

<b>Title:</b> Update to Specification for the Reinstatement of Openings in Highways <b>IA No:</b> DfT00406 <b>RPC Reference No:</b> RPC-4321(2)-DfT <b>Lead department or agency:</b> Department for Transport <b>Other departments or agencies:</b>	<b>Impact Assessment (IA)</b>			
	<b>Date:</b> 11/05/20			
	<b>Stage:</b> Final			
	<b>Source of intervention:</b> Domestic			
	<b>Type of measure:</b> Secondary			
<b>Contact for enquiries:</b> Gereint Killa 07966511761				
<b>Summary: Intervention and Options</b>			<b>RPC Opinion:</b> RPC Opinion Status	

Cost of Preferred (or more likely) Option				
Total Net Present Value	Business Net Present Value	Net cost to business per year (EANDCB in 2016 prices)	One-In, Three-Out	Business Impact Target Status
£96.0m	£48.0m	-£5.6m	N/A	Qualifying provision

**What is the problem under consideration? Why is government intervention necessary?**  
 When carrying out street works, utility companies (providers of water, gas, electricity or telecommunications services) must reinstate the highway to prescribed standards. These standards are set out in the Specification for the Reinstatement of Openings in Highways (SROH), a statutory code of practice. The current edition was last updated in April 2010 and much has changed since then. Apart from issues that have arisen over interpretation of its requirements, many innovations in reinstatement techniques and materials have been introduced that are not covered by the code. There is therefore a need to update the code and government intervention is required owing to its statutory status.

**What are the policy objectives and the intended effects?**  
 The general policy on street works is that they should be carried out in a way that minimises disruption to road users and should not require return visits to remedy defective materials or workmanship. The works should also be carried out as efficiently as possible. The SROH helps us realise all of these objectives but it has fallen behind the times. An updated document will address this, making it easier for utilities to carry out the works and to get them right first time. It will also bring forward innovation.

**What policy options have been considered, including any alternatives to regulation? Please justify preferred option (further details in Evidence Base)**  
 Option 0: Do nothing (baseline)  
 Option 1: Published updated SROH (preferred option)  
 Option 2: Deregulate the code  
 This proposed update has been developed through extensive engagement with interested parties and stakeholders. The alternative options to updating the SROH that have been considered are to leave it as it is or deregulate it so that the document becomes guidance only. These two options have been rejected because we do not consider that there is a viable alternative to setting reinstatement standards in a statutory code of practice. Street works is a highly regulated activity because utility companies and highway authorities often have conflicting priorities. Utility companies want to reinstate roads as efficiently as possible while authorities need to ensure that those reinstatements do not unduly affect the structural integrity of their assets as they have a longer-term responsibility for maintaining the public road network. Any ambiguity in the SROH has the potential to create disputes and differences in interpretation can lead to conflict.

**Will the policy be reviewed? It will be reviewed. If applicable, set review date: This will be a continuous review process, not a one-off exercise**

Does implementation go beyond minimum EU/International requirements?	No			
Are any of these organisations in scope?	<b>Micro</b> Yes	<b>Small</b> Yes	<b>Medium</b> Yes	<b>Large</b> Yes
What is the CO <sub>2</sub> equivalent change in greenhouse gas emissions? (Million tonnes CO <sub>2</sub> equivalent)	<b>Traded:</b> non-quantified		<b>Non-traded:</b> non-quantified	

***I have read the Impact Assessment and I am satisfied that, given the available evidence, it represents a reasonable view of the likely costs, benefits and impact of the leading options.***

Signed by the responsible Minister: ..... Date: .....

# Summary: Analysis & Evidence

# Policy Option 1

Description: Publish updated Specification for the Reinstatement of Openings in Highways

## FULL ECONOMIC ASSESSMENT

Price Base Year: 2018	PV Base Year: 2019	Time Period Years: 10	Net Benefit (Present Value (PV)) (£m)		
			Low: 20.9	High: 277.3	Best Estimate: 107.1

COSTS (£m)	Total Transition (Constant Price)	Years	Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)
Low	0.3	1	N/A	0.3
High	2.3		N/A	2.3
Best Estimate	0.8		N/A	0.8

### Description and scale of key monetised costs by 'main affected groups'

The only monetised cost of the updated cost of practice is the one-off familiarisation costs to Local Authorities and Utility companies, which are assumed to only be incurred in the first year of the appraisal period. These costs are estimated to be small in comparison to the monetised road user benefits.

### Other key non-monetised costs by 'main affected groups'

Based on engagement with key stakeholders we assume that utility companies will only use new materials/processes where it is at least cost neutral for them to do so. In practice, there are likely to be increased costs of new materials/processes, but these are likely to be offset by admin and operating cost savings. The industry operates on very tight margins, so we have taken a conservative view and assume the impacts on utility companies (other than familiarisation costs) are cost neutral.

BENEFITS (£m)	Total Transition (Constant Price)	Years	Average Annual (excl. Transition) (Constant Price)	Total Benefit (Present Value)
Low	N/A	N/A	2.7	23.1
High	N/A		32.8	277.6
Best Estimate	N/A		12.8	108.0

### Description and scale of key monetised benefits by 'main affected groups'

The key monetised benefits are from reduced reinstatement times and reduced remedial work. Both of these are expected to lead to a reduction in congestion, which in turn is expected to lead to benefits to business and non-business road users through improved journey time, reliability and reduced fuel costs. There are also expected to be benefits to society as a result of reduced accidents and reduced fuel carbon emissions due to less congestion.

### Other key non-monetised benefits by 'main affected groups'

There may be reduced fuel use of plant on site and fewer lorry movements to and from site. There may also be a reduction in air pollution due to fewer reinstatements and a reduction in remedial work. In addition, as noted above, there may be admin and operating cost savings to utility companies. There may also be less use of virgin materials and there is expected to be less waste to cart away to landfill sites. Authorities may spend less time in dispute with utilities and higher quality reinstatements are less likely to cause long term damage to their highway asset. However, we have not been able to monetise these benefits.

### Key assumptions/sensitivities/risks

Discount rate (%)

3.5%

This analysis relies on some key modelling assumptions, including on the number of works affected, and reduced remedial work and reinstatement times. Scenario based modelling has been conducted to illustrate the uncertainty in the modelling assumptions, and produce a low and high range. Where possible, these assumptions are based on advice from external consultants and key stakeholders. However, in the absence of evidence from industry and stakeholders, it has been necessary to make several illustrative assumptions. Therefore, the estimates presented in this IA are subject to significant uncertainty and should be interpreted as high level indicative estimates of the costs and benefits of the policy option.

## BUSINESS ASSESSMENT (Option 1)

Direct impact on business (Annualised) £m:			Score for Business Impact Target (qualifying provisions only) £m:
Costs: 0.1	Benefits: 6.3	Net: -6.2	
			-27.9

# Evidence Base (for summary sheets)

## 1. Introduction

Street works is a highly regulated activity because utility companies and local highway authorities often have conflicting priorities. Utility companies want to reinstate roads as cheaply and quickly as possible while authorities need to ensure that those reinstatements do not unduly affect the structural integrity of their assets as they have a longer term responsibility for maintaining the public road network.

