Permit Scheme Measurement for Hertfordshire County Council

Year 1 Evaluation

Version Final (1.0)

Released on 09 April 2014

Document Content

Foreword from the Authority Sponsor

Hertfordshire County Council wishes to provide safe and convenient transport, which supports the economic well-being of the county, using the most appropriate tools and technology available.

Ever since the 2004 Traffic Management Act introduced the concept of permit schemes, Hertfordshire's County Councillors have expressed a desire to make use of this in Hertfordshire to manage and co-ordinate all activities on the highway.

Hertfordshire has unique traffic problems for a shire county. Three major London airports on its borders, a boundary with London, major north-south motorways running through the county, the M25 running through urban southern areas of Hertfordshire, and 26 large or medium sized towns scattered across the whole county, meaning complex inter urban journeys on the connecting minor roads.

Although there is very high car ownership in Hertfordshire, a major driver for the desire to have a permit scheme where conditions can be applied, is the attention to public and alternative for most transport. Works on minor roads have a cumulative impact on inter urban bus journeys which will affect journey time reliability. By better managing works on minor roads which serve buses and form parts of the cycle network, the modal shift from the private car to other forms of transport can be encouraged. In addition, with around 80,000 works on Hertfordshire's 5,000Kms of highway, that means there is a lot of co-ordination to be carried out.

These points were set out in the business case for the permit scheme which described how conditions and publicity would be used on all roads to reduce the impact of works on all highway users and allow systems to give better real time information about current and predicted traffic flows, allowing users to make their own decisions about when and how to travel.

I am pleased that Hertfordshire has been joined by the unitary authorities of Southend-on-Sea, Luton and Bedford, working together to bring consistency to the common scheme which is the East of England Permit Scheme, EEPS. It is also good to see new schemes coming into effect are using some of the best practice developed as part of EEPS.

It has taken a long time to get to where we are now, which recognises the hard work which has gone into making sure the scheme is right for the job.

Well done to all involved, including the other authorities, the DfT and of course the works promoters, both in highways and utilities. I look forward to further continued improvements as the lessons learned from the first year of operation of EEPS lead to developments in its operation.

Rob Smith

Traffic Manager, Hertfordshire County Council

Deputy Director of Environment

1 Introduction

In November 2012 Hertfordshire County Council as a Local Highways Authority introduced a permit scheme, *the East of England Permit Scheme (EEPS)*, as part of the Councils Local Transport Plan as a mechanism to improve network management through better control of works across the Council's highway.

This Permit Scheme Measurement (Year 1 Evaluation) Report, *referred to as the Report*, has been prepared by the Local Highways Authority, *referred to as the Permit Authority*, for the primary purpose of:

- demonstrating the introduction of the EEPS has and will continue to provide the benefits stated as the objectives; and
- outlining any changes required by the Permit Authority and those undertaking works, *referred to as Works Promoters*, to improve the operation of the EEPS.

As part of the application to introduce a permit scheme submitted to the Secretary of State for Transport in 2012, the Permit Authority committed to "*introducing a methodology for measuring and assessing any achievements against the objectives of the permit scheme".*

Section 23 (Monitoring and Evaluation) of the EEPS sets out the principles and methodology to measure and assess the permit scheme against the stated objectives.

The EEPS is a Common Permit Scheme, which is a functionality identical permit scheme operated by a number of different Permit Authorities (under separate Statutory Instruments). The overall methodology and framework for measuring the EEPS is applied to all the Permit Authorities operating the EEPS however it is recognised that there are many influencing factors and results from each of the Permit Authorities so a separate Report has been produced for each individual Permit Authority, with a Summary Report for the EEPS.

It is suggested that this Report is read in conjunction with the EEPS. Any terminology used within this report, *for example to detail scope of a process*, is consistent with the EEPS.

2 Background

Under the powers of the Traffic Management Act 2004, Hertfordshire introduced a permit scheme in November 2012 to enable better management of activities on the public highway. In particular, a permit scheme will improve the ability to co-ordinate works and thus minimise disruption from Undertaker street works, highway authority works, and other event or works promoter activities affecting the public highway. All of these works on all public highways within Hertfordshire's boundaries are covered by the scheme.

Whilst recognising that government figures suggest that only 10% of congestion is caused by planned works public perception is that it is these works that could and should be managed better. This will lead to better information about the current state of the highway network and allow better management to clear routes when unplanned incidents occur.

A MORI Poll (2005) highlighted congestion as a main concern of residents (56%) that needed to be dealt with. The county's settlement pattern of small and medium sized market towns results in a complex pattern of movements between destinations, which is complicated by the addition of through traffic from outside the county resulting in congestion. A lack of east west routes means traffic often travels on the local road network

The overall aim is to ensure expeditious movement of traffic by using the powers available, along with new and emerging technology, and provide information to highway users about the current traffic conditions on the network to allow freedom to make decisions about when and how to travel so that journey time are more reliable.

Hertfordshire's LTP quotes a number of individualities of Hertfordshire, which support the need to apply permits to all roads;

- Over 1 million residents spread amongst a dozen medium sized towns (more than 25,000 population) and many more smaller towns;
- Villages are generally no more than 5 to 10 miles from a range of towns creating complex journey patterns;
- Neighbouring London attracts large commuting flows;
- The county sits astride three of the most important national routes (M25, M1 and A1(M));
- Three of the largest airports sit at the county's boundaries with access and strategic diversion routes running through Hertfordshire;
- Car ownership is the sixth highest in the country;
- 40% of households have 2 or more cars;
- Access to key services, particularly healthcare, is difficult by passenger transport with only 13% of Hertfordshire's residents being able to reach a hospital within 30 minutes by bus or train.

A permit scheme contributes towards the LTP objective;

‘to provide a safe, efficient and affordable transport system that allows access for all to everyday facilities. Everyone will have the opportunity and information to choose the most appropriate form of transport and time of travel. By making best use of the existing network we will work towards a transport system that balances economic prosperity with personal health and environmental well-being.’

The continuing growth in road traffic in Hertfordshire poses a serious threat to the quality of life in the county. The significant problems of safety, congestion, access and the environment can all be linked to traffic flows that are 35% higher than the national average.

Bus operators identify the inner urban routes, which do not follow road hierarchies can often encounter several sets of road works on unclassified roads affecting the same bus route that would not otherwise be co-ordinated.

A permit scheme to manage and co-ordinate works on all roads is likely to result in a saving to the local economy of around £16million per annum.

3 Objectives of the Permit Scheme

Section 2 of the EEPS sets-out the objectives of the permit scheme (shared by all the Permit Authorities operating the EEPS). These objectives are aligned to the overall duty placed on local highways authorities under NRSWA and the TMA, whilst also being practical in consideration to the statutory duty of all works promoters.

The objectives set-out within the EEPS are as follows:

a) To ensure effective co-ordination;

b) To ensure adherence to health and safety and CDM;

c) To protect apparatus, assets and structures;

d) To minimise disruption and inconvenience;

e) To tackle congestion;

f) To encourage good practice;

g) To encourage collaboration;

h) To provide better communication to all road users; and

i) To demonstrate parity for all Promoters.

Wherever possible, this Report will provide data and explanation as to how HCC has met the above objectives through the introduction of a permit scheme, or how further operational changes may be applied to measure or deliver these objectives.

4 Executive Summary

Year 1 of the East of England Permit Scheme in Hertfordshire has laid the foundation to achieve many of the objectives for the introduction of the scheme. Continuous development, focused towards delivering these objectives and benefits, in subsequent years of operation is required to fully realise the potential of the EEPS.

4.1. Realising the Objectives

Ensure effective co-ordination

The introduction of the EEPS has allowed HCC to move towards a culture of increased coordination of works, providing the capability to manage the impact of works and events across the entire network. Within Year 1 this has already facilitated the coordination of works in consideration to both localised and cross-network impacts.

A result of applying EEPS to all Works Promoters, there is greater visibility of Highways works across the network. There has been a significant increase in the volume of works being controlled by Network Management. Prior to the introduction of the EEPS the focus on coordination, of Highways works, was towards those with a significant impact to the network. The introduction of the EEPS has provided opportunity to extend this control to all works.

Ensure adherence to health and safety and Construction Design Management

The capability to review, approve, amend and apply conditions to the traffic management, *proposed by the Works Promoter*, for their works has led to one of the greatest benefit from the introduction of the EEPS. HCC now have the capability to ensure works are carried out in a safe manner, for both the road user and the work-force.

The capability to carry out further Inspections for permit compliance has helped HCC to ensure the traffic management agreed on the permit is applied correctly and take action where required.

The correct use of traffic management and ensuring the appropriate width of remaining carriageway, footway or cycle-way around works is maintained (through a permit condition and the permit compliance inspection) has enabled HCC to ensure there is a safer environment for the travelling Public.

Protect apparatus, assets and structures

Permit coordination, especially in consideration to long-term planned works, has enabled HCC to minimise the impact of excavation works on roads that have undergone recently completed schemes, such as resurfacing.

The application of consultation and special engineering difficulty type conditions has ensured the necessary planning and consideration has been made on sections of the network that required increased protection.

The framework of coordination introduced by the EEPS has allowed HCC to develop more rigorous processes and controls for works after substantial road works or utility works (NRSWA Section 58 and 58a).

Minimise disruption and inconvenience

The EEPS has provided HCC with the tools to assist with balancing the need for works, *to deliver and maintain assets and essential services*, and minimising disruption and inconvenience.

The process to review, amend and approve a permit (for works) with conditions, has had the most significant positive effect to HCC's network management approach. Requests to work (via a permit application) that will cause unnecessary disruption and inconvenience have been rejected. The coordination process has enabled works to be planned or controlled in consideration to their effect on the network.

Disruption and inconvenience arises not only from baldy planned works, but also variations to these works, either shortly before starting or during actual works. The EEPS has enabled HCC to identify scheduled or unscheduled changes to works and introduce controls to ensure their effect is minimised.

Tackle congestion

The permit application and approval process has enabled HCC to ensure the correct traffic management and carriageway restrictions are used for works on the networks. The application of conditions associated to the traffic management, *such as limiting the timings or changing the type of traffic management*, will undoubtedly have an impact to tackling congestion.

The EEPS contains a standard conditions, applied to all relevant permits, for works carried out under traffic management at traffic-sensitive times. Compliance to this standard condition and those other applied to permits has helped ensure this process has had a maximum effect.

The coordination of works has been linked to HCC Integrated Transport Control Centre which enables decisions to be made on both planned and unplanned works where areas of congestion exist on the network.

Encourage good practice

Even in the first year of operation, *during a time of embedding new ways of working*, good practice has been encouraged and established.

- First time reinstatements of works has been increased, removing the need to return to site and carry out further works;
- There has been an overall reduction of statutory undertaker applications for works, compared to previous notice volumes, which is being attributed to a "getting is right first time principle";
- The application of conditions on the initial permit application, *by the Works Promoter*, demonstrates consideration to the effect on the network;

- The quality and information received from the Works Promoter on the proposed or Immediate (Emergency or Urgent) works has improved;
- Discussion between HCC and Works Promoters has seen a significant increase, which more collaborative effort to facilitate works;
- The processes and control mechanisms available from a permit scheme has enabled the development of statistics, which provide insight into performance and operation.

