b>	No coordination of works.	We will work with other utilities and local authorities to align our road work plans and undertake planned works consecutively (back to back) for major traffic sensitive roads only.	We will work with other utilities and local authorities to align our road work plans and undertake planned works consecutively (back to back) on all roads.
<b>Cost to achieve (RIIO2 period)</b>	£0	£1,005,853.30	£2,514,638.25
<b>Cost assumptions</b>	N/A	Resource cost to coordinate - No. of staff required to manage and coordinate utility plans x fully loaded resource cost  (Two Level-7 staff x £55,986.75 = £111,973.10  (Two Level-6 staff x £44,598.78 = £89,197.56  Total annual cost = £201,170.66  RIIO2 period = £1,005,853.30	Resource cost to coordinate - No. of staff required to manage and coordinate utility plans x fully loaded resource cost  (Five Level-7 staff x £55,986.75 = £279,933.75  (Five Level-6 staff x £44,598.78 = £222,993.9  Total annual cost = £502,927.65  RIIO2 period = £2,514,638.25
<b>Annual bill impact (average Cadent customer)</b>	£0.00	£0.01	£0.04

*Why these target delivery levels?*

Our options range from not coordinating with utilities and Local Authorities (Option 1), to focusing coordination on major traffic sensitive roads only as these will have the greatest impact on disruption (Option 2), to seeing to coordinate on for all streetworks (Option 3). These ambition levels have been set based on customer and

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stakeholder feedback via the RIIO-2 business planning process together with insights from our business as usual insights such as customer satisfaction survey and complaints data. Our engagement has demonstrated support for minimising disruption. Customers have strongly supported the idea of coordinating with other utilities and Local Authorities to reduce the number of excavations in the road and congestion caused.

Before testing these costed options with customers, the preference was to be in the high target delivery range as early customer engagement informed us that we should pursue all opportunities to work collaboratively with other utilities and Local Authorities to deliver a better overall outcome and minimise disruption through reduced congestion and efficient working for all our customers and communities. However, we must consider some of the limitations of collaborative working including complications to do with accountabilities and the willingness of other organisations agreeing to collaborate and work together. In the next section we show how we tested these proposals with our customers to understand their preference.

## 4. Customer testing



We have tested our commitments in a variety of ways to ensure we have both quantitative and qualitative responses across a broad segmentation of customers and stakeholders. We have tested the output measures that we are proposing and gathered feedback where options exist. The options testing shared bill impacts to ensure our customers and stakeholders were fully informed before making choices.

This phase was called business options testing. As part of this phase we also undertook targeted engagement with specific groups such as hard to reach, seldom heard, future generations, those in fuel poverty and businesses such as micro businesses. We really wanted to understand if we had correctly heard what our customers and stakeholders wanted and needed from us.

Once we had gathered all the feedback from the options testing phase, we conducted acceptability testing to assess our plan in readiness for our final plan submission in December.

### 4.1. Business options testing (BOT)

#### Private reinstatement timeliness

During our quantitative BOT, we asked 2,022 customers about reinstatement at their properties. We provided the following options and annual bill impacts:

*Table 12 Reinstatement BOT survey options*

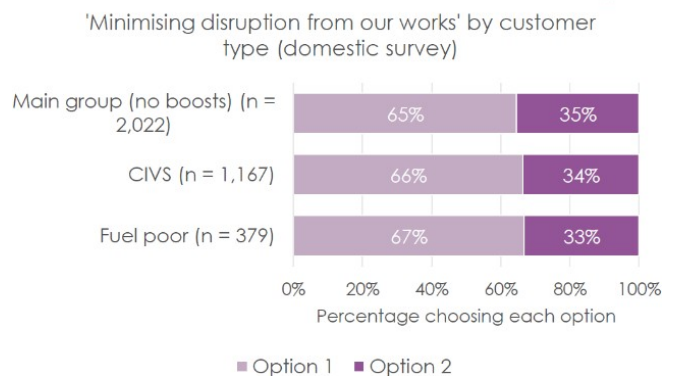
Reinstatement in private property	Option 1	Option 2
What Cadent could do	Fill in holes on customer property within 3 days (this is the current average performance level)	Fill in holes on customer property within 1 day
Average additional customer bill impact	£0.00	£0.18 in 2021 Increasing to £0.53 by 2026

