



*Knowsley Council*

**The Knowsley Permit Scheme for Road & Street  
Activities**

Annual Review, Year 3 2017-18

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*Knowsley Council Permit Scheme,  
Year 3 Review, 2017-18*

Contents:		Page
Chapter 1	INTRODUCTION.....	1
Chapter 2	PERMIT APPLICATIONS.....	2
Chapter 3	KPI MONITORING .....	11
Chapter 4	CONCLUSIONS .....	18
Appendix A	PERMIT APPLICATIONS 2017-18	
A.1	Highway authority works	
A.2	Utility works	
Appendix B	SCHEME BENEFITS	





## 1 INTRODUCTION

### 1.1 Background

- 1.1.1 The Knowsley Council (KMBC) Permit Scheme went live on 1<sup>st</sup> March 2015, with the first month operating as a trial with no charges applied. Permit charges were applied from 1<sup>st</sup> April 2015.
- 1.1.2 The first year of operation was evaluated and reported in the *'Knowsley Council 12 Month review, 2015-16'*.
- 1.1.3 The purpose of the 12-month review was to;
- Demonstrate a reduction in the duration of works.
  - Demonstrate a reduction in the number of Permit applications (through an increase in collaborative working).
  - Report the monitored Key Performance Indicators (KPI 1, KPI 2, KPI 3 & KPI 7).
  - Re-evaluate the Cost Benefit Assessment to show an economic return on the investment.
  - Report the annual scheme benefit to all road users.
- 1.1.4 The reduction in number of works across the network was significant at 43% overall. There was a 55% reduction in the number of highway works and a 26% reduction in the number of utility works. This equated to over 21,000 fewer days worked on the network in year 1
- 1.1.5 The financial benefit to road users of the Permit Scheme in year 1 is calculated at **£3.1M per annum**. This saving equated to approximately 25% of the overall cost of works calculated in the CBA (£13.1M per annum total cost to road users).

### 1.2 Year 3 Review

- 1.2.1 The operation of the second year was evaluated and reported in the report *'Knowsley Council Year 2 Review, 2016-17'*.
- 1.2.2 There was a further reduction in average duration in year 2 at 3.9 days; a 17% reduction compared with performance prior to introducing the Scheme. The financial benefit to road users of the Permit Scheme in year 2 was calculated at **£3M per annum**.
- 1.2.3 Following the third anniversary of the Permit Scheme on 1<sup>st</sup> April 2018, GK-TC has been commissioned to undertake a detailed review of the operation during year 3 and to determine whether benefits achieved in years 1 and 2 have been maintained.
- 1.2.4 Chapter 2 presents the analysis of the permit applications and actual durations. The review of the key performance indicators is reported in Chapter 3.
- 1.2.5 Chapter 4 presents the report summary, conclusions and recommendations.



## 2 PERMIT APPLICATIONS

### 2.1 Methodology

2.1.1 Data sources available for this review are:

- Permit Scheme work stops notices, April 2015 – March 2016 Year 1 (Symology database)
- Permit Scheme work stops notices, April 2016 – March 2017 Year 2 (Symology database)
- Permit Scheme work stops notices, April 2017 – March 2018 Year 3 (Symology database)
- Key Performance Indicators (KPI) reports, April 2015 – March 2018

2.1.2 This review assesses the year on year change in the number of Permit applications and to review the breakdown of key metrics. The purpose of the review is to quantify the benefit of the Permit Scheme in terms of a reduction in number of days worked on the road network.

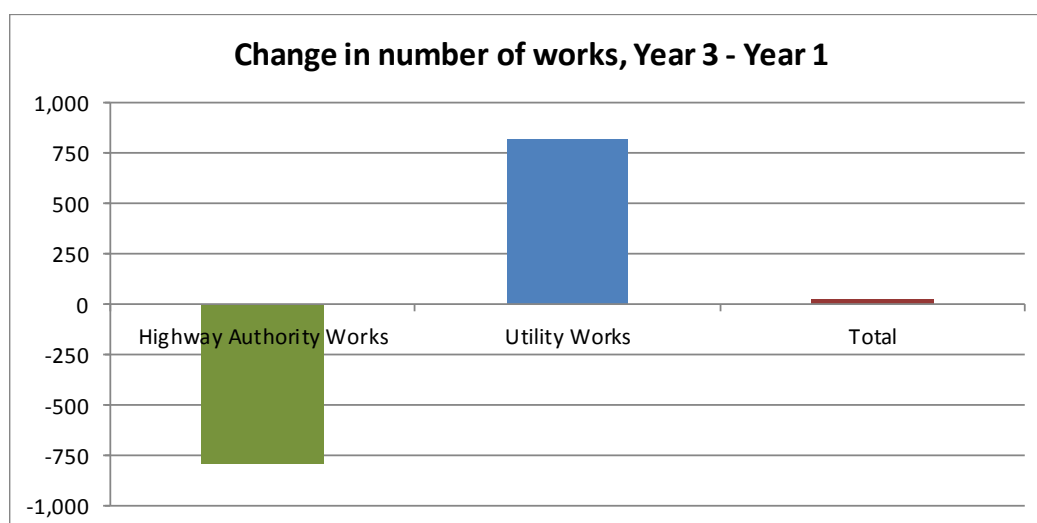
### 2.2 All works

2.2.1 The following series of charts and tables present a comparison of the third year under the Permit Scheme with year 1 and year 2 data records.

2.2.2 The total number of Permit applications and a breakdown by highway authority and utility company is shown in Table 1 and the accompanying chart.

**Table 1 Number of Permit applications**

PROMOTER TYPE	Year 1 2015-16	Year 2 2016-17	Year 3 2017-18	Diff Yr 3 - Yr 1
Highway Authority Works	2,136	1,293	1,346	-790
Utility Works	2,765	3,080	3,582	817
<b>Total</b>	<b>4,901</b>	<b>4,373</b>	<b>4,928</b>	<b>27</b>

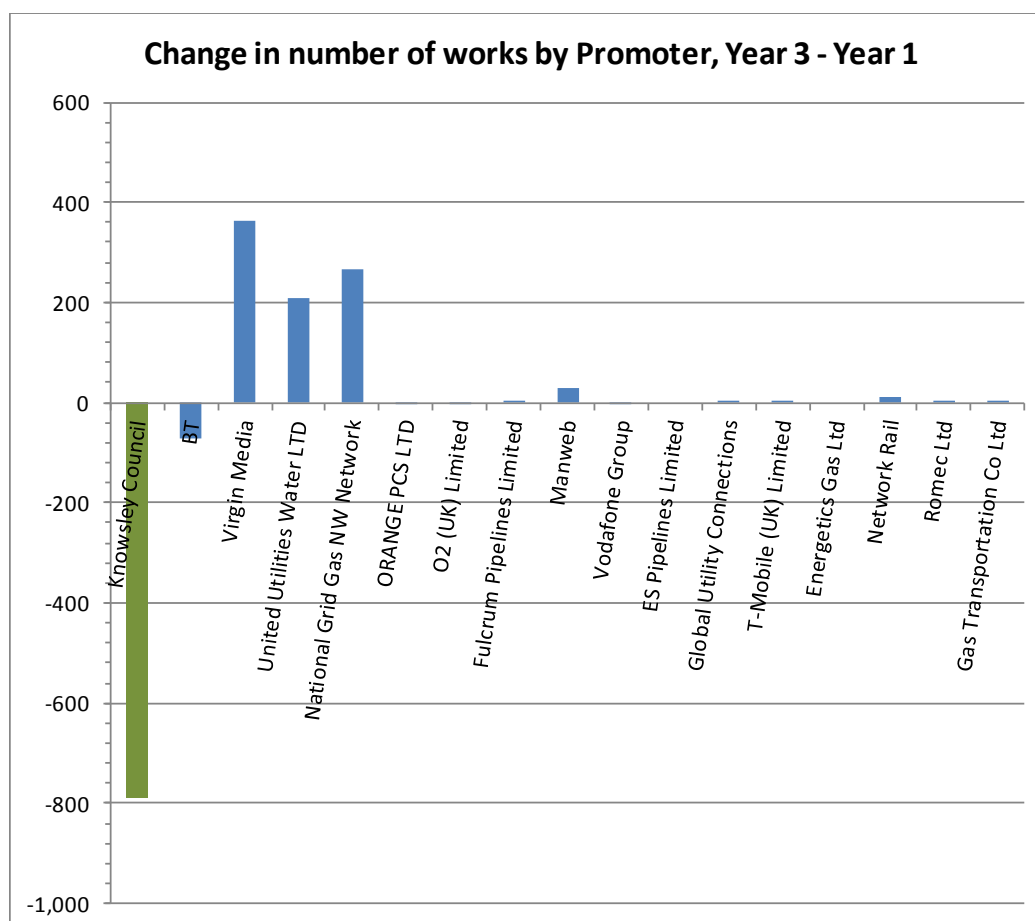




- 2.2.3 The number of highway authority works has reduced by 790 compared with year 1. There is a corresponding increase in the number of utility works, from 2,765 to 3,582. The overall number of works in year 3 is consistent with year 1 numbers.
- 2.2.4 The number of utility works has increased by 30% compared with year 1 and by 16% compared with year 2.
- 2.2.5 The change in number of Permit applications by works promoter is presented in Table 2 and the accompanying chart.