Encourage collaboration

Effective collaboration of works remains one of the greatest benefits to the inconvenience and disruption caused by works, but also one of the hardest to achieve. The nature of certain works, multiple different organisations, commercial constraints and the planning process limit HCC's capability to enforce collaboration.

Within Year 1 HCC has been successful in bringing forward planned works, during the application and approval process, to increase the number of contiguous works, not necessarily overlapping works. Although this does not necessarily reduce the occupation of the network, it does have a positive effect to the road user.

The process and control mechanism, together with related statistics has improved coordination meetings and develop the shared responsibilities between HCC and the Works Promoters (to minimise the impact of works).

Provide better communication to all road users

The need for Works Promoters to secure a permit before planned works, together with improved visibility of long-term programmed works, has improved access to information on works by all road users, local residents and business within Hertfordshire. HCC have taken the opportunity to work with www.roadworks.org to increase the visibility of all works, including those during the initial coordination phase where a permit will be required, but has not been applied for.

The process and control provided through the permit application and approval process has enabled HCC to enforce their communications protocol. The application of conditions specifically focused on Consultation and Publicity, *such as advanced warning boards or letters to local residents prior to works starting*, has been used to very positive effect in Year 1.

4.2. Operational Efficiency

Initial focus with the introduction of the permit scheme was on processing permits in a consistent manner. In house providers were inducted into the East of England Permit Scheme at all levels and trained where required on providing permits.

Weekly meetings were set up to ensure all coordinators could discuss issues they were having and resolutions to these issues agreed and rolled out to ensure a consistent approach. Statistics for year 1, provided in the appendices, demonstrate that the scheme is managed in an efficient manner. Focus for year two onwards is to refocus towards bringing Network benefits whilst still operating in an efficient manner

4.3. Parity Treatment

Under noticing the HCC managed works on the highway in an unbalanced way. Not all of HCC own works were noticed and the inspection regime was not equally applied. The introduction of the permit scheme enabled this to change very quickly. All of HCC own works are permitted and inspected in parity with Statutory Undertakers.

A Measurement framework has been developed and is applied equally to all Works Promoters. This framework allows HCC to focus on the providers that are not performing in line with the rest and target those that are causing or have the potential to cause most disruption on the Network.

5 Measurement Framework

5.1. Approach to Measuring the EEPS

As part of the initial assessment for the introduction of a permit scheme and the subsequent application to the Secretary of State for Transport, the Permit Authority conducted a Cost: Benefit Analysis (CBA) on the likelihood of a scheme to deliver value for money (as a benefit to cost ratio).

This CBA was based on the principles of the Department for Transports New Approach to Transport Appraisals (NATA) framework and include broad assumptions on the costs and benefits of a permit scheme.

There is no set guidance or framework for the measurement of a permit scheme, post-formal review and acceptance, so the collective Permit Authorities operating the EEPS have produced a measurement framework aligned to the principles of:

- ensuring the capability to use existing data to determine both qualitative and quantifiable results linked directly to the introduction of the permit scheme;
- providing assessment that can influence decisions for addressing any areas that need improvement, both within the Permit Authority and for all Works Promoters;
- providing comparison data before the scheme was introduced to show a variation in behaviour or performance (where available and applicable);
- limitations to data recorded and processed through the EToN[1] Technical Specification (ETS);
- delivering measurements that are value for money, to ensure the cost to collect data, prepare and analyse the results does not exceed a fair and reasonable and are consummate to the costs for operating the scheme; and
- learning from the assessment and analysis completed for permit schemes already in operation.

At a high-level, the Measurement Framework contains two different types of measurements: (1) efficiency and (2) effectiveness, which can be linked but are fundamentally different.

For the purpose of this Report, effectiveness is described as the achievement of the stated objectives and efficiency is described as the way in which the process of operation is carried out.

To help understand this principle, consider the role of a Coordinator of Street Works: they could be efficient at processing all permit applications within the timescales set-out for response; however are they also being effective at imposing conditions to minimise the impact of these works on the network?

[1] Electronic Transfer of Notifications

Ideally, for any operation to be a success it must be both efficient and effective. In some areas of operation, poor performance of efficiency is often an early indicator to not achieving the overall objective(s).

Wherever it is possible, pre-scheme data and analysis has been provided in order to demonstrate a variation in behaviour and/or performance that is directly linked to the introduction of the EEPS.

Within this Report, the term Pre-Scheme refers to the period 31 October 2011 to 04 November 2012 and Year 1 refers to the period 05 November 2012 to 01 November 2013.

5.2. Measuring Efficiency

The efficiency measures included within this Report are detailed below. Some of these measures provide base-data (volumes), on which further measures can be applied, for example *the volume of Permit cancellations from the total of applications received.*

Further explanation of the actual measure and the result to be determined from this measure are included within Section 6 of this Report and the associated appendices.

- Volume of Permit Applications;
- Volume of Permit Applications, delineated by Granted, Refused or Deemed;
- Volume of Permit Variations Applications;
- Application of Conditions, delineated by Condition Type;
- Volume of Approved Extensions;
- Application Lead Time, delineated by adherence to minimum timescales and average lead time;
- Volume of Authority Imposed Variations;
- Volume of Permit Revocations;
- Volume of Permit Cancelations;

5.3. Measuring Effectiveness

The effectiveness measures included within this Report are detailed below. Further explanation of the actual measure and the result to be determined from this measure is included within Section 7 of this Report and the associate Appendices.

- Average Duration of Works (Appendix I);
- Permit Compliance Inspections (Appendix J)
- Post Section 74 Inspections (Appendix J);
- Performance Measure Indicators (Section 7.2)
- Case Studies where the permit scheme has delivered a clear benefit (Section 7.3)

- Case Studies where working relationships have improved as result of the permit scheme regime (Section 7.4);
- NHT Survey - Traffic and Congestion Indicators (Section 7.5); and
- Analysis on the application of conditions (Section 7.1).

The methods used to measure effectiveness of the EEPS are continually being refined and developed.

Average Journey Time and Journey Time Reliability Analysis

One of the expected outcomes from the introduction of a permit scheme is a positive impact to journey times – both averages and their reliability. As yet HCC, and the other EEPS Permit Authorities, have been unable to identify a robust method to measure this outcome.

The EEPS Permit Authorities, including HCC, are fully supportive of the development of measures to demonstrate the impact a permit scheme would have to average journey times and journey time reliability. Any nationally agreed and implemented measures would be adopted by HCC for any future Reports.

QUADRO Analysis

Prior to the scheme coming into effect, HCC used an external Consultant to develop a Cost:Benefit Analysis (CBA) – *a copy of which is available on the EEPS website*. This CBA contained quantitative elements of analysis based on the use of QUADRO (QUeues And Delays at ROadworks) modelling to assess the potential impact of road works and the positive affect a permit scheme could have on these works. These models used traffic data together with road works volume and duration data for a selection of representative road works sites.

When originally considering the methods available to measure a permit scheme, HCC intended to rerun the QUADRO analyses based on actual volume and duration of road works taking place on the network during the initial years of operating the scheme. After careful consideration to the resource required to complete this analysis, the associated costs (for an external resource) and the usefulness of the potential output to influence the running of the scheme, *to best effect*, a decision was made not to complete this analysis. HCC does not consider the cost to develop this analysis would provide either value for money or a useful measure.

5.4. Averages

The data used for some of the measures contained within this Report for both notice and permit transactions, *pre-scheme and Year 1*, contain instances of exceptional values. These are generally caused by poor administration by the Works Promoters, *e.g. stop notices being submitted years after works have started,* and do not necessarily reflect a true value for that specific measure.

These exceptional values have the capability to affect the combined average of a measure, thereby providing a potentially false figure. *For example, if one hundred minor works each take 10 days to complete, the average would be ten days. If one of those works took 100 days, then the average would be 11 days (rounded-up). If two of those works took 100 days each, then the average would be 12 days (rounded-up).*

This level of variance may appear extreme, however there are many cases where a Works Promoter has submitted a work stop notice over a year after the works start notice, and in some instances over 400 days after works start. This has the potential to affect the average for durations considerably.

In consideration to this, the collective EEPS Permit Authorities have reviewed the exceptional values and where applicable these values (less than 10% of the total records) have been removed for the calculation of averages, in order to provide a more accurate average statistic.

5.5. EEPS Key Performance Indicators

The Permit Scheme Code of Practice (Chapter 20) stipulates that the Permit Authority must introduce two (of four) Key Performance Indicators. The EEPS contains the following Key Performance Indicators, which are primarily efficiency measurements, although they can be developed to provide an effectiveness measurement. For example, *further analysis of the application of a condition related to collaborative working could indicate a number of days disruption reduced from the use of this condition.*

KPI 1 – The number of permit and permit-variation applications received, the number granted and the number refused;

KPI 2 – The number of conditions applied by condition type;

KPI 3 – Number of approved extensions;

KPI 4 – The number of occurrences of reducing the application period.

These KPIs are included in the efficiency measures within this Report and will be identified within the relevant Section.

5.6. Measurements

The measurements included within this framework are primarily based on data held within the Permit Authority's street works system, which has been designed to operate within the EToN Technical Specification. For some measures, the base-data from these systems has been used for further analysis and extrapolation.

As a result of this, there are some limitations to the data that can be extracted or how it can be delineated into separate transactions to align to a specific function, *for example some EToN systems are unable to delineate a rejection for a permit and permit variation*.

Wherever possible this has been taken into account and assumptions and business-logic have been applied to the output to ensure it provides meaningful analysis.

5.7. National Performance Indicators

HCC are aware of the development and introduction of a set of National Performance Indictors related to the operation of a permit scheme, together with a template for a Permit Scheme Evaluation Report.

HCC, together with the EEPS Permit Authorities, are supportive of a uniform approach to measuring performance across the industry, and are even involved in forums to develop permit and other related measures.

It is recognised that the limitations with introducing a set of national performance indicators are based on the need to:

(a) produce measures (or extract base-data to produce measures) on a common platform and through IT systems built within the EToN Technical Specification; and

(b) develop measures that can be justified with the introduction of a permit scheme and no other network changes or influencing factors.

Wherever possible, the content of this Report is aligned to suggested National measures and templates, however until such time as there is a nationally agreed and base-lined set of measures and reporting templates, the EEPS will continue to produce and publish an Evaluation Report based on the data available that can be aligned to the operation of EEPS permit scheme.

6 Measuring Efficiency

This section of the Report details the results and assessment from the efficiency measures. Further data on these measures is contained within the appendices of this Report and where applicable a summary of this data is provided within this section.

Wherever possible, the measures within this Report are shown for all Works Promoters, and further delineated into works by the Statutory Undertaker (Street Works) and works for the Highway (Road Works).

