

Coordinating Highway Activity: The Council's role in coordinating works carried out on the highway by utilities/developers and their performance in noticing and reinstatements

Report of the Chief Officer for Highways, Infrastructure Development and Waste

1. Introduction

This report intends to show:

- (a) The Council's responsibilities in managing and co-ordinating works activity on the highway
- (b) How the Council monitors these works and the current challenges being faced
- (c) Performance information for the four main utilities on noticing and reinstatement activity.

2. Background

Utility companies are, by statute, 'Statutory Undertakers' (SU) and have a duty to maintain their apparatus which is often placed in the highway. Their regulators require quality and improvement targets to be met regarding new connections and/or restoration of a service to their customers.

Currently, utilities must 'notice' the Council ahead of working in the highway. Major planned works with road closures requires three months' notice and for minor works, it is three days. Immediate works are either 'emergency' (if a danger exists) or 'urgent' (if a loss of service) and the Council must be notified within two hours of these works starting.

The authority legally must coordinate highway works and the utilities are required to cooperate in that endeavour. Coordination includes avoiding clashes and identifying opportunities for mutual activity. Utilities must undertake their work safely and without creating public risk. Reinstatements must be to a standard commensurate with the existing construction and category of highway.

Coordination activity helps the Council meet a legal duty to manage its road network to secure, as far as reasonably practicable, the expeditious movement of traffic. The Network Management Duty (NMD) details those activities which contribute to achieving this objective.

The Council has a schedule of 'traffic sensitive' streets which are determined from various criteria. This will alert those wishing to occupy the highway that restrictions can be applied on works promoters. This may be to avoid specified hours or weekdays or to work only within a set period. Immediate works requiring urgent action such as collapsed sewers, gas and water leaks or electricity outages are a priority but present challenges as they often cause network disruption.

The Highways Coordination Team (HCT) monitors the register and Highway Enforcement Officers (HEO) monitor compliance at sites. This includes safety of the signing, lighting and guarding, noticing, occupation periods and the reinstatement quality.

Together with random sample inspections, HEO's will attend sites to manage unexpected issues often reported by the public through the Highways Operations Control Centre. HEO's can stop works if considered unsafe, or provide directions if conditions or procedures are not being followed.

The Development Management Team and Highway Agreement Officers manage developers. They ensure activities affecting the existing highway consequential to the development are noticed and coordinated intending to minimise the impact of utilities in providing supplies to the development.

3. Highlighted Coordination & Enforcement Activity

On average, the Council manages over 35,000 notices annually for works on its highway asset. This is a significant volume and needs to be seen in the context of Devon's road network being the longest of any authority in England at very nearly 13,000km.

Clearly, this presents its own challenges for the Council's monitoring and coordination activities. At times, it is necessary to focus resources on those works occurring on the primary network where activities can create greater disruption to increased numbers of highway users.

In February 2017, one-to-one meetings with each main utility company were initiated for DCC to more strategically review coordination activity and examine both performance and invoicing issues. These meetings take place three times a year and are proving useful in addressing certain matters.

The Bridge Road project has presented some coordination challenges with regular night closures and a long diversion route which occasionally clashed with other works. This was effectively managed with contractors' cooperation, including those for the Exeter Flood Defence Scheme.

Planned works by Highways England has meant close cooperation with the Council in use of County roads for diversion routes. High levels of congestion have occurred in and around Exeter with spontaneous M5 closures and discussions have taken place with stakeholders on the impacts. Cullompton experiences similar problems with unplanned M5 closures which raises questions over appropriate local measures to mitigate the consequences in the town.

Occasionally, complex and extensive works in an area result in public representations due to delays, duration and diversion routes. New developments will often mean high profile works to establish all the principle utility connections, the coordination of which can be rather challenging.

The France-Alderney-Britain (FAB) project is the building of an electrical interconnector underwater and underground between the two countries via Alderney to market energy. The potential effects on Devon's network are currently being assessed to effectively coordinate the highway impacts.

The next phase of the Connecting Devon & Somerset Programme (superfast broadband) is progressing with Gigaclear as the new promoter. DCC is working closely with the company and its works contractor to coordinate the extensive planned works activity in some of Devon's rural areas.

An investigation was commenced in December 2016 when a chamber cover was found missing after works on the B3217, leaving an unprotected void in the road. A prosecution followed and in July 2017 BT pleaded guilty at Exeter Magistrates Court to two offences under the New Roads & Street Works Act 1991. Fines and costs totalled almost £10,000.

