



# Coventry City Council Permit Scheme Year 9 Evaluation

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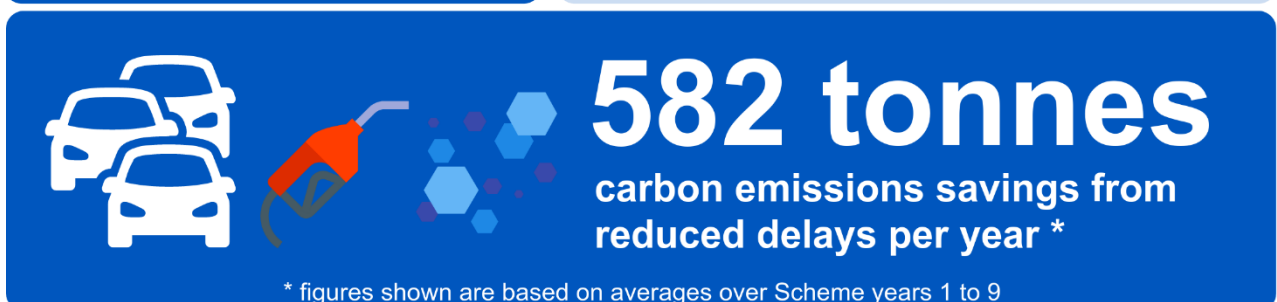
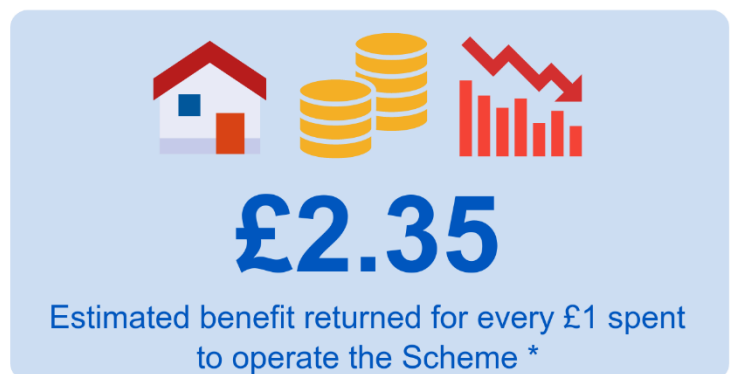
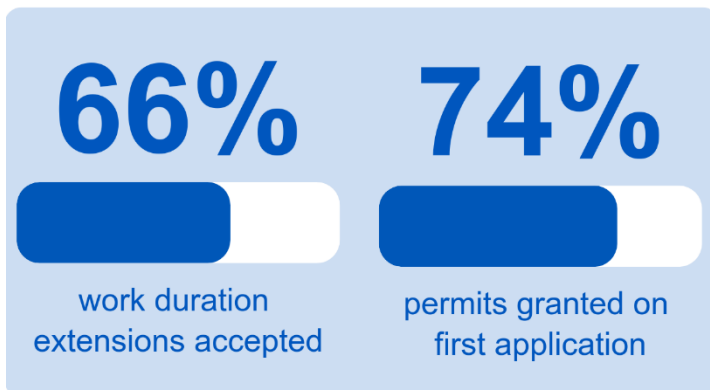
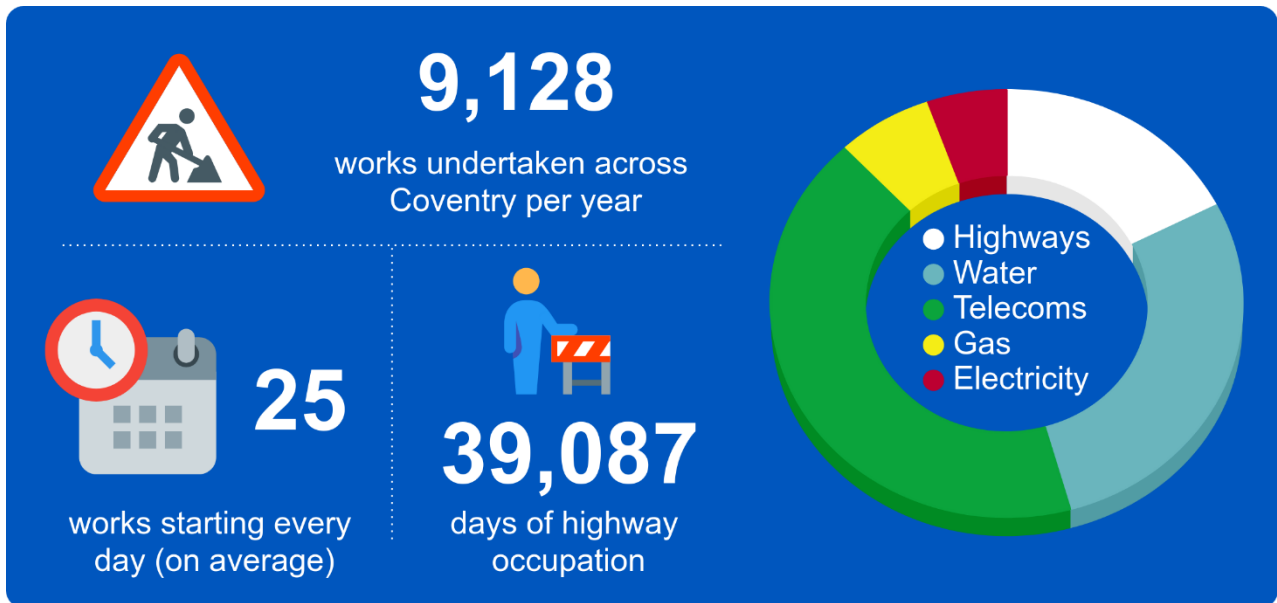
# Foreword

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To Be Completed Prior to publication

## Key Findings

Figures quoted are based on averages over years 2021 to 2023 unless stated otherwise.



# Introduction

## The role of a permit scheme

In 1991 the New Roads and Street Works Act (NRSWA) placed a duty on the Council, as a highway authority, to coordinate activities (works) of all kinds on the highway under the control of that Authority.

In 2004 the Traffic Management Act (TMA) and associated secondary legislation widened the NRSWA coordination duty. The scope of this increased duty has the following main considerations and Part 3 of the TMA allows for an Authority [the Council] to introduce a permit scheme to support the delivery of this duty.

The powers under a permit scheme enable the Council to take a more active involvement in the planning and coordination of works, from the initial planning stages through to completion. This includes:

- organisations book occupation for work instead of giving notice, essentially obtaining a permit for their works;
- any variation to the work needs to be agreed, before and after works have started, including extensions to the duration;
- the Council can apply conditions to work to impose constraints; and
- sanctions with fixed penalty notices for working without a permit or in breach of conditions (of the permit).

These powers enable a Council to deliver a more effective network management service, through the increased capability to control the planning and undertaking of work across their network.

In March 2015 the Council introduced the **Coventry City Council Permit Scheme** (the Permit Scheme) also known as the West and Shires Permit Scheme (WaSPS). The scheme was brought into legal effect through an Order created by the Council under the provisions of the Traffic Management Permit Scheme (England) Regulations.

## Regulatory requirement for a permit scheme evaluation

Permit Scheme Regulations (16A) states that permit schemes [should] be evaluated following the first, second and third anniversary of the scheme's commencement and then following every third anniversary.

The regulation further states that, in its evaluation, the Permit Authority [Council] shall include consideration of:

- whether the fee structure needs to be changed in light of any surplus or deficit;
- the costs and benefits (whether or not financial) of operating the scheme; and
- whether the permit scheme is meeting key performance indicators where these are set out in the Guidance.

This report has been developed by an external consultant, Open Road Associates, for the Council to provide an evaluation for the most recent scheme year (Year 9) with analysis, wherever possible, for the entirety of scheme years 1 to 9 (March 2015 to February 2024 inclusive) and includes the provisions set out within the regulations.

The regulations reference key performance indicators set out in [Statutory] Guidance. A HAUC (England) Advice Note (001/2016) **Report Template for the Evaluation of Permit Schemes** sets out permit scheme measures which have been used for this purpose.

Annex B of this report contains the performance indicator results for each permit scheme year (as available).

# Executive Summary

## Applications

Analysis shows the level of applications for work received from Promoters has been increasing since the start of the Scheme. The highest level of applications received was in the most recent year (2023/24) and represents a 50% increase from the volume received in first scheme year.

Of the total applications received for planned work, on average 1 in 10 are submitted a lower lead time than specified in the Scheme. The submission of these 'early start request' reduces the Councils ability to coordinate these works, as such in the most recent year (2023/24) only 68% of these applications were granted.

## Coordination

Provisional advanced authorisation (PAA) applications are submitted at least 3-months before the start of planned major work. Typically 94% of these are granted, with the Council accepting that these applications are a provisional application, to be confirmed through a follow-up permit, and therefore would only be refused if there is a significant date or planning conflict that cannot be resolved.

Of all permit applications received in Scheme years 7-9, an average 74% are granted, with the remainder being rejected. In the most recent year (2023/24) the proportion of permits granted has decreased compared to previous years. It is likely that this is linked to the overall increase in being applications received and the associated volume of work requiring a greater level of coordination to avoid disruption across the network.

Analysis shows the reasons for refusal vary, however typically these fall within the areas of:

- Missing information or conditions;
- Clash of other planned or active work on the network
- Restrictions in place following a major work, such as road resurfacing.

In recent years, the volume of refusals being issued with a reason of "other" has increased significantly. This limits insight into the specific reasons for a refusal. Investigation into the use of this reason highlighted a process issue, which has been resolved.