6.1. Volume of Permit Applications

The basic measure of the EEPS is the volume of permit applications received by the Permit Authority, which provides a value for the EEPS Key Performance Indicator 1. The results of this measure reflect the requirement for all Works Promoters, *including the Council's own highways department and contractors*, to correctly register (permit) their works. *Further detail on these volumes is contained within Appendix A – Permit Volumes.*

Prior to the introduction of the EEPS, the majority of statutory undertaker works were registered, (notified to the Council) providing limited visibility of these works across the network. A minimal amount of the Council's own highways works were registered, primary those of potentially higher impact, *i.e. a Major Activity.*

Since the introduction of the EEPS, the volume of works being received from all Works Promoters has increased (by 39%). This increase is not viewed as an increase of works, but instead the adoption of the EEPS to permit works to avoid the risk of penalties (as a result of not obtaining a permit) and the requirement for parity treatment for all Works Promoters.

The overall increase however is primarily as a result of a significant increase in the permitting of HCC highways works (by c.294%), which are mostly the high-volume short duration (Minor) and emergency or urgent (Immediate) works.

There are c.20,000 permits (c.27% of all permits) for Highways Immediate works, which reflects a business process whereby faults reported by the Public (the majority of which are via the HCC website) are investigated under an immediate permit, to ensure visibility of the works and compliance to the EEPS. HCC need identify a business change whereby investigation of reported faults is not carried out under an immediate permit, but an appropriate permit is generated for any works carried out should they be registerable works.

The volumes of proposed works from the Statutory Undertaker has fallen (by 9%). Initial analysis shows that this reduction is a result of the cessation of speculative notifications.

This overall change to the application for a permit (in comparison to notifications) was expected by HCC. In consideration to the many influencing factors to the application of a permit, *for instance to re-apply after a refusal of an initial permit*, and the varying nature of works on the network – both programmed and reactive (to demand or emergencies), it is difficult to derive any key areas of focus from the Year 1 result.

Overall, in on-going years of operation the continued performance analysis will ensure that the all Works Promoters remain within a reasonable tolerance of their Year 1 averages, taking any investigation action should these fall outside of a reasonable tolerance to determine why and whether any further action is required.

6.2. Volume of Permit Applications Granted, Refused or Deemed

The introduction of the EEPS operation provided HCC with new powers to either Grant (accept) or Refuse (reject) an application to work. With this capability HCC have the opportunity to ensure all registerable works are correctly authorised with consideration to any network impacts and objectives of the EEPS.

The EEPS sets-out timescales for all a Permit Authority to process a permit application (including an application to vary a permit) and if action is not taken within this timescale the permit becomes Deemed, *thereby Granted by default.*

The total volumes of permit applications granted, refused or deemed are contained within Appendix B of this Report. Volumes related to application to vary a permit are contained within Appendix C of this Report.

In comparison to the volume of permit applications received, on average c.81% of applications are being granted, which breaks down further into 76% of applications from the Statutory Undertakers and 88% of application for highways works.

It was expected that the volume of refusals during Year 1 would be high (c.10% of total applications) and also artificial because of necessary education and maturity within the application process, by both the Works Promoters and Permit Authority coordinators. In addition to this, the volume of permit refusals has been affected by:

- the need to apply more conditions to a permit (process that currently requires the Permit Authority to reject the application and the Works Promoter to reapply);
- the incorrect use of other permit scheme model (text for) conditions by Statutory Undertakers working across many different regions and in other Permit Authorities;
- the submission of applications with incorrect coordinates for the location of works;
- challenges to the proposed durations (unacceptable lengths) on initial applications by HCC.

HCC have already undertaken engagement with the Works Promoters to highlight the causes of the refusals and also resolve early bad practices. The results of this should be seen in the following year of operation by an overall reduction in the number of refusals and an increase in granted permits. More detailed analysis of how many applications are required by a Works Promoter before it is Granted could be undertaken, with the objective to obtain a high degree of first-time acceptance.

The number of instances where HCC has not been able to process the application within the minimum processing time, and therefore the application becomes Deemed, are outside of the expected levels.

During the initial stages of operation HCC identified a number of system issues that were causing applications to be missed, and therefore became automatically Deemed. Since the resolution of these issues, the volume of Deemed permits has reached an acceptable level, although there will always remain a time-pressure to process the short lead applications for Minor works (which are the highest volume of works received) and account for the highest % of deemed permits (c.84% of total deemed permits).

6.3. Volume of Permit Variation Applications

The EEPS provides a process to allow a Works Promoter to vary their permit (under set conditions) primarily to advise the Permit Authority of planned changes to works, *ideally before any works have started.*

The visibility of works (both before and after start) provides opportunity to affected road users, local resident and businesses to minimise the potential inconvenience and disruption caused by these works. Controlling any changes (variations) to works limits the follow-up effect changes may have to these affected parties.

As a variation to a permit can be applied for at any stage of the application (even before it has been processed) and during works, and also multiple times for the same permit, the measurement of permit variations should be taken as an indicator on which further analysis may need to be conducted. Volumes on Permit Variations (from the Works Promoters) are contained within Appendix C of this Report.

Overall, the volume of permit variations is 19% of granted permit applications. Of these variations here is a greater volume of variations being received for Statutory Undertaker works (c.23% of all granted applications), in comparison to highways works (c.13% of all granted applications%).

Initial investigation into the cause of permit variations suggests poor pre-activity planning and also the need for the Promoter to change the agreed permit in order to carry out the proposed works. Overall, c.66% of permit variations are being granted (of total permit variation applications made).

There is an even split of variations before (c.48%) and after works have started (c.52%) for both Statutory Undertaker and Highways works, of which the majority are applications to vary the duration of the granted permit (always an increase and not a decrease). The majority of requests for a duration variation are for Immediate works and HCC will undertake a review of the protocol surrounding the application and justification for Immediate activities. The need for this review is also supported by the average duration for Statutory Undertaker Immediate works (refer to section below).

In consideration to permit variations before works have started, the EEPS Permit Authorities have adopted a process whereby promoters submit a variation if a permit has been refused; therefore, the level of variation applications has the potential to be artificially high for Year 1.

6.4. Application of Conditions by Condition Type

A permit scheme not only provides the capability to grant or refuse a permit (and the associated works) but also to attached conditions (constraints) to a permit, *such as timing and duration*. Conditions are applied by the Works Promoter, to their permit, either through their own volition or under the instruction of the Permit Authority.

The application of conditions is considered by the EEPS Permit Authorities, as one of the key powers provided by a permit scheme to help deliver the expected objectives and benefits.

Although Section 10 of the Permit Regulations sets-out seven different conditions types, EToN delineates these further into 13 condition types. The measurements shown in this Report only include granted permits and each permit may have more than one condition type associated with it. This measure provides a value for EEPS Key Performance Indicator 2. A breakdown of conditions applied, by condition type, is contained within Appendix D of this Report.

According to Regulations, any Local conditions (conditions that do not apply to any of the Regulatory conditions types) should be detailed within a permit scheme – the EEPS does not contain any Local conditions so they should therefore not appear as a condition type applied.

Section 7.1 of this Report contains further detail on the application of conditions.

6.5. Volume of Approved Extensions

Within the constraints set out in the EEPS a Works Promoter may request an extension (of duration) to their permit (and associated works). Extensions can have a significant impact on the network due to work end dates being different to those previously agreed and published.

In addition, where extensions are required because of poor planning, *for example, works have completed, but materials or plant still remains on site*, this is an unnecessary occupation and inconvenience.

Identifying and controlling instances of approved extensions support the objectives of the EEPS to improve public awareness and also reduce unnecessary occupation.

Volumes of Extension are contained within Appendix E of this Report and this provides a value for EEPS Key Performance Indicator 3.

Overall, an extension has been requested for c.4% of all works that have started which HCC accept as a reasonable level for Year 1.

The majority of requests for extensions are for Immediate works, the majority of which are by the Statutory Undertaker (c.72% of the total extensions requested). HCC have identified that a significant number of the Statutory Undertaker extensions for Immediate works where in the initial 6 months of Year 1. The monthly average has now halved in comparison (for the latter six months).

6.6. Permit Application Lead Time

Adherence to the correct minimum lead times for a permit application (or to vary a permit) is essential to ensure effective coordination of works by the Permit Authority and to provide opportunities for collaboration between Works Promoters. The visibility of proposed works is also vital to control the impact of works through increased awareness and subsequent journey planning. Section 11 of the EEPS sets-out the timings of permit applications.

The measure of Application Lead Time has been shown within two categories (i) adherence to minimum lead time; and (ii) the average lead time.

6.6.1. Adherence to Minimum Lead Time

The measure for adherence to minimum lead times has been calculated by comparing the date of the application (notification for pre-scheme) and the estimated start date provided within the application (or notification).

Immediate works have been excluded from this measure due to the difficulty in extracting reliable date and time data from EToN systems.

The adherence to minimum lead times provides a value for EEPS Key Performance Indicator 4*, i.e. the applications not in time is an occurrence of reducing the application period.*

The adherence to the minimum lead times for Minor works has achieved are overall acceptable level (c.96% of all applications submitted in time), especially for Statutory Undertaker works. Adherence for other category works has not met a satisfactory level.

When considering the nature of Major works and also the limitation for a Works Promoter to vary a PAA many opportunities have been taken by HCC to reduce the application period in order to ensure these works have minimal effect to the network, either through collaboration or having the works carried out at the right time.

In comparison to the lead times before the introduction of the EEPS, there has been a dramatic variance in the % of applications being made inside and outside of the correct timescales. This reflects the overall change in the process and level of control over works; and should not be viewed as a negative consequence, but instead a result of the process.

For example, before the EEPS a notice for a Standard works may have been submitted 11 working days before the planned start of works, therefore submitted within the correct time. Under the EEPS the very same works may have required a condition, so the original application would have been rejected and resubmitted, for subsequent approval (keeping the same initial proposed start date). This process may take 2 working days and therefore the second application could have been submitted outside the application timescales.

The EToN 6 Permit Application Modification process should provide the capability to provide a more realistic of this measure and analysis for Years 2 and 3 of EEPS operation.

6.6.2. Average Lead-in Time

An important factor to consider for permit application is not only the adherence to the minimum lead times, but the actual lead-in time as this will further demonstrate the planning and visibility of works. All Permit Authorities will want to ensure they have as much visibility and accuracy of proposed works as possible.

There are several instances of applications (or notifications) being received after the planned works start date, which will affect the results of this measure.

Further information on these volumes can be found within Appendix E of this Report.

For Major works the average lead time for PAA's is consistently below the minimum times set-out within the EEPS, but as detailed in the previous section this can be explained by the inability to vary a PAA and there is an overall trend towards an increased lead time. The subsequent Permit Application for Major works initially started below the minimum timescales, but has reached a consistent level beyond the minimum timescales after a few months of EEPS operation.

For Highways works HCC have affected a change where the planning and preparation of Major works has positively increased, thereby affecting the lead-time for the application of the PAA. The results of this should be reflected in this measure for subsequent reporting years.

In consideration to all other permit applications, HCC are pleased that the overall lead times for applications are remaining above (or close to) the minimum (set-out within the EEPS).

6.7. Volume of Permit Cancellations

To ensure the control of works and to proactively minimise the effect of works by many different affected parties it is critical that any booked road space (occupation) should be used for actual works and any booked space not required is cancelled, *in a timely manner*.