It's worth noting that we only tested two options as opposed to the three options mentioned in section 3. Our engagement partners, Traverse, highlighted that there was limited value in testing two options with zero bill impact (i.e. 5 days and 3 days to complete private reinstatement) as customers would automatically select the option with the higher delivery targets.

The survey results showed that customers favoured Option 2: to fill in holes on customer property within 3 days with 65% of the votes. The alternative – filling in holes within a day – received 35% of the votes. Customers in vulnerable situations also favoured Option 1 (66% choosing it). Qualitative workshops backed up this finding, with Option 1 being the most preferred in each of the four locations we tested in.

For the businesses surveyed, the results were similar with a 63% / 37% split between Option 1 and option 2 and with zero employee businesses showing the strongest preference for Option 1

*Figure 5 Reinstatement BOT survey results*



(67%). The qualitative workshops as part of the 4th customer forum gave a consistent result where Option 1 secured almost 80% support overall.

Initial indications from more detailed follow up qualitative workshops area that customers cared more about completing the work to a high standard, and sticking to the original timescales for the work, rather than completing it as quickly as possible.

*Triangulation of reinstatement*

Early customer and stakeholder comments we collected supported a quicker reinstatement target, such as customer deliberative workshops requesting us to complete works quickly, NERA’s, estimates of the cost to society caused by our works and the general priority placed on reducing disruption.

However, once we developed costed options to actually deliver this during BOT, we found that a significant majority (65%) across all networks actually preferred a lower cost, lower delivery target option to complete reinstatement within 3 days following engineering works (Option 1). This trend still applied when only customers in vulnerable situations or in fuel poverty were considered alone.

In quantitative follow up workshops to the BOT surveys, customers indicated that a high-quality job, and sticking to agreed timescales were more important than setting a more stretching target, that might be missed.

While earlier engagement sources indicated support for a faster reinstatement target, the business options survey which included a consideration by customers of the cost to achieve this, with a large statistically representative sample covered (about 2,000), did not. It is also supported by WTP around the number of excavations. This was another insight based on a large, representative sample. Therefore, we have considered that these results better represent customer’s preferences to balance cost and service levels in this area, and we are not including any additional costs or incentives in our plan to achieve a faster reinstatement target. We will, however, set targets to maintain our current average performance of completing reinstatement within customer premises within 3 days following completion of engineering works.

**Better streetworks information**

130 attendees at our fifth customer forum provided feedback on different options for providing better roadworks information. We asked participants to take part in an exercise to explore what communication methods we should use during streetworks, selecting from the following list:

Non-digital communication	Digital communication
<ul style="list-style-type: none"> <li>• Verbal conversation with local customers</li> <li>• Streetworks permit board with complete information</li> <li>• Letters/leaflets to notify customers of planned works (key dates), roads closed or affected, alternative routes and diversions.</li> <li>• Dropcards to keep customers informed of works and next steps</li> <li>• Customer update boards</li> <li>• Large Cadent fencing banners</li> </ul>	<ul style="list-style-type: none"> <li>• Up to date information available on roadworks.org</li> <li>• Digital update boards</li> <li>• Use of interactive ‘have your say’ listening posts to capture real-time feedback</li> <li>• Information on Cadent’s website allowing customers to enter their postcode or project number to access info</li> <li>• Social media updates to our own Cadent pages</li> <li>• Localised paid social media advertising (Facebook/Youtube/Twitter) with a regional focus advertising budget</li> <li>• Short videos on Cadent website/social media pages informing customers of the works and what to expect</li> <li>• Google Display Network Advertising targeting local communities</li> <li>• Digital PR articles and outreach to the media (News, Radio, TV)</li> </ul>