Looking at changes made to planned work during the initial application stages shows some positive results. There has been a year-on-year increase in the volume of work undertaken with a condition or traffic management change post-application. Additionally, 1 in 5 works undertaken with a form of collaboration is being added during the planning stage.

## Work

In relation to the increased number of applications, there has also been an increase in the number of works undertaken - primarily from the telecom and water sectors.

Telecom works includes roll-out of broadband during as part of the CityFibre network delivery (2020-2-22) and for the Virgin network expansion (from 2023). The water sector increase is attributed to Severn Trent work as part of the Green Recovery Scheme. It is anticipated that these volumes will continue for the foreseeable future as fibre networks are further expanded and the Green Recovery Scheme is completed (end 2026).

The section of highway impacted by work and the traffic management being deployed shows an overall increase in work off the carriageway and within the footway. This can be explained by the increase in telecoms work which is predominantly in the footway. Whilst these works could be considered to have lesser impact on road users, the Council continues to ensure that the work being carried out on the footway is not impacting pedestrians and does not encroach on the carriageway.

Analysis of average work duration and trends shows an overall decrease across the four categories, including unplanned Immediate work. This is positive, especially considering a general increase in work undertaken in the most recent years.

On average 1 in 10 works exceed their planned duration, which could be considered high. Analysis of requests for duration extensions shows the Council accept (grant) c.66% of these applications. Recognising it is not always practical for Promoters to stop their work and no longer occupy the highway, the Council grant these extension request and apply a penalty (through a challenge) to c.30% instead of rejecting the requests.

Obtaining collaboration between Promoters, ideally for shared or contiguous worksites, is a recognised industry-wide challenge. Whilst analysis shows that a few works per year are undertaken with a form of collaboration, the number of days of occupation remains proportionally small and is decreasing year-on-year.

### Permit conditions

Promoters apply conditions to their work, but the Council are responsible for ensuring they are applied to best effect, typically adding or changing these during the initial planning stages.

Conditions that can be applied to works cover many different categories. Within Coventry conditions are primarily use for:

- restrictions on dates and times when work can be undertaken;
- the removal of materials or plant when no longer in use;
- the occupation of the highway, road space to be available to traffic and use of traffic management; and
- controlling work methodology.

In the most recent year of analysis (2023/24) the volume of work undertaken with an applied conditions dropped to 27% (compared to 81% and 86% in the previous years).

Further analysis of specific work scenarios, such as planned work under a road closure with advanced publicity, shows that the Council may need to consider when and how they are applying conditions to ensure they are using this control effectively.

### Offences

When the Council undertake a live site inspection this provides opportunity to check the work is being undertaken with a valid permit and in accordance with any permit conditions. Over the past three years, c.33% of works have had such an inspection.

Even though the Council have been operating a permit scheme for nine years, Promoters are still committing permit offences, and these have even been increasing from 2021.

Analysis shows the primary reason for the breach of permit condition offences is for (lack of) display of permit number of the work site board. In the most recent year (2023/24) the predominant reason for the permit offence cannot be identified from the text provided and is recorded as 'other'.

### Parity treatment

Overall, measures for parity treatment show that the Council administer their Scheme without discrimination, unless this is related to Promoter performance, such as performance based live site inspections.

The only exception to this is for inspection of their own (Highway Authority) work, which is an area that need to be considered in future years of operation.

### Costs and benefits

Over nine years the costs to administer the Scheme have increased steadily, whilst income from fees has varied considerably – this is to be expected as income is linked to application volumes, including permit-variations. Overall, the Council has sustained a small deficit which could have been significantly higher without high income levels in years 2020/21 and 2023/24.

Going forward, the Council intend to maintain the current fee structure but monitor income closely to ensure the prescribed costs are fully recovered.

The cost-benefit-analysis shows an overall estimated benefit-to-cost ratio of 2:35, which means the Scheme can be classified as high value for money.



Additional analysis shows that the Scheme could lead to estimated carbon emissions savings of 582 tonnes CO<sub>2</sub> per year arising from the reduction of wasted fuels caused by delays, diversions, etc. because of work.

### Opportunities for improvement

Whilst the evaluation clearly demonstrates that the Council are operating both an efficient and effective permit scheme, there are several opportunities where the Council can improve the overall performance of the Scheme. These are set out with the table below.

Reasons for rejections	Ensure the defined categories for reason for rejections are used, to avoid to the use of 'other'.
Changes to permits during the application stage	Monitor the level of changes being made to permits during the application stage to ensure opportunities for (a) duration challenge, (b) adding or amending permit conditions, (c) reviewing traffic management arrangements and (d) identifying opportunities for collaboration are not missed.
Work involving no carriageway incursion	Check work involving 'no carriageway incursion' does not have a negative impact to pedestrian traffic and does not encroach on the carriageway.
Work exceeding planned duration	Continue reviewing work exceeding planned duration and checking requests for work extensions are genuine and valid, and where applicable consider penalties for overrunning work to discourage this behaviour.
Collaborative works	Ensure all opportunities for collaboration between Promoters are realised and increase the number of work and days of occupation under a form of collaborative work.
Application of conditions	Review the application of conditions within defined work scenarios, such as advanced warning for planned work under a road closure, to ensure these are being applied to maximum effect.
Inspections for highways work	Introduce inspections for the Councils own works to ensure there is a parity treatment across all Promoters.
Permit compliance offences	Ensure the reason recorded for permit compliance offences clearly defines the condition (being breached) or reason for the offence.
Income from permit fees	Monitor income from permit fees to ensure the deficit does not increase and the Council recovers the prescribed cost, as allowed under regulations.

# Analysis of Applications

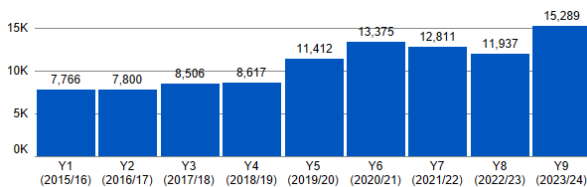
## Applications for work

All **registerable works** require an application to the Council to obtain a permit. Prior to the introduction of the permit scheme, the Council was notified of these works.

Throughout this evaluation the term **application** refers to both the initial notice or permit application and the three-month advance notice application (Provisional Advanced Authorisation) for a Major work, unless stated otherwise. Non-statutory forward planning notices are not included.

### Applications received

The chart below shows the volume of applications received per Scheme year.



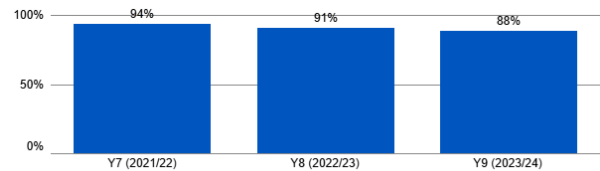
## Application lead time

For the Council to effectively carry out the coordination of works, including the advanced publicity of works, it is essential that applications are submitted with sufficient lead time based on the work category, as set out within primary legislation.

- Major and Standard work requires an application lead time of 10 working days prior to the proposed work start date. Major work also requires a 3-month advanced notice, which becomes a provisional advanced authorisation under a permit scheme.
- Minor works require 3 working days lead time.
- Immediate works can be submitted after works start and must be received within 2 hours of works start or by 10:00 on the next working day if work started outside of non-working hours.

## Applications for planned work received in time

The chart below shows the proportion of initial applications received in time (of total) for planned work (excluding Immediate work category), in accordance with the minimum lead time, per Scheme year.



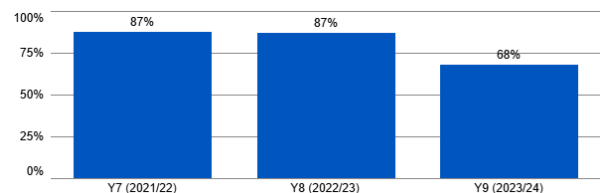
When an application for planned work is not received in time this is referred to as an “early start” as the Promoter wishes to start earlier than the prescribed lead time.

The Council can choose to grant, or refuse, this application, thereby allowing the work to commence with “an early start”.

For example, in Year 9 88% of applications were in time, so 12% not in time required an early start. Of that 12%, 68% were granted by the Council (refer to chart below).

### Early starts granted by the Council

The chart below shows the proportion of applications received not in time granted by the Council (as a % of total received) per Scheme year.



# Analysis of Coordination

## Response to applications

For a permit scheme to be effective the Council must process and respond to each application. Where the Council accept an application, this is granted.

Where the Council do not accept an application, or want to make changes to the proposed work, it is refused, and a response code (based on a set of national codes<sup>1</sup>) **must** be provided.

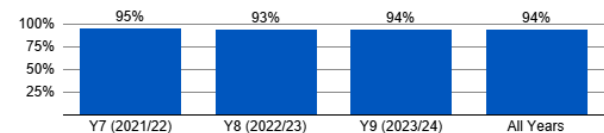
As shown in the chart below., the main reason for refused applications is clashes with other work and to enforce a restriction under NRSWA section 58 to protect the street after a major scheme., such as resurfacing.

The use of the 'other' category has seen a dramatic increase over the three years of analysis. Further investigation has identified this as a process error, which has been resolved.

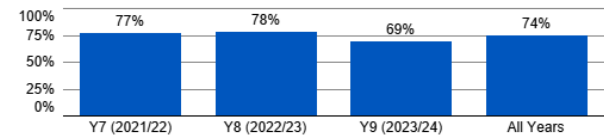
## Applications granted (% of total)

The charts below show (top) PAA applications and (bottom) permit applications granted by the Council as a proportion of the total received. PAAs and permits that were cancelled or superseded before a response was given have been removed from this analysis.