**Table 2 Change by works promoter**

PROMOTER	Year 1 2015-16	Year 2 2016-17	Year 3 2017-18	Diff Yr 3 - Yr 1
Knowsley Council	2,136	1,293	1,346	-790
BT	447	462	375	-72
Virgin Media	531	536	894	363
United Utilities Water LTD	912	1,104	1,121	209
National Grid Gas NW Network	331	309	598	267
ORANGE PCS LTD	2			-2
O2 (UK) Limited	4	2	1	-3
Fulcrum Pipelines Limited	8	7	12	4
Manweb	486	568	515	29
Vodafone Group	27	28	25	-2
ES Pipelines Limited	5	15	5	
Global Utility Connections	1	4	4	3
T-Mobile (UK) Limited	5	13	9	4
Energetics Gas Ltd	1	4	1	
Network Rail	3	23	14	11
Romec Ltd		4	2	2
Gas Transportation Co Ltd	2	1	6	4
<b>Total</b>	<b>4,901</b>	<b>4,373</b>	<b>4,928</b>	<b>27</b>

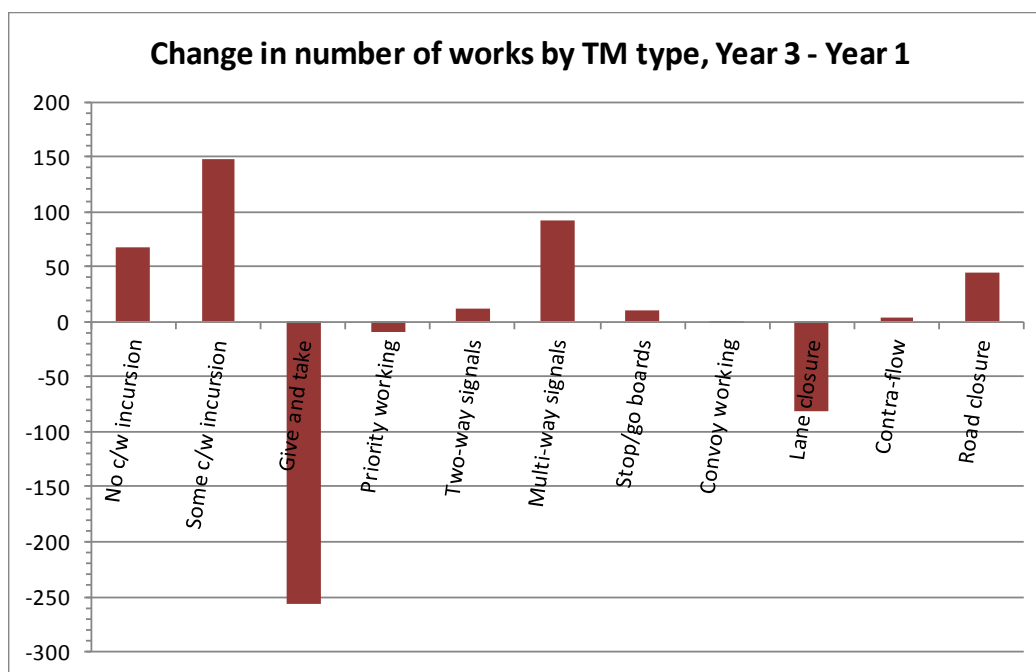


- 2.2.6 Following the introduction of the Permit Scheme the number of works carried out by utility promoters reduced from 3,732 to 2,765 in year 1. The total number of utility works is back to within 4% of the number recorded prior to the introduction of the Permit Scheme.
- 2.2.7 The number of works completed by United Utilities Water, Virgin Media and Cadent has increased by 209, 363 and 267, respectively.
- 2.2.8 The number undertaken by United Utilities Water is consistent with the number recorded in year 2. Virgin Media and Cadent show a 70% to 80% increase in the number of works compared with the year 1 and year 2 records.
- 2.2.9 Other than these large changes, the variation in number of works by other utility works promoters are not felt to be significant and are generally indicative of the small fluctuations to be expected year on year.
- 2.2.10 The analysis is presented for applications by all works promoters in the following pages. The same analysis is presented separately in Appendix A for highway authority works and utility company works.
- 2.2.11 Table 3 and the accompanying chart presents a comparison of the change in number of all works applications by traffic management type.



**Table 3 Number of applications by traffic management type**

TRAFFIC MANAGEMENT TYPE	Year 1 2015-16	Year 2 2016-17	Year 3 2017-18	Diff Yr 3 - Yr 1
No c/w incursion	1,276	1,107	1,343	67
Some c/w incursion	1,221	1,130	1,368	147
Give and take	1,337	1,050	1,080	-257
Priority working	27	23	18	-9
Two-way signals	219	254	231	12
Multi-way signals	138	227	230	92
Stop/go boards	130	146	140	10
Convoy working	1			-1
Lane closure	442	296	360	-82
Contra-flow		1	3	3
Road closure	110	139	155	45
<b>Total</b>	<b>4,901</b>	<b>4,373</b>	<b>4,928</b>	<b>27</b>



- 2.2.12 There are no significant changes in traffic management types between years 1, 2 and 3.
- 2.2.13 There are small increases year on year in the number of works operating with multi-way signals and road closures. These increases are primarily a result of an increase in the number of highway authority works specified with these traffic management types.
- 2.2.14 The 30% increase in the number of utility works results in an increase in the number of works across all traffic management types, with 85% of the additional 817 works specified with Some Carriageway Incursion or Give and Take traffic management.



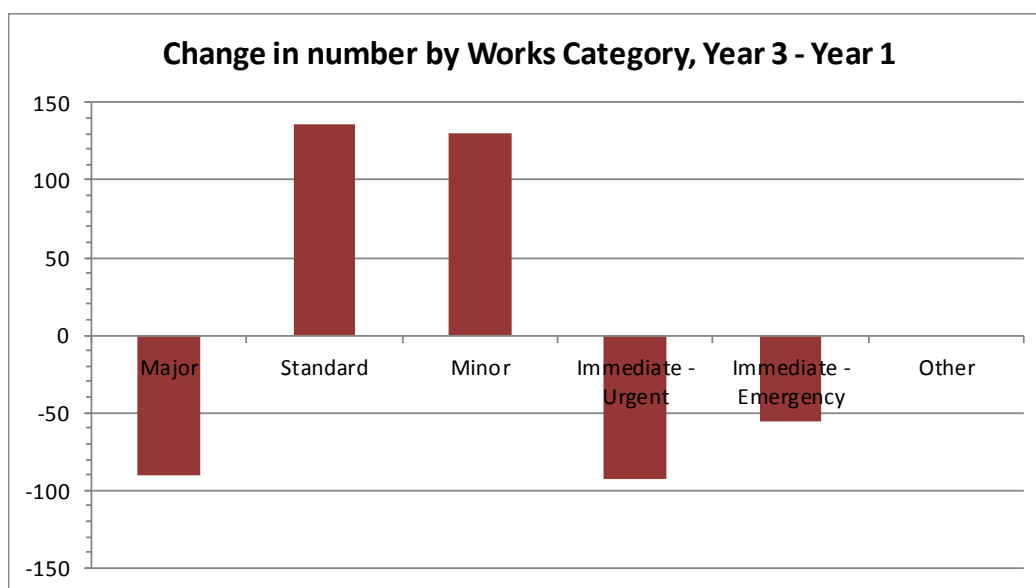


2.2.15 Other changes would appear to amount to small year on year fluctuations only, with no significant change during the first three years of operation.

2.2.16 The total number of Permit applications by Works Category is shown in Table 4 and the accompanying chart.

**Table 4 Applications by works category**

WORKS STOPPED	Year 1 2015-16	Year 2 2016-17	Year 3 2017-18	Diff Yr 3 - Yr 1
Major	401	188	311	-90
Standard	361	342	497	136
Minor	3,184	2,913	3,314	130
Immediate - Urgent	753	763	660	-93
Immediate - Emergency	202	167	146	-56
Other				
<b>Total</b>	<b>4,901</b>	<b>4,373</b>	<b>4,928</b>	<b>27</b>



2.2.17 There were 27 more works completed in year 3 compared with year 1; an increase of only 0.6%. Overall the changes in number carried out within each category are relatively small at +/- 136 works.