Indeed, we know from regular engagement with stakeholders over the last few years that the industry prefers regulation because it at least provides a guaranteed framework around which disagreements can be debated. The response in 2013 to the red tape challenge provided firm evidence of this when we looked at revoking the *Street Works (Records) (England) Regulations 2002*. Almost all who responded explicitly stated a preference to retain the regulations.

The above explains why the SROH needs to be statutory. In the absence of legislation, then given the conflicting priorities, agreement between both sides would be difficult if not impossible to reach. The fact that utilities and authorities value the existence of the SROH is borne out by their participation in the SROH working group comprising expert practitioners from both sides of industry. The group was established to deal specifically with areas of disagreement.

The current update is industry-driven and over the last 5 years or so, the SROH working group has been working to produce a revision to the code. However, the group has not been able to resolve differences in opinion on certain issues so the SROH contract was let to carry out the work. It involved extensive consultation with the industry to identify problems to resolve, a thorough considerations of the technical aspects of a potential solution, and bringing all that together into a new edition of the SROH.

DfT's street works team is in regular two-way contact with industry. The cooperative nature of this working arrangement has proved to be invaluable in identifying problems and formulating policy. The consultation attracted a large number of comments on technical issues but little in the way of costs and benefits. Unless stated otherwise, in the absence of documentary evidence, many of the statements and views in this IA are the result of expert professional judgement and a long standing relationship of engagement with the key stakeholders on both sides of the industry.

## 2. Problem under consideration

After carrying out street works, utility companies must reinstate the highway to prescribed standards as set out in the Specification for the Reinstatement of Openings in Highways. This code of practice was last updated in April 2010. Since then, issues have arisen over the interpretation of some of its requirements, and many innovations in reinstatement techniques and materials have been introduced.

Given the code's statutory status it is important that its guidance is unambiguous and up to date. However, as a consequence of its age, the current edition is beginning to fail in these respects. It is giving rise to avoidable disputes between utilities and authorities and it has become a barrier to the introduction of new materials and technology (see the 'Rationale for intervention' section for further information on these issues).

Many significant amendments have been identified that could help speed up street works through more efficient working. Other amendments could help reduce the number of work sites in operation at any given time, simply by making return site visits to carry out remedial work less likely. Apart from the potential savings in traffic congestion, the proposed amendments are also expected to bring about environmental benefits.

A revision of the code will address all of these problems.

## 3. Rationale for intervention

The consequences of not meeting the code's requirements are costly.

- For utility companies, it involves the payment of fines and returning to site to carry out remedial works.
- For the road user, it is the cost of the additional congestion resulting from a return visit. There are negative externalities associated with the costs of congestion. Essentially this means that those experiencing the negative impacts of congestion (i.e. society as a whole) are different to the people creating this congestion (i.e. those carrying out the works). Utility companies are incentivised to minimise their own costs (to maximise profit), not these wider costs to society. This results in a level of disruption that is higher than the socially desirable level. Regulation is needed to bring about behaviour change, and the updated code of practice will help to return towards a socially desirable level of disruption.
- For local highway authorities, it is the cost of the degradation and premature repair of their highway assets where non-compliant reinstatements have not been identified as such within the statutory guarantee periods.

Apart from poor workmanship or materials, there are two main reasons for reinstatements giving rise to disputes between the authorities and the utilities. Either the utility contractor claims it is not possible to satisfy the code's requirements or their interpretation of the code differs from that of the authority.

An example of the former concerns air voids in asphalt surfacing. Asphalt comprises aggregates, bituminous binder and air voids, i.e. small pockets of air within the mix. The percentage of air voids in asphalt is a measure of how well the material has been compacted because air voids diminish as compaction improves. Many utilities claim that it is not possible to meet the code's air void requirements every single time no matter how conscientiously the work is carried out. Authorities disagree and consider that the air voids limits are always achievable. The truth appears to lie somewhere in the middle.

An example of differences in interpretation is compaction around ironwork (e.g. inspection covers, valve covers, manholes) in footways (commonly referred to as pavements). The code covers ironwork in carriageways, but the advice is incomplete - utilities claim that the advice, as written, only relates to ironwork in carriageways whereas authorities consider the advice applies equally to footways.

The code has also become a barrier to innovation. It only covers cement based alternative reinstatement materials, i.e. alternative to established materials. This means that innovation in techniques and other materials (for example asphalt) are not covered. The result is that new techniques like the core and vac method<sup>1</sup> are not permitted and can therefore only be used by agreement with individual authorities. In addition, the code's procedure for trialling alternative reinstatement materials was written when the pace of innovation was not as great as it is today. The result is that the code is over-prescriptive in this area.

The code is also out of date. Much of what was considered innovative several years ago has become accepted practice now and therefore needs to be incorporated into the code.

Given the code's statutory status, Government intervention is therefore required to update the code in order to address the issues outlined above.

## **4. Policy objective**

The key policy objectives for street works are that reinstatements should:

- be carried out properly to minimise the effect on the life of the road;
- be right first time;
- be achievable without incurring unnecessary expense; and
- minimise traffic congestion.

In an ideal world, street works reinstatements would be carried out in a way that did not affect the structural integrity of the road in which the services (e. g. water pipes or telecoms cables) are located. However, once a road's structural layers are disturbed to accommodate buried services, it is inevitable that the road's design life will be affected to some extent. This is accepted as the price we pay for the services we enjoy. The main purpose of the code is to minimise the deleterious effects of reinstatements by setting standards for workmanship and materials for utility companies to adhere to.

It needs to do this without putting an undue burden on utility companies as additional costs are inevitably passed on to the consumer. There is also a need to ensure that the work can be carried out efficiently in terms of site occupation times. The costs of congestion that is attributed to street works are high and estimates vary from the top-down approach of £1bn per year to the Halcrow estimate of £4.3bn per year<sup>2</sup>. In order to keep these costs under control, the code needs to be up to date and open to innovation.

The current edition is showing its age and there is therefore considerable room for improvement. The fact that certain parts of the code give rise to disputes is not conducive to these aims. For example, the seeming difficulty with which utilities deal with the air voids requirements mean that a certain percentage of works require return visits to carry out remedial works, thus adding to traffic congestion.

The next edition is aimed at resolving deficiencies in the code that have become apparent since it was last updated, with a view to fully realising the objectives listed above.

## 5. Description of options considered

There are three possible options:

- Do nothing (baseline)
- Update the code (Option 1)
- Deregulate the code (Option 2)

The **do nothing** option is not considered to meet the desired policy objectives. The code is becoming less fit for purpose as time goes by and it is giving rise to problems that could be addressed with a comprehensive update of its requirements. These problems will only get worse with time if left unresolved. It has been clear for a long time that the code was in need of an update. The 3<sup>rd</sup> edition has served its purpose but it is now showing its age. It isn't up to the job of providing the sort of guidance needed given the pace of modern developments. There are also areas of ambiguity that give rise to disputes between authorities and utilities. Put simply, the 3<sup>rd</sup> edition is causing real problems right now. If the code is left as it is, it is likely that industry would not be allowed to take advantage of efficiencies from the updated code of practice.