PAA applications



Permit applications



## Reasons for refusals

The chart below shows the response codes used on refused applications for Scheme years 7, 8 and 9. A refusal can contain more than one reason and therefore code.

	Y7 (2021/22)	Y8 (2022/23)	Y9 (2023/24)
Missing information [RC10]	51	105	176
Missing conditions [RC11]	142	218	166
Traffic management details [RC12]	75	73	33
Incorrect details [RC20]	19	51	22
Incorrect recipient [RC21]	3	1	0
Location issues [RC22]	95	39	32
Conflicting information [RC23]	7	5	49
Coordination issues [RC30]	8	13	15
Clash of works [RC31]	278	294	424
Timing of works [RC32]	48	34	16
Collaboration opportunity [RC33]	2	2	0
Lack of traffic management approval [RC40]	107	44	10
Incorrect traffic management [RC41]	107	104	39
Early start agreement [RC42]	5	2	2
NRSWA Section 58 restriction [RC43]	872	590	617
Excessive duration [RC44]	36	40	15
Other reason [RC50]	104	230	906

## Changes during the life of a permit

Processing permit applications provides an opportunity for the Council to undertake their network management duty, with an aim to reduce the potential disruption of the work. The sections below show analysis of changes to permits during the planning stage - between the initial application and work start - based on the content of the notices received and issued.

This analysis should demonstrate the ability to use the Scheme for coordination, through changes being made to a permit. The analysis considers changes to four key areas:

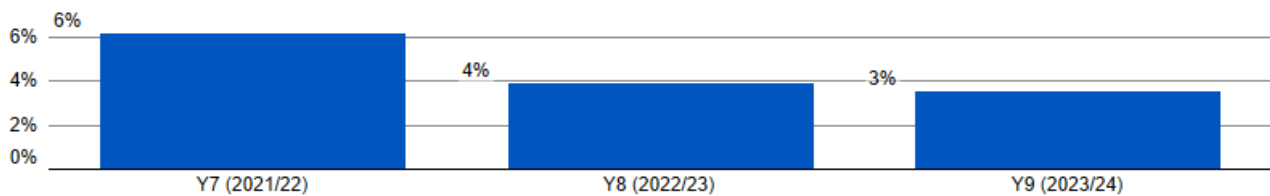
- (1) proposed duration
- (2) permit condition (where a work had a condition applied)
- (3) traffic management
- (4) collaboration (where a work was undertaken with a form of collaboration)

The analysis shows an overall need to review when and how the application process is being used to affect changes to work, taking into consideration the proposed work and network demands.

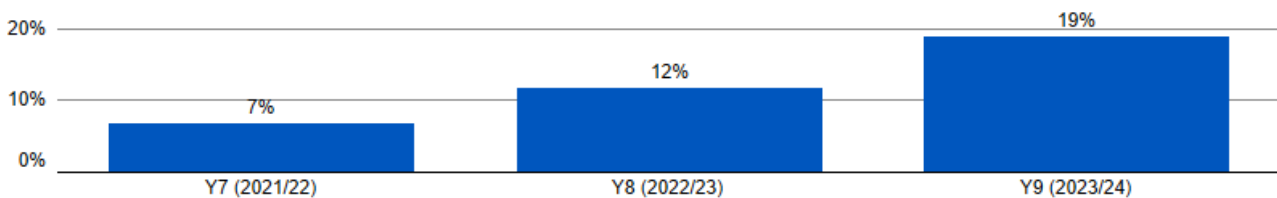
### Changes to work during the planning stage

The charts below show the proportion of work (% of total) where a change was made to a permit during the planning stage (planned work only) per Scheme year. 'Work with a collaboration change' only includes work identified with a form of collaboration. 'Work with a condition change' only includes work with an applied condition.

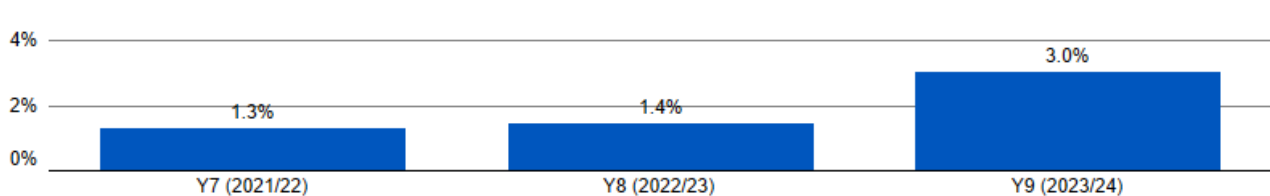
#### Work with a duration decrease



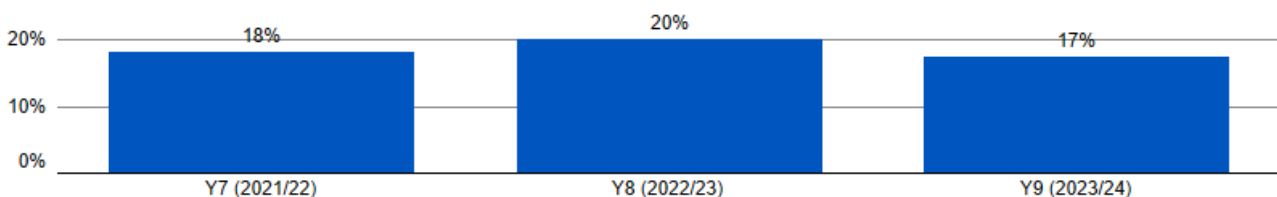
#### Work with a condition change



#### Work with a traffic management change



#### Work with a collaboration change



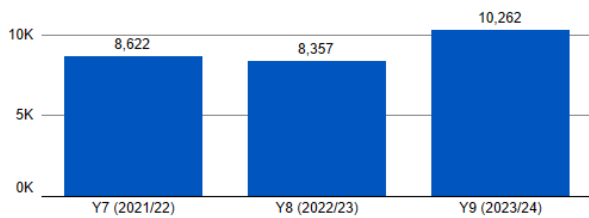
# Analysis of Work

## Work undertaken

Works are treated as 'undertaken' when they have reached a stage of 'in progress', *i.e.* work has started. Not all applications for work or where a permit has been obtained (granted) result in work undertaken. Across Scheme years 7 to 9 between 64% and 70% (67% average) of applications result in actual work, with the remainder cancelled or superseded.

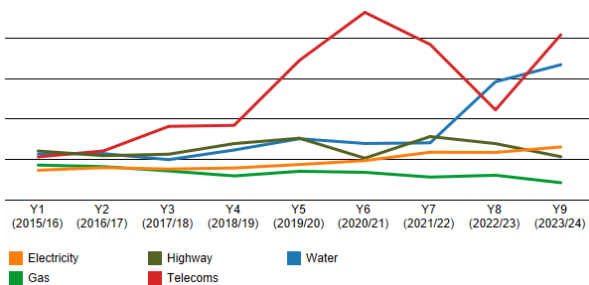
### Work undertaken

The chart below shows the volume of work undertaken per Scheme year.



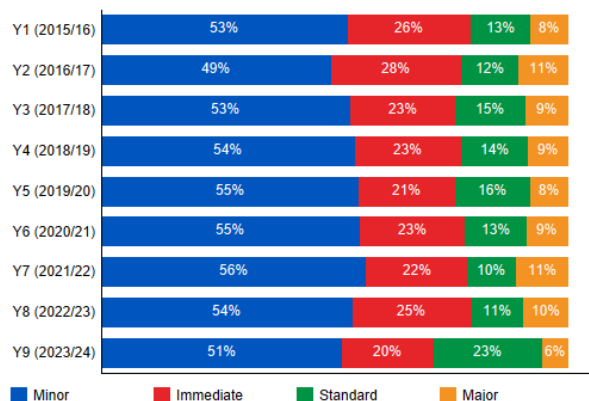
### Work undertaken by sector

The chart below shows the proportion of work undertaken per Scheme year delineated by sector.



### Work undertaken by work category

The chart below shows the proportion of work undertaken per scheme year delineated by work category.

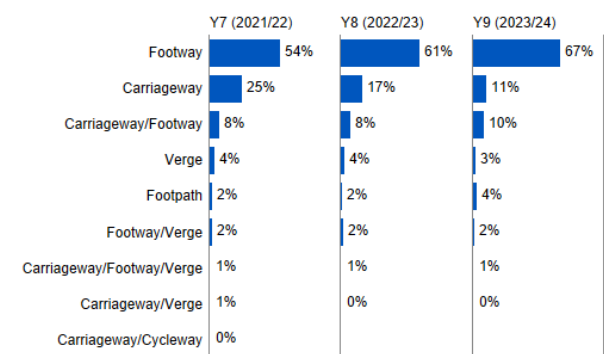


## Work location

Work is undertaken across all different sections of the highway, not just the carriageway. Since the introduction of Street Manager in July 2020 the location of work has been recorded on permits.

### Work location by type

The chart below shows the recorded location of work by type(s) for work undertaken in Scheme years 7, 8 and 9.

