



Hampshire
County Council

Hampshire County Council Permit Scheme

Year 6 Evaluation

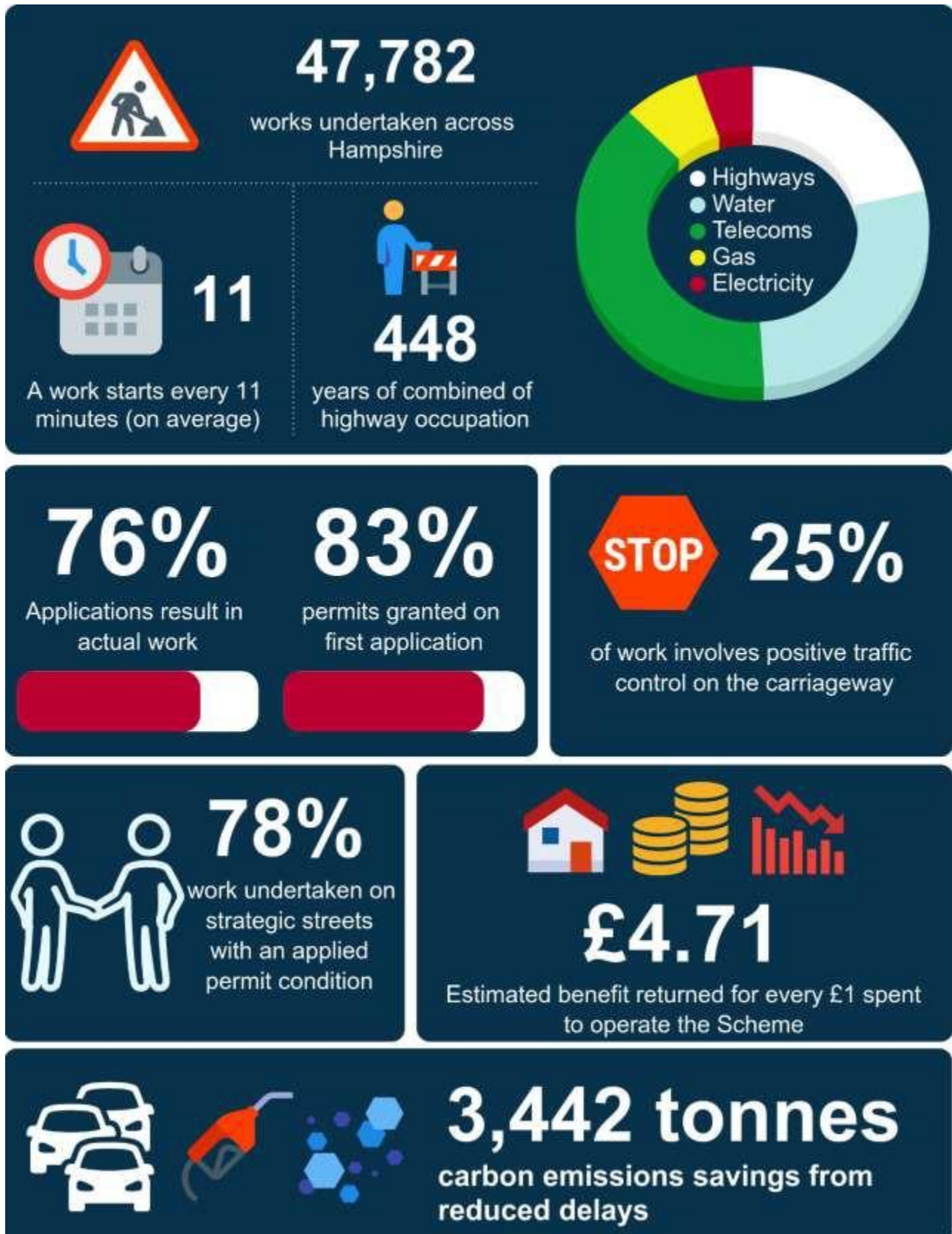
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Key Findings

Figures shown are based on averages over Scheme years 4 to 6 (inclusive)



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, 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 January 2019, the Council introduced the **Hampshire County Council Permit Scheme** (the Scheme). The latest iteration of 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 Regulation 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 6th anniversary of the scheme and includes the provisions set out within the regulations.

The regulations reference key performance indicators set out in Statutory Guidance. Annex A of the Guidance contains a list of Key Performance Indicators. Annex B of this report contains the performance indicator results for each permit scheme year (as available).

Executive Summary

The Hampshire Permit Scheme, introduced in 2019 under the Traffic Management Act 2004, enables the Council to better coordinate and manage works on the highway.

This Year 6 evaluation, prepared by Open Road Associates, fulfils the statutory requirement to review scheme performance, costs, and benefits whilst also demonstrating the effectiveness of the Scheme.

Key findings

Applications and coordination

An average of 76% of permit applications resulted in works being undertaken, with the remainder cancelled or superseded. The Council recognise this is a waste of resource for both them and Promoters, however they are limited in their capability to influence this.

Application lead times met statutory requirements, with the Council exercising discretion to grant early starts where justified by Promoters and where the impact is acceptable. In some cases there may be benefit for work starts to be brought forward.

The Council consistently processed applications within statutory timescales, using refusals, variations, and conditions to minimise disruption. An average of 83% of applications are granted, with 17% refused. The main reasons for refusals being missing conditions and information, clash of works and location issues, proposed timings and traffic management.

The Council actively used its powers to refuse, vary, or condition permits, demonstrating effective coordination and minimisation of disruption. Even after six years of scheme operation, the analysis demonstrates this level of coordination is still required to ensure accurate information and the work impact is limited.

Work delivery and management

An average of 47,700 works are undertaken across Hampshire per year, which equates to a work starting every 11 minutes of each day.

Works were undertaken across all highway asset types, with traffic management consistently applied to safeguard road users, including vulnerable groups.

The capability to measure work durations more accurately since Street Manager shows a combined occupation of c.448 years. The duration of works have reduced compared to averages across the period (2022 to 2025) whilst remaining within the acceptable level and statutory range.

Work exceeding planned duration, overruns, remain a challenge, but the Council has used permit variations and extension controls to mitigate impacts.