2.2.18 The highway authority record shows 199 fewer Major works, which is partially offset by an additional 109 Major utility works. This is an almost threefold increase in the number of Major works completed by utilities in year 3.

2.2.19 The pattern is similar for Minor works; with 530 fewer highway works and 660 more utility works, resulting in a 130 net increase overall.

2.2.20 There is a 37% increase in the number of Standard works, again entirely attributable to the additional 173 utility works.

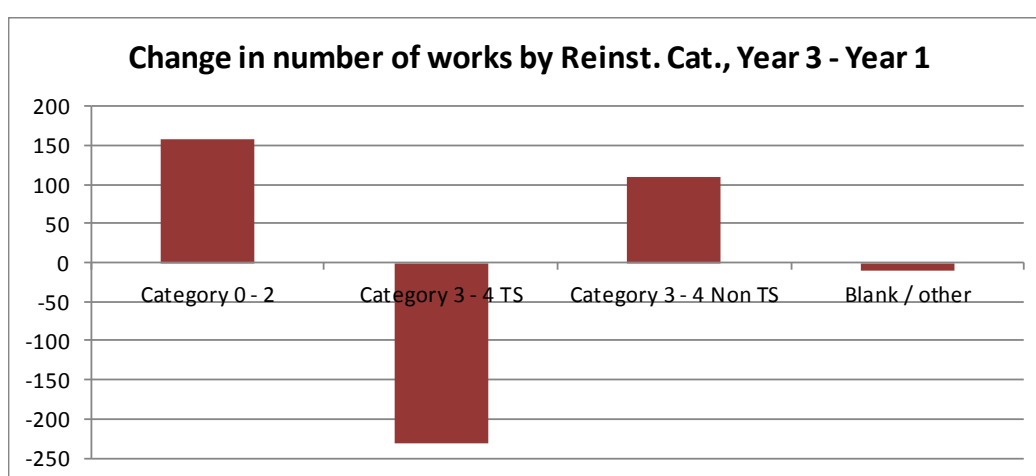
2.2.21 There are small reductions in the number of Immediate works completed in year 3.



2.2.22 The total number of Permit applications by reinstatement category type is shown in Table 5 and the accompanying chart.

**Table 5 Number by reinstatement category type**

REINSTATEMENT CATEGORY	Year 1 2015-16	Year 2 2016-17	Year 3 2017-18	Diff Yr 3 - Yr 1
Category 0 - 2	1,126	1,097	1,283	157
Category 3 - 4 TS	1,320	1,138	1,090	-230
Category 3 - 4 Non TS	2,429	2,118	2,539	110
Blank / other	26	20	16	-10
<b>All works</b>	<b>4,901</b>	<b>4,373</b>	<b>4,928</b>	<b>27</b>



2.2.23 Similarly, there are relatively small changes in the number of works undertaken on each street type.



2.2.24 Table 6 shows a comparison of the average works duration for all works.

**Table 6 Average works duration**

DURATION	Year 1 2015-16	Year 2 2016-17	Year 3 2017-18	Diff Yr 3 - Yr 1
Average duration (days)	4.7	3.9	3.9	-0.8
<b>Total number of days worked</b>	<b>22,906</b>	<b>17,045</b>	<b>19,321</b>	<b>-3,585</b>

2.2.25 The overall reduction in average duration in year 2 was significant; reducing from 4.7 days to 3.9 days between year 1 and 2. This reduction is maintained in year 3. This a 17% reduction in average works duration compared with year 1 and a 24% reduction compared with average durations before the introduction of the Permit Scheme.

2.2.26 The reduction constitutes 3,585 fewer days worked compared with year 1, an overall 16% reduction in working days.

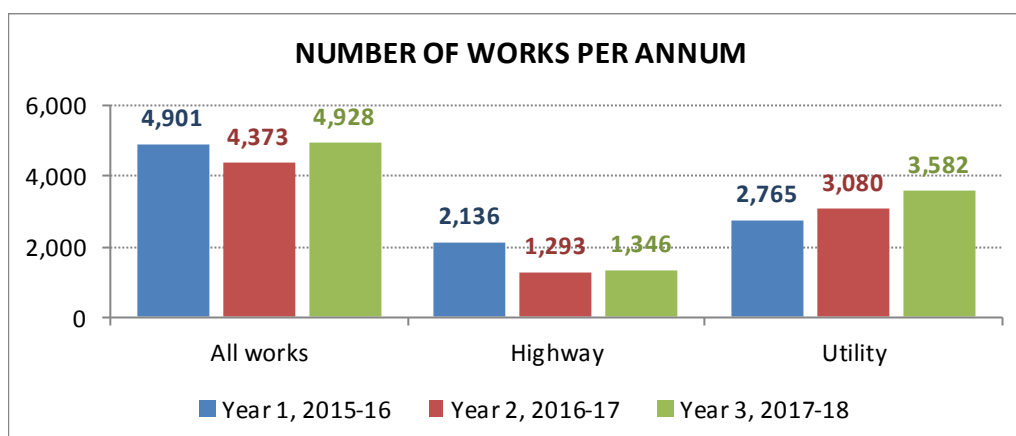
2.2.27 Reviewing the highway authority works durations – Table A.3 in Appendix A.1 - shows a reduction in average duration (from 5.9 to 4.0 days). This is primarily due to the large reduction in the average duration of Major and Standard works, reducing by 6.1 days and 7.2 days, respectively.

2.2.28 The average duration of utility works has increased marginally from 3.8 days to 3.9 days. Table A.8 in Appendix A.2 shows the increase is primarily a result of an increase in the average duration of Major and Standard works; by 5.0 days and 1.2 days, respectively.

***Recommendation 01: Monitor the duration of utility works promoters Major and Standard works to identify if reductions in average duration can be achieved in year 4.***

### 2.3 Scheme Benefit

2.3.1 Figure 1 presents the number of works per annum during the first three years of operation following the introduction of the Permit Scheme.

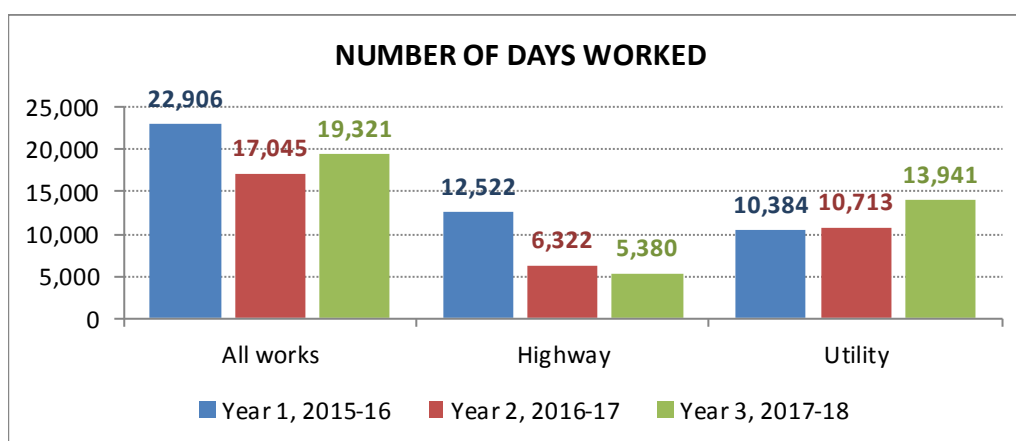


**Figure 1 Number of works per annum**

2.3.2 The number of works completed across the network is only marginally higher in year 3.



- 2.3.3 There is a 37% reduction in the number of highway works but a 30% increase in the number of utility works compared with year 1.
- 2.3.4 The average duration for utility works has increased very slightly. This combined with the 30% overall increase in number of utility works completed, resulted in 34% increase the total number of days worked by utility promoters.
- 2.3.5 The number of days worked on highway authority schemes has reduced by 57% compared with year 1, due mainly to a 40% reduction in the number of works undertaken but also a significant reduction in average works duration from 5.9 days to 4.0 days.
- 2.3.6 This equates to over 3,585 fewer days worked on the network by all promoters in the last year (16% reduction overall).



**Figure 2 Number of days worked per annum**

- 2.3.7 The CBA business case calculated the cost per day for each traffic management type on each street type. Since the majority of the reduction in days worked numbers is accounted for on non-traffic sensitive streets and for short duration Minor and Immediate works, the monetary value of the benefit to road users of the Permit Scheme in year 3 is calculated as:
  - Average monetary cost of works per day, £199 (source: CBA report 2010 prices, average cost of impact for all works involving some form give & take traffic management on low flow roads)
  - Number of days saved under Permit Scheme compared with 2013 Noticing benchmark, 12,081 \*
  - **Monetary value of benefit to road users, £2.4M per annum**

*\* the saving in days worked is calculated for utility works only to avoid overstating the benefits due to fewer highway authority maintenance works being undertaken (26,022 – 13,941 = 12,081 days saved).*
- 2.3.8 This saving equates to approximately 20% of the overall cost of works calculated in the CBA (£13.1M per annum total cost to road users).
- 2.3.9 The saving calculated due to the improved performance of utility works promoters is lower than years 1 and 2 (£3.1M per annum saving), but this is a result of the 30% increase in the number of works completed by utilities.