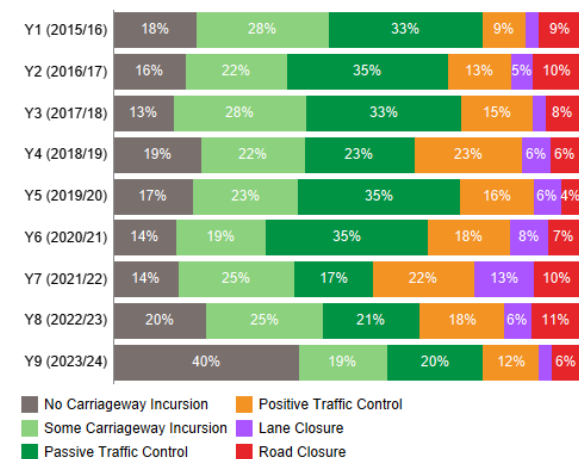


## Use of traffic management

All works must be undertaken using an appropriate form of traffic management (control) to ensure work is undertaken safely - for those undertaking the works as well as the road user, *including pedestrians, cyclists and in particular the needs of disabled people and vulnerable groups.*

### Traffic management used for work

The chart below shows traffic management (colour legend) for all works undertaken as a proportion of the duration (calendar days) per Scheme year.

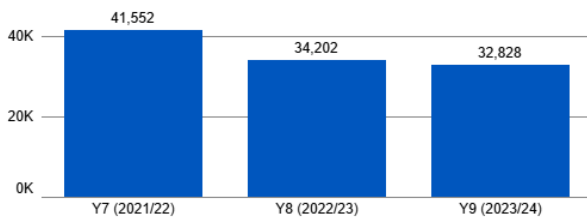


## Work duration

Analysis of work duration is based on work undertaken and calculated using timings provided in work start and work stop notices issued by Promoters. Durations are aggregated to whole days, however in reality a work, *such as an asset inspection or pothole repair*, may only take a few minutes or hours.

### Duration of work (whole days)

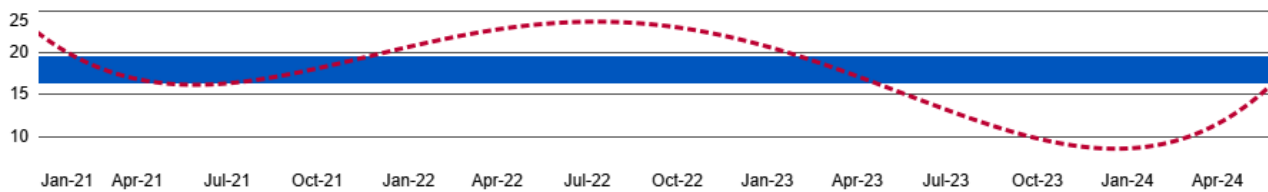
The chart below shows the total duration of work (days) per Scheme year.



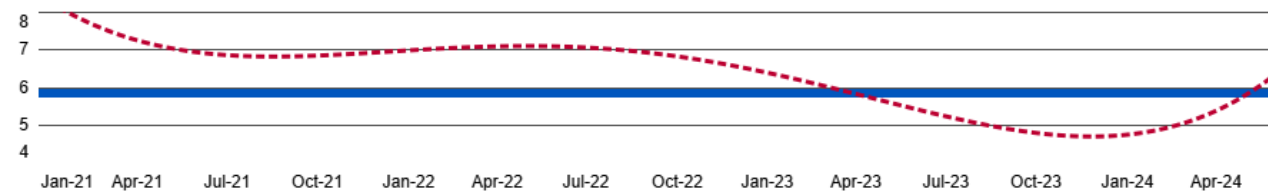
### Average duration and trend

The charts below show an average duration with trend for the four work categories across Scheme years 7 to 9 based on the actual duration for work undertaken. The trend line (red-solid) shows a polynomial model computed for each duration of work and an average duration (blue-band) is shown with a 95% confidence level distribution.

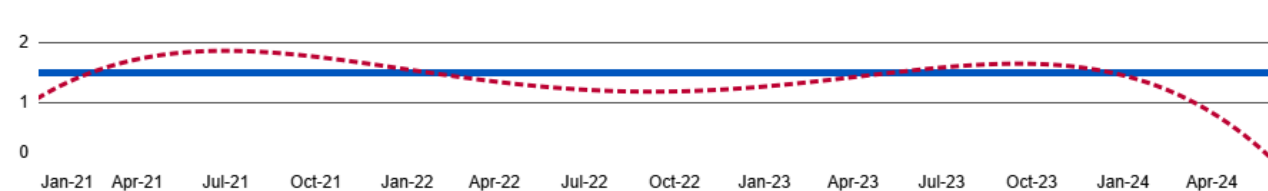
#### Major work



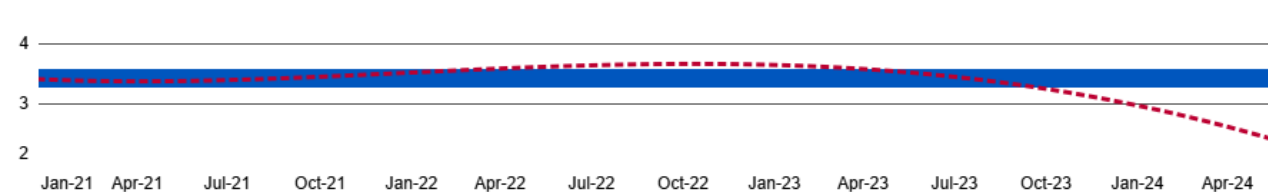
#### Standard work



#### Minor work



#### Immediate work



Analysis of duration over time considers trend, compared to the average duration, delineated by work category. This shows both the typical duration of this work category, and whether works are remaining similar, increasing or decreasing compared to this average.

As this analysis is based on individual work durations it provides a more comprehensive and accurate overview of duration compared to an aggregation of duration into a single "average duration".

It should be accepted that this form of analysis is still based on aggregated duration, and it is likely that there are more distinct variances between sectors and/or different types of work. This analysis does however provide a strong indicator of overall trend.

## Work exceeding agreed duration

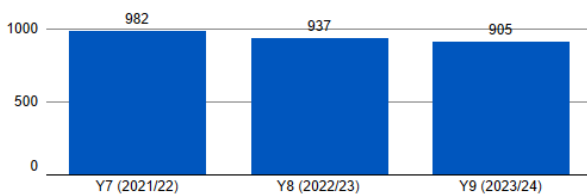
Works that exceed their agreed reasonable period (of duration) can create significant coordination issues and can apply a 'domino effect' on work programmes and the potential need to reschedule or revoke other active or planned works that may clash with adjacent over running works.

For this evaluation a work exceeding the agreed duration is identified when a work's **actual duration** is exceeded by the **proposed duration**.

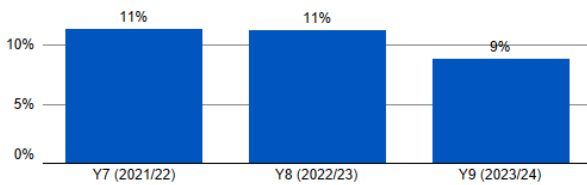
### Works with overruns

The charts below show (top) the total number of works undertaken where the actual duration exceeds the planned duration, (bottom) the proportion of all works undertaken (% of total) that exceeded the planned duration, per Scheme year.

Work exceeding planned duration



Work exceeding planned duration (% of total)

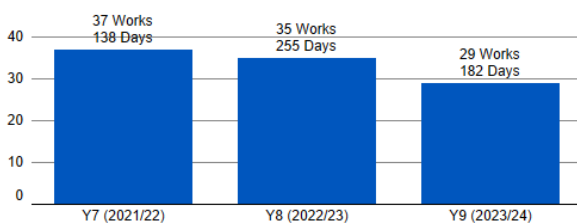


## Collaborative works

One of the most effective methods for the Council to reduce the potential disruption is for Promoters to collaborate their works, thereby undertaking work on the same section of the highway at the same time.

### Work with a form of collaboration

The chart below shows the number of works with a form of collaboration and the total days of the work per Scheme years 7 to 9.



# Analysis of Permit Variations

## Variations to permits

Both regulations and the Scheme includes a provision for the Council to vary or revoke a permit Therefore, a permit variation (*change request or alteration as named in Street Manager*) can be issued either by the Promoter for the Council to grant or refuse, or by the Council to the Promoter as an imposed change.

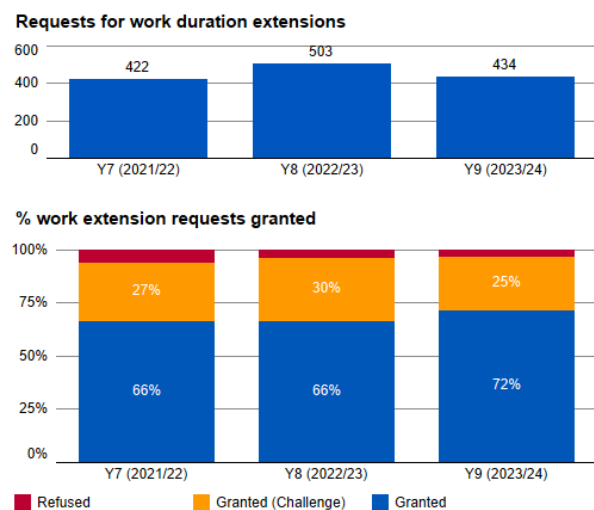
There are many reasons permits are varied, which include: changes to planned work dates, because of unforeseen issues, *such as bad weather or plant breakdown*, limiting work or changes required to meet customer demands to mitigate network impact.

The types of permit variation fall within one of three different categories, which include;

- **imposed change** where the Council want to make a change to the permit;
- **Permit modification** where a Promoter responds to a modification request from the Council during the application stage.
- **Promoter change request** where a Promoter wants to vary the permit, including a **work extension** to change the end date once work has commenced.