Enhanced communication and streetworks information must be proportionate and targeted to deliver the best outcome for customers and communities and therefore we don't envisage applying every communication method for every job. Rather, during the customer forums held in London and Ipswich we asked our customers how these methods should be applied for the following categories:

- Major road / long duration of works (> 1 week)
- Major road / short duration of works (< 1 week)
- Minor road / long duration of works (> 1 week)
- Minor road / short duration of works (< 1 week)

Non-digital methods were preferred over digital across all streetworks except for long delays on major roads where customers felt that it was worth investing in methods that would have a wider reach. Customers opted for methods that would be:

- Practical – door knocks were largely seen as a futile exercise if done during the day as most people would not be at home
- Cost-effective – paid adverts could be too expensive for the value delivered
- Reaching the right audience – update boards (digital and non-digital) and information printed on Cadent fencing barriers were the most preferred communication method. These will be quickly spotted by affected drivers and give them the information they required to continue their journey. Similarly, many suggested that it is unreasonable to expect drivers to be checking Cadent's site and social media channels.

Other methods suggested by participants included: push notifications via Google maps, equip Cadent vans with digital boards and leave sticky notes on locals' doors informing them of the works.

We also engaged with businesses to understand if they have any specific preferences in this area. Just over half of the 74 participants chose the option with the highest delivery targets of the three options presented: information on roadwork timescales, road closures and alternative routes through face to face conversations, post, text, and an online portal/app for all jobs requiring streetworks. Participants noted that the approach should depend on the situation and customer preferences. For example, initial communication could be electronic, but with longer or delayed disruptions there should be direct or face-to-face communication and communication with those most affected prioritised. Business customers highlighted that communication must:

- provide up-to-date information frequently and in advance where possible;
- be reliable and accurate;
- provide easily reachable contacts (name and number) for more information;
- provide an indication of the expected length and level of disruption;
- be reassuring and apologetic; and be tailored and targeted to businesses.

### *Triangulation of communication*

One area that frequently came up during engagement was requests for improvement to communication around our works. This includes a request in our domestic customer survey for more information on roadworks, respondents to our public survey saying that this was poor, and the fact that poor communication and expectation setting is the most common reason for complaints.

This was also one of the feedback points raised during follow up workshops to our BOT survey, where customers suggested that better information on reinstatement timelines is more important than reinstatement time.

Therefore, we are increasing our ambition and including a commitment in our plan to disseminate information on roadworks timescales, road closures and alternative routes for every job requiring streetworks through a variety of channels. However, customers have asked us to be efficient and use the most effective methods for each job and tailor to the needs of the customer impacted. Therefore, we will adopt a tailored approach which considers



the number of customers impacted, the duration of the works, the impact on businesses and tourism. We will also inform our decisions through local engagement with customers and key stakeholders including LEPs, Local Authorities and planning departments.

Further improvements to communication, which cover wider improvements beyond roadworks are covered in our separate output appendix '07.03.05 Measuring and enhancing accessibility and inclusivity'.

**Coordinating with others and multi utility working**

We discussed multi-utility working as part of our 4<sup>th</sup> customer forum with 200 customers. Customers were offered a choice of doing nothing (none), targeting the busiest areas with a high number of businesses (Option 1), or seeking to coordinate with others in all areas where both businesses and residential customers benefit (Option 2).