The other principal utility companies were all made aware of the investigation and outcome which sent a suitable message that the Council will move to prosecute in appropriate circumstances.

4. Utility Company Performance

4.1 Noticing and works duration

Notified highway activity is reviewed, analysed and coordinated in delivering the NMD. Activities include routine maintenance, utility or developer works and events affecting the highway. Coordination is improved when works promoters submit non-statutory forward planning notices to the Street Works Register showing their activity which may significantly impact on road users.

Reports generated from this information identify clashes, collaborative opportunities or potential adjustments to works timing to limit impacts. Other considerations will be the work duration, the operational techniques used and the arrangements for traffic management. Works information is published on public websites including www.roadworks.org

The main utilities promoting works in Devon are; South West Water (SWW), Openreach (British Telecommunications – BT), Wales & West Utilities (WWU) and Western Power Distribution (WPD).

The below sample data represents Apr to Jun 2017 when 5,349 utility works were noticed (Fig 1a). Immediate unplanned works (emergency or urgent) accounted for 30% and 45% were minor. Six fixed penalties were issued and there were 31 days of unauthorised overruns.

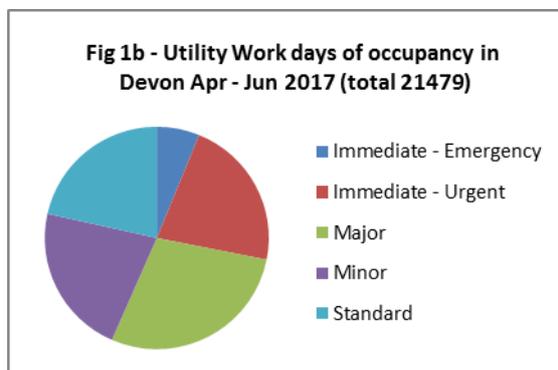
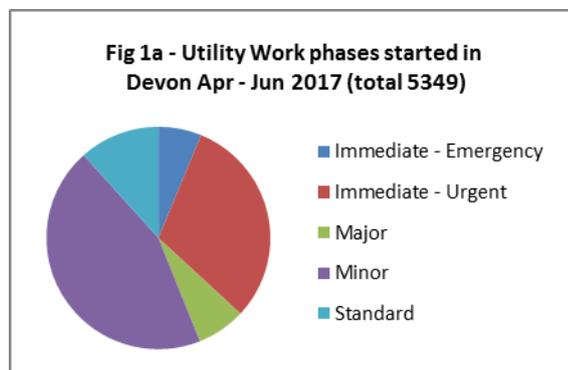
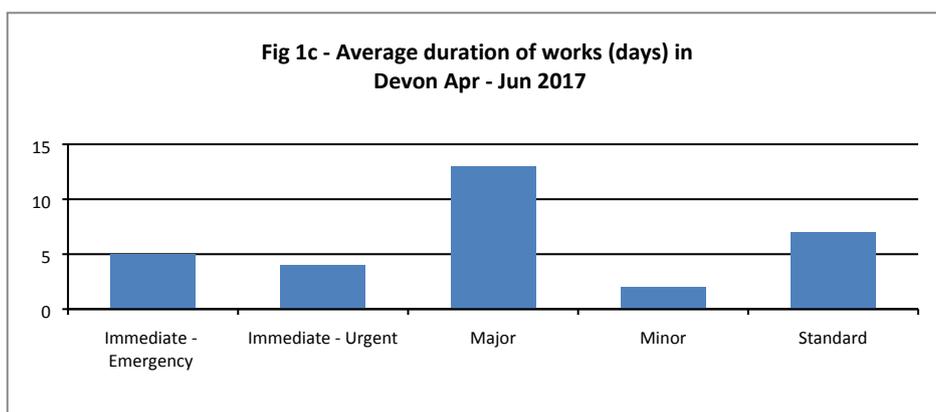


Fig 1b illustrates highway occupancy and shows a total of 21,479 days which are quite evenly split between each work type. Fig 1c shows the average duration of works ranging from 13 days for major works to 2 days for minor. Immediate works typically took 4 days for emergency and urgent.