Works that are not cancelled or cancelled after the agreed works start date could have a significant impact to those road users who have planned to mitigate the effect of the works, as well as the planning of other works in the same proximity or on a diversion route (in consideration to the originally planned works).

There is no legislation that requires promoters to cancel works, either before or after the start date, however the DfT and HAUC support good practice that Works Promoters should cancel road space booking if not required.

Volumes of cancellations are contained within Appendix G of this Report.

Since the introduction of the EEPS, the overall volume of permit cancellations has remained consistently high in comparison to the volume of Granted permits (c.19%). On average c.64% of the cancellations are being received after (proposed) works start date, which means that on average 1 out of every 3 received cancellations is after works were due to start.

In consideration to the affect the publicity of these works has as a booked space, not utilised, this ratio is too high and unacceptable by HCC. For those cancellations received there is no obligation to provide an explanation for a permit cancellation. HCC intend to dedicate resource to analyse the cancellations received to identity reasons for cancellation and take an appropriate action, such as promoting more effective use of the validity period as allowed with the EEPS.

6.8. Authority Imposed Variations and Permit Revocations

The EEPS provides additional powers for the Permit Authority to impose a variation on a permit (change the works) or to revoke a permit (remove the works). The correct and consistent use of these actions will help to minimise the impact of works on the network, especially those being carried out incorrectly or in situations where network demand requires the change or removal of works, *for example where an incident forces traffic along a diversion route.*

Appendix H of this Report contains the volumes for Authority Imposed Variations and Revocations.

6.8.1. Authority Imposed Variations (AIV)

Across all Works Promoters 1.5% of permits Granted have had an Authority Imposed Variations. Of the total AIV's applied, c.88% where for Statutory Undertaker works and c.11% for Highways works. This represented 2.5% of permits granted for the Statutory Undertaker and works 0.3% of the permits granted for Highways works.

These variations have been applied mostly to Major and Immediate works. For Major works, network demands have required HCC to apply a variation. For Immediate works, this process has had to be used to apply conditions to these works as this is the only form of process available within EToN.

6.8.2. Permit Revocations

The volume of permit revocations applied in Year 1 is low (0.2% of all permits Granted).

Some of these Revocations are as a result of network demands, for example in emergency situations. In some instances, on-site inspections have identified works where incorrect traffic-management is being used, causing negative impact on the network and its users, and HCC have taken the action to remove the works with immediate effect on the grounds of safety.

6.9. Average Duration of Works

The measure of the average duration of works is calculated by the delta in calendar days between the start date and stop date. It would be correct to assume that this does not provide a measure of the duration of actual work carried out, but instead the total occupation of the highway for these works. In many instances, the occupation could span several days, but only one day of actual work is completed.

There are many different influencing factors to average durations, however this analysis will ensure works are in the correct category *e.g. minor activities are 3 days or less,* and also support the identification of bad practices in the submission of start and stop notices.

For the wider impact on the highway, analysis and comparison of durations by work type will assist in identifying good practice and lead to further measure to influence working practices to minimise inconvenience and disruption caused by street works.

When examining the average duration of works carried out within Year 1 and before the introduction of the EEPS there is no noticeable variation and the averages have remained similar.

The overall duration for Minor and Standard works remains close or below the parameters set-out within the EEPS for activity categorisation, which is a positive outcome.

HCC are developing measures and control mechanisms to assess and validate durations of specific activities, by work type and methodology, to minimise unnecessary disruption.

6.10. Section 58 Restrictions

Section 58 restrictions allow the Authority to restrict further works on a street for up to five years following the execution of substantial highway works. Together with the increased visibility of works and capability to coordinate works more effectively, this control under a permit scheme is significantly increased to help protect the structure of the street and the integrity of the apparatus within it.

To coincide with the introduction of EToN6, on 01 April 2014, HCC intend to introduce a formal Section 58 and 58A process. Liaison with the Highways Framework section of HCC has already taken place to ensure substantial highways works can be identified and carried out in accordance with the Regulations (and industry Guidance) to enforce the restrictions.

6.11. Permit Compliance Inspections and Section 74 Inspections

The EEPS not only provides additional controls during the back-office application process, but it also provides the Permit Authority with the capability to take action for any works (from an Inspection) that do not have a valid permit or are in breach of conditions (for a valid permit).

It is essential for the Permit Authority to ensure that works being carried out on the network have a permit and are also compliant to the agreed terms of a granted permit including conditions, *such as timing and duration; or traffic management.*

The increased visibility of works also provides an added benefit of enabling HCC to ensure works are completed according to the agreed specific times, and overruns (Section 74) can be more easily identified (through Inspection) and sanctions put in place to discourage this behaviour.

Whilst there are no regulatory guidelines on the number of Permit Compliance Inspections carried out, HCC carry out a comparative number of inspections (for all works promoters) to an average undertaken for Statutory Undertakers works.

In order to facilitate a sample inspection for Permit Compliance, HCC inspect these simultaneously as the category A sample inspections for each statutory undertaker. This combined volume of inspections is then averaged to set a target for inspecting Highway works.

On average c.73% of work sites pass a permit compliance inspection. The c.27% failure rate is consistent for both Statutory Undertaker and Highways Inspections.

Of the Inspections Failures, on c.18% fail as a result of incorrect traffic management. It is expected that the volume of permit compliance passes will increase as the EEPS operation continues.

Section 74 post inspection targets are currently set at 20% of the agreed Category A Inspection volumes, and are carried out separately to these. A large proportion of the Works Promoters are not obtaining the relevant extensions or duration variations for works that are overrun, and as a result c.34% of Section 74 inspections are failing. HCC will continue to target poor performance in this area in order to ensure the risk of non-compliance to this requirement remains high.

7 Measuring Effectiveness

This section of the Report details the results and assessment from the effectiveness measures. Further data on these measures can be found within the appendices of this Report and where applicable a summary of this data is provided within this section.

7.1. Application of Permit Conditions

During the initial stage of Year 1 evaluation HCC realised that their capability to analyse permit conditions was extremely limited. The only data available, from within their EToN system was the volume of tick-boxes checked for each of the 13 condition types.

Analysis of this data does not provide any meaningful or useful statistics because:

- the detail on the actual condition applied can be ascertained, *for example the Consultation & Publicity type check-box may be ticked but there is no further definition as to what this condition is for, such as advance warning boards, or signage or a letter-drop to local residents;*
- the use of the check-box is very inconsistent and in many occasions incorrect, therefore providing a false-statistic, *for example there are no local conditions within EEPS, but this condition type has been selected on c.4,000 permits;* and
- HCC Network Management focused their attention towards the condition text and use of model text for conditions within Year 1. Efforts to change behaviour to ensure the correct condition type was selected proved futile and of little value.

After consideration to this limitation, HCC undertook an activity to develop the capability to analyse the condition text within each permit. The purpose of this activity was to provide meta-data from the condition text to provide a more quantifiable insight into the application of conditions.

The output from this analysis provides further granularity on the type of condition being applied, *for example below is an extract from the specification to expand the application of the Consultation and Publicity condition:*

LEVEL_1	LEVEL_2	LEVEL_3	PURPOSE
Consultation & Publicity	Consultation	-	A condition to make the Promoter consult with interested or affected parties, prior to works commencing.
	Publicity	Advanced Warning	A condition to specify advance warning prior to the activity commencing.
		Letter/Leaflet/Bulletin	A condition to specify the issuing of a letter, leaflet and/or bulletin prior to the activity commencing.
		Signage	A condition to specify signage before and during the activity.
		Press Release	A condition to specify a press release before the activity.

Overall, this activity provided HCC with the capability to analyse 43 sub-categories within the 6 Regulatory condition types. This condition data can also be cross analysed with the permit meta-data, *for example analysis of Consultation & Publicity conditions applied to Major works, carried out under a Road Closure, with a duration of 10 days or more.*

This capability was developed and tested between December 2013 and March 2014, and HCC are in the process of embedding this level of analysis to feed into the decision-making process and business change for the future operation of the EEPS.

Having the capability to delineate specific condition text into separate categories enabled HCC to conduct a review of the text being used to apply conditions. From this review HCC immediately noticed that the conditions being applied required better control in order to:

- improve the language used, to ensure it was clear and precise;
- ensure use of the (correct) model text for condition reference; and
- remove use of unnecessary or irrelevant condition text, *such as contact details.*

The high-level analysis for the application of conditions, using this text-analysis instead of the condition type check-box, for the condition type and model text references is included within Appendix K of this Report.

7.2. Performance Measure Indicators

There are a number of actions that the Network Management function within a Permit Authority carry out to ensure works are carried out in consideration to the EEPS objectives and benefits, but are not necessarily captured within the content of a permit application. Examples of this include telephone discussions to agree the type of traffic management and movement of dates of activities in relation to school term times.

A process has been identified whereby a result from these actions captured and shown as an effectiveness measurement:

All of these measures will provide key performance data to identify where the introduction of the scheme has had a direct benefit on the network and/or public.

Data is displayed by instances of each measure by month, including network occupation days saved where applicable. Volumes of Performance Measures applied to granted permits are contained within Appendix L of this Report.

Code	Description
PM Extd Wkg [x] Days Saved	To be used when there is a reduction of road occupation (days) through the enforcement of extended working hours - including beyond the standard 0800 to 16:30 and weekend working;
PM Env	To be used for instances where working methods, times, *etc.* have had a consideration to the environment and community well being, for example consideration to noise pollution or environmental pollution;
PM School	To be used where Start and end dates of activities have been changed due to school holidays.
PM TM	To be used where TM plans have been changed (in advance) e.g. increased use of traffic management and variation to TM at specific times (e.g. TS times).
PM CON/COL	To be used where Consecutive/collaborative working has been agreed.
PM PED	To be used where it is agreed that pedestrian access is above the minimum requirement. For example, 3 meters in a shopping area.
PM Section 58	To be used where it is requested that works are carried out prior to resurfacing.

The use of PMI was introduced towards the end of Year 1 in HCC, once the operating processes had been embedded and the initial issues resolved. As such, they should not be used as an assessment of the full year of permit scheme operation.

There have been 215 recorded instances where HCC network management has used their control through the granting of a permit and conditions to reduce the impact of works. During Year 2 of operation HCC intend to develop and refine the recording of these statistics, to provide a more robust measurement..

Overall, results of the PMI show that 144 days of occupation have been saved as a result of extended working hours, consecutive and collaborative working. The latter of which having the most positive result (121 days). These days saved are actually attributable to permits granted between August and October 2013 (three months in total). Taking this into consideration, it is not unrealistic for HCC to expect an annual days saving of over c.600 days of occupation per year as a result of using powers within the EEPS.

With the exception of days saving, it is difficult to align a tangible result to these actions, however it is accepted that there are a lot of positive outcomes from

7.3. Permit Scheme Case Studies

A number of case studies have been prepared to showcase the successes of the East of England Permit Scheme in its first year of operation. The range of case studies covers a number of scenarios to provide a flavour of its effectiveness.

Case study 1 - 'Highways Network Team Permits Three-in-one closure'

On Sunday 17th February Queens Road, The Broadway in Watford was closed by Hertfordshire County Council in order to carry out necessary resurfacing works.