The number of collaborative works remain limited, reflecting wider industry constraints, though the Council continue to encourage opportunities wherever possible.

Permit conditions and compliance

Conditions were applied to a significant proportion of works, 78% on strategically significant streets, particularly to manage timing, traffic control and road space occupation, and advanced publicity.

Compliance inspections confirmed high levels of adherence to the scheme, though offences for working without a permit or breaching conditions were issued where necessary and have increased year-on-year since 2022.

Parity and equality

Analysis confirms that the scheme is applied consistently across all promoter sectors, with no evidence of discrimination. Any variations within the measures can be justified by specific Promoter behaviour or the need to treat specific organisations differently, for example for poor performance or quality of information provided.

The Equality Impact Assessment identified a positive impact for disabled users, as permit conditions enable greater consideration of accessibility needs.

Economic and environmental benefits

Even with the benefits of a permit scheme in place, the estimated societal impact of works averaged £75 million per year reflecting the ongoing need for the scheme to coordinate and monitor the impact of works.

Cost–benefit analysis demonstrates a Net Present Value of £62.4m and a Benefit–Cost Ratio of 4.71, confirming the scheme delivers strong value for money (to society).

Carbon emissions attributable to works were estimated at 63,749 tonnes over the period, with annual savings of around 3,442 tonnes CO₂ achieved through reduced delays and more efficient traffic management.

Recommendations

Whilst the evaluation demonstrates many positive outcomes of the permit scheme in Hampshire, there are areas for future consideration that could increase the overall efficiency and effectiveness of the scheme.

Applications and coordination

Refine refusal reasons: Work with works promoters, through existing performance meetings, to explore reasons for wasted applications to try to reduce additional work and improve compliance.

Early start flexibility: Consider formalising criteria for granting early starts where disruption is minimal to improve efficiency.

Work delivery and management

Target overruns: Strengthen monitoring of works exceeding planned duration, and escalate enforcement where repeat offenders are identified through existing performance meetings.

Promote collaboration: Further promote joint-works programmes in high-impact corridors and continue to work with regional groups like South East Highway Authority Utility Committee (SEHAUC) to overcome barriers.

Benchmark durations: Use Street Manager data to identify benchmarks for typical works by category, helping coordinators target duration challenges.

Permit conditions and compliance

Consistency in conditions: Review condition application rates to ensure proportionality and transparency, particularly on strategically significant streets.

Compliance escalation: Given the rise in offences since 2022, strengthen the existing performance meeting process to target worst offenders, identify trends and drive improvements.

Economic and environmental benefits

Public engagement: Consider communicating the £29m reduction in societal impact (Y4–Y6) and 3,442 tonnes annual CO₂ savings to demonstrate tangible public benefit.

Futureproofing: Explore integration with EV charging rollout, active travel schemes, and smart traffic systems to align permit management with wider climate and transport goals.

Strategic development

Lane rental: Consider how the introduction of a lane rental scheme would enhance the effectiveness of the permit scheme and address any current challenges, including these recommendations.

Knowledge sharing: Continue to share experience and operational lessons with other authorities to learn and establish best practice via existing forums such as SEHAUC and Hampshire HAUC.

Conclusion

The Year 6 evaluation confirms that the Hampshire Permit Scheme is delivering its intended outcomes: improved coordination of works, reduced disruption to the travelling public, and measurable economic and environmental benefits. The scheme is financially sustainable, compliant with statutory requirements, and provides clear value for money.

The Council will continue to refine the scheme, particularly in promoting collaborative works, managing over-runs, and ensuring that permit fee structures remain proportionate. Overall, the evaluation demonstrates that the scheme is a mature and effective tool for managing Hampshire's highway network.

Analysis of Applications

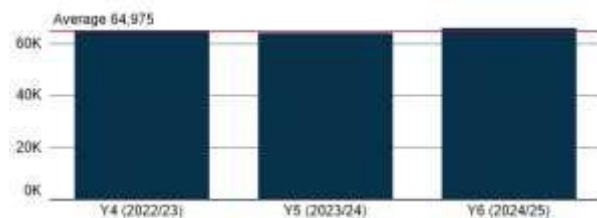
Applications for work

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 a permit application. provisional advanced authorisations (PAAs) and non-statutory forward planning notices are excluded from analysis.

Applications received

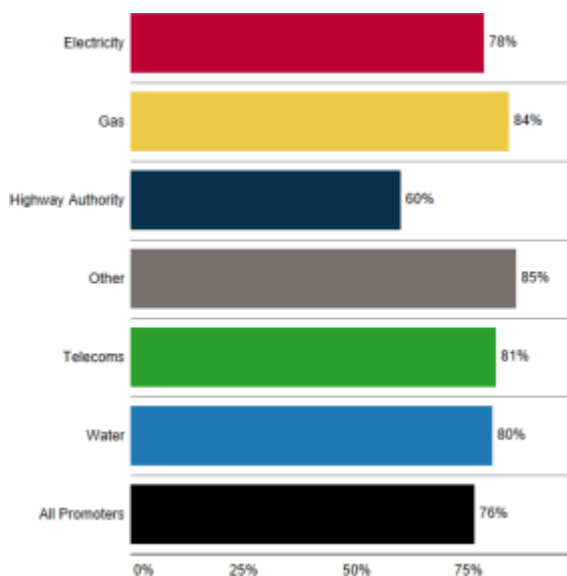
The chart below shows the volume of applications received per Scheme year.



Not all applications for work result in an actual work, with many phases being cancelled or superseded.

% of applications used for work (last 3 years)

The chart below shows the proportion (% of total) of applications for planned work that result in a work (undertaken) per Scheme year by Promoter sector.