The preferred option is to **update the code**. This option has been chosen based on extensive engagement with interested parties and stakeholders. It is seen as the only practicable way of dealing with the slowly accumulating deficiencies in the current edition. The industry has long recognised the need for an update, indeed the industry has been seeking ways to update the code for some time. However, given the voluntary nature of industry involvement and the

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<sup>1</sup> <https://www.gov.uk/government/publications/coring-and-vacuum-extraction-technique-tal-214>

<sup>2</sup> <http://streetworks.org.uk/wp-content/uploads/2016/09/93.pdf>

difficulties in resolving the very real differences in opinion between utilities and authorities by agreement, a government led update of the code is considered as the only practicable way of bringing about the required results.

**Deregulating the code** is also not considered to meet the desired policy objectives. Street works is a highly regulated industry because the two main players - highway authorities and utility companies - have different and often conflicting priorities. Both sides of the industry therefore tend to rely on regulations to create the rules they must all work to. Deregulating the code would result in a surge in disputes between authorities and utilities, and it is expected that the quality of reinstatements would drop, authorities would be left to bear the costs of repairing defective reinstatement, and road congestion would get worse owing to the resulting increase in overall site occupation times. We have therefore not assessed this option in this impact assessment because the problems that would arise rule it out of any serious consideration. If anything, the industry prefers regulation. This was borne out by the response to an industry consultation on the Red Tape Challenge when we looked at revoking *The Street Works (Records) (England) Regulations 2002*. The response clearly indicated a desire to retain the regulation. A deregulated code could not be expected to resolve the problems already identified and would almost certainly create more. Without the force of law, the profit motive of utility companies would inevitably take precedence over any concerns about the condition of the road network and highway authorities would have no power to protect the integrity of their road network assets.

**A formal update to the code has, through extensive engagement with key interested parties and stakeholders, the full support of industry and is the only option considered to meet the desired policy objectives. This is, therefore, the only option we are assessing in this impact assessment.**

#### **4.1 Do nothing (baseline)**

This would mean that:

- The current edition of the Specification for the Reinstatement of Openings in Highways, a statutory code of practice (April 2010) would be kept in place and the code would not be updated.
- We would fail to take advantage of the benefits that would otherwise be realised and therefore continue to impose an unnecessary burden on UK PLC.

In this impact assessment, this option is used as a baseline to estimate the costs and benefits of Option 1.

#### **4.2 Option 1: Publish updated Specification for the Reinstatement of Openings in Highways**

This would allow the benefits discussed below to be fully realised. The key changes will be:

- Inclusion of alternative materials (high bitumen content surfacings, wider usage of Hot Rolled Asphalt etc) to make compliance with the code easier to achieve
- Clarification of parts of the code that have been giving rise to disputes between utilities and authorities
- Revamp of the Appendix 9 process to make the code more open to innovation (the A9 process is used to introduce, on a trial basis, innovative reinstatement materials that are not included in the code)

- The inclusion of previously A9 materials into the main body of the code as permitted materials
- Introduction of large diameter coring as a permitted method
- Introduction of micro trenching as a permitted method and inclusion of new material options to enable wider uptake of narrow trenching

Other changes are listed in Annex A.

## **6. Monetised and non-monetised costs and benefits of each option (including administrative burden)**

This section sets out our assessment of the costs and benefits of Option 1. The baseline option is where no Government intervention is undertaken (the current Code of Practice is kept in place). This is used as the counterfactual against which the costs and benefits of Option 1 are compared. Option 1 is where the Government publishes an updated Code of Practice for Specification for the Reinstatement of Openings in Highways.

As this proposal is not time-limited, the costs and benefits of the Options have been assessed over a 10-year appraisal period in this Impact Assessment, which is the default period specified in the Better Regulation Framework Guidance. This proposal will be published in 2019 and will come into force in 2020. We have monetised the transition costs for 2019 under the assumption that those using the guidance will become familiar with it when it is published and before it comes into force. The other impacts (excluding familiarisation) are then monetised from 2020 onwards when the guidance comes into force. Since this proposal will be published in 2019, the 10-year appraisal period begins on this date.

Unless stated otherwise, all values are presented in 2018 prices; and where costs and benefits are expressed in present value terms, they have been discounted to their present value in 2019 using a discount rate of 3.5% per year<sup>3</sup>, the discount rate recommended in the Green Book.

### **5.1 Overview of costs and benefits for updating the code of practice**

The Specification for the Reinstatement of Openings in Highways prescribes materials that may be used and standards of workmanship to be adhered to in reinstating the highway after street works. It also prescribes the performance of those works over the reinstatement guarantee periods (utilities must guarantee their reinstatements for 2 years after completion, or 3 years if the excavation is over 1.5 m deep). Its purpose is to minimise damage to highway assets while ensuring that reinstatements perform properly and do not fail prematurely.

Reinstatements need to be carried out as efficiently as practicable so that they:

1. Take no more time than is necessary;
2. Cost no more than is necessary; and
3. Minimise the use of natural resources.

Since the last edition was published, many changes have come about that could make street works operations more efficient and environmentally less damaging. For example, the core and vacuum extraction technique, sometimes called keyhole surgery, involves significantly less excavation than conventional methods. Apart from the savings in energy from not having to excavate a much larger hole, there is a saving in lorry journeys to transport materials. The

<sup>3</sup> [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/685903/The\\_Green\\_Book.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/685903/The_Green_Book.pdf)



update is therefore necessary to enable us to take advantage of these potential benefits so that we can continue to satisfy the above objectives.

The extent to which the benefits are realised will depend significantly on the behaviour change and uptake of new practices and technologies that is achieved through the new code of practice. However, this is highly uncertain and for this reason, the quantitative analysis in the next section is indicative and models what the potential impact could be under various scenarios.

These scenarios provide high level indicative estimates of the costs and benefits of the policy option for the purpose of this final stage impact assessment.

## Overview of the impacts from updating the code of practice

### 1. Impacts on the number of works sites and site occupation times

The overall effect of updating the code is expected to be a reduction in the number of works sites and shorter site occupation times. The reduction in works sites is expected because the code will make it easier for utilities to comply with the code's requirements in one site visit. There are four strands to this:

- Additional guidance to fill gaps in the existing code
- More flexibility in how to reinstate
- Permitted use of alternative materials
- More open to innovation

As the existing code does not cover certain activities as well as it might, **additional guidance** helps in a number of ways. For example, we aim to include guidance on sealing the vertical edges of reinstatements in footways. It is expected that, in turn, this will lead to fewer reinstatement failures due to water ingress. Additional guidance could also lead to less confusion over what the code requires and hence potentially fewer disputes between utilities and authorities over what is compliant and what is not.

**More flexibility** can help speed up the works. For example, a trench crossing that begins in the footway and extends into the carriageway currently requires two types of surfacing, typically asphalt concrete in the footway and hot rolled asphalt in the carriageway. The next edition will permit a single surfacing material, Hot Rolled Asphalt (HRA), to be used to reinstate both footway and carriageway. Apart from cost savings from not having to import two different materials to site, reinstatement is simplified and therefore less prone to error.

The proposal to permit **alternative materials** is expected to have the most significant effect on compliance. Utilities often claim that it is not possible to guarantee compliance 100% of the time using currently permitted materials and this appears to be borne out by the failure rate of street works reinstatements. This is owing to the difficulty in compacting these materials by hand lay methods. We propose to allow the use of alternative materials that are inherently easier to compact. Although they are slightly more expensive, the additional cost is expected to be insignificant compared with that of having to return to site to re-do the reinstatement.