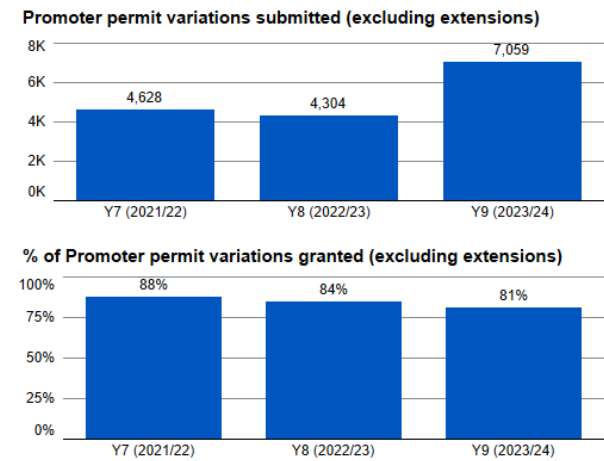
### Work duration extension request

The charts below show (top) requests for a work duration extension and (bottom) the proportion of extensions granted, challenged or refused.



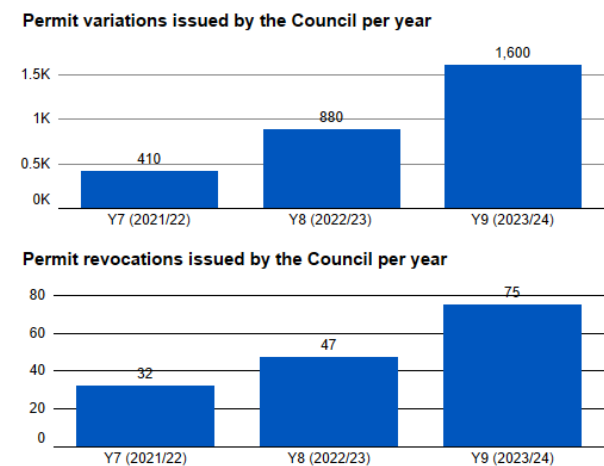
## Variations from Promoters

The charts below show (top) variations (excluding duration extension) from Promoters and (bottom) the proportion of Promoter variations granted (% of total). Applications cancelled or superseded before a response have been removed from this analysis.



## Variations issued by the Council

The chart below shows (top) the volume of authority-imposed variations and (bottom) permit revocations issued by the Council to Promoters per Scheme year.





# Analysis of Permit Conditions

## Use of permit conditions

Applying a condition to a permit is one of the primary methods for achieving the objectives of a permit scheme.

The process of a Promoter applying for a permit allows the Council to make changes to the work and where necessary apply conditions, within pre-define categories, to control and minimise the impact of the works, sometimes even before work starts, *for example advanced publicity of a road closure.*

The sub-sections below outline the conditions available to the Council. These are based on the categories defined in the Statutory Guidance for Permit Conditions. This Guidance sets out the conditions that can be applied to permits and the potential parameters that can be associated to these conditions.

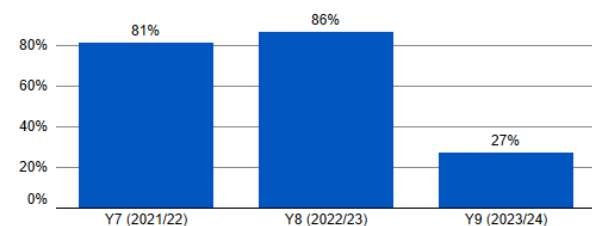
Analysis and evaluation for the use of conditions can be difficult to undertake as there are many variables for a work that need to be taken into consideration, *such as the work methodology, location, use of materials or plant, timing of the work.*

It can be impracticable to determine the criteria for a work and whether a condition could, or should, have been applied or not. In addition, it is not always possible to determine the effect of the condition or an outcome that can be quantified.

**This analysis does not include conditions that apply to all permits, such as displaying a permit number on a site board, but only those that can be applied to a permit.**

### Work with an applied permit condition

The chart below shows the proportion of work undertaken with an applied permit condition (% of total) per scheme year.



## Conditions applied by type

The chart below shows conditions applied, by their type, applied to work undertaken in Scheme years 7, 8 and 9.

	Y7 (2021/22)	Y8 (2022/23)	Y9 (2023/24)
Date and times [NCT02a]	4,034	3,432	1,151
Extended working hours [NCT02b]	1,188	976	785
Ancillary activity information [NCT03]	0	0	40
Removal of materials or plant [NCT04a]	3,331	1,717	1,156
Storage of materials or plant [NCT04b]	341	283	103
Road occupation [NCT05a]	2,571	3,938	1,440
Road space available to traffic [NCT06a]	4,794	4,158	1,158
Road closure [NCT07a]	553	491	304
Specified traffic control [NCT08a]	1,972	1,900	950
Manual traffic control [NCT08b]	332	262	74
Traffic management changes during work [NCT09a]	3,069	4,136	1,775
Traffic management arrangements [NCT09b]	534	653	293
Removing temporary signals [NCT09c]	555	331	163
Changes to traffic management arrangements for Major work [NCT09d]	0	44	56
Work methodology [NCT10a]	2,537	3,556	1,127
Advanced publicity [NCT11b]	1,789	765	227
Environment noise control [NCT12a]	780	397	24

## Benefits of conditions applied

It is difficult to effectively delineate work where a condition could or may be applied as relevant elements of the work are not specified within the data for analysis, *such as whether the work involved surplus spoil or materials or required a specific work methodology.*

There are however a few indicators that can be used to identify whether conditions are being applied to good effect, and therefore of benefit to the road user. These include:

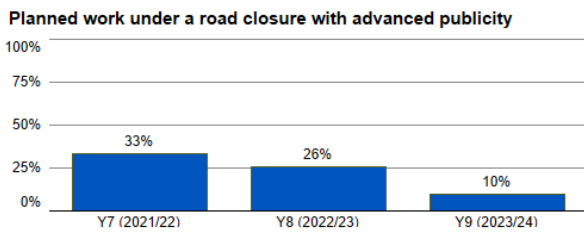
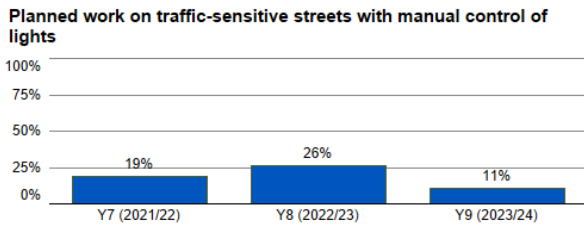
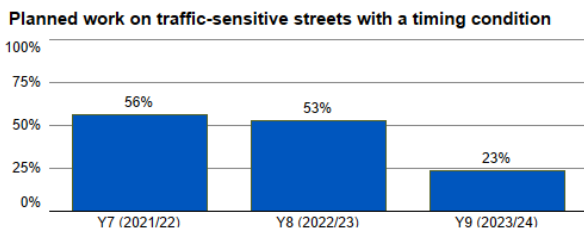
- Planned work outside traffic-sensitive times (on a traffic-sensitive street) with a timing

condition (NCT2a) to ensure compliance to this arrangement;

- Work at traffic-sensitive times (on a traffic-sensitive street) involving temporary traffic lights with a condition (NCT8b) to manually control the lights at specified times, *typically peak traffic times; and*
- Planned work under a road closure with advanced publicity of the work.

### Work scenarios with conditions applied

The charts below show the proportion of work (% of total) with an applied condition (as detailed above) per Scheme Year.



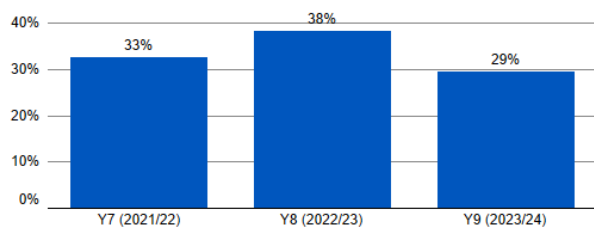
# Analysis of Permit Compliance

## Permit compliance inspections

Under a permit scheme the Council can undertake additional inspections during work for permit compliance to ensure that (a) work is being undertaken with a valid permit and (b) in accordance with the stated conditions (as applicable).

### Permit compliance inspections

The chart below shows the proportion of works (% of total) with a live site inspection, per Scheme year.



## Permit offences

A permit scheme introduced two new offences, with financial penalties for statutory undertakers where there is a failure to comply.

### Reasons for permit compliance offence

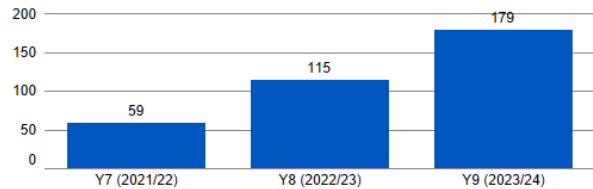
The chart below shows the reason for permit condition offences for Scheme years 7, 8 and 9.

	Y7 (2021/22)	Y8 (2022/23)	Y9 (2023/24)
NCT1a/b Working window (permit)	14	13	11
NCT2a Date and time	0	1	1
NCT2b Extended working hours	0	0	1
NCT4a Removal of materials and plant	0	0	1
NCT4b Storage of materials and plant	0	0	0
NCT5a Road space allowed	3	8	17
NCT6a Road space available	3	7	21
NCT7a Road closure	0	0	0
NCT8a Traffic management request	3	0	2
NCT8b Manual control of traffic management	1	2	6
NCT9a Changes to traffic management	5	3	15
NCT9b Traffic management arrangements	0	0	0
NCT9c Signal removal after use	0	0	1
NCT10a Work methodology	0	0	0
NCT11a Display of permit number	62	67	55
NCT11b Advanced publicity	5	0	1
NCT12a Environmental (noise control)	0	0	0
Other reason	14	33	116

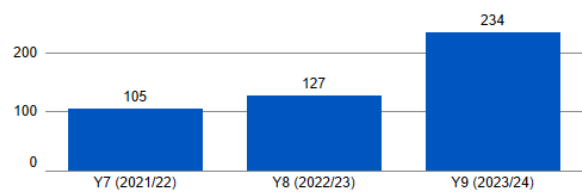
## Permit offences issued to Promoters

The charts below show the number of offences issued to Promoters (not withdrawn) for (top) working without a permit and (bottom) breach of permit conditions, per Scheme year.