The Broadway is a one-way system with a parade of shops. For these works to be completed safely, the adjoining road Loates Lane, which is also one-way, was also closed. A development on Loates Lane required various new connections to be carried out, some involving full road crossings. Highways Network Team received a request from UK Power Networks to close Loates Lane and carry out their connection to the new property.

They were invited to carry out their connection whilst Loates Lane was closed during the Queens Road surfacing works. Highways then identified a Permit Application from Affinity Water to carry out their new water connection in the same road.

Representatives from Ringway working on behalf of HCC, UKPN and Affinity Water were able to work together within the same closures on the same day. By combining these works, HCC were able to eliminate the need for these roads to be closed again in the near future. The Permit scheme introduced in November incentivises works promoters to work together more often.

This is a sensitive location in the centre of Watford and careful planning went into arranging these works so they were carried out safely and limited disruption to road users, businesses and residents as much as possible.

Case Study 2 - Minor permits with major impacts

Essex Road, Hoddesdon is a highly traffic sensitive street serving a major Industrial Park which operates 24/7. It has two sets of permanent signals and two narrow bridges. Furthermore, Dobbs Weir bridge, to the east, has a weight restriction on it meaning that all HGVs that serve the Park have only one route in or out of it from the west, via the A1170/A10.

Given the volume of traffic it carries combined with its other complexities it takes very little to upset the equilibrium leading to congestion. This can quickly escalate to grid lock with the A1170 and A10 also impacted.

For these reasons *all* permits, no matter their classification or traffic management, submitted on Essex Road are carefully scrutinised by Network Management and with good reason. In December 2012 a utility applied for a minor permit, week days, signing only and restricted to the footway. Based on the information on the permit Network Management were able to ascertain that the works were likely to require carriageway encroachment with associated positive traffic management (Stop/Go or traffic signals). The permit was duly refused with Stop/Go and the condition of Sunday working applied, with a view to minimising the impact on the network.

Unfortunately many more permit applications were submitted for the same works but without the relevant conditions. Network Management intercepted and refused these until a suitably compliant permit application was submitted and finally approved.

This is not an isolated case - there are more examples on this road alone, without even considering the entire County. Prior to the permitting regime it is probable that such notices would have been overlooked and works started at which point HCCs only option would have been intervention. The permit scheme provides HCC with the tool to pro-actively manage *all* of their works and adopt, wherever possible, a position of prevention rather than cure.

7.4. Improved Working Relationships

The introduction of a permit scheme for HCC has provided further opportunities to develop working relationships between the all parties involved with network management and associated activities. Below are a few of examples where the operation of the permit scheme has improved working relationships, to deliver improved network management.

Case study 1

Enterprise as a primary contractor for Affinity Water had Countywide mains replacement works to deliver. There had been little dialogue between Affinity Water/Enterprise and Network Management regarding the location, impact and programming of these works. During December 2012 a number of permits were submitted with significantly less than the statutory 3 months' notice. Of particular concern to Network Management was that some of these were for traffic sensitive routes, with positive traffic management and for extended durations.

The permits were not granted but a meeting arranged with Enterprise to discuss the programme of works, traffic management, restrictions, impact and any communications that were needed. This brought about some improvement, notably improved communications, with Enterprise approaching Network Officers directly to request early starts. However, the number of early start requests with unreasonable and inadequate notice to meet key requirements, such as communications, remained a significant concern to Network Management. It was evident that a meeting between all parties was needed to find a way forward.

Affinity Water and Enterprise met with NM to discuss the issues and agree a mutually acceptable way forward. It was also agreed that this meeting would continue on a monthly basis so that concerns of any party could be addressed and resolved, as well as to serve to build an improved working relationship.

The outcome was a win/win for Authority and Works Promoter and most importantly an improved service to the public. The Works Promoter felt able to take the time to draw up and share a realistic programme, with associated communications which the Authority were happy to support. Understanding the issues on all sides meant compromises could be met ultimately for the benefit of the public via the timely delivery of new utility services, appropriate traffic management restricted to ensure the least disruption and adequate advanced warning.

The permit scheme gave Network Management good visibility across the County to submitted works enabling a trend to be spotted and a consistent approach taken by the Authority for addressing and resolving the issues.

Case Study 2

The Traffic Management Act (2004) has tasked local Authorities with addressing the increasingly serious issue of congestion through the pro-active management of all works on the public highway and to demonstrate parity between their own and other Works Promoters.

Hertfordshire County Council's Network Management Team rose to the challenge of tackling internal attitudes to noticing of its own works putting processes and controls in place to encourage and monitor compliance.

Whilst progress was made noticing was not given a high priority, particularly for minor and standard works, and viewed by some as an unnecessary constraint to delivering works. Therefore for Network Management motivating their Works Promoters to conform to accurate timely noticing was a significant challenge.

Since the launch of permitting in October 2012 there have been significant improvements in both compliance to permitting requirements and accurate timely permits, particularly for minor or standard works. The incentive for HCC's Works Promoter's to conform to the requirements of the permit scheme are high.

There is increased daily interaction between Network Management and the Works Promoters. Works Promoters consult on any issues that may be a barrier to permit approval prior to submitting the permit, in order to get it right first time. Furthermore the Works Promoter's permitting teams have taken ownership of the process and manage the delivery team's expectations in accordance with the scheme, so that only the exceptions are filtered directly through to Network Management. It is a much improved process, with Network Management and the Works Promoter's teams both working towards the same goal of improved permit compliance.

Higher levels of compliance bring benefits to the travelling public. As more works are permitted there is improved visibility to roadworks information via www.roadworks.org. Network Management also have improved visibility to all works that impact on the network, enabling them to apply the right restrictions and encourage co-ordination of works all with a view to reducing the impact of works on the network.

Whilst a permit scheme in itself cannot resolve all of Hertfordshire's network capacity challenges, it has provided a vital tool to assist HCC on its journey towards this goal.

Although working relationships have improved since the introduction of the EEPS, it is evident that there are additional areas where changes can be made to improve interaction and the working relationships. Once area HCC intend to focus on is in the contact details supplied by the Statutory Undertakers within their Permit application. The EEPS is clear that the contact details provided must be for “the person appointed by the Promoter to deal with problems that may occur during the activity”.

HCC provided direct access to their Network Officers, providing the relevant contact details to all Promoters, to ensure that all Promoters can easily contact *the person appointed by the Permit Authority to process their permit and associated applications.*

In many instances the Contact Details provided by the Statutory Undertaker are for a centralised department within their organisation, with no capability to discuss or agree any aspect of the permit or associated works. This not only introduces significant inefficiency in resource, time and cost to identify and establish the correct contact, but it can severely limit the Permit Authority taking action when required. Below is an example of an incident involving a member of Public at a worksite where the lack of appropriate contact details caused an issue:

A permit requested by a Promoter had been Refused by HCC, but the Promoter had submitted an Actual Start notice despite this. This prompted HCC to carry out a site inspection, which identified the Promoter to be working without a valid permit.

At the time of the site inspection, an incident had occurred where a member of the Public utilising a mobility scooter had fallen into the live carriageway, injuring themselves and the paramedics were on site attending to the injured party.

The HCC Inspector assessed the site and spoke with witnesses to ascertain if the incident was due to the works. The general consensus would suggest that the works did contribute to the incident as and there was no footway ramps in place to facilitate safe access from the footway into the temporary walkway provided in the carriageway (a requirement as laid down in the Safety Code).

When the member of Public realised they could not access the temporary walkway, due to a ramp not being in place , they tried to manoeuvre around the obstructing works and the wheels of the mobility scooter dropped down the kerb face tipping the occupant into the live carriageway.

Due to the seriousness of this incident an Operational Manager at HCC proceeded to contact the Promoter to discuss the matter and action to be taken. Senior. Due to the lack of precise contact details on the (rejected) permit it took approximately three hours for HCC to contact the relevant manager responsible for these street works within the Promoter's organisation.

7.5. NHT Survey - Traffic and Congestion Indicators

The National Highways & Transport Survey provides public perspectives on, and satisfaction with, highways and transportation services in local authority areas. Included in the survey are specific questions relating to street works and tackling congestion.

The data shown is for each key measure or sub measure relating to street works and tackling congestion. Where applicable, the score is displayed along with how this score is ranked against all participating Authorities and ranked against the Authority type i.e. County Council or Unitary Council.

The results from the NHT Survey are shown within Appendix M.

HCC carry out regular public perception surveys and citizen panel surveys. These surveys include some generic questions about how well the public feel that the highway authority manages road works. Work is being undertaken to include some more specific question to help gauge the effectiveness of the permit scheme.

One qualitative area of feedback is that with a permit scheme number being displayed on site the public feel that the road works are being managed and co-ordinated better so perception is better.

Data is only available pre-scheme as the survey takes place in June with the results published in September. There is little difference in the results for the 2 years preceding the scheme implementation.

8 Future Operation of the Scheme

The first year of operating the East of England Permit Scheme was predominantly focused towards the changes required to move from a noticing regime to a permit regime.

The foundations established within Year 1 provide HCC with the capability to change their focus towards operating both an efficient and effectives permit scheme, but further changes are required to achieve this. The key areas of development are:

Aligning operations to strategic benefits

Greater understanding of the controls available within a permit scheme and how these have a direct network benefits, for example the use of a specific traffic management or works at specific times, will enable HCC to ensure the works being agreed have the least disruptive impact to the network.

Effective use of permit conditions

Initial analysis from Year 1 has shown that the conditions being agreed on permits are not always accurate, clear or precise. More effective application of conditions to ensure they are correct and are also aligned to the objectives of permit coordination and compliance.

HCC recognise that the use of National Conditions will support their goal to improve the use of conditions.

A framework for permit coordination and compliance

HCC intends to develop a framework to support the coordination and compliance process, with the intention of gaining a greater understanding of the works being carried out on the network and how these can be controlled.

This framework is intended to support the process and not introduce a prescriptive method to review and approve works, or to prevent works from taking place. Instead the purpose of this framework is to establish the balance between network demand for the road user and Works Promoter

Greater insight and use of performance statistics

The Year 1 performance statistics are predicated on the operational efficiency, and these need to be developed so that they provide the necessary insight to develop the permit scheme operation and demonstrate the scheme benefits.

Overall, HCC recognise that the introduction of a permit scheme does not deliver instant success and that to realise the objectives a continuous policy of review and development is required.

9 Conclusion

Generally the East of England Permit Scheme has been well received by all stakeholders. By working with all works promoters some practical operating models have been adopted that are workable. In the main, all stakeholders can see the benefits that the scheme aims to achieve.

In Hertfordshire there have been around 80,000 works on the highway that have required a permit in the first year of operation. There was a dramatic rise in the number of permits over the first few months of operation as compliance inspections ensured registerable works did not take place without the required permit and co-ordination conditions. The biggest rise was in highway road works, which shows a greater equality being achieved between highway 'road' works and utility 'street' works – although throughout the development and operation of the scheme tries not to differentiate these works treating all works promoters the same.