The **increased openness to innovation** in terms of materials and methods is expected to also shorten site occupation times. For example, large diameter coring is a method that will be new to the code. It has the potential to reduce a five day job to one taking less than a day<sup>4</sup>.

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<sup>4</sup> see Traffic Advisory Leaflet 2/14 at <https://www.gov.uk/government/publications/coring-and-vacuum-extraction-technique-tal-214> .

## 2. Impacts on costs of street works

Any reduction in the number of sites or the total time spent on site could lead to cost savings (principally to utilities and their customers but also to road users), although these are likely to be offset somewhat by potentially higher costs of new high-bitumen materials used. Apart from the obvious benefit to utility companies, a bigger saving is expected to come from reduced traffic congestion and a lower likelihood of accidents indirectly caused by that congestion.

Innovation and the permitted use of optional materials such as hydraulically bound materials, foamed concrete, etc, not only help expedite the works and reduce site occupation times but they are expected to also lead to less use of virgin materials (e.g. aggregates, asphalt), lower fuel bills (for utilities and road users), and fewer vehicle movements resulting from fewer site visits and from not having to import materials to site and cart away spoil. The latter aspect also helps reduce congestion.

The above benefits extend to:

- Road users
- Utilities
- Authorities
- The environment

**Road users** are expected to spend less time in traffic, spend less on fuel and use the time saved more productively.

**Utilities** are expected to save on operating costs because of lower manpower requirements, time savings, and reduced wear and tear on machinery. They will also benefit from reduced fines for non-compliance.

**Authorities** may spend less time in dispute with utilities and higher quality reinstatements are less likely to cause long term damage to their highway assets.

**The environment** is expected to benefit because of reduced fuel use, less air pollution (from lorry and plant engine exhausts, volatile compounds evaporation), and less use of virgin materials. In addition, there is expected to be less waste to cart away to landfill sites.

In terms of costs to utility companies, there are potential additional costs of using new materials/processes in the updated code of practice. We have been unable to collect sufficiently detailed data on these costs. After discussions with key external stakeholders, we assume that the overall impacts on utility companies (other than familiarisation costs) will be at least cost neutral over the lifecycle of the road. There will be one-off familiarisation costs to both utility companies and Local Authorities.

A high-level overview of the approach taken in the analysis for the options is outlined in the next section. Given the additional uncertainty and limitations of the approach, the different scenarios have enabled us to produce a low/high range.

Given the complexity for this analysis and lack of evidence, we have sense checked key assumptions with stakeholders and external consultants to provide assumptions for the scenario based modelling where possible. The estimates below are therefore using the best information/evidence currently available to us. However, in the absence of any evidence from industry and stakeholders, it has been necessary to make several illustrative assumptions.

The estimates are heavily reliant on the following assumptions which, if changed have the potential to change the scale of the estimated Net Benefit significantly:

- The improvement in compliance from the new code
- Number of works affected by the updated SROH and reduced reinstatement times
- Cost of congestion from street works

Therefore, the estimates presented in this impact assessment are subject to significant uncertainty and should be interpreted as high level indicative estimates of the costs and benefits of the policy option.

## **5.2 Costs and Benefits of Option 1: Update Specification for the Reinstatement of Openings in Highways**

The estimates of the costs and benefits of publishing an updated Specification for the Reinstatement of Openings in Highways are heavily reliant on assumptions, which have been made with the help of external consultants and stakeholder engagement where possible, as well as the limited data that we have obtained. We did not receive much information back through the consultation to refine our analysis. Post consultation, we have therefore engaged with the SROH working party consisting of sector representatives for gas, electricity, water and telecoms. We received some useful information through this, although in certain areas we have been limited by the information available.

Given a lack of evidence and data in some areas, even after the consultation process, we have taken a high level indicative scenario based modelling approach based on the limited information available to us. For the costs, we have been unable to collect sufficiently detailed evidence on the potential additional costs of using new materials/processes in the updated code of practice. After engaging with industry representatives, we are assuming in the analysis that the impacts on utility companies (other than familiarisation costs) will be at least cost neutral over the lifecycle of the road.

In terms of the benefits, as in the consultation stage impact assessment, we have been able to monetise the benefits of reduced congestion, based on indicative modelling of the potential reduction in reinstatement times and reduced remedial work. This is a high-level approach which was deemed proportionate for this impact assessment, however, there is a high degree of uncertainty around some of the assumptions feeding into the model. We have therefore undertaken sensitivity analysis to illustrate this uncertainty.

It is assumed that the costs and benefits (excluding familiarisation costs) will be realised from 2020 onwards.

There are an estimated 2.5 million works each year in England. Of these, an estimated 64% of these are from street works related to utilities<sup>5</sup>. This means that there is an estimated 1.6m utility works in England per annum<sup>6</sup>. For the purposes of this analysis, the number of works has been assumed to remain constant over time in the absence of any other evidence to suggest otherwise.

After engagement with key stakeholders we have refined our assumption for the proportion of works affected by the updated code of practice. The proportion of works affected is now assumed to be in the region of 5%-15% (central 10%). The nature of the code of practice means that utility companies have some choice and flexibility in what new materials/processes

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<sup>5</sup> Based on Elgin roadworks data from 2012/13 which the department has access to. Elgin has a database of roadworks in the UK and collects data on works by promoter type.

<sup>6</sup> The SROH only applies to street works in England.

they use from the updated code of practice. In terms of the proportion of these works affected by reduced reinstatement times, there was a lack of evidence received from industry and stakeholders despite consultation and direct engagement. In the absence of any evidence from industry and stakeholders, it has been necessary to make an illustrative assumption regarding this and we have modelled three illustrative scenarios (20%-30%, central 25%) in order to be able to give an indication of the possible benefits from reduced reinstatement times; hence, it should be recognised that this assumption is subject to particularly significant uncertainty. There was also limited evidence on the improvement in compliance. Given the lack of evidence, it is difficult to understand what the change in compliance might be. Again, we have therefore modelled three indicative scenarios (0.5%-1.5%, central 1.0%) based on assumptions informed by discussions with policy experts and external contractors to reflect this uncertainty. These assumptions can be found in Table 1 below.

*Table 1: Key assumptions: Number of works affected*

	Low	Central	High
Total number of works in England	2.5m	2.5m	2.5m
% of works that are street works related to utilities	64%	64%	64%
Total number of street works in England related to utilities	1.6m	1.6m	1.6m
Proportion of works affected	5%	10%	15%
Of works affected, proportion affected by reduced reinstatement times	20%	25%	30%
Improvement in rate of compliance	0.5%	1.0%	1.5%

## Benefits

### Input Assumptions

The main benefits of the updated code of practice that have been monetised are:

- Improvements in journey time
- Improvements in journey reliability
- Reductions in fuel consumption
- Reduction in accidents
- Reductions in greenhouse gas emissions from fuel consumption (these are referred to as 'fuel carbon emissions' below)

The benefits above are expected to arise due to a reduction in the congestion caused by street works related to utilities, and have been monetised using the costs of congestion of street works and Quadro modelling carried out for evaluation of permitting<sup>7</sup>. More detail of these is provided in the monetisation section below.