### Offences for working without a valid permit



### Offences for breach of permit condition



# Analysis of Parity Treatment

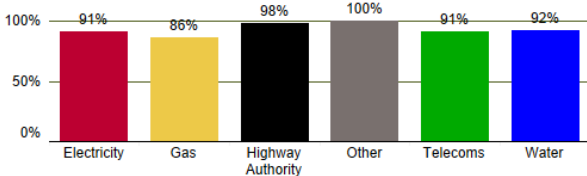
Section 40: Non-discrimination of the Permit Scheme Regulation state that the Council must apply the regulations (Parts 5 and 6) without any discrimination between different classes of application for permits or for provisional advanced authorisation. Statutory Guidance defines this further a **parity treatment** with each permit application received are treated equally regardless of the works' promoter .... and [Highway] works will be treated in the same way as any undertaker (except that they are not liable for the fees or sanctions).

Parity treatment will be analysed using specific measures for each sector across Scheme years 7, 8 and 9.

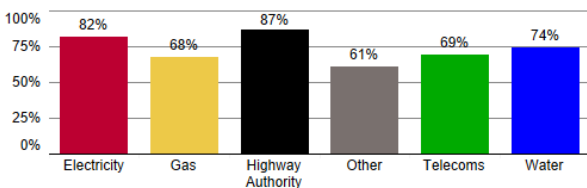
## Applications granted

The charts below show applications granted (as a % of total received) by sector during Scheme years 7-9. The charts do not include applications deemed (granted), superseded or cancelled before a response was given.

### PAA applications granted

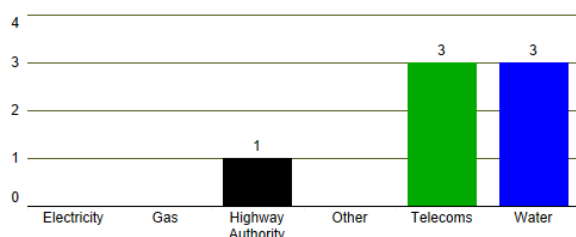


### Permit applications granted



## Applications deemed

The chart below shows total PAA and permit applications that were deemed (granted) by sector during Scheme years 7-9. The charts do not include applications superseded or cancelled before a response could be given.

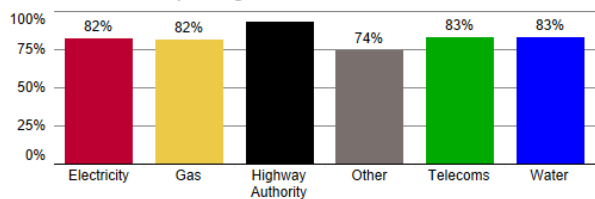


## Permit variations granted

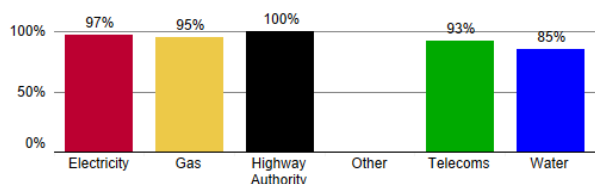
The charts below show the permit variation applications granted (as a % of total received) by sector during Scheme years 7-9.

The variations are delineated by (top) requests for extensions and (bottom) other variations. The charts do not include applications deemed (granted), superseded or cancelled before a response was given.

### Permit variation requests granted

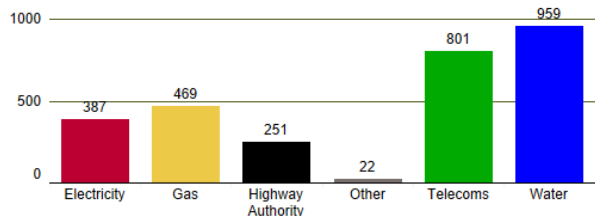


### Extension requests granted



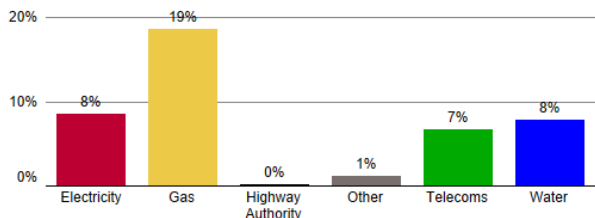
## Authority issued variations

The chart below shows the number of variations issued to Promoters by the Council during Scheme years 7-9.



## Work with a live site inspection

The chart below shows the number of works (% of total) with a live site inspection during Scheme years 7-9.



## Equality Impact Assessment

The Equality Act 2010 introduced the Public Sector Equality Duty, which requires all public bodies, including councils, to have due regard to the need to:

- Eliminate unlawful discrimination, harassment and victimisation and other conduct prohibited by the Act;
- Advance equality of opportunity between people who share a protected characteristic and those who do not; and
- Foster good relations between people who share a protected characteristic and those who do not.

In consideration to this Duty an **Equality Impact Assessment** aims to prevent discrimination against people who are categorised as being disadvantaged or vulnerable within society. An Assessment will therefore:

- Demonstrate due regard for the provisions of the Public Sector Equality Duty;

- Identify possible negative impacts of decisions on individuals and **groups with protected characteristics** and plan mitigating action accordingly; and
- Identify additional opportunities to advance equality within policies, strategies, and services.

The table (below) shows **protected characteristic groups** with a potential impact and the nature of any impact to that group from the operation of a permit scheme.

The only group with a perceived impact is Disability, which is considered a positive impact as under a permit scheme the Council can further ensure work is carried out in consideration to the needs of **all vulnerable road users**.

It is recommended that the Council continue assessing the role of the permit scheme to meet the Councils Public Sector Equality Duty.

Protected Characteristic Group	Potential for Impact	Positive or Negative Impact
Disability	Yes	Positive
Gender reassignment	No	Not applicable
Marriage or civil partnership	No	Not applicable
Race	No	Not applicable
Religion or belief	No	Not applicable
Sexual orientation	No	Not applicable
Sex (gender)	No	Not applicable
Age	No	Not applicable

# Analysis of cost and benefit

## Review of income from permit fees

The Permit Scheme Regulations allows the Council to charge a fee to recover the prescribed costs for the administration of a permit, a provisional advanced authorisation, and the variation (alteration) of a permit. These fees are applied to statutory undertaker works only, not for work for road purposes (highway authority work).

The regulations require that the Council (as a permit authority) consider whether the fee structure needs to be changed in light of any surplus or deficit, to only recover the *prescribed* cost. The table below shows the income, (prescribed) cost and balance (income – cost) per scheme year.

Year	Income £	Cost £
Y1 (2015/16)	230,033	226,933
Y2 (2016/17)	269,553	314,379
Y3 (2017/18)	308,581	353,990
Y4 (2018/19)	277,453	345,317
Y5 (2019/20)	428,219	420,052
Y6 (2020/21)	662,634	439,179
Y7 (2021/22)	430,745	457,655
Y8 (2022/23)	417,984	510,130
Y9 (2023/24)	637,367	559,562

Over the nine years of the Scheme, the income from permit fees has increased together with the (prescribed) cost to administer the scheme.

Whilst the costs have increased incrementally, income has varied considerably. After nine years the balance shows a small surplus of -£35,372. Without the peak income in years 2020/21 and 2023/24 the Council could have incurred a considerable deficit.

The Council intend to maintain the current fee structure but monitor income closely to ensure the prescribed costs are fully recovered.

## Impact of work

The societal impact of each work is estimated based on impact calculations derived from the **QUEues And Delays at ROadworks** (QUADRO) model taking account of local traffic flow for different types of road (refer to Evaluation methodology).

Whilst this impact is estimated, it should be accepted as a robust indicator of overall impact. Considering QUADRO is predicated only on carriageway impact, and a large volume of work also impact other forms of traffic, this indicator could be considered very conservative.

## Cost-benefit-analysis

A cost-benefit analysis (CBA) provides a framework within which the impacts of a scheme can be compared against the cost of setting up and operating the scheme.

Historical works data provides a basis on which to evaluate the impact of works on motorists and the local economy, and to review the value of the scheme against the actual costs and revenues of operations of the scheme since implementation.

The approach to the CBA is as follows:

- Identify the scale and characteristics and quantify the scale of societal impact these works will have had to the residents and local economy, using the most detailed information available;
- Estimate the reduction in impact resulting from the permit scheme and quantify the social benefit of this reduction;
- Quantify the costs of operating the permit scheme; and
- Undertake the cost benefit analysis to determine the benefit to cost ratio and net present value delivered by the scheme.

Further detail on the appraisal methodology is detailed within Annex A.

## Appraisal Results

The cost benefit analysis takes the benefits and costs from each year of operation and projects these into the future to provide a 25-year appraisal period as per DfT Guidance.

The 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. Refer to table below.

Appraisal Metric	Value (2010 prices)
Net Present Benefit of Scheme	£6,892,329
Net Present Cost of Scheme	£2,930,692
Net Presented Value of Scheme	£3,961,636
Benefit to Cost Ratio	2.35

An analysis of monetised costs and benefits includes costs and benefits which are regularly or occasionally presented in monetised form in transport appraisals, together with some where monetisation is in prospect. Refer to table below.