Application lead time

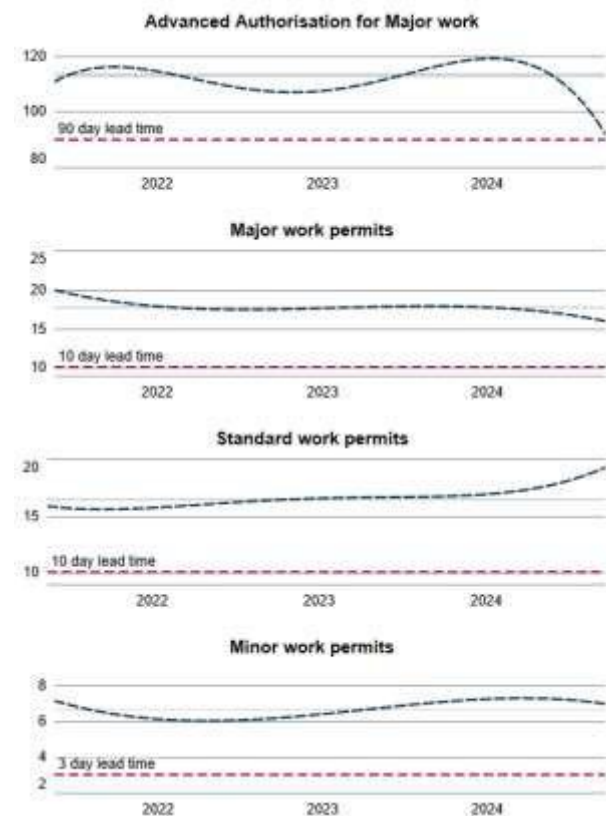
For the Council to effectively carry out the coordination of works, including the advanced publicity of works, it is essential that applications are submitted with sufficient lead time based on the work category, as set out within legislation.

- Major and Standard work requires an application lead time of 10 working days prior to the proposed work start date.
- 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 started outside of non-working hours.

Applications lead time per work category

The charts below show the average lead time (grey-band) with a 95% confidence level and polynomial trend (blue-dotted-line) for each work category based on all applications over Scheme years 4-6.

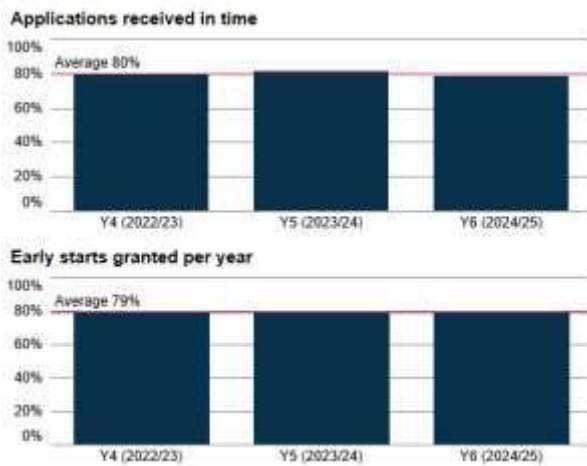


When an application for planned work is not received in time this is referred to as an “early start” as the Promoter wishes to start within the prescribed lead time.

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

Applications for planned work received in time and early starts granted

The charts below show the following measure per Scheme year: [left] the proportion of initial applications received in time (of total received) for planned work (excluding Immediate work), in accordance with the minimum lead time, and [right] the proportion of applications received not in time that were granted by the Council (as a % of total received).



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 amend the proposed work, it is refused, and a response code (based on a set of national codes) **must** be provided.

Responses to applications

The chart right shows [left] PAA applications and [right] permit applications granted by the Council as a proportion of the total received per Scheme year. PAAs and permits that were cancelled or superseded before a response was given have been removed from this analysis.



Reasons for refusals

The chart below shows the response codes used on rejected applications in Scheme years 4-6. A refusal can contain more than one reason and therefore code.

	Y4 (2022/23)	Y5 (2023/24)	Y6 (2024/25)	Total (3 Years)
Lack of traffic management approval [RC40]	141	206	190	537
Other reason [RC50]	242	167	206	615
Coordination issues [RC30]	259	277	343	879
Location issues [RC22]	611	555	644	1,810
Incorrect recipient [RC21]	3	0	1	4
Missing conditions [RC11]	901	757	779	2,437
Early start agreement [RC42]	20	4	9	33
Incorrect details [RC20]	200	156	213	569
Conflicting information [RC23]	203	150	180	533
Missing information [RC10]	548	455	369	1,372
Excessive duration [RC44]	56	38	63	157
Traffic management details [RC12]	427	405	508	1,340
Timing of works [RC32]	581	662	859	2,102
Incorrect traffic management [RC41]	108	288	145	541
NRSWA Section 58 restriction [RC43]	118	35	24	177
Clash of works [RC31]	1,652	1,218	1,902	4,772
Collaboration opportunity [RC33]	39	25	33	97

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)

Changes to work during the planning stage

The charts right 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 based on the measures detailed in the section above.



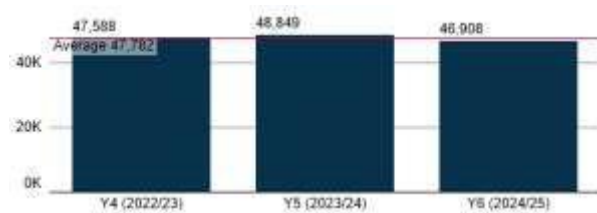
Analysis of Work

Work undertaken

Works are treated as 'undertaken' when they have reached a stage of 'in progress,' i.e. *work has started*. On average 76% of applications received result in an actual work, with the reminder cancelled or superseded.

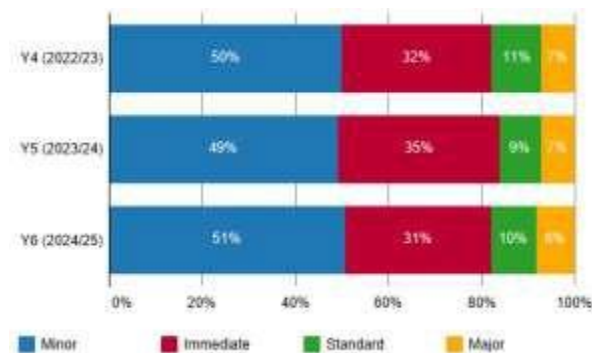
Work undertaken

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



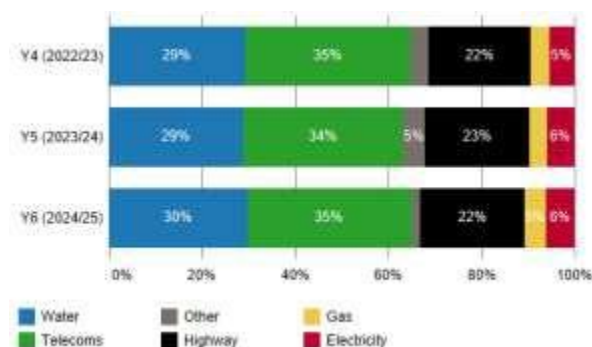
Work undertaken by work category

The chart below shows the proportion of work undertaken per Scheme year delineated by work category (colour legend).