The measurement of success of the scheme focuses greatly on 'numbers', or quantitative data. This might show how efficient we are at operating the scheme, but does not necessarily show how effective the permit scheme is at delivering the outcomes of reducing disruption and providing better information in the original scheme vision. These measures tend to be more qualitative and therefore more difficult to quantify in a way that shows improvement. However it is still possible to demonstrate this by collecting more appropriate data. For example, the public surveys, which ask residents how well they feel road works are being managed on a scale of 1 to 10, will be able to show movement trends.

Individual case studies, sound bites from stakeholders and press stories do show that the objectives are being achieved, but Hertfordshire want to build on this and identify further measurable examples.

Hertfordshire recognise that national indicators of success focus on efficiency rather than effectiveness and as such will lobby DfT to adopt indicators to help demonstrate nationally how well all permit schemes meet their objectives.

The success of EEPS is very reliant on the use of conditions to achieve success. However this report has shown that further consideration needs to be given to the detail and appropriateness of conditions used. Further work will be needed here to give a more accurate picture in future reports.

Another development area for EEPS to consider is the use of standard refusal conditions is another development area for EEPS. On a more national view, the introduction of EToN6,, which will condition variations change in the way permit scheme operators expect transactions to occur, will be bring additional huge benefits to Permitting Authorities and Works Promoters alike.

Likewise the changes to which schemes and their contents are approved and a move towards the use of National Conditions will bring further benefits once adopted.

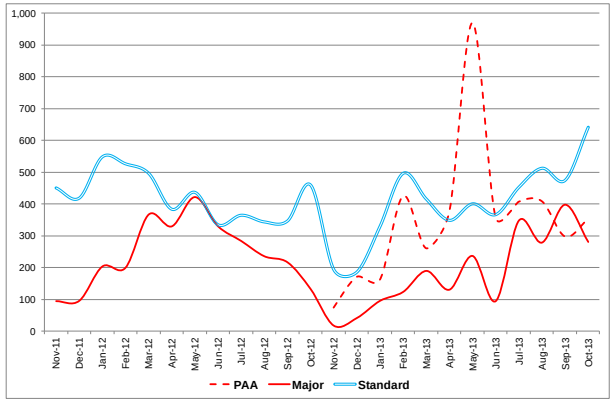
Overall there are several areas where operations or measures can be improved. Hertfordshire will prioritise these and continue to improve its operations and measures.

Appendix A – Permit Volumes

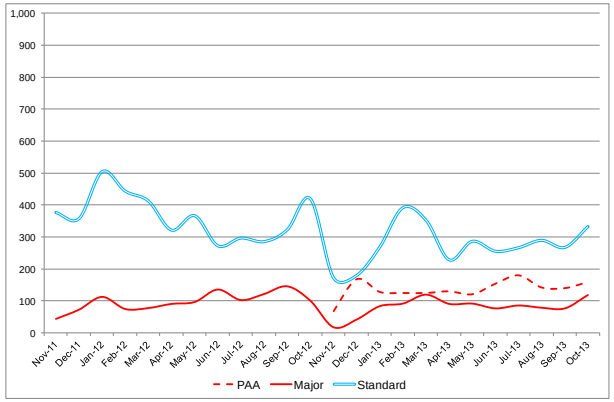
This measure is a count of total applications received during the year. To provide a comparison of pre-scheme, the numbers of notifications are show before the scheme came into effect and then permit applications (within Year 1). The charts below show the volumes of notifications and applications for all works, and also Statutory Undertaker and highways works. To provide a comparison between before and after Scheme operation, the Notifications are aligned to a Permit activity, *for example 3 Day Notice is equal to a permit application for a Minor activity.*

	All Works						Statutory Undertaker						Highways					
	PAA	Major	Standard	Minor	Immediate	All Works	PAA	Major	Standard	Minor	Immediate	TOTAL	PAA	Major	Standard	Minor	Immediate	TOTAL
Pre-Scheme	**0**	**2,914**	**5,103**	**32,451**	**12,906**	**53,374**	0	1,167	4,373	27,093	12,231	**44,864**	0	1,747	730	5,358	675	**8,510**
Year 1	**4,257**	**2,239**	**4,811**	**33,168**	**29,788**	**74,263**	1,640	965	3,285	25,067	9,811	**40,768**	2,617	1,274	1,526	8,101	19,977	**33,495**
VARIANCE	**4,257**	**-675**	**-292**	**717**	**16,882**	**20,889**	1,640	-202	-1,088	-2,026	-2,420	-4,096	2,617	-473	796	2,743	19,302	**24,985**
% VARIANCE		**-23.2%**	**-5.7%**	**2.2%**	**130.8%**	**39.1%**		-17.3%	-24.9%	-7.5%	-19.8%	-9.1%		-27.1%	109.0%	51.2%	2859.6%	**293.6%**

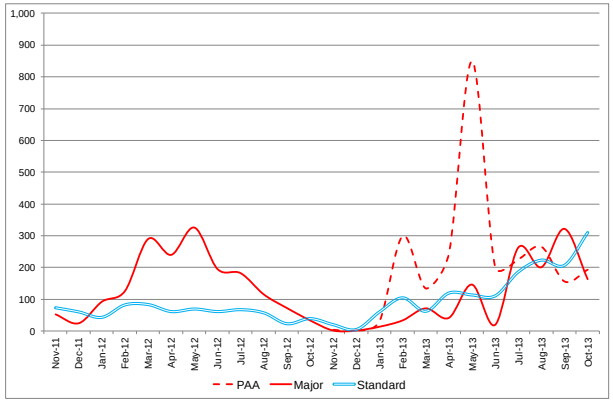
All Works Promoters

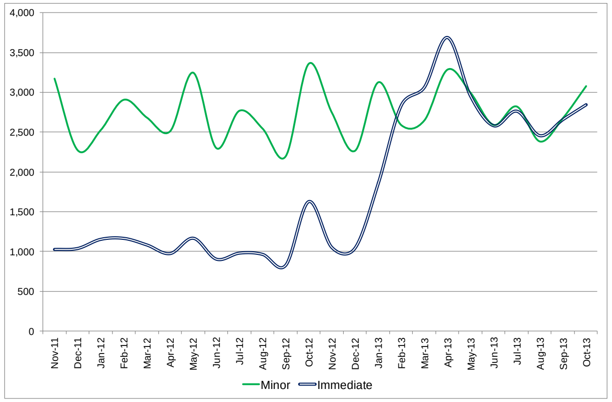


Statutory Undertaker Works



Highways Works

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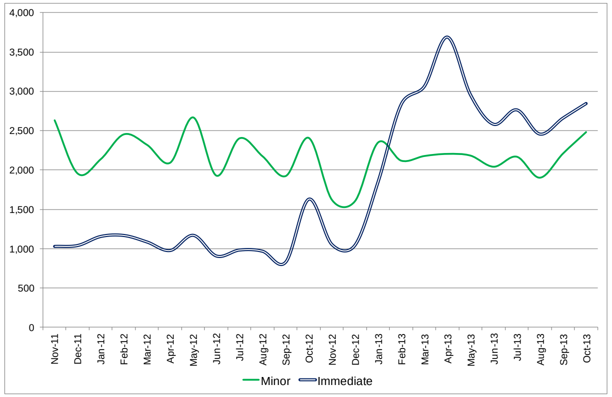
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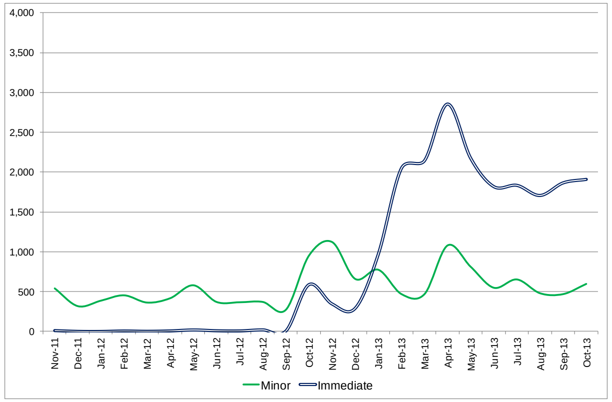
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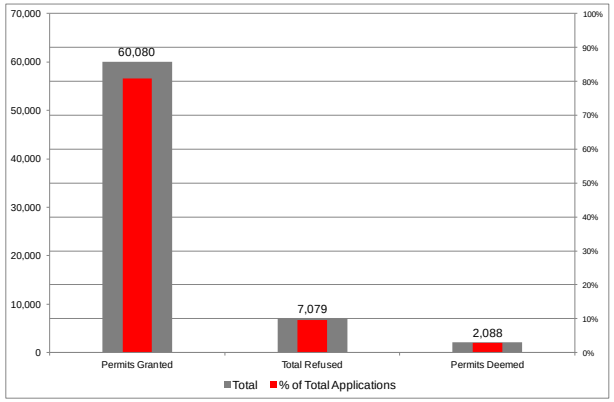
Minor
Immediate

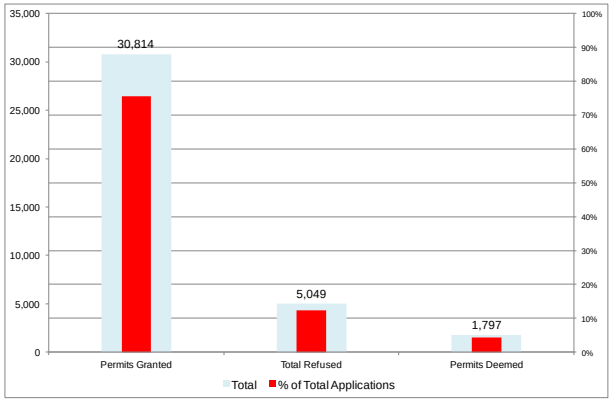
Appendix B – Permits Granted, Refused or Deemed

This measure is a count of applications granted, refused or deemed for the reporting period. The total for Refused permits includes both permits and variations - the option to analyse a separate refusal transaction for either a permit or variation is limited by EToN. There is a delta between these volumes and the permit application volumes as there are always permit applications received, but not processed to a status.