## 2.4 Conclusions

- 2.4.1 The number of highway authority works has reduced by 790 compared with year 1. The number of utility works has increased by 30% compared with year 1 and by 16% compared with year 2.
- 2.4.2 The total number of utility works is back to within 4% of the number recorded prior to the introduction of the Permit Scheme. The overall number of works in year 3 is consistent with year 1 numbers.
- 2.4.3 The number of works completed by United Utilities Water, Virgin Media and Cadent has increased by 209, 363 and 267, respectively. The number undertaken by United Utilities Water is consistent with the number recorded in year 2. Virgin Media and Cadent show a 70% to 80% increase in the number of works compared with the year 1 and year 2 records.
- 2.4.4 Other than these large changes, the variation in number of works by other utility works promoters are not felt to be significant and are generally indicative of the small fluctuations to be expected year on year.
- 2.4.5 The overall reduction in average duration in year 2 was significant; reducing from 4.7 days to 3.9 days between year 1 and 2. This reduction is maintained in year 3. This a 17% reduction in average works duration compared with year 1 and a 24% reduction compared with average durations before the introduction of the Permit Scheme.
- 2.4.6 The reduction constitutes 3,585 fewer days worked compared with year 1, an overall 16% reduction in working days. This due in part to the large reduction in the average duration of Major and Standard works, reducing by 6.1 days and 7.2 days, respectively.
- 2.4.7 To avoid over-stating the Permit Scheme benefits due to the large reduction in highway authority works undertaken, the benefits have been calculated for utility works only. The monetary value of the benefit to road users of the Permit Scheme in year 3 is calculated at **£2.4M per annum**.
- 2.4.8 The 45% reduction in number of days worked by utility promoters is substantially higher than the 5% benefit specified in the DfT guidelines for the business case justification for a move to Permit Schemes.
- 2.4.9 The saving calculated due to the improved performance of utility works promoters is lower than years 1 and 2 (£3.1M per annum saving), but this is a result of the 30% increase in the number of works completed by utilities.



### 3 KPI MONITORING

#### 3.1 Introduction

3.1.1 The four Key Performance Indicators committed for inclusion in the annual review are;

- **KPI 1**, the number of Permit and Permit Variation applications received and a breakdown of the number granted and refused
- **KPI 2**, the number of conditions applied by condition type
- **KPI 3**, the number of approved Permit variations (extensions)
- **KPI 7**, the number of inspections carried out to monitor conditions

3.1.2 The above data should be presented separately for highway authority and utility company applications to demonstrate parity in the application of the Scheme.

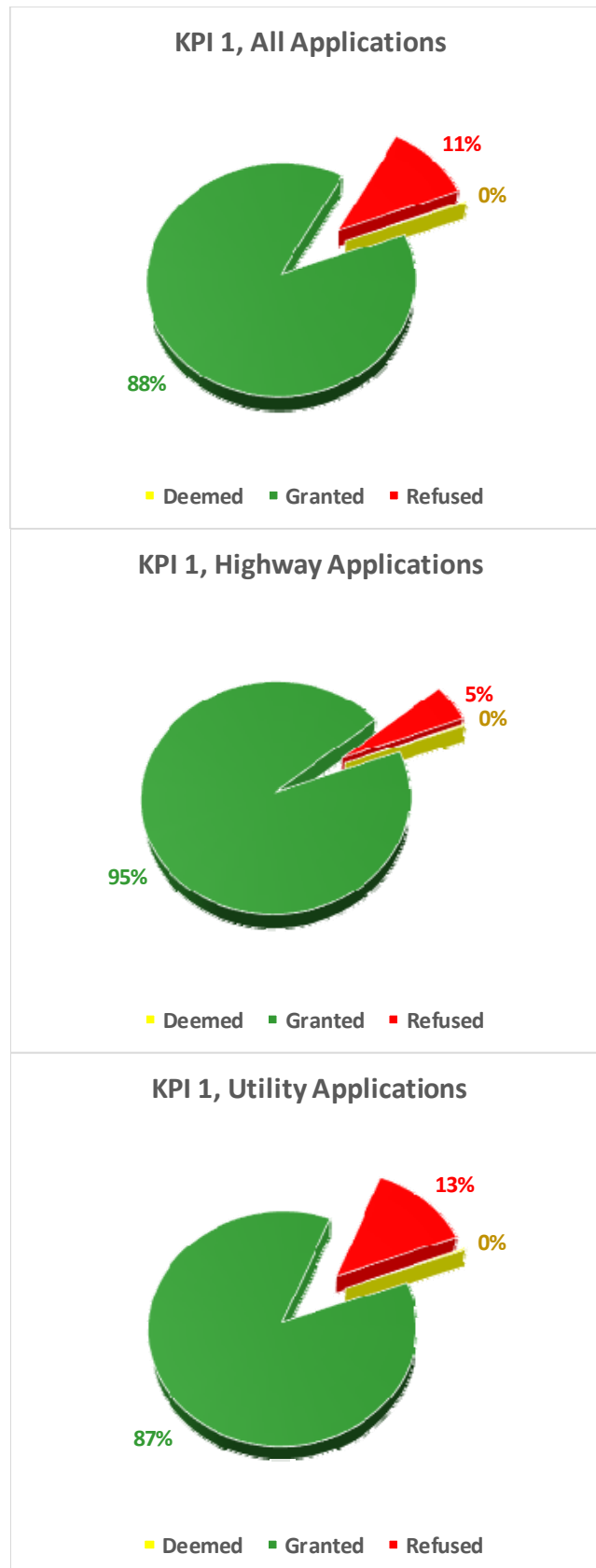
#### 3.2 KPI review

3.2.1 KPI 1 - the number and proportion of Permit and Permit Variation applications received and refused; a breakdown of refusal rate is presented below.

3.2.2 Table 7 and Figure 3 shows the breakdown of number of permit applications and permit variation requests received and the refusal rate.

**Table 7 KPI 1, Permit and Variation applications received and refused**

Promoter	Received	Refused	%
Highway authority	1,798	94	5.2%
Utility	5,982	790	13.2%
ALL	7,780	884	11.4%

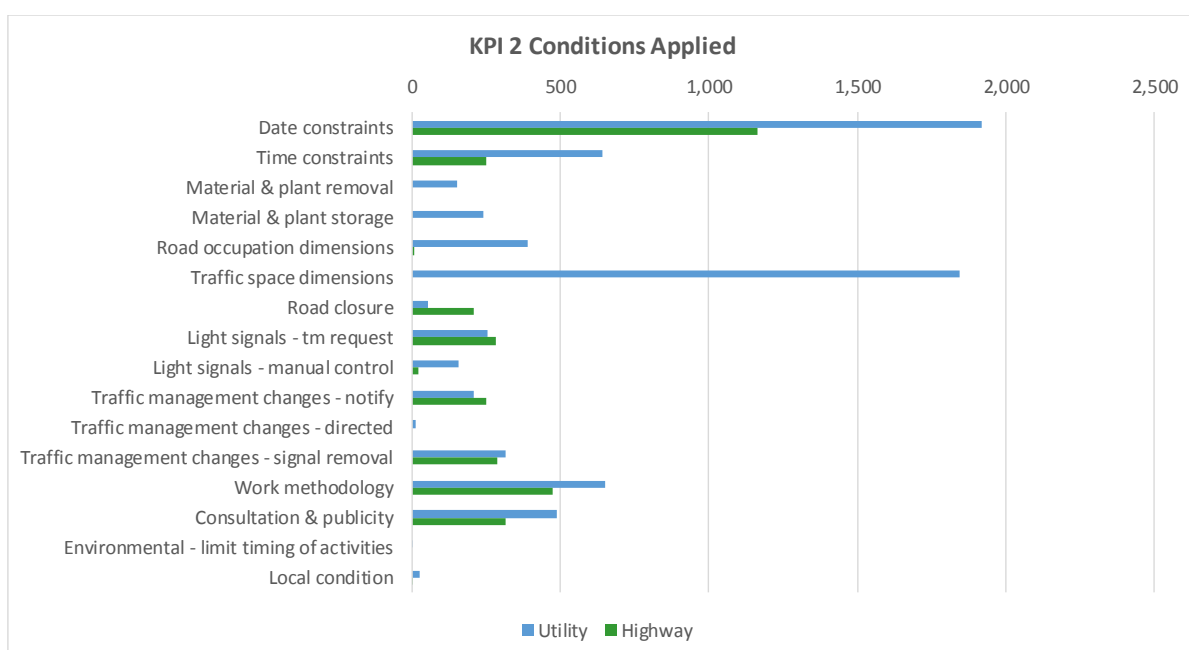


**Figure 3: KPI 1, Permit and Variation Applications**



- 3.2.3 KPI 1 – Approximately one eighth (13%) of all permit and permit variation applications by statutory undertakers were refused. 11% of all applications are refused. This is a slight increase compared with year 2, when 11% of utility applications and 9% of all applications were refused. The refusal rate is broadly the same as in year 1.
- 3.2.4 19 permit applications were deemed in year 2 – 4 highway authority applications and 15 utility works promoter applications, compared with 51 permit applications deemed in year 2.
- 3.2.5 KPI 2 – the number of conditions applied by condition type; a breakdown of the number of conditions applied by condition type for highway and utility permit applications is shown in Figure 4.