The improvements to journey time, reliability, reduction in fuels costs, accidents and fuel carbon emissions are expected to be driven by two main factors:

<sup>7</sup> [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/700502/permit-schemes-evaluation-report.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/700502/permit-schemes-evaluation-report.pdf)

- Reduction in remedial works
- Reduction in reinstatement times

The reduction in remedial works are due to there being an assumed improvement in the rate of compliance (0.5%-1.5%) due to the updated guidance, as shown in Table 1 above. Table 1 also shows that it is assumed that 5%-15% of works are affected by the updated code of practice. Of these works affected, it is also assumed that 20%-30% are affected by reduced reinstatement times. Taking the total number of street works in England and the proportion of works that benefit from reduced reinstatement times and the improvement in compliance has enabled us to estimate the number of works affected by each respectively. These can be found in Table 2 below.

There is a lack of evidence and information available on the likely reduction in reinstatement times per work due to the updated code of practice and the average disruption per remedial work at present, even after consultation and external engagement. After discussions with external consultants, we have modelled three indicative scenarios for each of these including sensitivities to reflect the uncertainties. It is assumed the average number of days saved due to faster reinstatement is between 0.5 and 1.5 days. It is also assumed that the average time per remedial work is between 0.5 and 1.5 days.

*Table 2: Benefits Assumptions*

	Low NPV	Central NPV	High NPV
<b>Reduction in reinstatement times due to the updated code of practice</b>			
Number of works affected by reduced reinstatement times	16k	40k	72k
Reduced reinstatement times per work (days)	0.5	1.0	1.5
<b>Reduction in non-compliance leading to reduction in remedial work</b>			
Number of works that don't require remedial work	8k	16k	24k
Average disruption time per remedial work (days)	0.5	1.0	1.5

### Monetisation of reduced disruption

The assumptions in Table 2 allow us to estimate the benefits from reduced remedial work and reduced reinstatement times. The mechanism by which this happens is that both of these reductions lead to reduced congestion, which we have been able to monetise.

There is uncertainty around the cost of congestion from street works. The estimates vary from the top-down approach of £1bn per year to the Halcrow estimate of £4.3bn per year<sup>8</sup>. Recent modelling work on this has suggested that the total cost of congestion from street works per

<sup>8</sup> <http://streetworks.org.uk/wp-content/uploads/2016/09/93.pdf>

year is around £1.9bn (2018 prices), which is used in this analysis. This figure is from estimates for 2016 published in the Permit Evaluation (2018)<sup>9</sup> and is based on uplifting these estimates from 2010 market prices to 2018 prices. This analysis was carried out using the Quadro (Queues And Delays at Roadworks) program, which is a tool provided by Highways England to assess the impact of road maintenance works, in particular the costs imposed on road users while works are being carried out. By dividing the total cost of around £1.9bn in 2016 (2018 prices) by the total duration of works in 2016 (around 7.4m days), we estimate the cost of congestion per work day to be around £253 (2018 prices). For the purposes of this analysis, as a simplifying assumption, the cost of congestion per work day is assumed to remain constant in real terms over time.

We have taken the estimated number of works affected and the assumed amount of time saved along with the estimated cost of congestion per work day to estimate the total benefits in terms of reduced remedial work and reduced reinstatement time.

For the purpose of this impact assessment, an assessment was needed on the impact on business road users and non-business road users. In the absence of a more detailed breakdown of the Quadro modelling outputs for the Permit Evaluation, we have used Quadro outputs<sup>10</sup> developed for Kent's Lane Rental Costs Benefit Analysis<sup>11</sup> which can be found in Table 3 below.

*Table 3: Quadro outputs breakdown*

Type of Benefit	Proportion of benefits
Consumer	44%
Business	50%
Accident	5%
Fuel carbon emission	1%
Overall impact	100%

Using DfT statistics, we have analysed traffic flows for different vehicle types in Kent to test whether Kent is a reasonable proxy for the rest of England. The breakdown of traffic flows in Kent and England can be found in Table 4 below, which suggests that the differences in traffic flows between vehicle types is similar. This evidence supports our use of the Quadro output in Table 3 to apportion the benefits to different users as well as the benefits to society.

*Table 4: Breakdown of Traffic Flows in Kent and England by vehicle type (2018)<sup>12</sup>*

<sup>9</sup> [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/700502/permit-schemes-evaluation-report.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/700502/permit-schemes-evaluation-report.pdf)

<sup>10</sup> The proportion of the benefits in Table 3 are calculated using the underlying data of average daily cost per work from Table 4 of [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/640877/road-works-the-future-of-lane-rental.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/640877/road-works-the-future-of-lane-rental.pdf). It is calculated by dividing the different underlying data on 'All day working' costs by the total 'All day working' cost.

<sup>11</sup> [https://www.kent.gov.uk/\\_data/assets/pdf\\_file/0015/13074/KLRS-progress-report.pdf](https://www.kent.gov.uk/_data/assets/pdf_file/0015/13074/KLRS-progress-report.pdf)

<sup>12</sup> Traffic flows data by vehicle type for England as a total is publicly available and can be found at <https://www.gov.uk/government/statistics/road-traffic-estimates-in-great-britain-2018> (Table TRA0106 in the data tables). Local Authority level vehicle breakdown of traffic flows are not publicly available (except for cars) and were analysed using internal DfT data from the DfT National Road Traffic Survey. In either case, this LA level data is outside the scope of national statistics.

	Cars % of all vehicles	LGV % of all motor vehicles	HGV % of all vehicles
Kent	75.8%	16.7%	6.2%
England	77.9%	15.3%	5.3%

## Outputs

The monetised benefits estimates are direct benefits as these are direct impacts resulting directly from the updated code of practice. The total monetised benefits of reduced remedial work are estimated to be in the region of £1.0m to £9.1m (central £4.1m) per year, whereas the total monetised benefits of reduced reinstatement times are estimated to be around £2.0m to £27.4m (central £10.1m) per year. The estimated benefits from reduced reinstatement time are higher than those from reduced remedial work due to differences in the modelling assumptions about the proportion of works affected as in Table 2. Other than number of works affected, the estimated benefits are based on the same assumptions, for instance on reduced cost of congestion per day. The wide range in estimated benefits (between low and high) is to reflect some of the uncertainty in the modelling assumptions as discussed above. The total monetised benefits to road users and society are estimated to be around £3.0m-£36.5m per annum (central estimate of £14.2m). These estimates can be found in Table 5 below.

*Table 5: Annual monetised benefits to Road Users and Society*

Per year £ Millions (2018 prices)	Low NPV	Central NPV	High NPV
Benefits from reduced remedial work	1.0	4.1	9.1
Reduced reinstatement time	2.0	10.1	27.4
<b>Total benefits to road users and society</b>	<b>3.0</b>	<b>14.2</b>	<b>36.5</b>

As discussed above, the Quadro outputs for Kent allows us to apportion the benefits to different users and to society. The breakdown of benefits can be found in Table 6 below. Table 6 shows that the most significant estimated benefits are to business road users in terms of journey time, reliability and fuel costs<sup>13</sup> with an estimated annual benefit of £7.1m in the central scenario. The road user non-business impacts are also significant with an estimated annual benefit of £6.3m in the central scenario. There are also environmental benefits from a reduction in fuel carbon emissions which is estimated to be in the region of £0.03m- £0.32m per year (central £0.12m). Whilst we have not been able to estimate the CO<sub>2</sub> equivalent change in greenhouse gas emissions, the monetised benefit gives us a sense of the scale of these impacts, especially in comparison to impacts on business and non-business. There are also estimated benefits from reduced accidents although these are significantly smaller than the road user impacts.