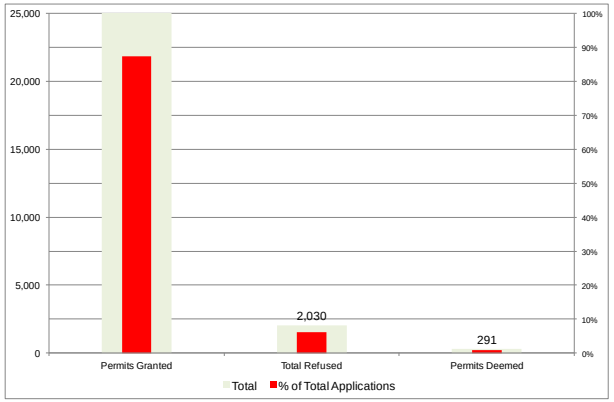
		All Works			Statutory Undertaker			Highways		
Activity Type	Total Permit Applications Received	Permits Granted	Total Refused	Permits Deemed	Permits Granted	Total Refused	Permits Deemed	Permits Granted	Total Refused	Permits Deemed
PAA	4,257	2,489	933	39	928	337	20	1,561	596	19
Major	2,239	1,561	482	76	647	248	25	914	234	51
Standard	4,811	3,406	1,239	84	2,187	1,026	63	1,219	213	21
Minor	33,168	25,004	4,290	1,750	18,158	3,316	1,573	6,846	974	177
Immediate	29,788	27,620	135	139	8,894	122	116	18,726	13	23
Total	**74,263**	**60,080**	**7,079**	**2,088**	**30,814**	**5,049**	**1,797**	**29,266**	**2,030**	**291**
% of Total Applications	**-**	**80.9%**	**9.5%**	**2.8%**	**75.6%**	**12.4%**	**4.4%**	**87.4%**	**6.1%**	**0.9%**



All Works Promoters



Statutory Undertaker Works

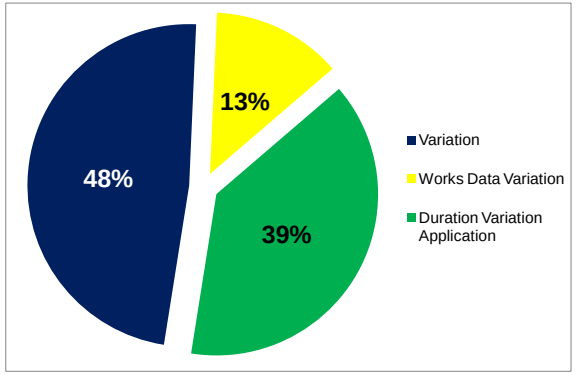


Highways Works

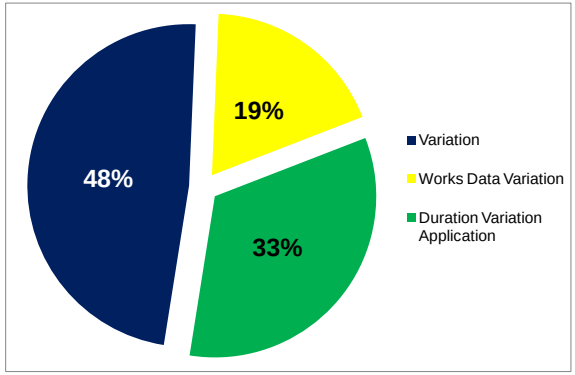
Appendix C – Permit Variation Applications

This measure is a count of the three types of permit variations: (1) variations before works have started; (2) variations after works have started with a change to the durations; and (3) variations after works have started with a non-duration change (data), *such as the traffic management*. This measure includes all application for a permit variation and does take in consideration multiple variations for one permit.

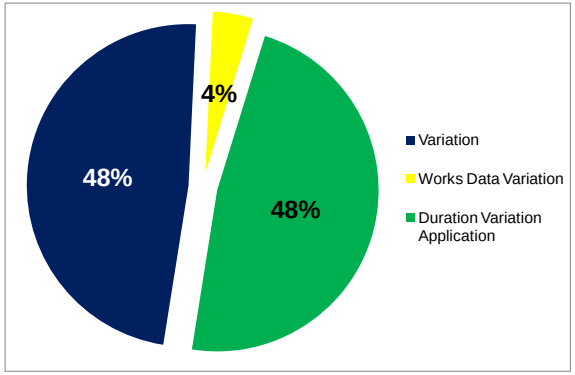
	All Works					Statutory Undertaker					Highways				
Activity Type	Variation	Works Data Variation	Duration Variation Application	Variations Granted	Variations Deemed	Variation	Works Data Variation	Duration Variation Application	Variations Granted	Variations Deemed	Variation	Works Data Variation	Duration Variation Application	Variations Granted	Variations Deemed
Major	936	247	548	1,237	127	352	199	242	520	61	584	48	306	717	66
Standard	1,379	225	458	1,131	213	1,043	169	323	798	167	336	56	135	333	46
Minor	3,111	495	486	2,121	397	1,981	439	351	1,373	293	1,130	56	135	748	104
Immediate	13	501	2,888	2,903	75	6	489	1,429	1,482	51	7	12	1,459	1,421	24
Total	5,439	1,468	4,380	7,392	812	3,382	1,296	2,345	4,173	572	2,057	172	2,035	3,219	240
% of Total (Variations)	-	-	-	65.5%	7.2%	-	-	-	59.4%	8.1%	-	-	-	75.5%	5.6%
% of Total Applications Granted	9.1%	2.4%	7.3%	-	-	11.0%	4.2%	7.6%	-	-	6.1%	0.5%	6.1%	-	-
Total % of Variations to Granted Applications	18.8%					22.8%					12.7%				



All Works Promoters



Statutory Undertaker Works



Highways Works

Appendix D – Conditions Applied to Permits (by Type)

This measure is a count of where a condition type has been applied to a granted permit – show in volumes and also as a % of the total volume (for each activity category).

All Works Promoters

	Total Granted	Date Constraints	Time Constraints	Out of Hours work	Material and Plant storage	Road Occupation dimensions	Traffic Space dimensions	Road Closure	Light Signals and Shuttle Working	Traffic Management Changes	Work Methodology	Consultation and Publicity	Environmental	Local
Major	4,050	1,396	1,421	329	1,088	386	1,363	2,486	308	541	143	3,514	350	572
Standard	3,406	1,789	1,251	67	836	1,526	680	8	164	261	662	369	44	481
Minor	25,004	4,038	5,493	487	2,463	9,270	4,334	78	675	290	2,735	1,168	352	1,836
Immediate	27,620	2,543	3,313	1,057	729	4,524	2,142	68	110	131	687	87	116	1,062

	Total Granted	Date Constraints	Time Constraints	Out of Hours work	Material and Plant storage	Road Occupation dimensions	Traffic Space dimensions	Road Closure	Light Signals and Shuttle Working	Traffic Management Changes	Work Methodology	Consultation and Publicity	Environmental	Local
Major	4,050	34.5%	35.1%	8.1%	26.9%	9.5%	33.7%	61.4%	7.6%	13.4%	3.5%	86.8%	8.6%	14.1%
Standard	3,406	52.5%	36.7%	2.0%	24.5%	44.8%	20.0%	0.2%	4.8%	7.7%	19.4%	10.8%	1.3%	14.1%
Minor	25,004	16.1%	22.0%	1.9%	9.9%	37.1%	17.3%	0.3%	2.7%	1.2%	10.9%	4.7%	1.4%	7.3%
Immediate	27,620	9.2%	12.0%	3.8%	2.6%	16.4%	7.8%	0.2%	0.4%	0.5%	2.5%	0.3%	0.4%	3.8%

Statutory Undertaker Works

	Total Granted	Date Constraints	Time Constraints	Out of Hours work	Material and Plant storage	Road Occupation dimensions	Traffic Space dimensions	Road Closure	Light Signals and Shuttle Working	Traffic Management Changes	Work Methodology	Consultation and Publicity	Environmental	Local
Major	1,575	1,209	295	138	1,018	294	1,335	378	237	516	106	1,348	91	565
Standard	2,187	1,341	936	61	835	1,349	675	7	155	257	451	311	43	480
Minor	18,158	3,249	3,975	345	2,463	8,832	4,313	12	499	283	1,514	667	238	1,816
Immediate	8,894	2,538	2,251	1,051	729	1,702	2,137	30	107	131	635	86	116	1,062

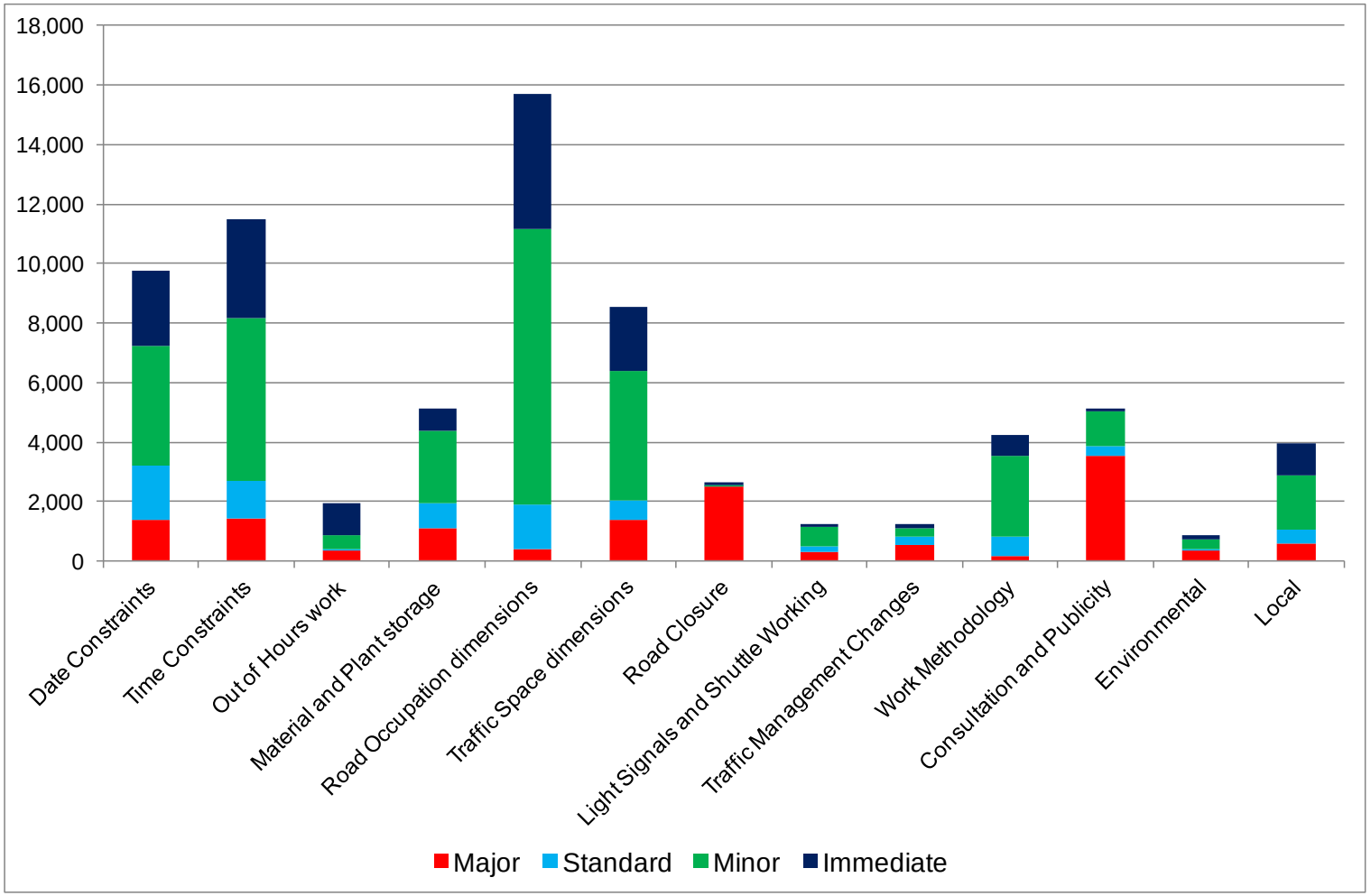
	Total Granted	Date Constraints	Time Constraints	Out of Hours work	Material and Plant storage	Road Occupation dimensions	Traffic Space dimensions	Road Closure	Light Signals and Shuttle Working	Traffic Management Changes	Work Methodology	Consultation and Publicity	Environmental	Local
Major	1,575	76.8%	18.7%	8.8%	64.6%	18.7%	84.8%	24.0%	15.0%	32.8%	6.7%	85.6%	5.8%	35.9%
Standard	2,187	61.3%	42.8%	2.8%	38.2%	61.7%	30.9%	0.3%	7.1%	11.8%	20.6%	14.2%	2.0%	21.9%
Minor	18,158	17.9%	21.9%	1.9%	13.6%	48.6%	23.8%	0.1%	2.7%	1.6%	8.3%	3.7%	1.3%	10.0%
Immediate	8,894	28.5%	25.3%	11.8%	8.2%	19.1%	24.0%	0.3%	1.2%	1.5%	7.1%	1.0%	1.3%	11.9%

