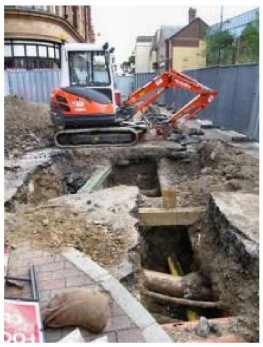
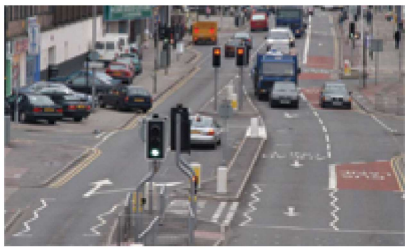



East of England

Permit Scheme



Hertfordshire County Council

Permit Scheme Evaluation - Year 4

BEDFORD BOROUGH COUNCIL

Hertfordshire LUTON BOROUGH COUNCIL

southend on sea BOROUGH COUNCIL

Introduction

Hertfordshire County Council has now been operating a permit scheme for 4 years. HCC plays a key role in the National Permit Authority Group which helps shape the operation of Permit Schemes across the country, taking on board the view of stakeholders, ensuring best practice guidance is issued. Additionally, HCC has used its experience of 4 years of operation to influence, and help write, the HAUC National Guidance for the Operation of Permit Schemes.

This report provides data from year 4 of the operation of the Permit Scheme. As stated in previous annual reports, we can demonstrate numbers of permits processed at all stages, and how efficient we have been. There still seems to be a national struggle to demonstrate, and place a figure on, how effective a permit scheme is. HCC are taking the lead in the creation and delivery of measures that will demonstrate the effectives and benefits of operating a Permit Scheme including a full CBA review.

HCC are leading the deployment of a roadworks impact calculator, developed by Open Road Associates. This allows the co-ordination team to assess the impact of proposed works – from the information submitted in permit applications – and model the impact of different parameters e.g. duration, traffic management and carriageway type. By capturing the difference (reduced) social/economic impact (£'s), this will be a key indicator of the effectives of the scheme. Further details and data will be published in next year's report.

Most evaluation measures listed in this report are displayed in two groups – Highways (LHA) and Statutory Undertakers. Highways (LHA) combines all works undertaken by the Authority works promoters. There are some instances where Authority works promoters and Statutory Undertakers are displayed in further granularity to allow a secondary level of analysis.

I hope that we continue to develop the operation of the Permit Scheme in Hertfordshire, and help work with the National Permit Authority Group, to continue to deliver a positive benefit to the management and coordination of road and street works thus reducing their overall impact.

Jon Prince IEng MICE MSc
Group Manager
Network Management
Hertfordshire County Council

Whilst there is no regulatory obligation to publish a revised Cost Benefit Analysis (CBA), HCC has commissioned a review of the CBA for year 1 to 3 of the scheme operation. We feel that this is warranted as there have been several amendments and developments – both local and national – to how the permit scheme is operated. Extracts of the full CBA review are below.

A cost-benefit analysis was undertaken before scheme implementation to assess whether the permit scheme was likely to deliver societal benefits in excess of the cost of implementing and operating the scheme, and hence whether the scheme should go ahead.

With three years of post scheme data, we take this opportunity to review the value of the scheme with the benefit of a number of years of outturn scheme operating costs and revenues, and updated estimates of the societal impact of roadwork and how these may differ under the permit scheme.

A headline summary of the approach adopted is as follows:

- Identify the scale and characteristics of roadworks which have taken place in the first three years of permit scheme operation, and quantify the scale of societal impact that these roadworks will have had;
- Estimate the reduction in roadworks resulting from the permit scheme and quantify the benefits of this reduction;
- Identify the cost of setting up and operating the permit scheme since its inception;
- Undertake the cost benefit analysis to determine the benefit to cost ratio and net present value delivered by the scheme

Since Year 1 (2012/13) of permit scheme operation the cost of a single day of 'typical' roadworks has increased considerably, and as such has increased the total cost impact of roadworks in Hertfordshire. However, this is largely driven by the shift in composition of roadworks from lower impact traffic management, such as carriageway incursion, to high impact traffic management, such as road closures and shuttle working. In particular, roadworks on urban single carriageways involving shuttle working have increased from 8% of total works in Year 1 (2012/13) to 17% in Year 3 (2014/15). This is shown in the table below.