*Table 6: Breakdown of annual monetised benefits to road users and society (from both reduced remedial work and faster reinstatements)*

<sup>13</sup> [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/700503/permit-schemes-evaluation-annexes.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/700503/permit-schemes-evaluation-annexes.pdf)

Per year £ Millions (2018 prices)	Low NPV	Central NPV	High NPV
Road user business impacts – journey time, reliability, fuel costs	1.5	7.1	18.3
Road user non-business impacts – journey time, reliability, fuel costs	1.3	6.3	16.1
Reduced accidents benefits	0.1	0.7	1.7
Reduced fuel carbon emissions benefits	0.03	0.12	0.32

### Non-monetised benefits

Given the limitations of the available evidence after consultation and engagement with external stakeholders, there are a number of benefits that it has not been possible to monetise.

There may be reduced fuel use of plant on site and fewer lorry movements to and from site, although we have not been able to monetise these benefits. We also have not been able to monetise the reduction in air pollution as a benefit. The reason there is expected to be reduced air pollution is primarily due to an expected reduction in congestion due to less remedial work and reduced reinstatement times. Given the reduced fuel carbon emission benefits are estimated to be reasonably small, we would also expect the air pollution benefits to be small.

Another environmental benefit that we have been unable to monetise include less use of virgin materials. This partly due to the expected reduction in remedial work. Also, the Core and Vac technique involves a significant reduction in excavated material in comparison with conventional excavation techniques. The update code of practice is also expected to make it easier to introduce innovative processes that convert reject materials into usable material, or products that use recycled materials. Furthermore, there is also expected to be less waste to cart away to landfill sites.

Whilst we are assuming that the impact on utility companies (other than familiarisation costs) are at least cost neutral over the lifecycle of the road, in practice, there may be some benefits to the utility companies of using these new materials/processes. According to information from key stakeholders, the industry is a competitive market that operates on very tight margins, therefore these benefits are expected to be minimal.

Utility companies are expected to save on operating costs because of lower manpower requirements and reduced wear and tear on machinery.

Authorities may spend less time in dispute with utilities and higher quality reinstatements are less likely to cause long term damage to their highway assets.

### Costs

#### Input assumptions



The only monetised costs of the new code of practice are familiarisation costs which are incurred by utility companies and local authorities.

There are likely to be other costs to utility companies beyond familiarisation costs that we have been unable to monetise in this impact assessment. This is due to a lack of evidence received from the consultation and after contacting key stakeholders. Other than familiarisation costs, we have therefore taken a conservative approach and assumed that the impacts on utility companies are at least cost neutral. This approach is consistent the overall views of industry representatives we have contacted. Further explanation of this approach is given in the section on non-monetised costs.

## Monetisation and Outputs

The estimates of the familiarisation costs that Utility companies and Local Authorities will face can be found in Table 7. These are estimated to be around £206k-£1,651k (central £619k) for Utility companies and around £52k-£619k (central £206k) for Local Authorities (LAs) and are assumed to occur for just the first year (2019), when the guidance is published. These costs are estimated to be relatively small in comparison to the monetised benefits associated with the changes to the code of practice. The familiarisation costs faced by utility companies are direct costs to business as this is an impact resulting directly from the updated code of practice.

We have limited evidence on the time taken by users of guidance to familiarise themselves with the new guidance, even after consultation and external engagement. After discussions with consultants, we agreed on three scenarios to give an indication of the time taken (range of 4-16 hours per person). The overall familiarisation costs are also determined by the assumed number of utility companies and LAs (both 150). These assumptions were also agreed after discussions with external consultants and are based on the best information available to us. There is also a lot of uncertainty around the average number of people per utility company and LA required to familiarise with the code of practice, and again we didn't receive sufficient information back on this from consultation. In the absence of any evidence from industry and stakeholders, it has been necessary to make an illustrative assumption regarding this and we have therefore modelled three illustrative scenarios in order to be able to give an indication of the possible familiarisation costs (20-40 people per utility company and 5-15 people per Local Authority); hence, it should be recognised that this assumption is subject to particularly significant uncertainty. We have estimated the admin costs per hour for familiarisation to be around £17.20 per hour in 2018 prices<sup>14</sup>. On average, we assume that the average number of people to familiarise with the updated with the code practice to be higher for utility companies (than for Local Authorities) as these tend to be larger companies and more people are expected to use the guidance day to day.

We do not expect there to be additional training costs from the update code of practice, as users are only expected to renew their training qualifications as they expire (street works training qualifications last for 5 years after which they must be renewed). It is also likely to take some time for new training developed for the updated SROH to become available.

*Table 7: Familiarisation costs for Utility companies and Local Authorities*

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<sup>14</sup> The admin costs per hour for familiarisation are derived from the Annual Survey of Hours and Earnings (<https://www.ons.gov.uk/file?uri=/employmentandlabourmarket/peopleinwork/earningsandworkinghours/datasets/ashe1997to2015selectedestimates/current/ashe19972018timeseries.xls>). This is based on the median hourly earnings excluding overtime (£) for full-time employees (all occupations) (£14.31) in 2018 plus 20.2% for non-wage costs (as advised in [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/609201/business-impact-target-guidance-appraisal.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/609201/business-impact-target-guidance-appraisal.pdf)).

£ (2018 prices)	Low NPV	Central NPV	High NPV
<b>Utility Companies</b>			
Number of utility companies	150	150	150
Average number of people per utility company to familiarise	40	30	20
Number of hours spent per person familiarising	16	8	4
Total Familiarisation costs to utility companies	£1,651k	£619k	£206k
<b>Local Authorities</b>			
Number of Local Authorities	150	150	150
Average number of people per Local Authority to familiarise	15	10	5
Number of hours spent per person familiarising	16	8	4
Total Familiarisation costs to Local Authorities	£619k	£206k	£52k

### Non-monetised costs

In terms of non-monetised costs, as explained above, we have been unable to collect sufficiently detailed evidence on the potential additional costs of using new materials/processes in the updated code of practice. Any cost savings, for example admin cost savings, are also very difficult to estimate.

After engaging with representatives from industry, our approach in the analysis is to assume that the impacts on utility companies (other than familiarisation costs) will be at least cost neutral over the lifecycle of the road, i.e. they will only use new materials/processes where it is at a minimum cost neutral for them to do so. As mentioned previously, in practice, there may be some benefits to the utility companies of using these new materials/processes, however, these are expected to be minimal. According to information from key stakeholders, the industry is a competitive market that operates on very tight margins, it is therefore not clear how much economic profit there is. We have therefore opted to take a conservative view on the impacts on business, and assume that the impacts are cost neutral.

Any additional costs to utility companies (e.g. due to higher cost materials) as a result of the updated code of practice (other than familiarisation costs) are assumed to be offset by cost savings associated with the change (for example, admin and operating cost savings).

The reason that we have taken this approach is because we have limited data on the cost impacts (even after external engagement), but also that this is in agreement with our external engagement. Assuming utility companies are rational profit maximising agents, we believe our assumption on utility company behaviour in terms of uptake is reasonable.