All Conditions	Utility	Highway	All
TOTAL	7,359	3,253	10,612
	69%	31%	



**Figure 4: KPI 2, Conditions Applied**

- 3.2.6 The number of conditions reported has increased slightly by 11% compared with year 2. The proportion of conditions applied to utility and highway authority works promoters is unchanged, however.
- 3.2.7 Approximately two thirds of the conditions applied relate to applications by utility promoters. The remainder apply to highway authority applications.
- 3.2.8 KPI 3 – number of approved extensions; the following figures show the number of extensions granted and refused, for all promoters, and separately for highway authority applications and for statutory undertakers.
- 3.2.9 Only 3 requests for permit extensions were refused in the third year of the Scheme; all 3 by statutory undertakers. This is the same number refused in year 2. The number of applications for extensions in year 3 is only slightly higher than year 2, at 277 applications compared with 267. Highway authority applications reduced from 93 to 74. Utility applications show a further increase from 174 to 203.



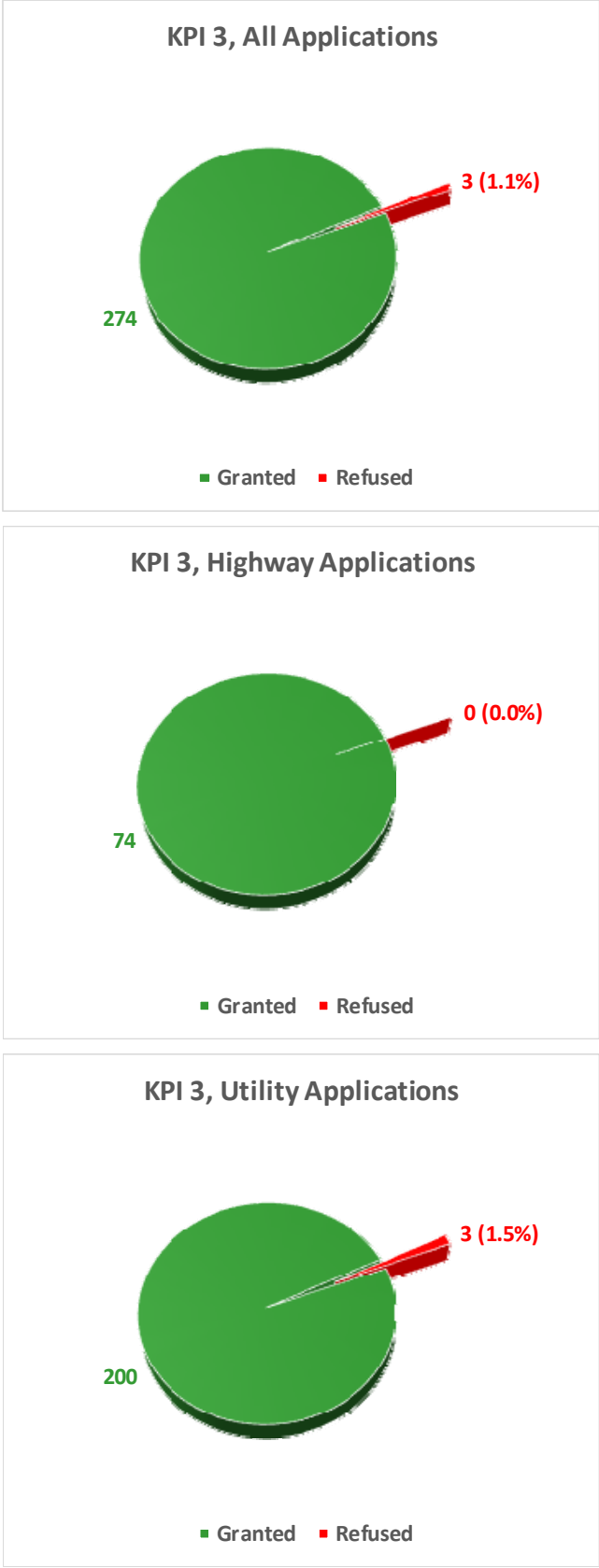


Figure 5: KPI 3, Permit Extensions



3.2.10 KPI 7 - the Number of Inspections carried out to monitor conditions. During the year 216 inspections have been carried out to monitor permit conditions and from these inspections only 2 passed. 214 (99%) were found to be non-compliant, see Table 8 below.

**Table 8 Number of inspections carried out to monitor conditions**

Permit Condition Inspections	Passed	Non-Compliant	Abortive	Number of Inspections	Fail %
Highway authority	0	4	0	4	100%
Utility	55	329	0	384	86%
ALL	55	333	0	388	86%

Permit Condition Inspections	Passed	Non-Compliant	Abortive	Number of Inspections	Fail %
Highway authority	0	0	0	0	
Utility	0	172	0	172	100%
ALL	0	172	0	172	100%

3.2.11 For the first 2 years, only permit condition failures were recorded in Symology and nothing has been recorded for those that pass.

3.2.12 The Year 2 Review recommended consideration was given to recording passes for highway authority and utility inspections during year 3.

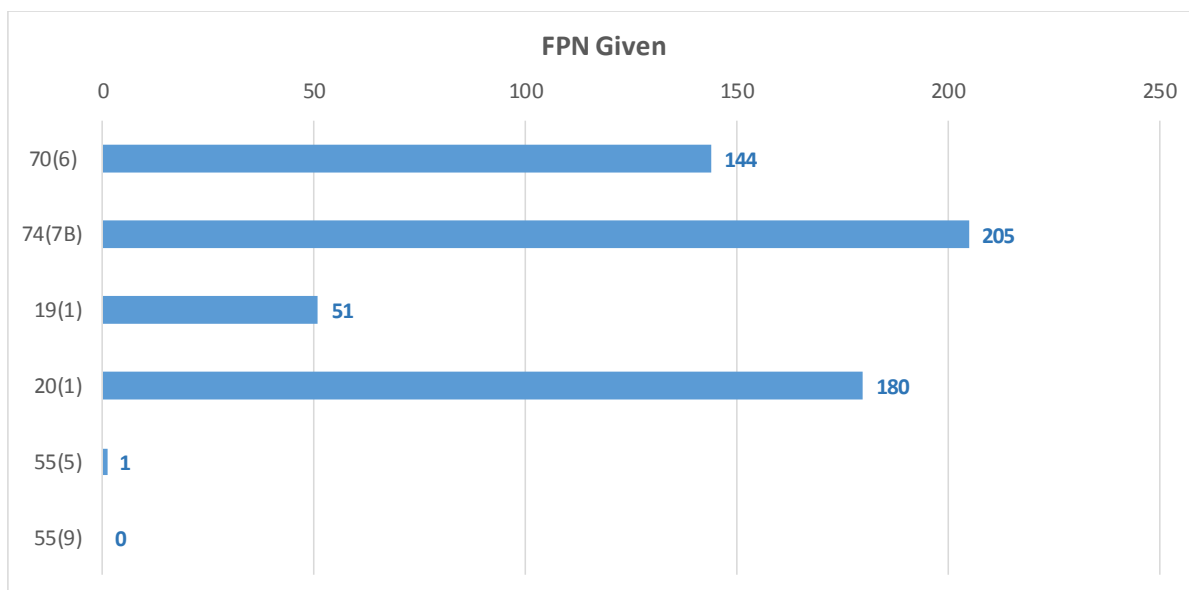
3.2.13 The inspectors started recording some passes for utility inspections in the second half of the year. 55 passes were recorded for utility inspections.

3.2.14 The number of non-compliant inspections recorded increased from 172 in year 2 to 333. The number of inspections recorded has more than doubled.