Locality	Road Type	Works Type	Year 1	Year 2	Year 3
Rural	Dual 2-Lane	Lane Closure	0%	0%	0%
		Road Closure	0%	0%	0%
		Some Carriageway Incursion	2%	1%	1%
	Single 2-Lane	Lane Closure	0%	0%	0%
		Road Closure	1%	2%	2%
		Some Carriageway Incursion	25%	22%	19%
		Shuttle Working	4%	6%	8%
Urban	Dual 2-Lane	Lane Closure	0%	1%	1%
		Road Closure	0%	0%	0%
		Some Carriageway Incursion	3%	2%	1%
	Single 2-Lane	Lane Closure	0%	1%	1%
		Road Closure	2%	4%	4%
		Some Carriageway Incursion	55%	49%	45%
		Shuttle Working	8%	12%	17%

The benefits of the permit scheme are expected to be achieved through more efficient and better managed roadwork events taking place compared to the patterns observed before scheme implementation. The default assumption relating to anticipated impact of a permit scheme is to observed a benchmark 5% reduction in roadwork impact (as stated in the DfT Permit Scheme Evaluation Guidance, 2016).

Appraisal Results

The cost benefit analysis takes the benefits and costs established from the first year of operation projects these over the 25-year appraisal period. The future cost and benefit streams are discounted using the standard discount rate of 3.5%, meaning that near term costs and benefits are valued more highly than those occurring later in the appraisal period.

The results of the cost benefit analysis are as follows:

Net present benefits of scheme (B)	£50,754,162
Net present cost of scheme (C)	£23,2845,795
Net Present Value of scheme (B-C)	£26,908,367
Benefit to Cost Ratio (B/C)	2.13

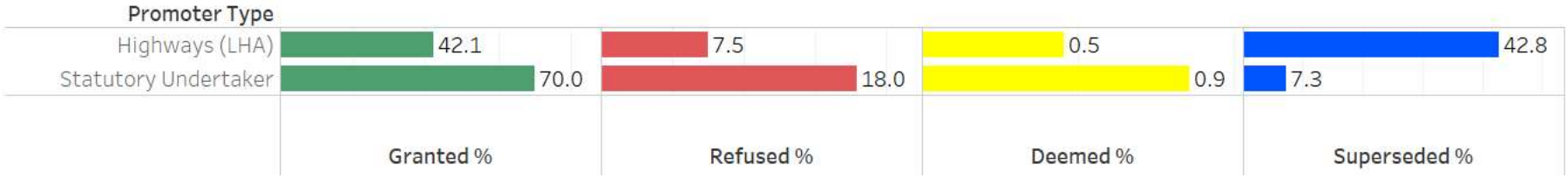
The scheme benefits are seen to outweigh scheme costs, providing a significant net present value of £26.9m. The benefit to cost ratio (BCR), which provides a measure of value-for-money exhibited by a scheme returns a value of 2.13 which represents 'High Value for Money'.

Permit Applications

	Highways (LHA)					Statutory Undertaker				
	Major	Standard	Minor	Immediate	Total	Major	Standard	Minor	Immediate	Total
PAA Application	2,883				**2,883**	2,113				**2,113**
Permit Application	2,127	2,243	4,851	18,039	**27,260**	1,330	3,661	23,379	11,796	**40,166**
Grand Total	**5,010**	**2,243**	**4,851**	**18,039**	**30,143**	**3,443**	**3,661**	**23,379**	**11,796**	**42,279**

Responses to Permit Applications

	Highways (LHA)				Statutory Undertaker			
	Major	Standard	Minor	Immediate	Major	Standard	Minor	Immediate
Granted	3,447	1,635	3,508	4,999	1,992	1,802	16,646	9,912
Refused	958	514	941	12	1,067	1,545	5,113	58
Deemed	57	14	53	23	44	34	228	67
Superseded	514	74	204	13,024	211	196	1,043	1,709