### Analysis of Monetised Costs and Benefits

Noise	
Local Air Quality	
Greenhouse Gases	844,619
Journey Quality	
Physical Activity	
Accidents	726,330
Economic Efficiency: Consumer Users (Commuting)	3,838,752
Economic Efficiency: Consumer Users (Other)	5,758,128
Economic Efficiency: Business Users and Providers	-2,905,829
Wider Public Finances (Indirect Taxation Revenues)	1,369,671
<b>Present Value of Benefits (see notes) (PVB)</b>	<b>6,892,329</b>
<b>Broad Transport Budget</b>	<b>2,930,692</b>
<b>Present Value of Costs (see notes) (PVC)</b>	<b>2,930,692</b>
<b>OVERALL IMPACTS</b>	
<b>Net Present Value (NPV)</b>	<b>3,961,636</b>
<b>Benefit to Cost Ratio (BCR)</b>	<b>2.35</b>

There may also be other significant costs and benefits, some of which cannot be presented in monetised form. Where this is the case, the analysis presented above does not provide a good measure of value for money and should not be used as the sole basis for decisions.

The benefit to cost ratio (BCR) is a measure of value-for-money exhibited by a scheme. With a BCR of 2.35 the permit scheme can be defined as delivering greater benefit than it costs and classified as 'High Value for Money'.

## Carbon Emissions

A component to the costed benefits is a reduction in carbon emissions. These emissions savings are driven by more efficient vehicle movements, and the avoidance of the 'stop-start' movements associated with works. QUADRO places a monetary value on emissions savings by applying a 'cost of carbon' to the amount of carbon generated because of works, such as additional fuel due to idling, or diversions.

Taking the average calculated works impact, the carbon emission generated by works within the area (as calculated within QUADRO) are valued at £760,000 (2010 prices), which represents around 6% of overall work impact cost.

The implied carbon emissions attributable to works in the area amounts to 10,774 tonnes. This amounts to around 1% of total vehicular emissions on local roads in area. The improved efficiency of works under the permit scheme means that the scale of carbon emissions generated because of works may be expected to be reduced post-scheme implementation.

In line with the broader assumptions about permit scheme impacts, adopting the national permit scheme evaluation evidence as the basis for the reduction in works duration, scheme implementation would lead to estimated carbon emission savings of 582 tonnes CO<sub>2</sub> per year. To set this emission saving in context, using the typical emissions of new cars sold in the UK currently, this reduction amounts to an equivalent saving of 484,838 annual car kms.

## Annex A: Evaluation methodology

### Period of analysis

Throughout this evaluation there is a reference to “**years**”. Unless stated otherwise, these reference Scheme operational years where the first year of the Scheme (Year 1) is between March 2015 and February 2016 (inclusive).

### Defining Promoters

Within this evaluation Promoters can be defined by their sector, *e.g. water*. The Promoter type Highway Authority is included in this definition, *as works for road purposes*.

The sector Other includes other organisations who need to undertake work on the highway, *such as Network Rail*.

### Source data for analysis

This evaluation uses data collected from both Street Manager and the Council’s system to process and record works. The data collected contains the content of notifications (events) sent between Promoters undertaking work, *such as utility companies*, and the Council.

Analysis of these notifications enables the Council to produce metrics for performance indicators and further measures.

For some measures aggregating data for analysis does not provide an accurate picture of the results, for example for the analysis of duration for all work categories can provide a falsely inflated picture of changes over time.

This evaluation therefore delineates many of the measures into sub-categories, *such as works category*, to provide a more accurate result and trend.

Many of the measures contained in this evaluation were analysed to ensure accuracy in the results. This level of analysis may not be included within this evaluation report; however, it should be accepted that any findings presented have been tested for certainty and any anomalies investigated and defined.

### Work phases

In this evaluation work is analysed in logical phases. A work is typically identified by a work reference number, which often applies to multiple phases of work, for example a work reference number may contain the following individual phases:

- work with a temporary reinstatement;
- follow-up work changing the temporary reinstatement to a permanent reinstatement;
- defect work to rectify a fault with the permanent reinstatement.

To logically delineate work phases, a phase is identified from the initial application through to work completion notices within the same work reference. Therefore, the analysis shown for work in this evaluation is for a work phase, *i.e. the total works undertaken are the total work phases undertaken*.

### Duration analysis

Analysis of works duration is calculated using the dates provided within the work start and work end notifications, inclusive of these dates.

As would be expected within a significant dataset from multiple different organisations spurious data can be found, such as work end dates before a work start date therefore giving a negative duration, or work with an incorrect year, thereby giving a significantly high duration. Whenever possible, these anomalies are identified and removed from the analysis to provide a more realistic result.

Since the introduction of the DfT’s digital service, Street Manager, and associated regulatory changes in July 2020 it is possible to determine the timings more accurately and reliably from the works data. This means a work duration can be calculated by minutes instead of whole days. As such, analysis using Street Manager derived data provides a more realistic insight and result.

Analysis of total duration based on the notice dates (whole calendar day) and notice times



shows that there can be noticeable differences between these two types of measure.

For this evaluation, analysis of work duration and trend is predominantly based on dates of the work notices, not timings, as the pre-scheme historic data does not contain accurate timings. Any variations to this approach will be clearly defined in the report.

## Economic cost-benefit-analysis

### Appraisal methodology

A cost-benefit analysis (CBA) provides a framework in which the impact of a scheme can be compared against the cost of setting up and operating the scheme. Annual evaluation of the Permit Scheme CBA provides opportunity to review the value of the scheme with the benefit of the outturn scheme operating costs and revenues, updated estimates of the societal impact of work and to compare this not operating a permit scheme.

The approach to the permit scheme CBA is as follows:

- identify the scale and characteristics and quantify the scale of societal impact these works will have had to the residents and local economy;
- estimate the reduction in impact resulting from the permit scheme and quantify the social benefit of this reduction;
- identify the cost of setting up and operating the permit scheme; and
- undertake the cost benefit analysis to determine the benefit to cost ratio and net present value delivered by the scheme.

The societal impact of each work is estimated based on impact calculations derived from the **Q**ueues **A**nd **D**elays at **R**oadworks (QUADRO) model. Originally QUADRO was developed for the DfT and designed to assess and monetize the impact of delays due to works. QUADRO is currently maintained by National Highways.

QUADRO captures loss of time to travellers, increased vehicle operating costs because of idling in queues and/or diversion, vehicle emissions and accident impacts. Impact modelling is based on local traffic flow data (within the Council's boundary), disaggregated

by road type, to provide locally relevant impact values.

### Promoter Costs

In addition to the costs of operating the permit scheme, it is important to recognise that there are costs borne by works promoters also in operating under the permit scheme. These will include:

- Permit Fee costs which represent a business cost to the promoter.
  - Within the CBA this is treated as a business cost to the promoter, netted from overall scheme benefits. However, the transaction is effectively a transfer payment between promoter and the Council, so the payment is treated as a revenue and is subtracted from scheme operating costs.
- Additional administration costs in complying with the permit scheme.
- Costs related to changes in working practices such as greater use of traffic management or off-peak and weekend working.

Detailed promoter cost data has not been available, but in line with evidence gathered from other permit scheme evaluations and adopted as the default assumption in the National Permit Scheme Evaluation, an estimate of 20% of local authority operating costs relating to Statutory Undertaker works has been applied.

### Assessing the scale and impact of work

To ensure the most rigorous analysis for the CBA, the Street Manager data from the most recent complete year has been used as the basis for estimating works impact costs and permit scheme benefits.

For the purposes of the CBA, works are disaggregated by type of traffic management, which has important implications on the scale of impact of those works on highway users.

The remainder of the work involved no incursion into the carriageway and has been assumed to have no impact on road users. It should be noted that this is a conservative assumption as even non-carriageway works

are likely to incur some impact, whether road users or on wider society.

The estimated impact of the works with incursion into the carriageway have been modelled using the QUEues And Delays and ROadworks (QUADRO). QUADRO was originally developed for the DfT and designed to assess and monetize the impact of delays due to works.

Whilst no longer hosted by the DfT, the QUADRO model continues to be maintained, under the responsibility of National Highways, and is considered the most appropriate tool to quantifying the impact of works for this evaluation.

Having developed costs for every work type, each work within the data used for this evaluation has been assigned an impact cost, according to its characteristics and the duration of the work taken from the more robust data contained within Street Manager.

This provides highly granular results, especially when compared with the typical aggregated CBA approach adopted in other scheme evaluation documents. The modelled impact of typical works forms the basis of the benefits calculation.

These impact estimates include the following elements:

- Road user travel time (delay caused to consumer and business as a result of works)
- Road user vehicle operating costs (the impact of delay and diversion on vehicle operating costs for consumers and business)
- Accident costs
- Emissions costs (resulting from congested conditions and diversion)
- Indirect tax revenue (increased tax revenue to the exchequer because of higher fuel consumption)

Whilst QUADRO covers most of the standard monetised elements of work impact, an off-model adjustment was made to account for reliability impacts.

DfT guidance recommends that this be captured through application of an uplift to

journey time costs/benefits. The recommended uplift factor is 10-20%. A factor of 15% has been adopted for this evaluation to be consistent with this recommendation.

### Quantification of benefit of permit scheme

The benefits of the permit scheme are expected to be achieved through more efficient and better managed work events taking place compared to the patterns observed before scheme implementation.

Relating observed changes directly to the scheme is complicated by the range of factors which influence work occurrences. For the CBA, the comparative scenario is one in which the permit scheme had not been implemented and is therefore by its very nature hypothetical and unobservable.