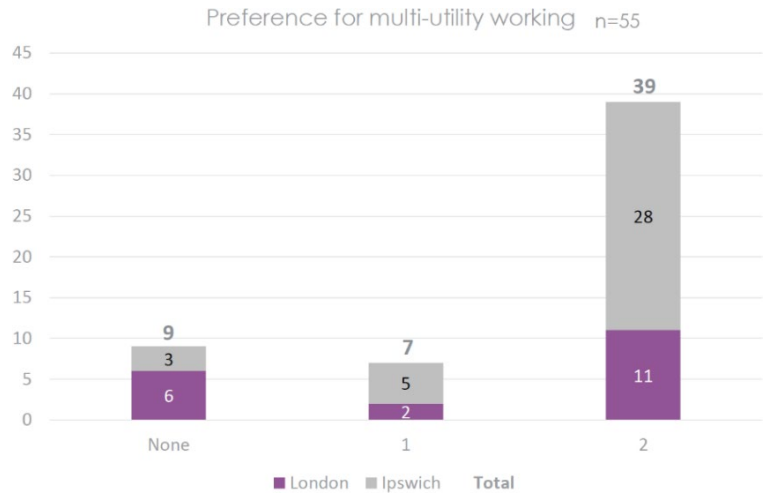
Based on the results, there was a clear preference for the Option with the highest delivery targets to coordinate with other utilities so that all customers and businesses benefit. There was general support for the principle of multi-utility working during the discussions, with some participants thinking it should be standard, because of the cost savings, but recognising that it would require a willingness from other companies to coordinate. There was, however, scepticism from some participants about whether it could work, considering there are so many independent factors it would rely on. At the workshops with 74 business customers, participants felt that multi-utility working makes sense, and some were surprised that it is not already the approach. It was participants' preferred approach, assuming that it would be more efficient, although a few were concerned about what might happen if one job was delayed. Some participants questioned the feasibility of successful coordination and collaboration between different companies. Most groups suggested that there be one individual or stakeholder that takes overall responsibility and coordinates work across utilities and the on-the-ground teams.

One group suggested that there be a centralised database of work requirements across various parties to aid planning and coordinated delivery of multi-utility work. Participants would generally prefer one longer disruption than several shorter disruptions, even if it means multiple utilities would be off at one time. Around 75% of participants chose the option with the highest delivery targets of two options presented, which includes coordination of multi-utility work that benefits all customers and businesses.

At the employee workshops, some of the 80 participants felt that, with time and effort multi-utility working would be achievable, however others felt that the barriers would be too significant to overcome. Perceived barriers included: disagreements over financial responsibilities; companies working to different timetables; clarity of accountability, risk and liability (for example if there are damages); clarity of responsibility for reinstatement and its quality; lack of support from local authorities (as they profit from permits); companies not allowing collaborative working; and work being subcontracted.

Some participants feared that customers (despite having indicated a preference for this approach) would be dissatisfied with the length of disruption and permits (which are time restricted) would incur higher costs. Some participants raised concerns about health and safety, particularly potential increase in risk to workforce. Participants generally felt that multi-utility working would need a coordinator and wondered if this should be the role of Cadent or Local Authorities.

*Figure 6 Coordination BOT qualitative workshop results*





### *Triangulation of coordinating with others*

Coordinating with others to reduce the number of excavations in the road was another frequently mentioned topic in engagement. We discussed multi-utility working as part of BOT and customers were by a large majority in favour of us taking mid-range (medium) target delivery approach to deliver benefits for customers in this area.

However, in this case, we need to weigh this against WTP results for reducing disruption in the road, which was zero for both domestic and non-domestic customers and some of the barriers highlighted by customers and our employees.

Therefore, we are proposing a compromise between these two positions. We will do more to coordinate with other utilities, Local Authorities and other stakeholders to reduce the number of excavations made in the road. However, we are limiting this to what we can achieve at a relatively low cost (approximately £1m over the course of the price control). However, we are not seeking any additional funding for this commitment and therefore no bill impact, reflecting the low WTP results.

As part of this, we will also work with industry experts to track the benefits associated with collaborative works e.g. the number of days of congestion saved.