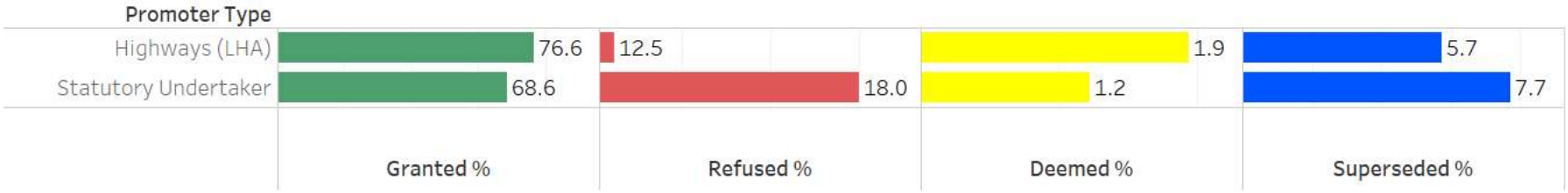
Note – Highways (LHA) Superseded is high due to volume of short duration immediate works.

Variation Applications

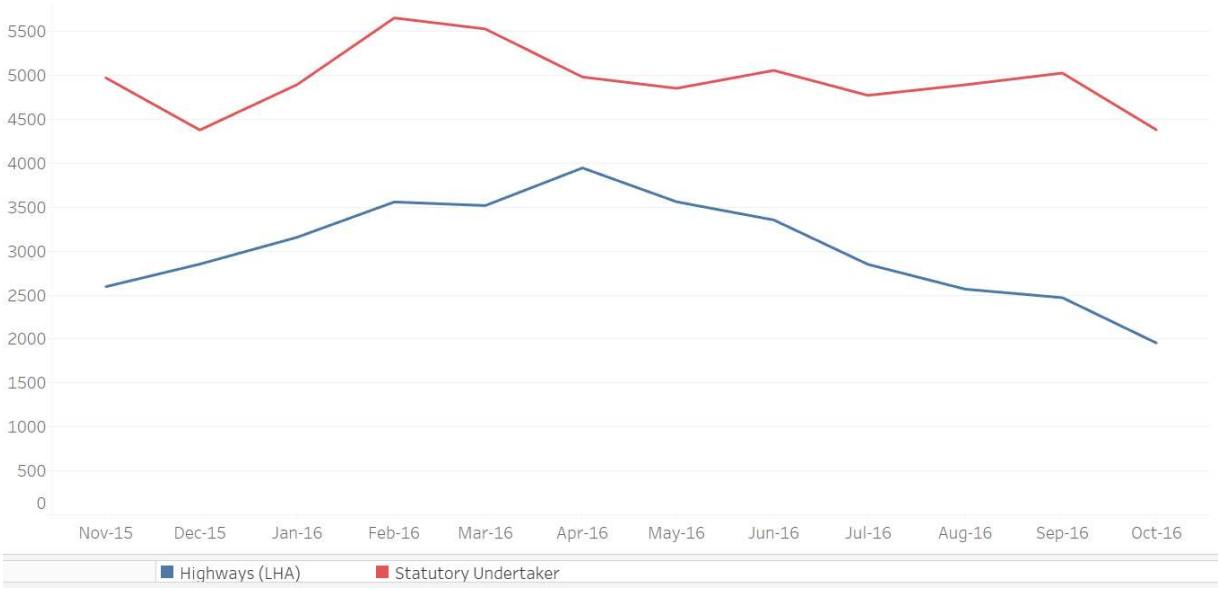
	Highways (LHA)					Statutory Undertaker				
	Major	Standard	Minor	Immediate	Total	Major	Standard	Minor	Immediate	Total
Modified Application	1,463	976	1,651	11	**4,101**	1,081	2,711	7,308	30	**11,130**
Works Data Variation	156	39	193	12	**400**	216	488	837	2,167	**3,708**
Duration Variation	316	287	210	925	**1,738**	424	572	522	1,143	**2,661**
Grand Total	**1,935**	**1,302**	**2,054**	**948**	6,239	**1,721**	**3,771**	**8,667**	**3,340**	17,499

Responses to Variation Applications

	Highways (LHA)				Statutory Undertaker			
	Major	Standard	Minor	Immediate	Major	Standard	Minor	Immediate
Granted	1,376	930	1,516	899	1,133	2,393	5,807	2,837
Refused	233	228	302	5	362	996	1,738	97
Deemed	58	14	35	13	35	63	90	30
Superseded	160	73	96	24	162	280	585	346