Work undertaken by sector

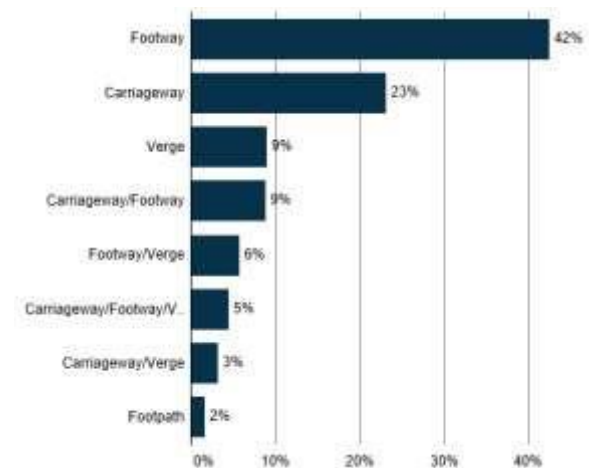
The chart below shows the proportion of work undertaken per Scheme year delineated by sector (colour legend).



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

Work location

The chart below shows the recorded location for work undertaken in Scheme years 4-6.

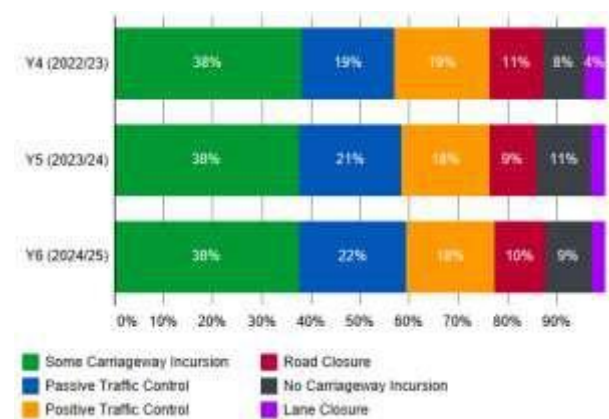


Traffic management

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 (days) per Scheme year.



Work duration

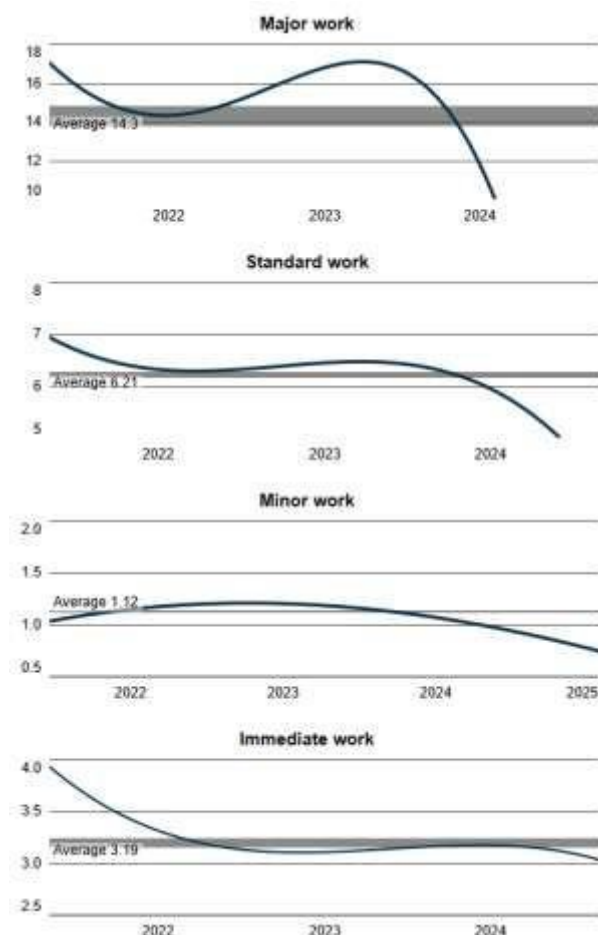
Analysis of work duration is based on works undertaken only. Durations are typically calculated in whole calendar days. Typically, a work will not take the whole day so detailed analysis should be in actual times (minutes).

Since the introduction of Street Manager in 2020 there is a more accurate record of actual start and stop times for their works. This allows analysis based on the timing of work.

Average duration and trend

The charts below show an average duration (blue-line) with trend (orange-band) for the four work categories across Scheme years 4-6.

The average and trend are calculated using the actual duration. Average duration is shown with a 95% confidence level distribution. The trend is based on a polynomial model with 3+ degrees of variation.



Work exceeding agreed duration

Works that exceed their agreed 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**. The duration of the unplanned duration is measured in **calendar days using the timing of the work**.

Promoters may request a work extension whilst works are in progress, which can be granted or refused by the Council. Further analysis on the applications for work extensions and the Council's response to these extensions can be found in the Analysis of Permit Variations section (next page).

Works exceeding planned duration

The charts below show the following measures per Scheme year [top] the total number of works undertaken where the actual duration exceeds the planned duration; [middle] the proportion of all works undertaken (% of total) that exceeded the planned duration; and [bottom] the additional duration (calendar days) of days not planned for.



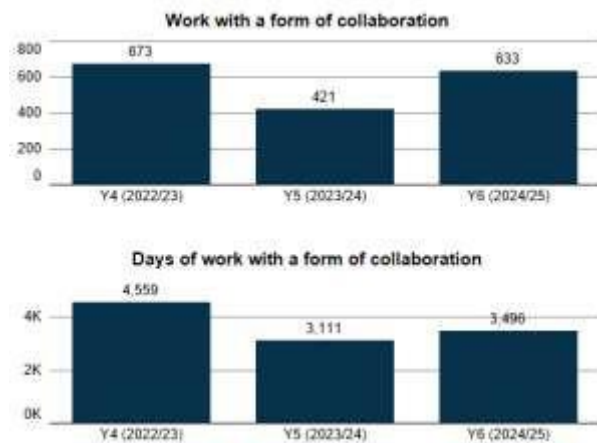
Collaborative works

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.