Utility companies subcontract a significant amount of work out to SME contractors in the supply chain. Based on advice from Regulatory Policy Committee (RPC), we have classified any

impacts from the updated code of practice on these subcontractors (SMEs) as indirect impacts. These impacts are considered out of scope of direct business impacts and the Equivalent Annual Net Direct Cost to Business (EANDCB). We recognise that there are likely to be winners and losers in terms of impacts on subcontractors and suppliers, however, it is unclear what the net impact is likely to be on such businesses. We have not been able to obtain evidence from industry on the specific impacts on suppliers and subcontractors and it was not deemed proportionate to undertake further engagement with such suppliers.

## **Summary of appraisal**

The scenario based modelling approach taken shows all three scenarios suggest that there would be a net benefit to updating the code of practice.

There are also estimated to be significant benefits which are driven by a reduction in the remedial work and reduction in reinstatement times. These are estimated to result in significant benefits in terms of journey time, reliability, fuel costs and accidents. The costs and benefits monetised in this appraisal are summarised in Table 8 below. It clearly shows that there are estimated to be significant benefits to road users (business and non-business) to updating the code of practice. There are estimated to be some important benefits to society too in terms of reduced accidents and reduced fuel carbon emissions.

There are also estimated to be some familiarisation costs associated with the change that affect both LAs and Utility companies, although these are outweighed by the estimated benefits.

*Table 8: Summary of monetised costs and benefits*

<b>£ (2018 prices)</b>	<b>Low NPV</b>	<b>Central NPV</b>	<b>High NPV</b>
<b>Costs (one off)</b>			
One off familiarisation costs (business)	1,651k	619k	206k
One off familiarisation costs (non-business)	619k	206k	52k
<b>Benefits (per year)</b>			
Road user business impacts	1.5m	7.1m	18.3m
Road user non-business impacts	1.3m	6.3m	16.1m
Reduced accidents benefits	0.1m	0.7m	1.7m
Reduce fuel carbon emissions benefits	0.03m	0.12m	0.32m

Putting together the costs and benefits, we have calculated Net Present Values for all three scenarios. Table 9 below shows the summary of the appraisal, including both Net Present Values (NPV) and Business NPVs.

Table 9: Summary of appraisal

2018 prices (£m)	Low NPV	Central NPV	High NPV
Present Value Costs (Business)	1.7	0.6	0.2
Present Value Costs (Non-Business)	0.6	0.2	0.1
<b>Present Value Costs (PVC)</b>	<b>2.3</b>	<b>0.8</b>	<b>0.3</b>
Present Value Benefits (Business)	11.6	54.2	139.4
Present Value Benefits (Non-Business)	11.5	53.7	138.2
<b>Present Value Benefits (PVB)</b>	<b>23.1</b>	<b>108.0</b>	<b>277.6</b>
<b>Net Present Value (NPV)</b>	<b>20.86</b>	<b>107.12</b>	<b>277.33</b>
<b>Business Net Present Value (NPV)</b>	<b>10.0</b>	<b>53.6</b>	<b>139.2</b>

The figures in Table 9 above show that in all three scenarios there are expected to be high net benefits to updating the code of practice. As discussed above, these net benefits are estimated to be primarily to road users (both business and non-business). Although non-monetised, a key factor is that we assume the impacts on utility companies (other than familiarisation costs) are expected to be at least cost neutral over the lifecycle of the road. We expect any increase in costs from new materials and/or processes adopted will be offset by cost savings associated with the change.

## 6. Rationale and evidence that justify the level of analysis used in the IA (proportionality approach)

The evidence used in this impact assessment relies on engagement with key stakeholders and external consultants with specialist knowledge on the potential impacts. We have taken a scenario based approach because of the uncertainty in some of the modelling assumptions, which gives high level indicative estimates of the costs and benefits of this policy. The high-level approach taken is considered justified given the limitations of the available evidence base.

## 7. Risks and assumptions

The key assumptions in this analysis are:

- Number of works affected: whilst we have reasonably firm data on the number of works in England per year and proportion that are street works, the proportion of works affected by reduced reinstatement times is more difficult to measure. We have modelled scenarios of the assumed proportion of works affected by the updated code of practice of 5% to 15%, and of these, the proportion assumed to be affected by reduced reinstatement times is 20%-30%.
- Cost of congestion from street works: there is uncertainty around the cost of congestion from street works. The estimates vary from the top-down approach of £1bn per year to the Halcrow estimate of £4.3bn per year. Recent work on this has suggested that the total cost of congestion from street works per year is around £1.9bn, which is used in this analysis.
- Reduced remedial work and reduced reinstatement times: these are essential to how the benefits of the code of practice are captured in terms of: improvements in journey time and journey reliability, reductions in fuel consumption, reduction in accidents and reductions in fuel carbon emissions (greenhouse gas emissions). These both depend on a number of modelling assumptions which are part of the scenario based modelling. These include assumptions on reduced reinstatement times per work (0.5-1.5 days) and average disruption time per remedial work (0.5-1.5 days).
- The improvement in compliance due to the new code of practice: there are no published statistics on the rates of non-compliance of reinstatement of street works. From engagement with key stakeholders and consultants, we have modelled three different scenarios in which the assumed compliance improvement is varied (range of 0.5%-1.5% with a central assumption of 1%).

As discussed above, it should be recognised that the assumptions used in this analysis are subject to significant uncertainty.

## **8. Wider impacts**

### Equalities Impact Assessment

There will be no negative impact on those with "protected characteristics" under equality legislation because none of the proposed amendments have any particular relevance to people with protected characteristics. An overall reduction in site occupation times will benefit people who are infirm for whatever reason because street works sites are almost invariably less convenient to negotiate than a street with no works.

### Small and Micro Business Assessment

Utility companies are expected to be the only businesses that incur direct costs as a result of the updated code of practice. The Department does not have access to data on the number of employees that individual utility companies have. However, engagement with stakeholders suggests that utility companies tend to be larger companies and has not identified any utility companies that are SMEs. SMEs are therefore not expected to incur any direct costs as a result of this policy and consequently this policy is not expected to result in any disproportionate burdens on SMEs.

However, for completeness, utility companies subcontract a significant amount of work out to SME contractors in the supply chain. Based on advice from Regulatory Policy Committee (RPC), we have classified any impacts from the updated code of practice on these subcontractors (SMEs) as indirect impacts. These impacts are considered out of scope of direct business impacts and the Equivalent Annual Net Direct Cost to Business (EANDCB). We recognise that there are likely to be winners and losers in terms of impacts on subcontractors and suppliers, however, it is unclear what the net impact is likely to be on such businesses. We have not been able to obtain evidence from industry on the specific impacts on suppliers and subcontractors and it was not deemed proportionate to undertake further engagement with such suppliers.

### Competition Assessment

The updated code of practice is not expected to affect competition in any way. We have reviewed the competition guidance in the Green Book supplementary guidance<sup>15</sup> and none of the four criteria apply.

### Greenhouse Gases Impact Test

There is expected to be a reduction in greenhouse gases owing to reduced traffic congestion. Due to the limitations of the available evidence, we have not been able to estimate the CO<sub>2</sub> equivalent change in greenhouse gas emissions. However, we have monetised these benefits using a simplified approach to give us a sense of the scale of these impacts. There may also be reduced fuel use of plant on site and fewer lorry movements to and from site, although we have not been able to monetise these benefits.