All Application Types (Permit and Variation) Statutory Undertakers v Highways



Reducing the Minimum Application Period

		Highways (LHA)	Statutory Undertaker	Grand Total
PAA Application	In Time	1,489	1,246	**2,735**
	Not in Time	1,394	867	**2,261**
Permit Application (Major)	In Time	1,824	993	**2,817**
	Not in Time	303	337	**640**
Permit Application (Standard)	In Time	1,890	3,164	**5,054**
	Not in Time	353	497	**850**
Permit Application (Minor)	In Time	4,634	23,145	**27,779**
	Not in Time	217	234	**451**
Permit Application (Immediate)	In Time	16,884	11,047	**27,931**
	Not in Time	1,155	749	**1,904**
Modified Application	In Time	4,005	11,037	**15,042**
	Not in Time	96	93	**189**
Works Data Variation (WIP)	In Time	350	3,110	**3,460**
	Not in Time	50	598	**648**
Duration Variation Application (WIP)	In Time	203	965	**1,168**
	Not in Time	1,535	1,696	**3,231**

	Highways (LHA)	Statutory Undertaker	Grand Total
In Time	51.65%	58.97%	**54.74%**
Not in Time	48.35%	41.03%	**45.26%**
In Time	85.75%	74.66%	**81.49%**
Not in Time	14.25%	25.34%	**18.51%**
In Time	84.26%	86.42%	**85.60%**
Not in Time	15.74%	13.58%	**14.40%**
In Time	95.53%	99.00%	**98.40%**
Not in Time	4.47%	1.00%	**1.60%**
In Time	93.60%	93.65%	**93.62%**
Not in Time	6.40%	6.35%	**6.38%**
In Time	97.66%	99.16%	**98.76%**
Not in Time	2.34%	0.84%	**1.24%**
In Time	87.50%	83.87%	**84.23%**
Not in Time	12.50%	16.13%	**15.77%**
In Time	11.68%	36.26%	**26.55%**
Not in Time	88.32%	63.74%	**73.45%**

Response Codes

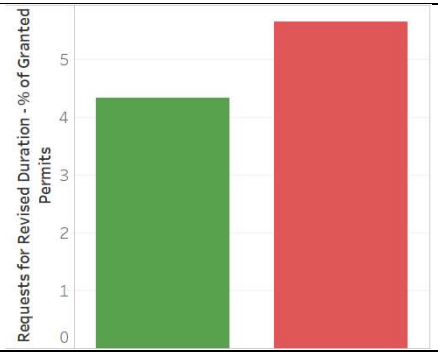
NCU denotes No Code Used. Process introduced December 2015 (11 months)

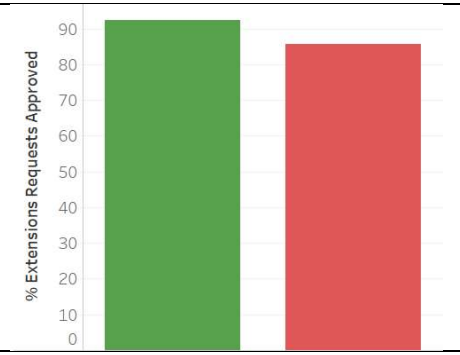
	Highways (LHA)			Statutory Undertaker			Total
	Major	Standard	Minor	Major	Standard	Minor	
NCU	214	50	126	258	334	730	1,712
RC10	196	98	157	171	293	784	1,699
RC11	114	139	287	256	713	2,174	3,683
RC12	15	2	41	36	121	128	343
RC20	13	20	8	12	18	53	124
RC21				1		2	3
RC22	34	43	90	21	51	189	428
RC23	36	53	66	14	92	271	532
RC24						1	1
RC30	5	6	24	32	14	78	159
RC31	57	57	128	85	190	564	1,081
RC32	21	8	21	28	58	109	245
RC33	7	11	10	21	59	104	212
RC40	24	6	4	48	21	51	154
RC41	30	78	116	34	135	439	832
RC42	9	12	4	3	6	9	43
RC43					1	8	9
RC44	13	62	2	40	17	13	147
RC45				1			1
RC50	336	46	81	270	207	508	1,448