### *Triangulation summary*

Minimising disruption was raised as a high priority in several sources of insight, including our domestic customer survey, deliberative workshops, stakeholder interviews and regional stakeholder workshops. Issues relating to disruption are also some of the most common reasons for complaints and social media posts about Cadent. Given the level of importance placed on minimising disruption highlighted by a wide range of sources, we needed to include commitments around reducing disruption from our works in our plan.

We have considered trade-offs within all three commitment areas while making decisions on our target delivery levels. Whilst our ambition has reduced for the timelines of reinstatement and coordination with others, we have increased our ambition for providing better roadworks information. All of these are discussed in the sections above.

We do not have any feedback that suggested this topic isn't important for customers and stakeholders. Neither are there specific suggestions, apart from the trade-offs mentioned above, that we have discounted or ignored.

## **4.2. Acceptability testing of our Quality Experience customer outcome**

In our acceptability testing, the quality experience aspects of our business plan were generally found to be acceptable:

- Of domestic customers, 83% of those surveyed found the quality experience section of the plan acceptable, and only 1% found it unacceptable. When asked what would make it acceptable, those who answered that they found it neither acceptable nor unacceptable suggested a further reduction in prices (14%) or wanted more detail on how it would be implemented (6%). This was broadly consistent across the regions.
- 49% of Cadent business customers said that they found the quality customer experience aspects of Cadent's business plan "very important" and 37% "fairly important" (86% in total). The breakdown across business sizes was broadly consistent, but overall acceptability increased with business size, with the percentages finding the plan either very acceptable or acceptable being 79%, 87% and 90% for sole traders, businesses with 1-9 employees and business with 10-49 employees respectively. Customers said that a quality experience was an essential element of delivering a service.
- When discussing minimising disruption, participants at our acceptability testing customer forum were happy with these commitments as long as increased speed does not compromise quality, value for money or safety.
- At our acceptability testing focus groups with the general population, participants were supportive of Cadent's commitment to go beyond its legal responsibilities. They were pleasantly surprised by Cadent's social action. Quality experience participants did not see any issues with Cadent's quality experience commitments, and thus supported them. The majority of participants though that this

outcome was either important or very important. 89% of participants found Providing a Quality Experience important, with 53% finding it very important.

- Overall, customers in our acceptability testing focus groups with CIVS were supportive of the Quality Experience commitments outlined by Cadent.
- Some participants in our acceptability testing focus group with CIVS commented that, while they are not affected by works in multiple occupancy buildings or mains roads, they recognise the impact it has on others and feel it is important for Cadent to prioritise.
- Generally, customers at our acceptability testing focus groups with those in fuel poverty felt that Cadent's plans to provide a quality experience were going 'above and beyond' what was expected.
- Future generation focus groups did not see any issues with Cadent's quality experience commitments, and thus supported them.

As part of the Verve business plan consultation, a quality experience was seen as a critical obligation for any organisation. Most customers saw this as a hygiene factor and it surprised a few that it was part of the plan, although many welcomed it being spelt out. Many expected the commitments to be manageable, though no customers had any real experience of Cadent's services. Providing detail of what the commitments should entail provides comfort, though failure to deliver will quickly harm trust. Reliability and reassurance in relation to safety and service delivery stood out. Despite Cadent admitting that direct contact with their customers is rare, the promise that they are available, if needed, was reassuring. Stakeholders during the Verve interviews were pleased to see the focus on streetworks as it was perceived as a major issue affecting customers.

## 5. Our commitments



Given the feedback from customers that they don't want to fund us to complete reinstatement within one day, we will set targets to maintain our current average performance of completing reinstatement within customer premises within three days following completion of engineering works. This will be easier to achieve in some networks than others, but we believe that customers deserve the same commitment in this area of work. Customers were supportive of coordinating with others to minimise disruption and congestion on roads.