Collaboration between Promoters is recognised as an industrywide challenge, with limited opportunities and practical limitations within work delivery constraints, resource schedules and methodology.

Works with a form of collaboration

The charts below show [top] the number of works with a form of collaboration and [bottom] the total days per Scheme year.



Analysis of Permit Variations

Variations to permits

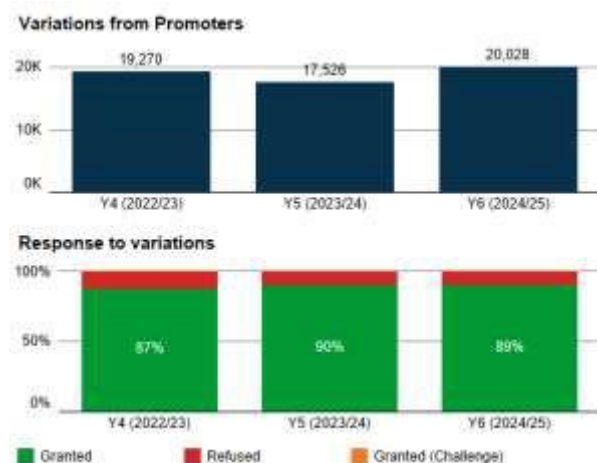
Both regulations and the Scheme includes a provision for the Council to vary or revoke a permit. Therefore, a permit variation (*change request or alteration as named in Street Manager*) can be issued either by the Promoter for the Council to grant or refuse, or by the Council to the Promoter as an imposed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

There are many reasons why variations are issued from either Promoters or the Council. Promoters issue variations for one of three changes:

- **Permit modification** where a Promoter is responding to a permit modification request (refusal) from the Council.
- **Promoter change request** where a permit has been granted and the Promoter wants to vary the permit.
- **Promoter imposed change** where a Promoter wants to vary a permit that has not been granted.

Variations from Promoters

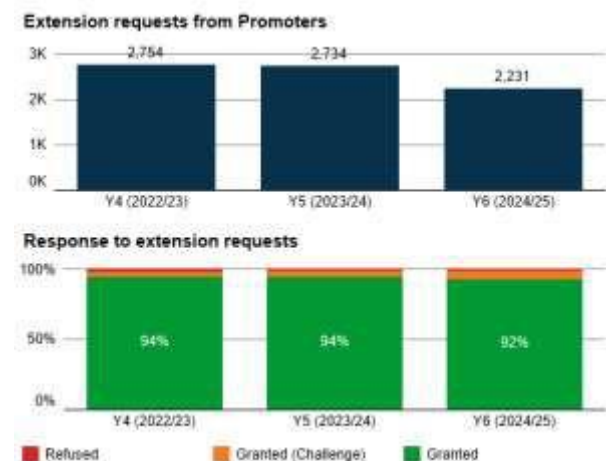
The charts below show the following measures per Scheme year: [top] permit variations (excluding work extension) issued by Promoters and [bottom] the proportion of these variations granted (% of total). Applications that were cancelled or superseded before a response was given are excluded.



Promoters can also submit a **work extension request** where they want to change the proposed end date of work once a work has commenced.

Work duration extension request

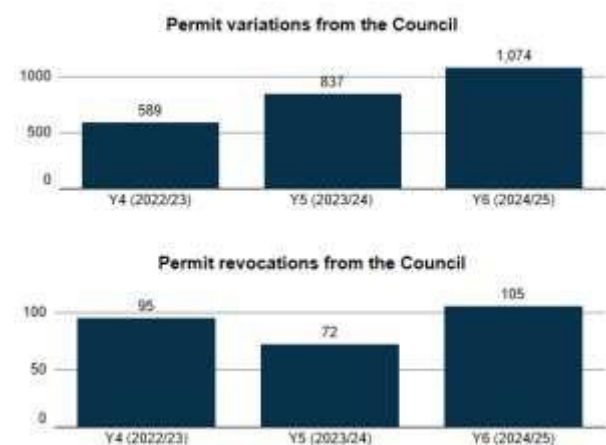
The charts below show the following measures per Scheme year: [top] requests for work duration extensions; [bottom] the % (of total) responses to requests for duration extensions from the Council.



The Council can also issue a **Highway Authority imposed change** where they want to make a change to the permit. The Council can also revoke a permit where the work cannot take place or should be stopped and closed down if in progress.

Variations and revocations issued by the Council

The chart below shows the following measures per Scheme year [top] the volume of permit variations from the Council and [bottom] permit revocations issued by the Council.



Analysis of Permit Conditions

Use of permit conditions

The permit application process allows the Council to apply or amend conditions (within categories defined in Statutory Guidance). The use of conditions is a primary benefit of a permit scheme.

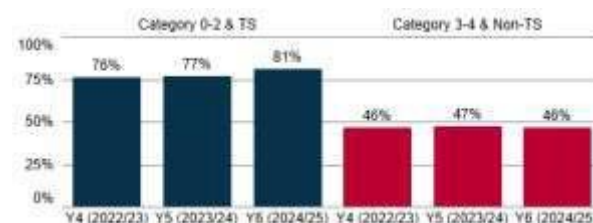
It can be impracticable to determine the criteria for a work and whether a condition could, or should, have been applied or not. In addition, it is not always possible to determine the effect of the condition or an outcome that can be quantified.

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

The analysis delineates works on their category and traffic-sensitivity designation where category 0, 1 and 2 streets and those with a traffic-sensitivity designation are considered more strategically significant.

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 by street category and traffic-sensitivity.



Conditions applied by type

The chart below shows conditions applied, by their type, to work undertaken per Scheme year by street category.