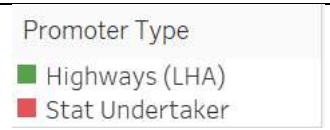
	Highways (LHA)			Statutory Undertaker			Total
	Major	Standard	Minor	Major	Standard	Minor	
NCU	19.04%	7.24%	10.82%	19.38%	14.33%	11.75%	13.32%
RC10	17.44%	14.18%	13.48%	12.85%	12.58%	12.61%	13.22%
RC11	10.14%	20.12%	24.64%	19.23%	30.60%	34.98%	28.65%
RC12	1.33%	0.29%	3.52%	2.70%	5.19%	2.06%	2.67%
RC20	1.16%	2.89%	0.69%	0.90%	0.77%	0.85%	0.96%
RC21				0.08%		0.03%	0.02%
RC22	3.02%	6.22%	7.73%	1.58%	2.19%	3.04%	3.33%
RC23	3.20%	7.67%	5.67%	1.05%	3.95%	4.36%	4.14%
RC24						0.02%	0.01%
RC30	0.44%	0.87%	2.06%	2.40%	0.60%	1.26%	1.24%
RC31	5.07%	8.25%	10.99%	6.39%	8.15%	9.07%	8.41%
RC32	1.87%	1.16%	1.80%	2.10%	2.49%	1.75%	1.91%
RC33	0.62%	1.59%	0.86%	1.58%	2.53%	1.67%	1.65%
RC40	2.14%	0.87%	0.34%	3.61%	0.90%	0.82%	1.20%
RC41	2.67%	11.29%	9.96%	2.55%	5.79%	7.06%	6.47%
RC42	0.80%	1.74%	0.34%	0.23%	0.26%	0.14%	0.33%
RC43					0.04%	0.13%	0.07%
RC44	1.16%	8.97%	0.17%	3.01%	0.73%	0.21%	1.14%
RC45				0.08%			0.01%
RC50	29.89%	6.66%	6.95%	20.29%	8.88%	8.17%	11.26%

Revised Durations

	Highways (LHA)	Stat Undertaker
Permit Granted	29,211	39,904
Permit Extension Request	1,266	2,258
Permit Extension Approved	1,171	1,934







Average Duration (days) during lifecycle of Works

		Highways (LHA)	Statutory Undertaker
Major	PAA Application	12.60	16.40
	Grant PAA	9.25	15.47
	Permit Application (Major)	8.24	16.31
	Grant Permit	7.18	16.44
	Works Stop	6.35	18.26
Standard	Permit Application (Standard)	7.50	8.98
	Grant Permit	6.78	8.43
	Works Stop	6.49	9.21
Minor	Permit Application (Minor)	2.66	3.32
	Grant Permit	2.50	3.45
	Works Stop	2.62	3.03
Immediate	Permit Application (Immediate)	2.83	4.34
	Grant Permit	3.58	4.90
	Works Stop	1.78	4.69

Cancelled Permits

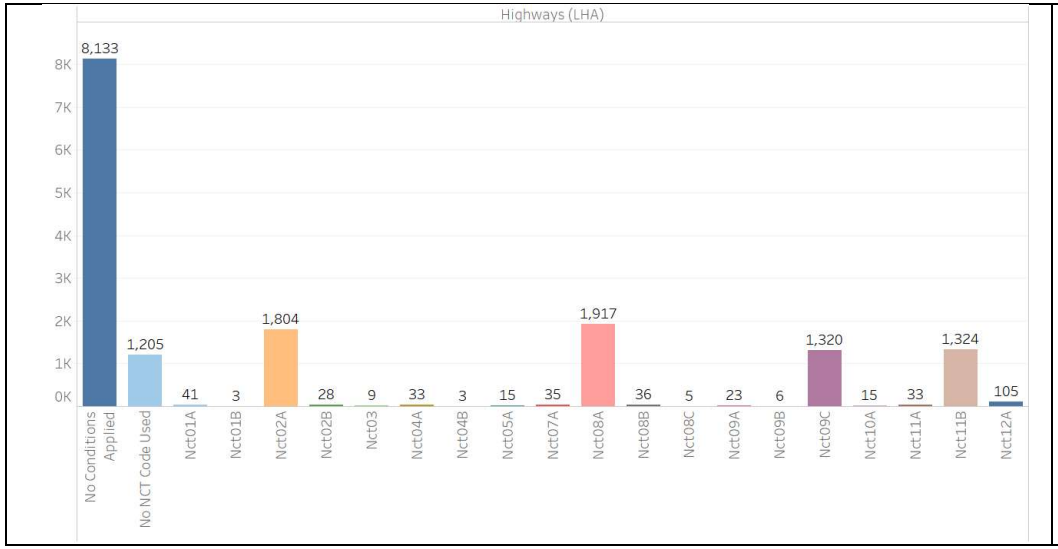
Road Space Granted Then Cancelled (days)