Therefore, we will do more to collaborate with other utilities, Local Authorities and other stakeholders to reduce disruption and work with key industry experts to measure coordination and the associated value (e.g. days of congestion saved). We will also provide customers affected by our works with information on roadworks, timescales, road closures and alternative routes using various digital and non-digital channels, but in a tailored and targeted manner which considers the number of customers impacted, duration of works, and the impact on businesses and tourism.

*Table 13 Our commitments for RIIO-2*

Output commitment	Measure definition	Benefits to current customers	Benefits to future customers	SROI/WTP value over RIIO-2 period
GSOP 2: Private reinstatement timeliness	Reinstate customer premises within 5 days following the completion of engineering works.	Minimum standard that holds Cadent to account ensures that customers are compensated in the event of a service failure.	Future customers should benefit from innovation to reduce the number of excavations and reduced reinstatement times.	
Average days to complete private reinstatement (days)	Complete private reinstatement on customer property within 3 days.	Tighter internal standards to provide an improved customer experience.	Future customers should benefit from even tighter performance standards in future. Techniques will improve and so should the overall level of service.	Non-quantifiable in monetary form without very high-level assumptions. However, this still forms part of our CVP based on the overwhelming customer and stakeholder feedback that this is a priority.
Provision of roadworks information	Providing additional roadworks information on specified jobs based on defined criteria to decide the level of communication required for each job, accounting for traffic sensitivity, footfall, and impact on local business and tourism.	Warning residents of works, providing additional signage and having a greater social media presence should improve the customer experience and reduce complaints.	New standards will be set for communicating road works information, making use of online platforms and social media. Using a wide range of channels should reach out to all customer demographics.	

Collaborative working on streetworks with utilities and Local Authorities	Committing to greater coordination of planned works with other utilities. We will work with expert stakeholders to measure the value of coordination (e.g. days saved in the road due to collaborative works).	Greater coordination should lead to reduced disruption for those using the highways.	Future customers will benefit from utilities coming together to improve planning and reduce overall disruption on the roads. The level of coordination achievable should increase over time as working techniques develop.	
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### 5.1. Assessment of how to treat commitments

We have undertaken an assessment of these outputs against Ofgem’s criteria to understand the best form of regulatory treatment.

*Table 14 Regulatory treatment assessment*

Regulatory treatment	Criteria	Rating	Further explanation of assessment
<b>Reputational Output Delivery Incentive (ODI)</b>	Demonstrate this is important to customers and/or stakeholders	Green	This output is shown through our engagement and regular communication with customers to be high on the agenda. It’s a common cause of complaints and low CSAT scores.
	Funded elsewhere in our plan, or inappropriate for funding	Yellow	Improvements to reinstatement time are already included in our base plan. Improvements to communication and coordinating with others are not currently funded elsewhere.
	Can robustly measure performance improvement	Green	We already track our performance on this measure and can robustly monitor performance against our proposed targets in RIIO-2.
<b>Financial ODI</b>	Demonstrate this is important to customers and/or stakeholders and they are willing to pay	Green	Customer engagement has shown us that customers value reduced disruption to their lives.
	Not funded elsewhere in our plan	Yellow	See above for reputational ODI.
	Can robustly measure performance improvement	Yellow	As described for reputational ODI.
<b>Price control deliverable</b>	Specific deliverable with a clear timeline and targets	Yellow	The improvement in reinstatement times is not a specific deliverable.
	Demonstrable benefit to customers which they support	Green	This output directly addresses an area of customer concern commonly raised in our regular communication and engagement with them.

<b>Licence Obligation</b>	Absolute minimum, with significant customer harm if we do not deliver it		This output does not relate to a minimum standard. Instead, we are proposing improvements beyond the minimum standards already applied via existing GSOP2.
	Applicable to all GDNs		Whilst other GDNs are measured against this metric as part of GSOP2, we are proposing bespoke targets to deliver service improvements for our customers.
<b>Business Plan Incentive</b>	Adds to the quality of our plan, but not a specific deliverable or performance measure		This output is a specific performance measure.
	Funded elsewhere in our plan, or inappropriate for funding		The performance improvements we are proposing for this output are above minimum standards within our existing commitments to customers, that are reflected in our baseline plan.