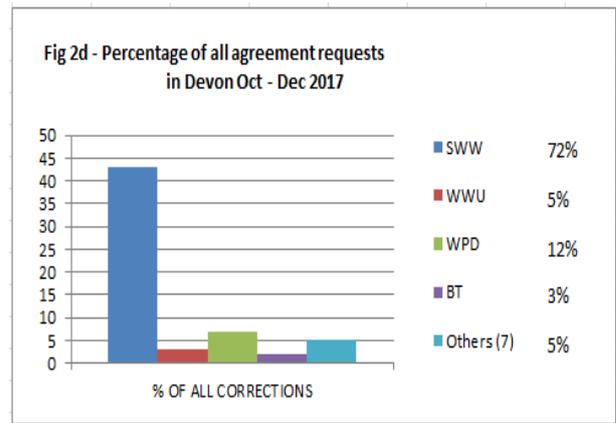
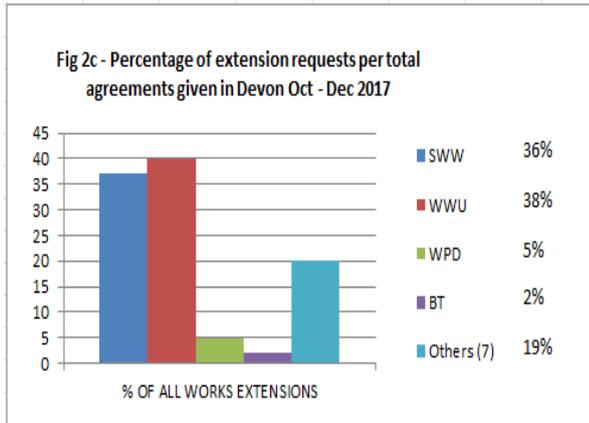
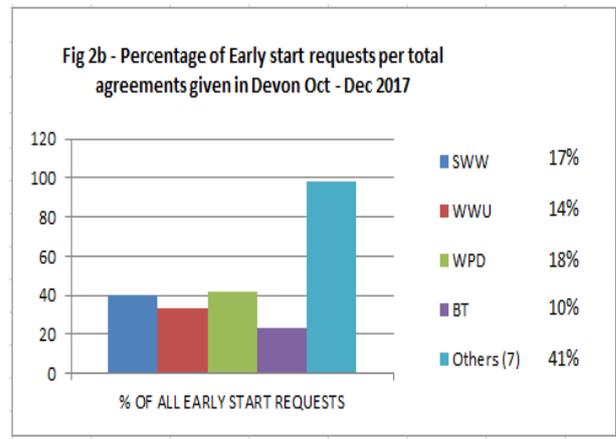
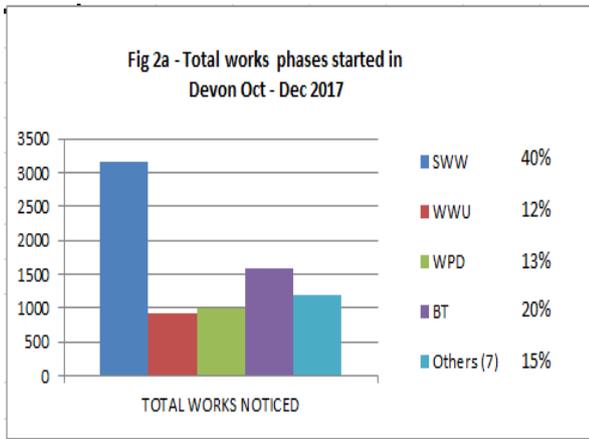
Generally, the utility companies perform reasonably well when noticing works. While improvements would benefit, spontaneous issues are managed daily by highway coordination or enforcement officers. When necessary, matters are taken to the tri-annual meeting with the utility concerned.

One area affecting the Council's resources are works agreements which relate to requests for early starts and extensions, together with noticing errors and traffic management changes. A utility may require their works to start on a date before the one originally noticed (early start); similarly, extensions are requested if a utility wishes to move the completion date beyond that originally noticed. Other 'agreements' can include variations connected to traffic management.

Requests to change notices are made for various reasons including contractor re-scheduling, unforeseen site circumstances or arguably poor planning. The Council may accommodate early start requests and endeavours to do so when there is a derived benefit to the travelling public. Corrections often require a rejection notice and information sent on traffic management errors.

The HCT reviews, assesses and coordinates works notices to avoid clashes and identify potential collaborative options, all based on the utility's originally notified dates. Any changes or revisions means the coordination activity must be run again so duplicating activity for the revised dates.

In Q4 of 2017 (Oct – Dec), the total of all noticed highway activity from any source was 7,893. The extent of requests for corrections, early starts and extensions is illustrated in Figs 2a-d.