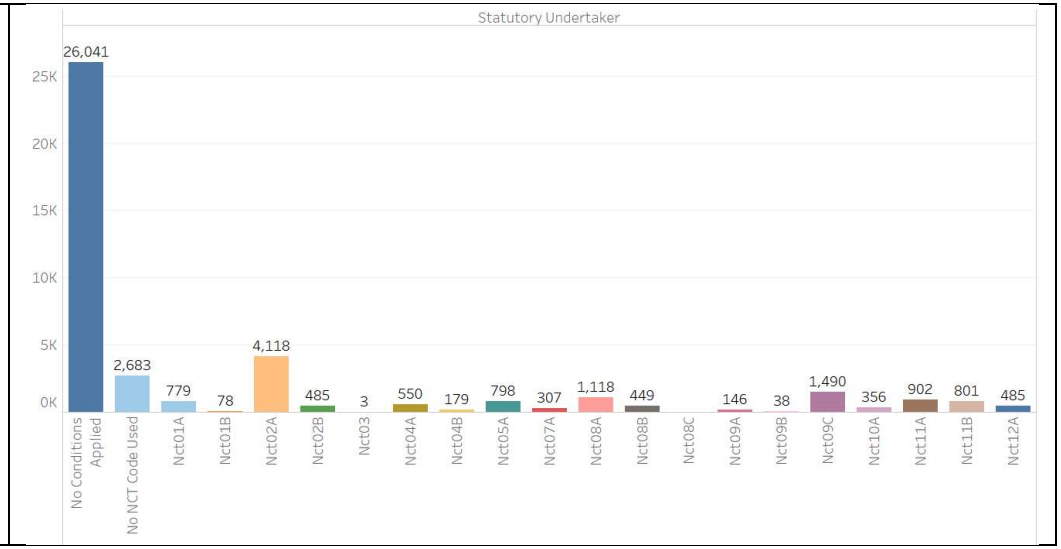
	Nov-15	Dec-15	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Total
HCC Works	3	46	44	85	77	76	51	2	15		10	13	422
Ringway	46	36	103	116	97	77	48	54	17	27	56	51	728
AFFINITY WATER	452	315	397	755	613	363	427	493	413	492	496	427	5,643
BT	94	50	44	62	94	40	64	93	58	75	70	94	838
National Grid	345	209	428	317	279	162	125	54	117	347	209	102	2,694
Thames Water	80	74	54	74	101	114	93	28	16	55	65	94	848
UK POWER	67	37	33	36	83	87	80	54	24	34	21	32	588
Virgin Media	358	251	257	167	233	332	333	212	91	244	310	254	3,042
Others	50	19	39	103	31	78	47	4	25	13	20	38	467
Grand Total	1,495	1,037	1,399	1,715	1,608	1,329	1,268	994	776	1,287	1,257	1,105	15,270

Percentage of Granted Road Space Cancelled

	Nov-15	Dec-15	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Total
HCC Works	0.5%	10.2%	2.9%	5.2%	3.6%	4.0%	4.2%	0.4%	2.6%		4.6%	5.2%	3.8%
Ringway	1.1%	1.0%	2.9%	3.4%	3.2%	2.0%	1.4%	1.5%	0.5%	0.9%	1.6%	1.8%	1.8%
AFFINITY WATER	8.2%	6.0%	7.7%	11.5%	11.4%	6.3%	7.7%	9.1%	7.2%	8.6%	10.3%	8.8%	8.6%
BT	5.6%	3.2%	2.7%	4.5%	6.3%	2.5%	3.5%	4.9%	3.1%	4.7%	3.8%	5.3%	4.2%
National Grid	16.5%	13.3%	18.2%	18.1%	14.0%	8.5%	6.3%	4.2%	5.8%	17.3%	10.1%	6.4%	11.9%
Thames Water	6.5%	11.0%	5.9%	9.1%	11.6%	12.2%	9.4%	2.7%	2.5%	6.8%	6.9%	8.3%	7.7%
UK POWER	3.3%	1.8%	2.0%	2.2%	5.1%	4.5%	4.5%	3.0%	1.4%	2.2%	1.3%	2.2%	2.8%
Virgin Media	12.8%	12.7%	15.8%	9.1%	10.9%	22.2%	18.4%	15.1%	8.6%	19.7%	21.7%	20.8%	15.2%
Others	4.7%	1.5%	5.8%	15.3%	3.2%	8.7%	6.2%	0.5%	1.5%	2.4%	1.9%	4.5%	4.2%
Grand Total	7.1%	5.7%	7.3%	8.7%	8.2%	6.5%	6.6%	5.6%	4.2%	7.8%	7.2%	6.9%	6.8%