3.2.15 The recommendation following the Year 2 Review to record all permit inspections regardless of pass or failure should be carried forward to next year.

***Recommendation 02 (on-going): Continue to record inspections passed for and highway authority permits in year four.***

3.2.16 581 fixed penalty notices (FPN) have been given during year 3, compared with 570 in year 1 and 514 in year 2.



**Figure 6: Fixed Penalty Notices Issued**

- 3.2.17 The FPN figures for 70 (6), 74 (7B), 55 (5), and 55 (9) are consistent with those from previous years.
- 3.2.18 51 FPN were given for working without a permit (offence code 19 (1)) and 180 given for a breach of permit conditions (offence code 20 (1)), compared with 61 and 175 in year 2.
- 3.2.19 It is the Council's intention to continue to monitor these more closely throughout year 4 with a view to working with works promoters to identify and resolve potential issues.

***Recommendation 03 (on-going): Continue to monitor site inspection failures and FPN issued for breach of permit conditions in year 4. Meet with poor performing utilities if necessary, to promote performance improvements.***

### 3.3 Conclusions

- 3.3.1 **KPI 1**, the number of Permit and Permit Variation applications received and a breakdown of the number granted and refused; approximately one eighth (13%) of all permit and permit variation applications by statutory undertakers were refused. 11% of all applications are refused. The refusal rate is broadly the same as in year 1.
- 3.3.2 **KPI 2**, the number of conditions applied by condition type; the number of conditions reported has increased slightly by 11% compared with year 2. The proportion of conditions applied to utility and highway authority works promoters is unchanged, however.
- 3.3.3 **KPI 3**, the number of approved Permit variations (extensions); only 3 requests for permit extensions were refused in the third year of the Scheme; all 3 by statutory undertakers. This is the same number refused in year 2. The number of applications for extensions in year 3 is only slightly higher than year 2.
- 3.3.4 **KPI 7**, the number of inspections carried out to monitor conditions; the number of non-compliant inspections recorded increased from 172 in year 2 to 333. The number of inspections recorded has more than doubled.
- 3.3.5 The Year 2 Review recommended consideration was given to recording passes for highway authority and utility inspections during year 3. The inspectors



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- 3.3.6 581 fixed penalty notices (FPN) have been given during year 3, compared with 570 in year 1 and 514 in year 2. 51 FPN were given for working without a permit and 180 given for a breach of permit conditions, compared with 61 and 175 in year 2.



## 4 CONCLUSIONS

### 4.1 Summary

- 4.1.1 Following the third anniversary of the Permit Scheme on 1<sup>st</sup> April 2018, GK-TC has been commissioned to undertake a detailed review of the operation during year 3 and to determine whether benefits achieved in years 1 and 2 have been maintained.
- 4.1.2 The operation of the second year of operation is evaluated and reported in this report '*Knowsley Council Year 3 Review, 2017-18*'.
- 4.1.3 The purpose of the review is to;
- Demonstrate a reduction in the duration of works.
  - Demonstrate a reduction in the number of Permit applications (through an increase in collaborative working).
  - Report the monitored Key Performance Indicators (KPI 1, KPI 2, KPI 3 & KPI 7).
  - Re-evaluate the Cost Benefit Assessment to show an economic return on the investment.
  - Report the annual scheme benefit to all road users.
- 4.1.4 The Council plan to undertake this review annually.

### 4.2 Scheme benefits

- 4.2.1 The number of highway authority works has reduced by 790 compared with year 1. The number of utility works has increased by 30% compared with year 1 and by 16% compared with year 2. The total number of utility works is back to within 4% of the number recorded prior to the introduction of the Permit Scheme. The overall number of works in year 3 is consistent with year 1 numbers.
- 4.2.2 The number of works completed by United Utilities Water, Virgin Media and Cadent has increased by 209, 363 and 267, respectively. The number undertaken by United Utilities Water is consistent with the number recorded in year 2. Virgin Media and Cadent show a 70% to 80% increase in the number of works compared with the year 1 and year 2 records.
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- 4.2.5 The reduction constitutes 3,585 fewer days worked compared with year 1, an overall 16% reduction in working days. This due in part to the large reduction in the average duration of Major and Standard works, reducing by 6.1 days and 7.2 days, respectively.
- 4.2.6 To avoid over-stating the Permit Scheme benefits due to the large reduction in highway authority works undertaken, the benefits have been calculated for



utility works only. The monetary value of the benefit to road users of the Permit Scheme in year 3 is calculated at **£2.4M per annum**.

- 4.2.7 The 45% reduction in number of days worked by utility promoters is substantially higher than the 5% benefit specified in the DfT guidelines for the business case justification for a move to Permit Schemes.
- 4.2.8 The saving calculated due to the improved performance of utility works promoters is lower than years 1 and 2 (£3.1M per annum saving), but this is a result of the 30% increase in the number of works completed by utilities.

### 4.3 Recommendations

- 4.3.1 One additional recommendation in addition to carrying forward two ongoing recommendations from years 1 and 2, have been made to monitor performance during year 4, to prevent the 3-year benefits being eroded and to drive further improvements across the network;

*Recommendation 01: Monitor the duration of utility works promoters Major and Standard works to identify if reductions in average duration can be achieved in year 4.*

*Recommendation 02 (on-going): Continue to record inspections passed for and highway authority permits in year four.*

*Recommendation 03 (on-going): Continue to monitor site inspection failures and FPN issued for breach of permit conditions in year 4. Meet with poor performing utilities if necessary, to promote performance improvements.*

### 4.4 Conclusions

- 4.4.1 The overall reduction in average duration in year 2 was significant; reducing from 4.7 days to 3.9 days between year 1 and 2. This reduction is maintained in year 3. This a 17% reduction in average works duration compared with year 1 and a 24% reduction compared with average durations before the introduction of the Permit Scheme.
- 4.4.2 This constitutes 3,585 fewer days worked compared with year 1. The monetary value of the benefit to road users of the Permit Scheme in year 3 is approximately £2.4M per annum.
- 4.4.3 There are further benefits derived from reduced occupation of the highway, including;
- improves safety at road and street works
  - reduces noise and air pollution
- 4.4.4 Furthermore, the benefits derived from operating the Permit Scheme include;
- improved coordination of activities
  - improved communication between authority and utility companies
  - improved accuracy of works records recorded in the Register
  - reduction in customer complaints
- 4.4.5 This review has demonstrated that Scheme has achieved its objectives in the third year, as defined in the application documents.

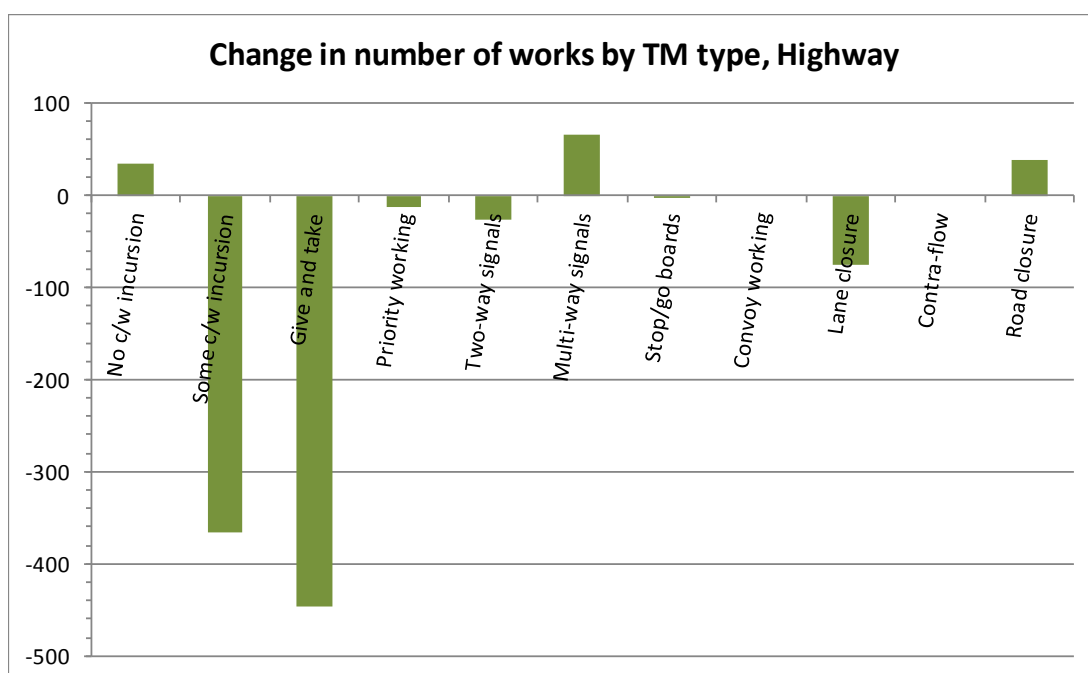
## A. PERMIT APPLICATIONS 2017-18

### A.1 Highway authority works

The number of highway authority applications by traffic management type is shown in Table A.1.