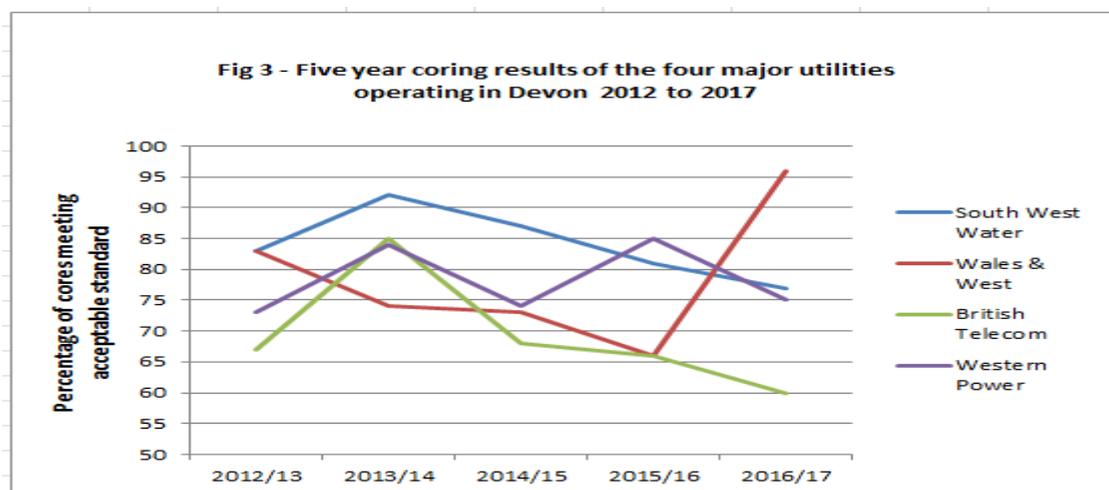


4.2 Reinstatement Performance

HEO's arrange for a sample of the reinstatement carried out by the utility companies to be tested at random during the year. A core pair is drilled as a sample and tested to assess the compaction level and material used. Reinstatements must be completed to the correct specification ensuring the Council's highway asset is protected to avoid unnecessary and premature maintenance work.

Utility companies mostly use contractors to undertake reinstatement works and self-monitor their performance. A common reason for failure is poor compaction with excessive air voids. Other failure reasons include material being out of specification, of inadequate depth or the wrong type.

The data from the current annual coring programme is taken for the period July 2016 to 2017. The data results for the last five years since 2012/13 identify trends and are shown in Fig 3.



Since representatives of the four main utilities attended Scrutiny Committee in November 2016, regular meetings occur with each at which ongoing compliance is reviewed. When cores fail, it is a chargeable defect and a copy of the full defect report is sent to the utility company responsible. All the utilities with their contractors have now visited the DCC Materials Laboratory to examine and discuss with the analysts their core failures along with any specific defect issues.

While performance in 2011/12 was notably poor, a steady rise was seen in 2012/13 and 2013/14 with the standard reached then still leaving room to develop. All the utilities have struggled to maintain a consistent level of performance improvement which the Council desires.

Disappointingly for three utilities, Western Power Distribution (WPD), South West Water (SWW) and British Telecom (BT/Openreach), performance has dropped this year. That said; Wales & West Utilities (WWU) has seen a dramatic improvement in performance with 96% of their cores meeting the required standard compared to 66% last year. This is the best ever recorded coring performance by a utility in Devon and WWU should be commended.

WPD has experienced sporadic performance since 2012/13 with both declines and improvements across the 5 year period. Improvement was seen in 2015/16 moving to 85% from 74% in 2014/15 however, this year the pass rate has fallen back to 75%.

Both SWW and BT's performance is a concern seeing a continuing decline since 2013/14. SWW peaked at 92% that year but dipped to 87% in 2014/15, 81% in 2015/16 to 77% this year. In 2013/14 BT reached 85% which slipped to 68% in 2014/15, 66% in 2015/16 to 60% this year.

The 2016/17 coring report is at Appendix A. Overall, the proportion of satisfactory reinstatements range from a low of 60% to a high of 96%. In analysis, each utility's performance across the County varied with some areas experiencing better results than others. Utilities do monitor their contractors and some use several, linking them to the location of the reinstatements across Devon.