Application of NCT codes on Granted Permits





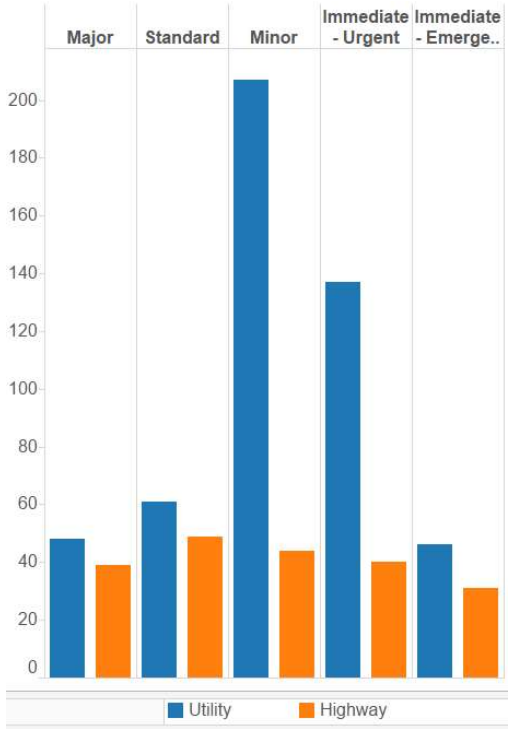
Collaborative Works

There were 46 sites recorded where collaborative working took place, comprising of 103 individual registered works.

Works Phases Started and Completed

	Highways (LHA)				Statutory Undertaker				Total
	Major	Standard	Minor	Immediate	Major	Standard	Minor	Immediate	
Work Phases Started	1,885	1,934	3,907	18,041	914	2,571	17,321	11,801	**58,374**
Works Phases Completed	1,873	1,934	3,897	18,087	906	2,636	17,620	12,228	**59,181**
Total	**3,758**	**3,868**	**7,804**	**36,128**	**1,820**	**5,207**	**34,941**	**24,029**	**117,555**

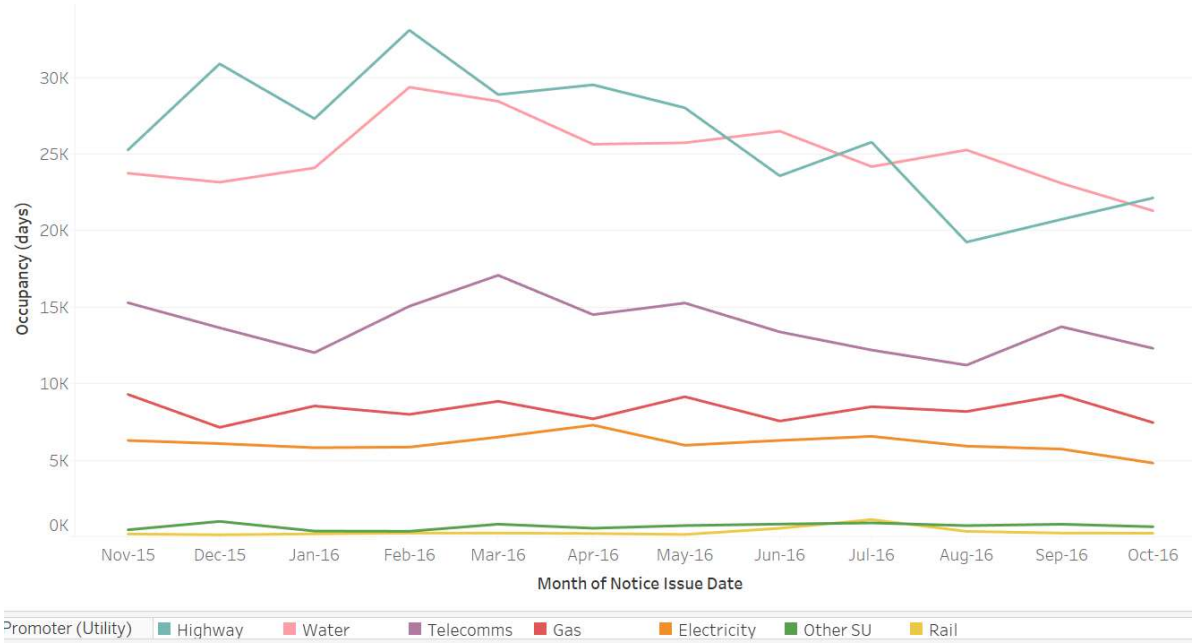
Phases Completed after the Reasonable Period