	Y4 (2022/23)	Y5 (2023/24)	Y6 (2024/25)
Date and times [NCT02a]	5,272	5,608	5,556
Extended working hours [NCT02b]	923	524	609
Ancillary activity information [NCT03]	2	64	132
Removal of materials or plant [NCT04a]	126	177	261
Storage of materials or plant [NCT04b]	222	237	380
Road occupation [NCT05a]	462	467	458
Road space available to traffic [NCT06a]	1,083	1,082	998
Road closure [NCT07a]	193	248	403
Specified traffic control [NCT08a]	2,807	3,059	3,270
Manual traffic control [NCT08b]	937	1,036	1,057
Traffic management changes during work [NCT09a]	379	436	427
Traffic management arrangements [NCT09b]	1,545	1,427	1,240
Removing temporary signals [NCT09c]	2,462	2,688	2,882
Changes to traffic management arrangements for Major work [NCT09d]	69	279	282
Work methodology [NCT10a]	253	296	229
Advanced publicity [NCT11b]	911	1,466	1,167
Environment noise control [NCT12a]	93	167	189
Exceptional circumstances [NCT13]	0	0	0

■ Category 0-2 & TS
 ■ Category 3-4 & Non-TS

Benefits of conditions applied

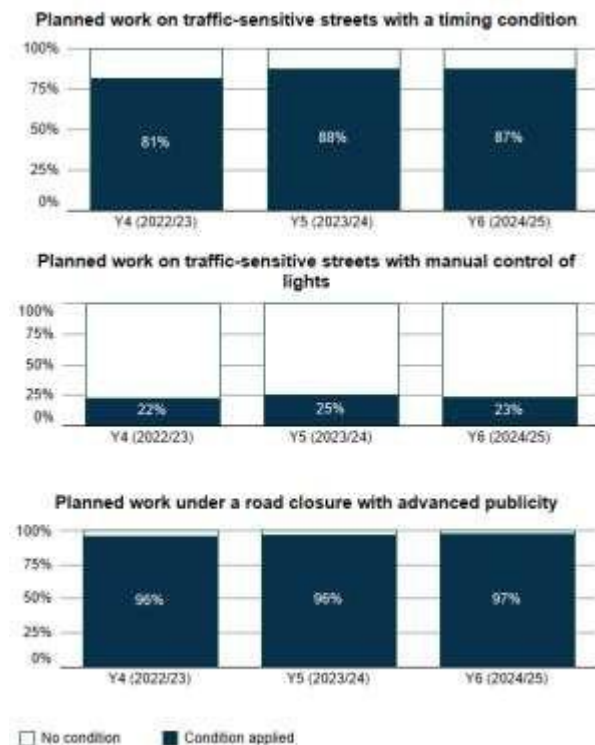
It is difficult to effectively delineate work where a condition could *or may* be applied as relevant elements of the work are not specified within the data for analysis, *such as whether the work involved surplus spoil or materials or required a specific work methodology.*

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.

Conditions applied to work scenarios

The charts below show the proportion of work (% of total) with an applied condition based on the defined scenarios (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 conditions.

Permit condition inspections

The charts below show [top] the volume of permit condition inspections recorded per Scheme year, and [bottom] the % of inspections passed.

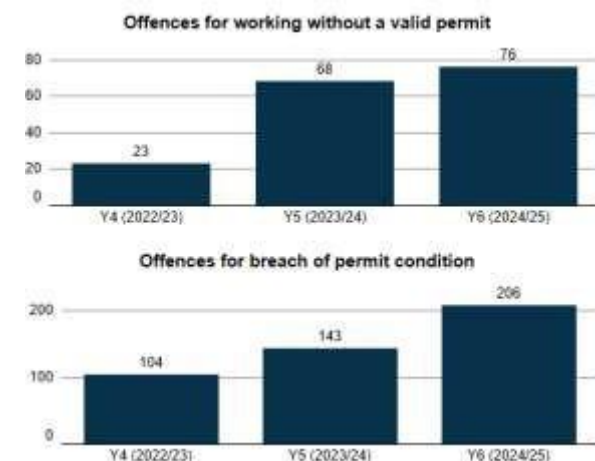


Permit offences

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

Permit offences issued to Promoters

The charts below show the number of offences issued and not withdrawn per Scheme year for [top] working without a permit and [bottom] breach of conditions.



Reason for permit offence

The chart below shows the reasons provided in the breach of permit conditions offence issued to Promoters per Scheme year.

	Y4 (2022/23)	Y5 (2023/24)	Y6 (2024/25)
Working window [NCT1a/b]	1	1	0
Dates and times [NCT2a]	2	0	2
Extended working hours [NCT2b]	0	0	1
Removal of materials or plant [NCT4a]	0	0	2
Storage of materials or plant [NCT4b]	0	0	0
Road space allowed [NCT5a]	1	3	3
Road space available to traffic [NCT5a]	0	0	1
Road closure [NCT7a]	0	0	0
Traffic management request [NCT8a]	0	0	1
Manual control of traffic management [NCT8b]	0	6	10
Changes to traffic management [NCT9a]	6	7	8
Offence_Failure_Condition_NCT9b	0	0	0
Signal removal after use [NCT9c]	0	0	0
Work methodology [NCT10a]	0	0	0
Advanced publicity [NCT11b]	1	1	0
Display of permit number [NCT11a]	69	54	99
Environment - noise control [NCT12a]	0	0	0
Working without a permit	0	1	4
Other reason	25	73	77

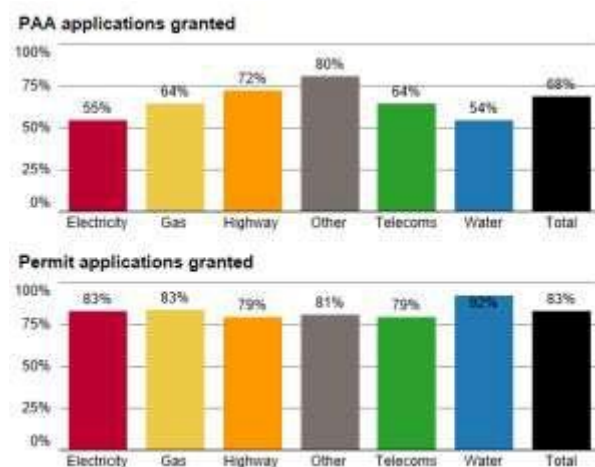
Analysis of Parity Treatment

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).