A national evaluation of permit scheme impacts was commissioned by the DfT in 2017<sup>ii</sup>. This study adopted a rigorous cross region evaluation of the observed pattern of roadworks under authorities with and without permit schemes. It concluded that the impact of work was typically 6.4%, which aligned closely with the default assumption of 5% works impact reduction previously adopted in assessments (DfT Permit Scheme Evaluation Guidance, 2016).

To ensure the most rigorous assessment of the impact of the permit scheme, the national evaluation estimate of 6.4% reduction in impact under a permit scheme has been paired with the impact cost estimate derived from the works.

The cost benefit appraisal requires that scheme benefits are appraised against scheme costs over the whole appraisal period, which in this case is recommended as being 25 years in the DfT permit scheme appraisal guidance.

Consequently, the benefits are projected forward over subsequent years, with impacts and benefits increasing in real terms to reflect growth in values of time, vehicle operating costs, accident savings and emissions costs.

### Scheme Operating Costs

Having established scheme benefits, these must be set against scheme costs to

determine value for money. Permit scheme costs elements include the following:

- Setup costs
- Scheme operating costs (staff, consultants, maintenance/running costs)
- Scheme capital costs – IT equipment, software etc

Importantly, the permit scheme costs included within the appraisal are the additional costs of operating the permit scheme above those incurred previously incurred in delivering the council duties regarding work applications. By considering the incremental costs, this fairly compares the 'with permit scheme' scenario with the 'business as usual (i.e. no permit scheme) scenario.

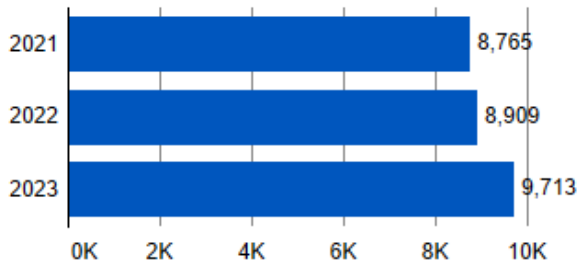
Whilst the scheme has now been running for several years, the appraisal focuses on the projected costs of operation over the coming years, to align with the benefit estimate.

The operating costs of the permit scheme principally relate to the additional internal staff resources required to process permit applications and additional operating factors to administer the permit scheme, such as finance payment and reconciliation, performance and evaluation.

# Annex B: HAUC Performance Indicators

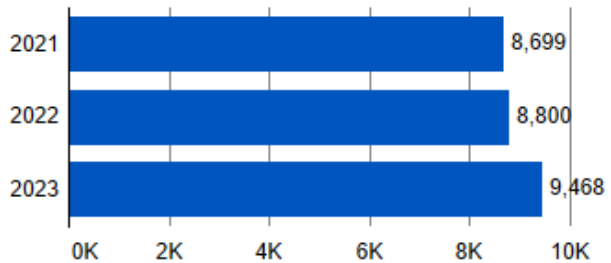
### TPI 1 Works Phases Started (Base Data)

This measure shows the works started by calendar year



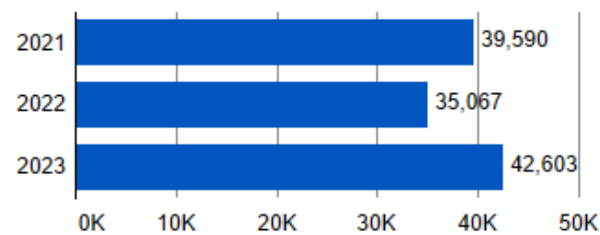
### TPI2 Works Phases Completed (Base Data)

This measure shows the number of works completed per calendar year



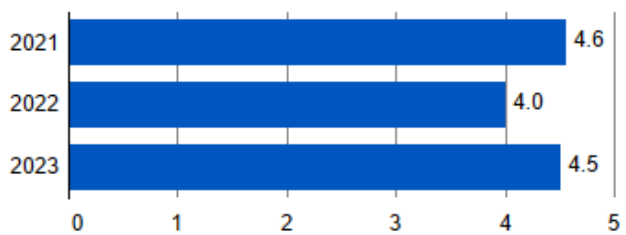
### TPI3 Days of Occupancy Phases Completed

This measure shows the duration (days using aggregated minutes) for works completed per calendar year



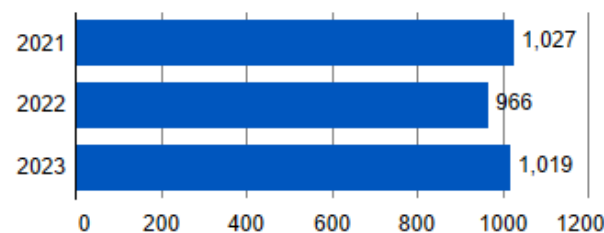
### TPI4 Average Duration of Works

This measure shows the average duration (days using aggregated minutes) for works completed per calendar year



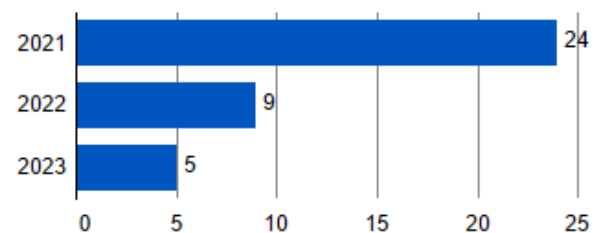
### TPI5 Phases Completed involving Overrun

This measure shows the total works completed that exceeding the planned duration per calendar year



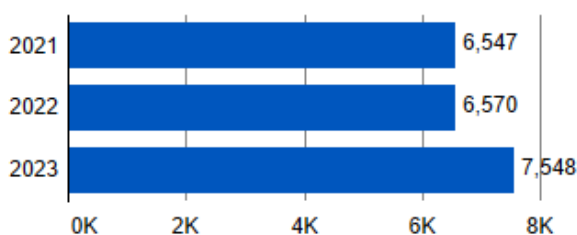
### TPI6 Number of deemed permit applications

This measure shows the deemed applications (PAA, permti and permit-variation) per calendar year



### TPI7 Number of Phase One Permanent Registrations

This measure shows the total works completed with a permanent registration per calendar year



## Annex C: Glossary and common terms

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<b>Council</b>	Coventry City Council including their capacity as a Local Highways Authority.
<b>DfT</b>	Department for Transport
<b>Duration</b>	A work duration is calculated in calendar days based on the actual or proposed works start date and the actual or estimated works end date, inclusive of both days. Refer to Evaluation methodology for further information.
<b>EToN</b>	The Electronic Transfer of Notifications, the nationally agreed format for the transmission of information related to works between the Council and those undertaking works.
<b>HAUC</b>	The Highway Authorities and Utilities Committee.
<b>NRSA</b>	New Roads and Street Works Act 1991.
<b>PAA</b>	Provisional Advanced Authorisation, which is a notice sent only in relation for Major works 3 months in advanced of the proposed start with a higher-level of detail for the intended works.
<b>Permit</b>	Permission sought by a Promoter to undertake works on the highway, in accordance with the Permit Scheme.
<b>Permit condition</b>	<p>The capability for the Council to apply conditions to a permit, and therefore the work, is one of the primary methods to control and coordinate works through a permit scheme.</p> <p>The conditions that can be applied are set out within Statutory Guidance, <i>each with a reference code comprising NCT with a unique number</i>, within the following categories: date and time constraints; storage of materials and plant; road occupation and traffic space dimensions; use of traffic management provisions; work methodology; consultation and publicity of works; and environmental considerations for noise.</p>
<b>Permit Scheme</b>	The South East Permit Scheme from Road Works and Street Works
<b>Permit Scheme Regulations</b>	The Traffic Management Permit Scheme (England) Regulations 2007, Statutory Instrument 2007 No. 3372 made on 28 November 2007 and the Traffic Management Permit Scheme (England) (Amendment) Regulations, Statutory Instrument 2015 No. 958 made on 26th March 2015.
<b>Permit Variation</b>	The process to change an agreed permit to reflect current or proposed changes in the works.

<b>Promoter</b>	A person or organisation responsible for commissioning activities [works] in streets covered by the Permit Scheme - either an Undertaker or a participating Council as a highway or traffic authority.
<b>Statutory Guidance</b>	The Traffic Management Act (2004) Statutory Guidance for Permits.
<b>TMA</b>	Traffic Management Act 2004
<b>Undertaker</b>	Statutory Undertaker as defined within Section 48(4) of NRSWA
<b>Work</b>	<p>Also referred to as an activity.</p> <p>Work that should be registered to the Council carried out by a statutory undertaker, as a street work, or for the Council, as a road work.</p>
<b>Works category</b>	<p>Every work is assigned a category, based on the following:</p> <p>Major works are works that are 11 days or more in duration <u>or</u> require a temporary traffic regulation order, <i>such as a road closure</i>.</p> <p>Standard works are non-Major works between 4-10 days.</p> <p>Minor works are non-Major works with a duration of 3 days or less.</p> <p>Immediate works are either emergency or urgent works that require an immediate start.</p>

## Annex D: References

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i As defined in the HAUC(England) Advice Note: Standard Permit Response Codes.

2010 is the default base year for the DfT's Webtag appraisal guidance. A common base year allows costs and benefits from different years to be compared in a common unit of account.

HUSSAIN, R.S. ... et al, 2016. Evaluating the road works and street works management permit scheme in Derby, UK. 95th Transportation Research Board Annual Meeting, 10<sup>th</sup>-14th January 2016, Washington DC

DfT Advice Note For local highway authorities developing new or varying existing permit schemes, June 2016.

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