### Wider Environmental Impact

There is expected to be a reduction in the use of virgin reinstatement materials, for a variety of reasons. Firstly, there is expected to be a reduction in remedial work. Also, the Core and Vac technique involves a significant reduction in excavated material in comparison with conventional excavation techniques. The update code of practice is also expected to make it easier to introduce innovative processes that convert reject materials into usable material, or products that use recycled materials.

There is also expected to be a reduction in air pollution due to reduced traffic congestion.

### Family Test

No impact

### Health Impact Assessment

Improved air quality from reduced congestion may lead to indirect health benefits, although we have not been able to monetise these potential benefits.

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[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/191489/Green\\_Book\\_supplementary\\_guidance\\_completing\\_competition\\_assessments\\_in\\_impact\\_assessments.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/191489/Green_Book_supplementary_guidance_completing_competition_assessments_in_impact_assessments.pdf)

Human Rights Impact

No impact

Justice Impact Test

No impact

Rural Proofing Toolkit

No impact

Sustainable Development

No impact

**9. Summary and preferred option with description of implementation plan**

The preferred option is to update the code of practice. The alternatives are to leave the SROH unchanged or to deregulate it. Neither is acceptable. This code of practice is statutory because reinstatement of highways is critical to longevity.

With regard to do-nothing, we cannot rely on outdated guidance because it prevents us from realising the economic and environmental advantages of the preferred option. With regard to deregulation, we cannot rely on having no guidance or guidance with no force in law because without compulsion, it is expected that reinstatement standards will would drop and road condition would suffer, and road user delays would increase.

The new edition is planned for publication in late 2019. It will come into force 3 or 6 months later (Minister yet to decide). It will be subject to a post-implementation review. This will be a continuous review process, not a one-off exercise. The ultimate aim is to make the SROH into a living document that is constantly kept up to date.

**Post implementation review**

Consider whether the policy be reviewed. Either provide an outline of what a potential PIR will cover or provide explanatory text outlining the reasons one is deemed unnecessary. Further guidance on review clauses is available from the Better Regulation Unit.

1. **Review status:** Please classify with an 'x' and provide any explanations below.

<input type="checkbox"/>	Sunset clause	<input checked="" type="checkbox"/>	Other review clause	<input type="checkbox"/>	Political commitment	<input type="checkbox"/>	Other reason	<input type="checkbox"/>	No plan to review
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Regulations to be reviewed every five years to ensure continued suitability.

2. **Expected review date** (month and year, xx/xx):

0	4	/	2	5	Five years from when the Regulations come into force
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### 3. Rationale for PIR approach:

Circle the level of evidence and resourcing that will be adopted for this PIR (see Guidance for Conducting PIRs):

**low/ medium/ high**

Please justify why you propose a low/medium/high evidence approach referring to the PIR guidance. When considering your proposal please note that the approach chosen should be **proportionate to the scale of the regulation** and that a lack of existing evidence is not a sufficient rationale alone for adopting a low evidence PIR.

A **medium** evidence approach is proposed for this PIR. Whilst the EANDCB is estimated to be between -£5 and -£10 million, the estimated benefits of the updated code of practice are reasonably high, and the updated code of practice makes significant amendments to the current code, which could potentially affect a significant number of works depending on uptake.

### Key Objectives, Research Questions and Evidence collection plans

Key objectives of the regulation(s)	Key research questions to measure success of objective	Existing evidence/data	Any plans to collect primary data to answer questions?
<p>The key policy objectives for street works and updating the code of practice are that reinstatements should:</p> <ul style="list-style-type: none"> <li>•be carried out properly to minimise the effect on the life of the road;</li> <li>•be right first time;</li> <li>•be achievable without incurring unnecessary expense; and</li> <li>•minimise traffic congestion.</li> </ul>	<p>What is the level of uptake of the new processes/materials included in the updated code of practice?</p> <p>What is the impact of the updated code of practice on compliance?</p> <p>What is the impact of the updated code of practice on the costs of carrying out reinstatements and wider street works?</p> <p>What is the impact of the updated code of practice on the level of remedial work and the number of retrospective street works to correct?</p> <p>What is the impact of the updated code of practice on the time taken for reinstatements?</p> <p>What is the impact of the updated code of practice on the level of congestion?</p>	<p>The existing evidence and data is very limited. It is predominantly based on anecdotal evidence from stakeholder engagement. Some of the assumptions were informed by discussions with external contractors and policy experts.</p>	<p>Introduction of street manager<sup>16</sup> will give us access to a richer dataset, and allow us to monitor and evaluate the outcomes from the introduction of this guidance.</p> <p>We will also consult with utility companies and local highway authorities that are affected by the updated code of practice via the SROH working group.</p>

<sup>16</sup> The Government has invested £10 million in the development of a new digital service called Street Manager. This will transform the planning, management and communication of street and road works, and it will provide up-to-date, accurate and open data on live and planned works.



## 10. Annex A: List of proposed amendments

The following are in addition to the key amendments listed in section 4.2

- Guidance on layer thicknesses has been rationalised and Table A11.1 has been deleted to remove inconsistencies in existing advice on layer thicknesses.
- A new high bitumen content AC has been introduced to address the difficulties of achieving proper compaction of AC6 DSC in footways.
- A preferred option for determining the maximum density of core samples has been included, and an option has been added permitting trimming the bottom of cores exceeding the specified depth when layed over unbound material.
- A specification for applying base edge and tack coating in footpath reinstatements added.
- Guidance on reinstating reinforced concrete has been expanded. It also includes guidance on using Large Diameter Cores Large Diameter Cores in a concrete road.
- Advice on the early trafficking of concrete has been added.
- PSV values have been updated to optimise aggregates properties, in line with materials availability and DMRB.
- Table NG1.1 has been updated for projected flows up to 2033.
- Polymer modified mastic asphalt has been added as an option for narrow trenches and situations where the opening around ironwork is too small to compact materials. An option for hand compaction has also been added.
- HBM and Foamed concrete are now permitted materials
- A9 now covers alternative technologies as well as the full range of potential reinstatement materials. A9 is now less prescriptive in its requirements for trials. It now allows for different trial periods dependent on risk and permits the use of new material/technology without trials if both parties agree. A clarification has been added stating that where a new

material/technology has been approved by one authority, it is permitted for use everywhere except where there are sound engineering reasons not to use it.

- Guidance on reinstatements in sub-standard roads has been added, requiring that the surrounding road condition is taken into account.
- Guidance added on how to deal with coal tar arisings
- Scope for use of HRA increased
- Guidance on overbanding expanded.
- Guidance on the reinstatement of high friction surface courses has been amended to be less restrictive
- Advice has been added on the use of cementitious fillets when reinstating modular pavements.
- Option of lower aggregate size for hand raked patches, to provide similar looking surface texture
- New “Type 1” unbound material grading has been included to facilitate compaction of backfill in restricted areas. Guidance on testing compaction compliance has also been included.
- Guidance on the reinstatement of composite footways has been clarified to avoid mis-interpretation.
- Guidance on reinstating in high amenity/high duty areas and on modular pavements has been amended with emphasis on safety, durability and aesthetics