With one notable exception, this year's results are not encouraging which impacts on Devon's highway asset. As mentioned, the Council has a statutory duty to manage its road network and secure the expeditious movement of traffic. Poor highway reinstatements necessitate remedial work and this diminishes the Council's obligations to meet its responsibilities.

5. Consultation

The current annual coring report (Appendix A) is being shared with each utility company. In those cases where reinstatements have not met required standards, defect notices have been issued.

6. Financial and Environmental Considerations

Disruption caused by highway works leads to both environmental and economic impacts through increased journey times, queuing traffic, missed or late deliveries and appointments. This is compounded when promoters must return to the highway to correct previous poor workmanship.

7. Summary

This report provides the Committee with updated information and evidence on utility company performance when working on Devon's highway asset. If desirable, a further request can be made for the Committee to meet utility company strategic representatives and discuss their performance.

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Electoral Divisions: All

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Local Government Act 1972: List of Background Papers

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Background Paper	Date	File Ref.
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Nil

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Adequacy of Statutory Undertaker Reinstatements of the Highway

Annual Coring Program Report 2016/17

Introduction

Activities conducted by Statutory Undertakers (SU's), or 'utilities', impacts on the immediate and longer term accessibility, integrity and performance of the County's highway asset.

The four principle utilities promoting works on Devon's network are; South West Water (SWW), Openreach (British Telecommunications – BT), Wales & West Utilities (WWU) and Western Power Distribution (WPD).

Highway authorities have a statutory duty under the Traffic Management Act 2004 to secure, in so far as may be reasonably practicable, the expeditious movement of traffic on the road network for which they have responsibility. From that legislation, the Network Management Duty highlights how the authorities can effectively manage that obligation.

Highway excavations and reinstatements influence the Council's performance in executing that duty. Access to the highway must be carefully coordinated, managed and monitored, mindful that utilities have a legal right to access their apparatus.

Poor quality reinstatements are likely to have a low durability which can lead to early failure and the need for premature maintenance intervention. Early life reinstatements failures are costly and represent an increased risk to highway users and disruption. Sustainability issues are evident with transportation and importation of additional materials to remedy defects.

Background

Since 2002 the Council has undertaken a coring programme of utility reinstatements. This is intended to monitor and ensure adequate compliance of requirements across the network. It contributes to protecting the asset and is in line with the authority granted in the New Roads & Street Works Act 1991 and its Code of Practice.

The annual coring programme is achieved by randomly selecting completed reinstatements, coring them and analysing the material. The analysis checks specifications are met according to the requirements of the 'Specification for the Reinstatements of Openings of the Highway' (SROH). Reinstatements are initially visually checked for compliance and those registered as permanent are cored from both footway and carriageway.

In July 2015 the programme moved to coring monthly instead of quarterly. This led to some issues with the reporting process and the Council now operates a calendar year programme, coring 3 times through the year which has now slightly increased the activity undertaken.

This report details the analysis of amalgamated random core samples taken from utility reinstatements between July 2016 and July 2017. No coring took place in January 2017, so this equates to twelve months of samples.

Interim results from analysis was shared with the utilities during the year and discussed. A Highway Authority & Utility Company approved "Best Practice" publication incorporating the outcomes of a joint trial between SWW and Devon has been shared previously.

Each utility was offered the opportunity to attend the Council's Materials Laboratory to see the analysis process, view their failed cores and discuss them with the Laboratory Manager. All have visited and the experience has been productive for both the utilities and Council.

Coring of Reinstatements

During the 2016/17 programme across the County, 282 reinstatements were randomly selected for coring comprising 140 carriageway (CW) sites and 142 footway (FW) sites. The below table illustrates the breakdown.

UTILITY	TOTAL SITES	CARRIAGEWAY	FOOTWAY
SWW	77	44	33
WWU	66	35	31
BT	68	28	40
WPD	71	33	38
Total	282	140	142

Sampling and testing was completed in accordance with the HAUC UK recommendations for implementing a structured coring programme. All utilities and their contractors were invited to attend sites for the programme to agree the procedure and conduct of the sampling.