Doesn't meet criteria	Weakly meets criteria	Partially meets criteria	Meets criteria	Strongly meets criteria
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Therefore, we are proposing to maintain the existing Licence Obligation for GSOP 2 minimum standards and set bespoke reputational ODIs for the remaining measures.

*Table 15 Output measures*

Output	East of England	North London	North West	West Midlands	Cadent	Comparison to RIIO-1	Cost
<b>GSOP 2: Private reinstatement timeliness</b>	5 days	5 days	5 days	5 days	5 days	Maintain 5-day performance level	No incremental cost
<b>Average days to complete private reinstatement (days)</b>	3 days	3 days	3 days	3 days	3 days	New measure, average performance is currently 3 days.	No incremental cost
<b>Provision of roadworks information</b>	✓	✓	✓	✓	✓	New measure	£10.1m (however we will absorb)
<b>Collaborative working on streetworks</b>	Establish a measure in RIIO-2 to report the number of days saved due to collaboration					New measure	£1m (however we will absorb)

## 5.2. Funding our commitments

We are not requesting any specific incremental cost to deliver this outcome over RIIO-2, however, it is underpinned by our resilience plans. We have absorbed the incremental costs of £11.1m as part of our efficiency challenge. Therefore, these commitments will not affect customer bills.

## 6. Delivering our commitments



### 6.1. How we will deliver our commitments

Table 16 Delivering our commitments

Area	What we will do to deliver commitments
Customer communications	<ul style="list-style-type: none"> <li>Deliver improved roadworks communication through digital and non-digital channels to keep customers informed throughout our works.</li> <li>We will adopt a tiered and tailored approach to ensure the right level of communication is provided based on traffic sensitivity, number of customers impacted, and the impact on business and tourism.</li> </ul>
Processes / systems	<ul style="list-style-type: none"> <li>We will continue to innovate in new technologies to reduce excavations and improve the timeliness of reinstatement.</li> <li>We will leverage our revised, more localised contract strategy to support consistent, strong reinstatement performance across networks.</li> </ul>
Partnerships	<ul style="list-style-type: none"> <li>Collaboration and coordination with other utilities and Local Authorities to deliver efficient roadworks and reduce disruption for customers and communities.</li> <li>We will work with Streetworks UK, GLA and other industry bodies to develop a robust measure for collaborative works.</li> <li>TFL's Roadworks Charter is a prime example where we have made a commitment with other utilities / telecoms organisations to improve the customer experience of our streetworks in London. We will adopt a similar charter for our other networks.</li> </ul>
Engagement	<ul style="list-style-type: none"> <li>We will engage with customers and key stakeholders to continually find ways to minimise disruption from our works.</li> <li>We will engage with expert stakeholders such as those supporting CIVs to stay up to date with good practice noted elsewhere so we can ensure that we are tailoring our services to best meet the needs of all of our customers.</li> <li>We will engage with other utilities and regional planning departments to consider ways to better inform the public of planned works.</li> </ul>

### 6.2. How we will protect against non-delivery

Table 17 Protecting against non-delivery

Regulatory tool	How it will help in protecting customers from non-delivery
Guaranteed minimum standard: GSOP 2	If we fail to reinstate a consumer's premises within 5 days following engineering works, customers will receive compensation.
Customer satisfaction incentive	The financial CSAT incentive rewards/penalises GDNs for performing above/below the agreed target level. +/- 0.5% of revenue.
Complaint handling incentive	The financial Complaints incentive penalises GDNs for performing below the agreed minimum level. -0.5% of revenue.
Reputational	Non-delivery against the reputational incentives proposed for reinstatement timeliness, provision of roadworks information, and collaborative working will have a negative reputational impact.