Phase One Permanent Registrations

	Number of Phase 1 Permanent Registrations
Major	529
Standard	2,074
Minor	10,178
Immediate - Urgent	6,938
Immediate - Emergency	1,805
Grand Total	21,524

Highway Occupancy



Permit Compliance Inspections

	Nov-15		Dec-15		Jan-16		Feb-16		Mar-16		Apr-16		May-16		Jun-16		Jul-16		Aug-16		Sep-16		Oct-16		Total
	Pass	Fail	Pass	Fail	Pass	Fail	Pass	Fail	Pass	Fail	Pass	Fail	Pass	Fail	Pass	Fail	Pass	Fail	Pass	Fail	Pass	Fail	Pass	Fail	
HCC Works													1		1						3				5
Ringway	49	6	11	2	21	4		3	16	4	29	9	60	5	61	7	20	2	47	5	30	7	44	5	447
Affinity Water	112	19	79	17	112	17	93	17	101	33	94	28	89	12	107	16	35	9	104	17	84	23	79	18	1,315
BT	30	1	24		25	3	25	4	28	7	30	5	31	4	47	5	13	4	27	1	36	3	26	1	380
National Grid	45	12	40	5	49	4	44	13	36	10	33	11	23	8	34	3	16		37	8	31	5	35	8	510
Thames Water	26	4	20	3	17	7	18	8	13	4	1	5		4	15	3	6	2	10		18	3	12	8	207
UK Power	32	2	32	2	42	6	28	9	28	7	24	3	26	6	33	7	16	7	45	13	45	5	19	5	442
Virgin Media	14	1	6	2	78		73	2	3	5	29	5	33	1	35	3	3	3	44		32	2	16	1	391
Others	3	1				1	2	5	3	7	1	4	5	2	1	2	5	7	4	1		2	2	1	59
Total	311	46	212	31	344	42	283	61	228	77	241	70	268	42	334	46	114	34	318	45	279	50	233	47	3,756

FPNs (Permit Offences)

Volume of FPNs (PS01 and PS02) issued

	Nov-15	Dec-15	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Total
HCC Works							0	0			0		0
Ringway	6	2	4	3	4	8	4	7	3	5	7	7	60
Affinity Water	26	25	20	19	40	28	12	18	8	22	21	20	259
BT	0	1	3	4	7	5	5	5	4	1	3	1	39
National Grid	11	6	7	15	12	11	8	3	0	10	5	9	97
Thames Water	4	4	9	8	5	5	4	5	2	0	3	8	57
UK Power	2	3	8	13	8	3	5	7	7	16	5	6	83
Virgin Media	1	2	0	3	5	4	1	2	3	0	4	1	26
Others	1		0	6	9	3	2	2	7	1	2	1	34
Total	51	43	51	71	90	67	41	49	34	55	50	53	655

Reasons for FPNs (PS01 and PSO2)

	Nov-15	Dec-15	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Total
Footway					2	3		1	1			2	9
Incorrect or No Permit Number Displayed	17	26	23	20	18	28	17	23	10	30	24	24	260
Methodology							1						1
No Permit	24	2	4	12	18	16	6	11	4	4	3	7	111
Traffic Management		1	16	21	24	13	12	10	11	16	17	12	153
Working in TS Times	3	4	2	10	2	2			1		1	3	28
Working Past End Date	7	10	6	8	25	4	5	4	6	5	5	4	89
Total	51	43	51	71	89	66	41	49	33	55	50	52	651