**Table A.1 Number of applications by traffic management type**

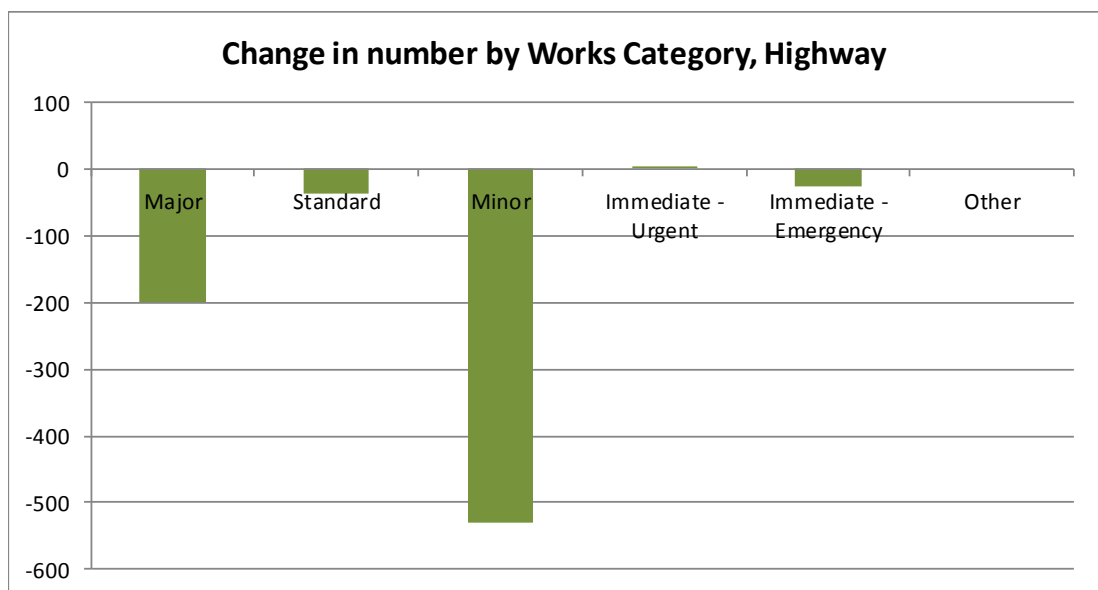
TRAFFIC MANAGEMENT TYPE	Year 1 2015-16	Year 2 2016-17	Year 3 2017-18	Diff Yr 3 - Yr 1
No c/w incursion	54	96	89	35
Some c/w incursion	616	184	249	-367
Give and take	651	278	204	-447
Priority working	20	8	8	-12
Two-way signals	140	127	113	-27
Multi-way signals	80	138	146	66
Stop/go boards	110	111	108	-2
Convoy working				
Lane closure	387	267	312	-75
Contra-flow				
Road closure	78	84	117	39
<b>Total</b>	<b>2,136</b>	<b>1,293</b>	<b>1,346</b>	<b>-790</b>



Other than an increase in the works requiring multi-phase temporary traffic signals, the reduction in the number of each traffic management type is broadly in proportion to the overall reduction in highway works.

**Table A.2 Applications by works category**

WORKS STOPPED	Year 1 2015-16	Year 2 2016-17	Year 3 2017-18	Diff Yr 3 - Yr 1
Major	333	116	134	-199
Standard	88	83	51	-37
Minor	1,660	1,062	1,130	-530
Immediate - Urgent	22	26	24	2
Immediate - Emergency	33	6	7	-26
Other				
<b>Total</b>	<b>2,136</b>	<b>1,293</b>	<b>1,346</b>	<b>-790</b>



The scale of reduction is broadly in line with overall reduction in highway works. However, 200 fewer Major works is a large reduction from year 1 and the number of Minor works has reduced by one third.



**Table A.3 Average works duration**

DURATION	Year 1 2015-16	Year 2 2016-17	Year 3 2017-18	Diff Yr 3 - Yr 1
Average duration (days)	5.9	4.9	4.0	-1.9
<b>Total number of days worked</b>	<b>12,522</b>	<b>6,332</b>	<b>5,380</b>	<b>-7,142</b>

Highway authority works recorded show a significant reduction in average duration from year 1 (from 5.9 to 4.9 days).

The number of days worked on highway authority jobs in year 3 is 60% lower than in year 1 and 75% lower than prior to the introduction of the Scheme.

**Table A.4 Average works duration, by works category****Year 3 Average Works Durations**

MAJOR	STANDARD	MINOR	IMMED. (URGENT)	IMMED. (EMERG.)
23.6	9.8	1.5	1.5	1.3
<b>3,167</b>	<b>501</b>	<b>1,666</b>	<b>37</b>	<b>9</b>

**Year 2 Average Works Durations**

MAJOR	STANDARD	MINOR	IMMED. (URGENT)	IMMED. (EMERG.)
29.7	17.0	1.3	1.1	14.7
<b>3,449</b>	<b>1,407</b>	<b>1,359</b>	<b>29</b>	<b>88</b>

**Difference**

MAJOR	STANDARD	MINOR	IMMED. (URGENT)	IMMED. (EMERG.)
-6.1	-7.2	0.2	0.4	-13.4
<b>-282</b>	<b>-906</b>	<b>307</b>	<b>8</b>	<b>-79</b>

The duration of Major and Standard works has reduced significantly from 29.7 days and 17.0 days in year 2, to 23.6 days and 9.8 days in year 3. This has resulted in almost 1,200 fewer days worked on long duration projects.

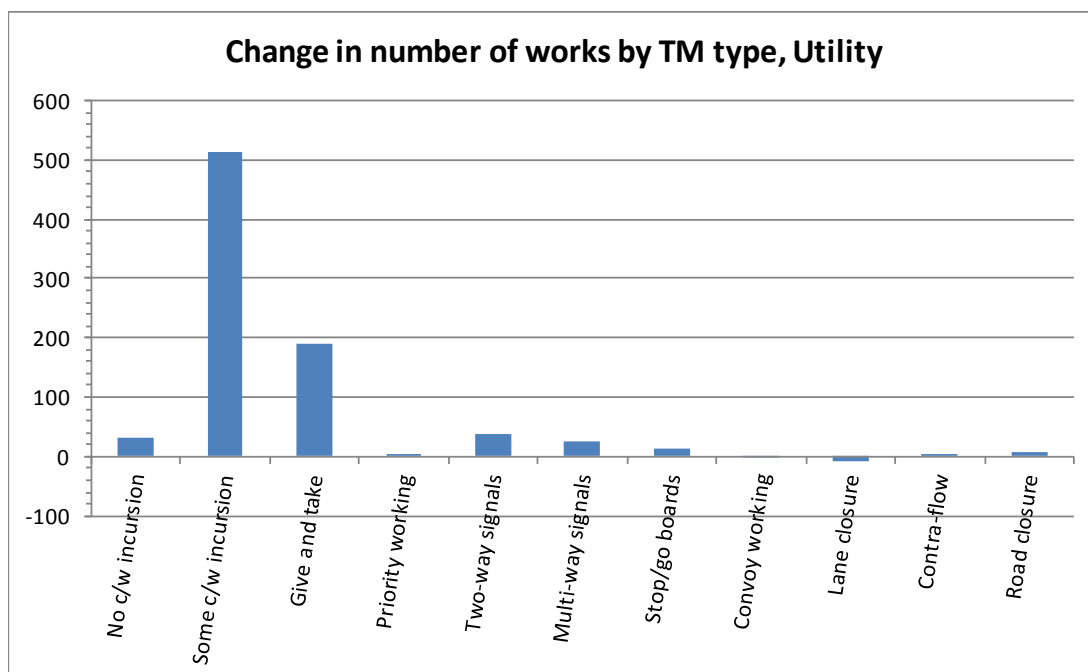
Otherwise, the average durations are within the range expected for each works category.

## A.2 Utility works

The number of utility works applications by traffic management type is shown in Table A.5.