Measuring parity treatment considers specific measures for each sector across Scheme years 4 to 6 (combined).

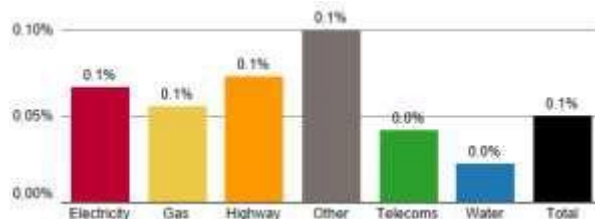
Applications granted

The charts below show applications granted (as a % of total received). The analysis excludes applications deemed (granted), superseded or cancelled before a response was given.



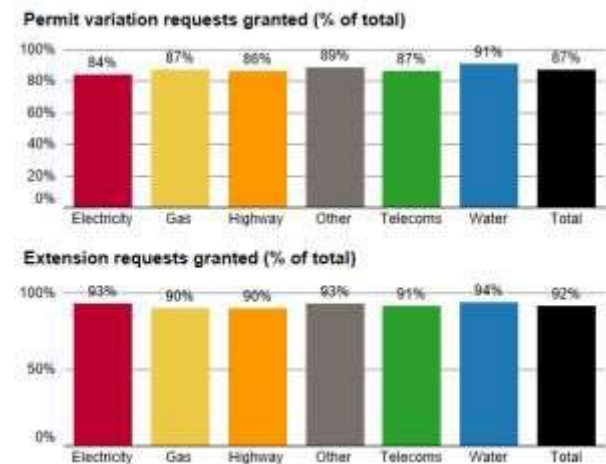
Applications deemed

The chart below shows the % (of total) PAA and permit applications that were deemed (granted). The charts do not include applications superseded or cancelled before a response could be given.



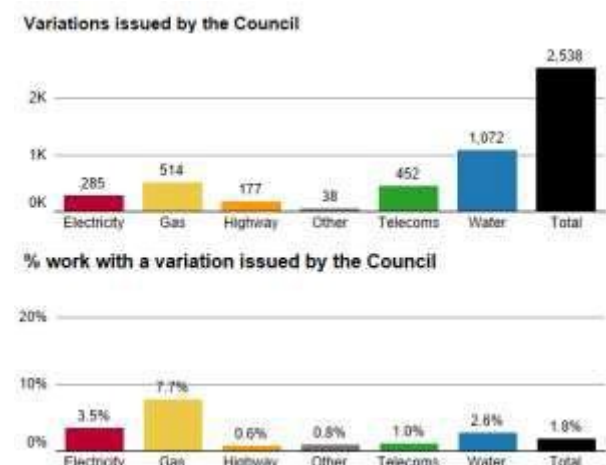
Permit variations granted

The charts below show permit variation applications granted (% of total) for [top] requests for extensions and [bottom] other variations. The analysis excludes applications deemed (granted), superseded or cancelled before a response was given.



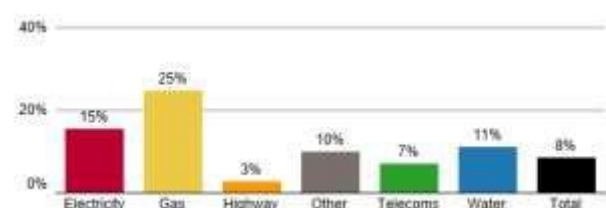
Authority issued variations

The chart below shows [top] the number of variations issued to Promoters from the Council; and [bottom] the % of work with a variation issued by the Council.



Work with a live site inspection

The chart below shows the number of works (% of total) with a live site inspection.



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

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 roads (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. The table below provides the estimated impact of work per Scheme year for work impacting the carriageway only. This forms the basis of the overall economic appraisal.

Year	Impact £
Y4 (2022/23)	88,378,175
Y5 (2023/24)	77,462,918
Y6 (2024/25)	58,964,551

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. The results of the cost benefit analysis are set out in the table below.

Appraisal Metric	Value
Net Present Benefit of Scheme	79,178,363
Net Present Cost of Scheme	16,800,845
Net Presented Value of Scheme	62,377,518
Benefit to Cost Ratio	4.71

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.

Noise	
Local Air Quality	
Greenhouse Gases	4,378,552
Journey Quality	
Physical Activity	
Accidents	3,765,337
Economic Efficiency: Consumer Users (Commuting)	19,900,310
Economic Efficiency: Consumer Users (Other)	29,850,464
Economic Efficiency: Business Users and Providers	28,384,155
Wider Public Finances (Indirect Taxation Revenues)	-7,100,454
Present Value of Benefits (see notes) (PVB)	79,178,363
Broad Transport Budget	16,800,845
Present Value of Costs (see notes) (PVC)	16,800,845
OVERALL IMPACTS	
Net Present Value (NPV)	62,377,518
Benefit to Cost Ratio (BCR)	4.71

The benefit to cost ratio (BCR) is a measure of value-for-money exhibited by a scheme. With a BCR of 4.71 the permit scheme can be defined as delivering greater benefit than it costs and classified as 'Value for Money.'

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 does NOT provide a good measure of value for money and should not be used as the sole basis for decisions.

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 £4,496,889 (2010 prices), which represents around 6% of overall work impact cost.

The implied carbon emissions attributable to works in the area amounts to 63,749 tonnes. This amounts to around 5% 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 3,442 tonnes CO₂ 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 over 2,868,727 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 April 2019 and March 2020 (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 Street Manager 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 may delineate 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 assessed 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 and adjustment

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 data-set 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 based on 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 **QUEues And Delays at ROadworks** (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 2017¹. 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).

¹ [permit-schemes-evaluation-report](#)

Transport for London's analysis submitted for the London Permit Scheme (LoPS) application assumes a work impact reduction of 10%. Therefore, to ensure the most rigorous assessment of the impact of the permit scheme for an inner London Borough, the TfL assumption of 10% reduction 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.