Results

The table below details a breakdown of the 2016/17 coring programme in Devon:

SWW	WWU	BT	WPD	Defect	
15	3	22	15	<i>Air voids</i>	
1	0	5	3	<i>Depth</i>	
0	0	0	0	<i>Depth & Voids</i>	
1	0	0	0	<i>PSV</i>	
1	0	0	0	<i>Material Type</i>	
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34	33	20	23	<i>CW Passes</i>	
25	30	21	30	<i>FW Passes</i>	
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10	2	8	10	<i>CW Fails</i>	
8	1	19	8	<i>FW Fails</i>	
<hr/>					
18	3	27	18	<i>Total No. Failing</i>	
59	63	41	53	<i>Total No. Passing</i>	
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44	35	28	33	<i>CW</i>	<i>Total Cores</i>
33	31	40	38	<i>FW</i>	
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77.3	94.3	71.4	69.7	<i>%CW</i>	<i>Pass Rates</i>
75.8	96.8	52.5	78.9	<i>%FW</i>	
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76.6%	95.5%	60.3%	74.6%	PASS RATES OVERALL	

Comparative Overall Compliance

YEAR	SWW	WWU	BT	WPD
2015/2016	80.9%	66.2%	65.8%	84.5%
2016/2017	76.6%	95.5%	60.3%	74.6%
Change	- 5.3%	+ 30.7%	- 8.4%	- 11.7%

These figures are not only disappointing for SWW, BT and WPD but also the Council. The figures for WWU however are in very stark contrast seeing a dramatic improvement.

WWU visited the Materials Laboratory in January 2017 with their reinstatement contractors to discuss the 2015/16 failures which may have contributed to this year's result. The other utilities attended during 2017, but as yet there is no similar performance improvement.

The Council will continue working with utilities to investigate the reasons for non-compliance and encourage improvements in performance in this area generally.

Depth Compliance

Unfortunately there are still a small number of depth failures which is a concern. While not high in number, the Council has a desire to eliminate all depth failures due to the simplicity of resolution and work will continue with the utilities to try and achieve this objective.

	SWW	WWU	BT	WPD
Depth Failures	1%	0%	7%	4%

Skid Resistance (PSV) & Material Selection Compliance

Compliance rates in this category are very high with only two failures, both for SWW. This overall compliance level is encouraging and efforts will be made to maintain this standard.

Air Void Compliance

Results for 2016/17 require a focus. While WWU has seen a significant improvement from 18 failures last year to 3 this year, SWW and BT have remained static. SWW had 15 failures in both years while BT had 23 last year and 22 this year. WPD had 10 last year but 15 this year. A disappointing outcome which will prompt further investigation with and action by the utilities as there is room for improvement.

	SWW	WWU	BT	WPD
Air Void Failures	19%	5%	32%	21%

Conclusions

Over a number of years efforts have been made by the utilities to improve reinstatement performance. This incorporates materials transportation, workmanship standards including the handling, placement and compaction of bituminous material.

The 282 core pairs were extracted through the full depth of the bituminous or cement bound layers. Each core was taken for analysis to be carried out within SROH parameters:

- a) Total depth (thickness) of bitumen bound layers at each location compared to the specified requirement for the particular road type.
- b) The quality of placement and compaction of the bituminous material as indicated by the measured air voids content of the core assessed against the current specification.
- c) The correct type of aggregate in terms of its ability to achieve the required degree of skid resistance assessed against the current legislation.

After a poor result in 2015/16, WWU has significantly outperformed the other utilities this year. There is very clearly a requirement for both SWW and BT to act immediately and improve; whether lessons can be learnt from WWU remains to be seen. Their declining performance which has been ongoing now since 2013/14 must be reversed.

While WPD's performance has dropped from last year, there has been inconsistency over the last 5 years. Their results since 2012/13 have every year fluctuated in percentage terms between the mid 70's to mid-80's, rising in one year but dropping the next.

SWW, BT and WPD all need to address the specific failures identified this year with air voids in their reinstatements. Nearly one in three of BT's reinstatements failed for this reason and for WPD and SWW it was one in five.

Footway reinstatements appear a particular problem for BT with almost 50% failing. Cores taken from their carriageway reinstatements saw nearly 30% failing.

The potential will be explored to understand what is behind the improvement in WWU's performance to see what learning can be absorbed and put into practice by the other utilities.

Recommendations

- Circulate this report to each Statutory Undertaker in the coring programme.
- Continue with the phased approach of monitoring the standard of compliance with the SROH through structured monthly coring
- Work with all the utilities and their contractors to improve systems of working which will contribute to improving overall compliance.
- Place added focus on coring performance through regular meetings with utilities and their contractors sharing information on coring analysis of reinstatements.
- Identify those local areas with low reinstatement compliance rates, investigate the reasons, report the outcome and work with utilities to identify resolutions.

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