**Table A.5 Number of applications by traffic management type**

TRAFFIC MANAGEMENT TYPE	Year 1 2015-16	Year 2 2016-17	Year 3 2017-18	Diff Yr 3 - Yr 1
No c/w incursion	1,222	1,011	1,254	32
Some c/w incursion	605	946	1,119	514
Give and take	686	772	876	190
Priority working	7	15	10	3
Two-way signals	79	127	118	39
Multi-way signals	58	89	84	26
Stop/go boards	20	35	32	12
Convoy working	1			-1
Lane closure	55	29	48	-7
Contra-flow		1	3	3
Road closure	32	55	38	6
<b>Total</b>	<b>2,765</b>	<b>3,080</b>	<b>3,582</b>	<b>817</b>

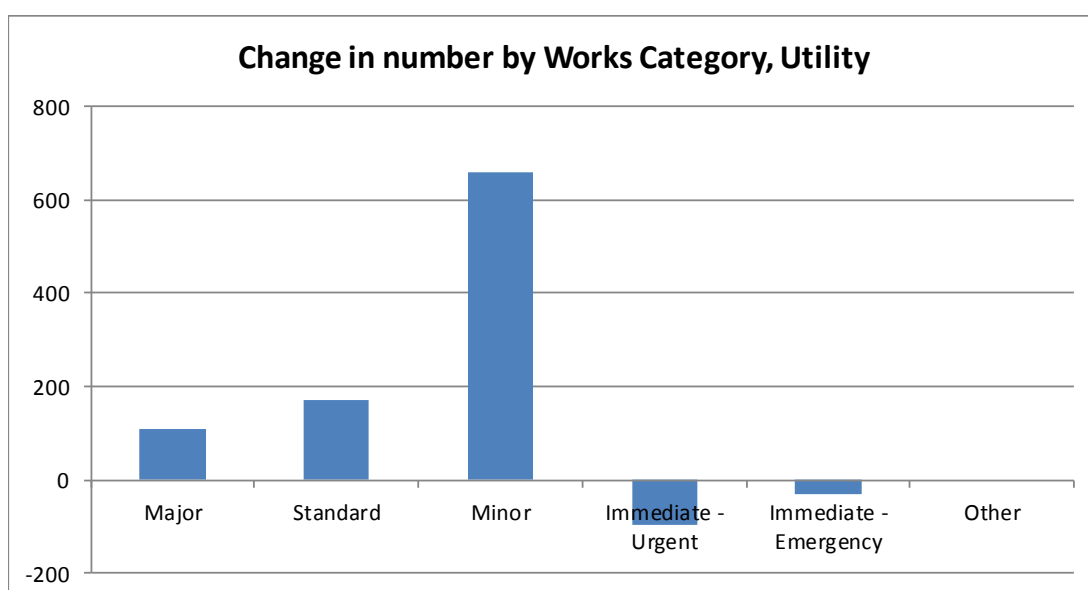


The year 3 traffic management types for utility works show an increase broadly in line with the 30% increase in the number of utility works and the year 3 data is broadly similar to the levels recorded in year 2.

However, there is a large increase in the number of works classified as having some carriageway incursion. An 85% increase over the year 1.

**Table A.6 Applications by works category**

WORKS STOPPED	Year 1 2015-16	Year 2 2016-17	Year 3 2017-18	Diff Yr 3 - Yr 1
Major	68	72	177	109
Standard	273	259	446	173
Minor	1,524	1,851	2,184	660
Immediate - Urgent	731	737	636	-95
Immediate - Emergency	169	161	139	-30
Other				
<b>Total</b>	<b>2,765</b>	<b>3,080</b>	<b>3,582</b>	<b>817</b>



The additional 817 works are predominantly Minor works, but there are smaller but significant increases in the number of Major and Standard works completed by utilities in year 3.

There are no significant changes in the number of other works categories.

**Table A.7 Average works duration**

DURATION	Year 1 2015-16	Year 2 2016-17	Year 3 2017-18	Diff Yr 3 - Yr 1
Average duration (days)	3.8	3.5	3.9	0.1
<b>Total number of days worked</b>	<b>10,384</b>	<b>10,713</b>	<b>13,941</b>	<b>3,557</b>

The average duration of utility works has increased marginally from 3.8 days to 3.9 days.

Table A.8 below shows the increase is primarily a result of an increase in the average duration of Major and Standard works; by 5.0 days and 1.2 days, respectively. A recommendation has been included to monitor the duration of

utility works promoters Major and Standard works in year 4 to identify if reductions in average duration can be achieved.

**Table A.8 Average works duration, by Works Category**

**Year 3 Average Works Durations**

MAJOR	STANDARD	MINOR	IMMED. (URGENT)	IMMED. (EMERG.)
19.1	8.0	1.8	3.3	6.5
<b>3,388</b>	<b>3,568</b>	<b>3,961</b>	<b>2,115</b>	<b>909</b>

**Year 2 Average Works Durations**

MAJOR	STANDARD	MINOR	IMMED. (URGENT)	IMMED. (EMERG.)
14.1	6.8	2.1	4.1	6.2
<b>1,014</b>	<b>1,765</b>	<b>3,931</b>	<b>3,000</b>	<b>1,003</b>

**Difference**

MAJOR	STANDARD	MINOR	IMMED. (URGENT)	IMMED. (EMERG.)
5.0	1.2	-0.3	-0.8	0.3
<b>2,374</b>	<b>1,803</b>	<b>30</b>	<b>-885</b>	<b>-94</b>

Major works average duration has increased from 14.1 days to 19.1 days.

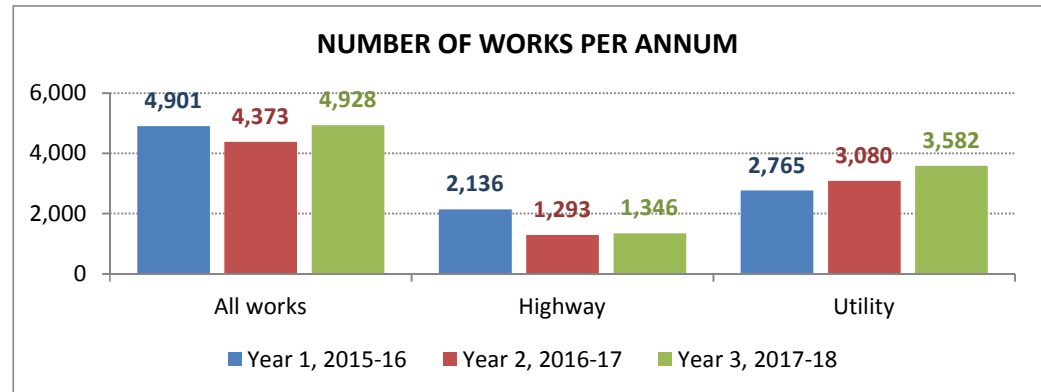
This combined with a near threefold increase in the number of Major works completed by utilities has resulted in an additional 2,374 days worked on Major projects in year 3.

There is a further small increase in the average duration of Standard works.

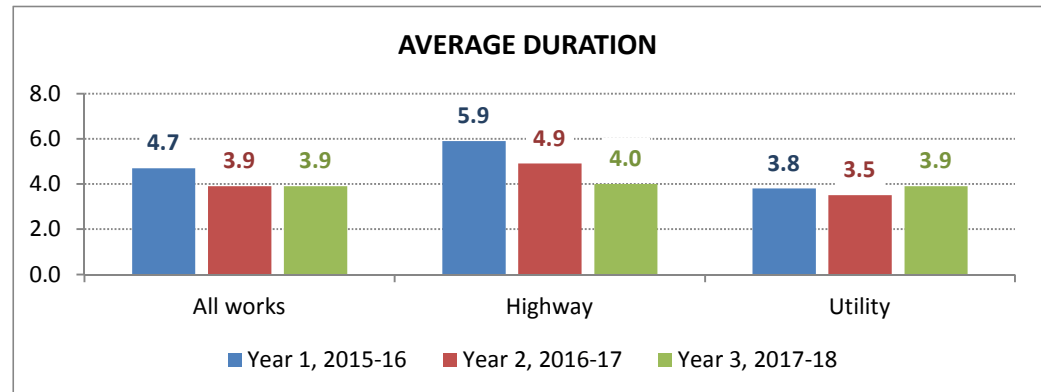
**B. SCHEME BENEFITS**

## SCHEME BENEFITS

NUMBER OF WORKS (number)			
	All works	Highway	Utility
Year 1, 2015-16	4,901	2,136	2,765
Year 2, 2016-17	4,373	1,293	3,080
Year 3, 2017-18	4,928	1,346	3,582
Change, Year 3 - Year 1	27	-790	817
Change (%)	0.6%	-37.0%	29.5%



DURATION (days)			
	All works	Highway	Utility
Year 1, 2015-16	4.7	5.9	3.8
Year 2, 2016-17	3.9	4.9	3.5
Year 3, 2017-18	3.9	4.0	3.9
Change (days)	-0.8	-1.9	0.1



DAYS WORKED (days)			
	All works	Highway	Utility
Year 1, 2015-16	22,906	12,522	10,384
Year 2, 2016-17	17,045	6,322	10,713
Year 3, 2017-18	19,321	5,380	13,941
Change, Year 3 - Year 1	-3,585	-7,142	3,557
Change (%)	-15.7%	-57.0%	34.3%