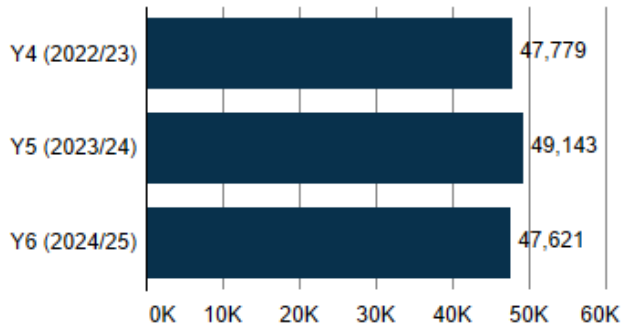
Whilst the scheme has now been running for several years, the appraisal focuses on the projected costs of operation over the coming years, to align with the benefit estimate.

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.

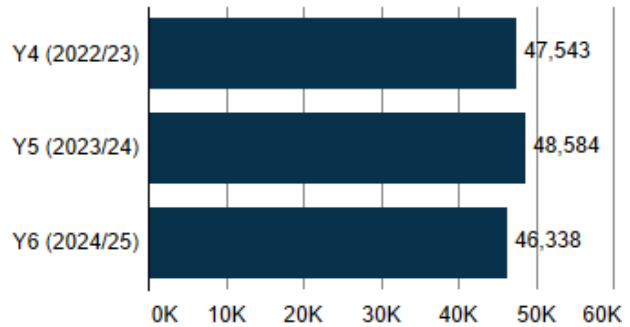
Annex B: HAUC Performance Indicators

The charts below show the HAUC Performance Indicators per Scheme year.

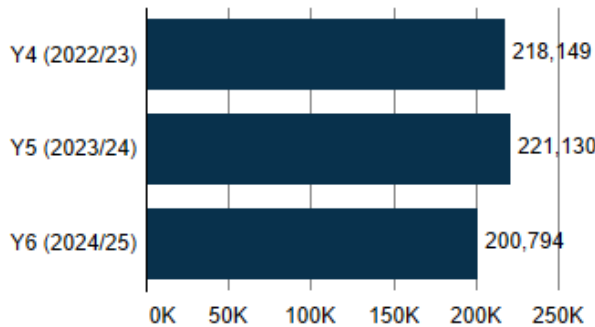
TPI 1 Works Phases Started (Base Data)



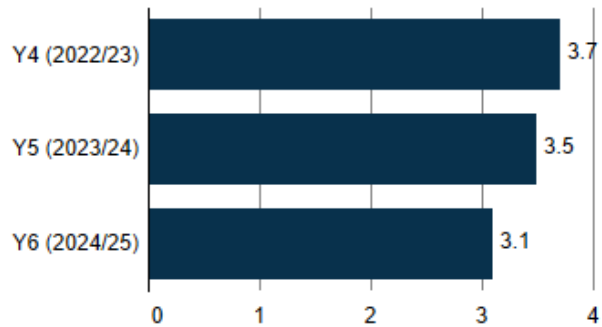
TPI2 Works Phases Completed (Base Data)



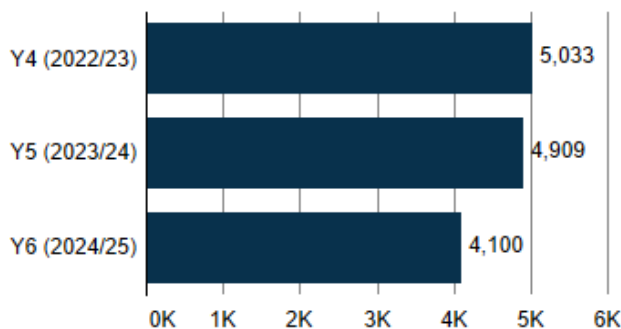
TPI3 Days of Occupancy Phases Completed



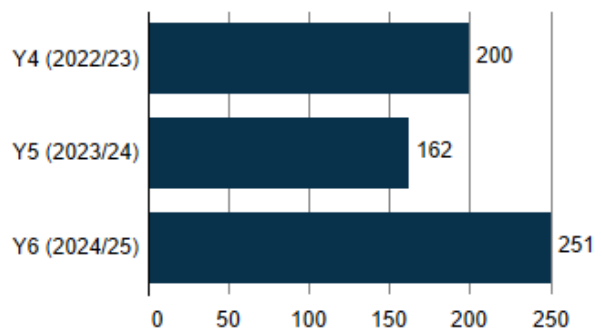
TPI4 Average Duration of Works



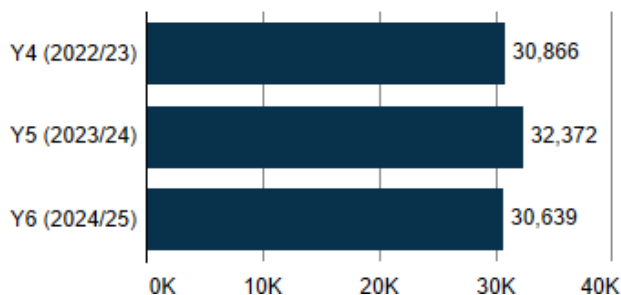
TPI5 Phases Completed involving Overrun



TPI6 Number of deemed permit applications



TPI7 Number of Phase One Permanent Registrations



Annex C: Glossary and common terms

Council	Hampshire County Council including their capacity as a Local Highways Authority.
DfT	Department for Transport
Duration	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. Therefore, a works with an actual start date of 1st April and an actual end date of 5th April would equate to 5 days.
HAUC	The Highway Authorities and Utilities Committee.
NRSA	New Roads and Street Works Act 1991.
PAA	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.
Permit	Permission sought by a Promoter to undertake works on the highway, in accordance with the Permit Scheme.
Permit condition	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. 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.
Permit Scheme	The Hampshire County Council Permit Scheme
Permit Scheme Regulations	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.
Permit Variation	The process to change an agreed permit to reflect current or proposed changes in the works.
Promoter	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.

Statutory Guidance	The Traffic Management Act (2004) Statutory Guidance for Permits.
TMA	Traffic Management Act 2004
Undertaker	Statutory Undertaker as defined within Section 48(4) of NRSWA
Work	Also referred to as an activity. 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.
Works category	Every work is assigned a category, based on the following: 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>. Standard works are non-Major works between 4-10 days. Minor works are non-Major works with a duration of 3 days or less. Immediate works are either emergency or urgent works that require an immediate start.