Highways Works

	Total Granted	Date Constraints	Time Constraints	Out of Hours work	Material and Plant storage	Road Occupation dimensions	Traffic Space dimensions	Road Closure	Light Signals and Shuttle Working	Traffic Management Changes	Work Methodology	Consultation and Publicity	Environmental	Local
Major	2,475	187	1,126	191	70	92	28	2,108	71	25	37	2,166	259	7
Standard	1,219	448	315	6	1	177	5	1	9	4	211	58	1	1
Minor	6,846	789	1,518	142	0	438	21	66	176	7	1,221	501	114	20
Immediate	18,726	5	1,062	6	0	2,822	5	38	3	0	52	1	0	0

	Total Granted	Date Constraints	Time Constraints	Out of Hours work	Material and Plant storage	Road Occupation dimensions	Traffic Space dimensions	Road Closure	Light Signals and Shuttle Working	Traffic Management Changes	Work Methodology	Consultation and Publicity	Environmental	Local
Major	2,475	7.6%	45.5%	7.7%	2.8%	3.7%	1.1%	85.2%	2.9%	1.0%	1.5%	87.5%	10.5%	0.3%
Standard	1,219	36.8%	25.8%	0.5%	0.1%	14.5%	0.4%	0.1%	0.7%	0.3%	17.3%	4.8%	0.1%	0.1%
Minor	6,846	11.5%	22.2%	2.1%	0.0%	6.4%	0.3%	1.0%	2.6%	0.1%	17.8%	7.3%	1.7%	0.3%
Immediate	18,726	0.0%	5.7%	0.0%	0.0%	15.1%	0.0%	0.2%	0.0%	0.0%	0.3%	0.0%	0.0%	0.0%

All Works Promoters

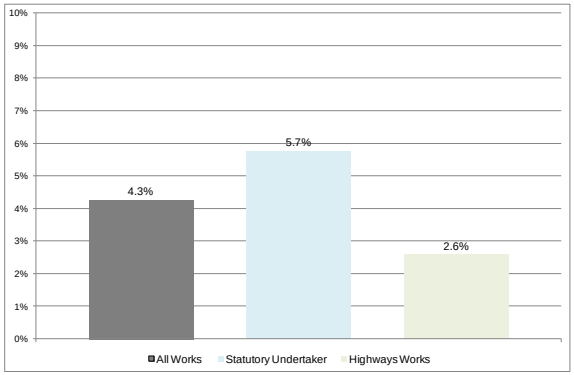


Appendix E – Number of Approved Extensions

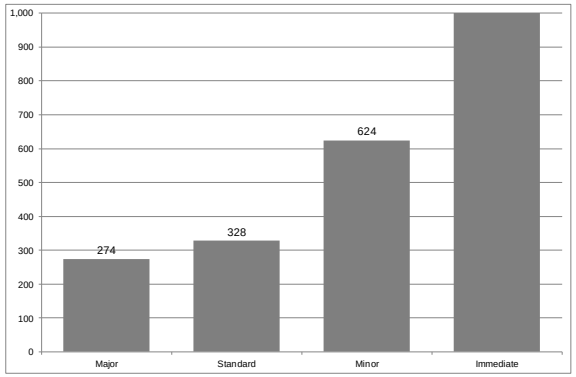
This is a count of where a 'duration variation application', i.e. a request to extend the duration of works after they have started, has been granted.

Revised duration variations applications received after EEPS came into effect for works that were registered before the EEPS came into effect scheme are excluded from this measure.

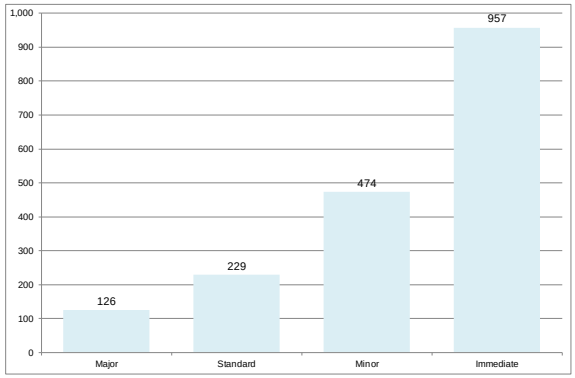
The % of started work with approved extensions shows the average of all extension requests for all started works, including Immediate works.



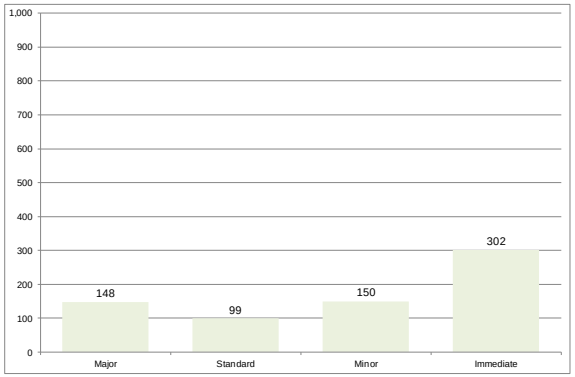
% of Started Work with Approved Extensions



All Works Promoters



Statutory Undertaker Works



Highways Works

Appendix F – Permit Application Lead in Time

Adherence to Lead Times

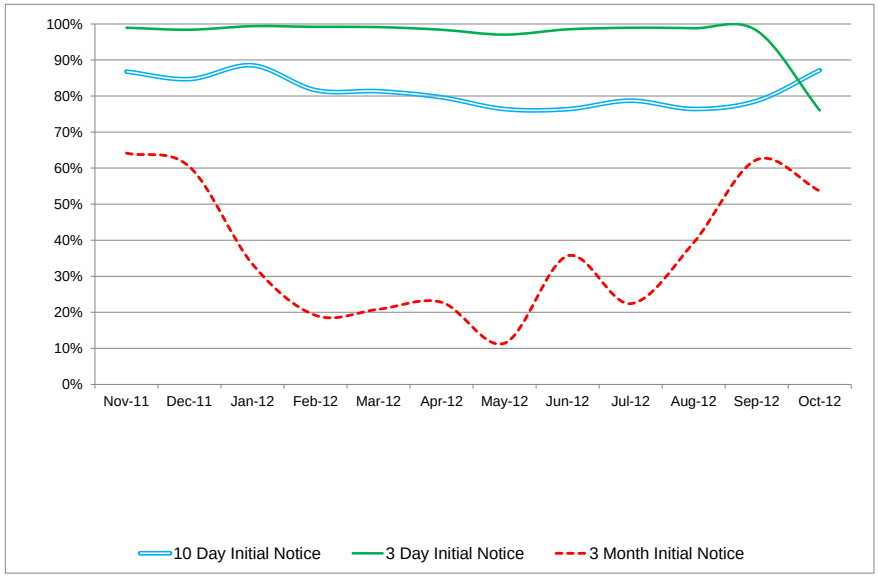
This measure is a count of the permit applications that were received by the Permit Authority within (in time) or outside (not in time) the application lead times (prior to the proposed start date) specified within the EEPS. This measure is of the initial permit application as subsequent applications (as a result of a permit rejection) are submitted as a permit variation (which are not included within this measure).

Pre-scheme

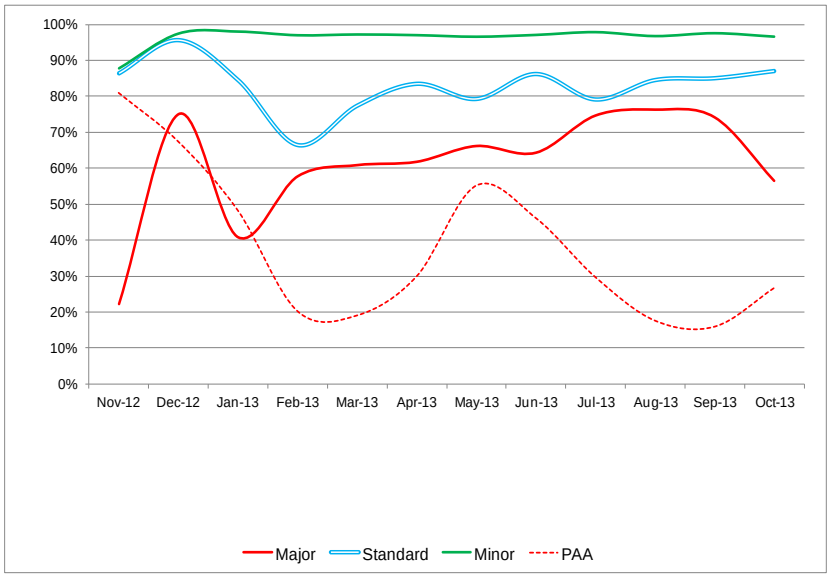
	All Works			Statutory Undertaker			Highways		
	3 Month Initial Notice	10 Day Initial Notice	3 Day Initial Notice	3 Month Initial Notice	10 Day Initial Notice	3 Day Initial Notice	3 Month Initial Notice	10 Day Initial Notice	3 Day Initial Notice
% In Time	29.5%	81.2%	96.5%	90.0%	98.5%	99.7%	8.7%	50.8%	78.4%
% Not in Time	70.5%	18.8%	3.5%	10.0%	1.5%	0.3%	91.3%	49.2%	21.6%

Year 1

	PAA	Major	Standard	Minor	PAA	Major	Standard	Minor	PAA	Major	Standard	Minor
% In Time	41.6%	60.1%	80.0%	95.8%	58.1%	56.1%	85.5%	98.7%	31.1%	66.8%	62.7%	85.2%
% Not in Time	58.4%	39.9%	20.0%	4.2%	41.9%	43.9%	14.5%	1.3%	68.9%	33.2%	37.3%	14.8%



Pre-scheme



Year 1

Average Lead Times

This measure is the average of the lead time (calendar days for PAA and working days for all other activity types) of applications received. The lead time is determined from the application date and the proposed start date (of the application).

As referenced within Section 4.4 of this Report, exceptional values for lead times have been removed from the total records in order to provide a more realistic average. The filter applied to the records is shown below and in additional to these, all records where the lead-time is less than zero have been removed (c.2% of all records). In total, no more than 10% of the records have been removed.

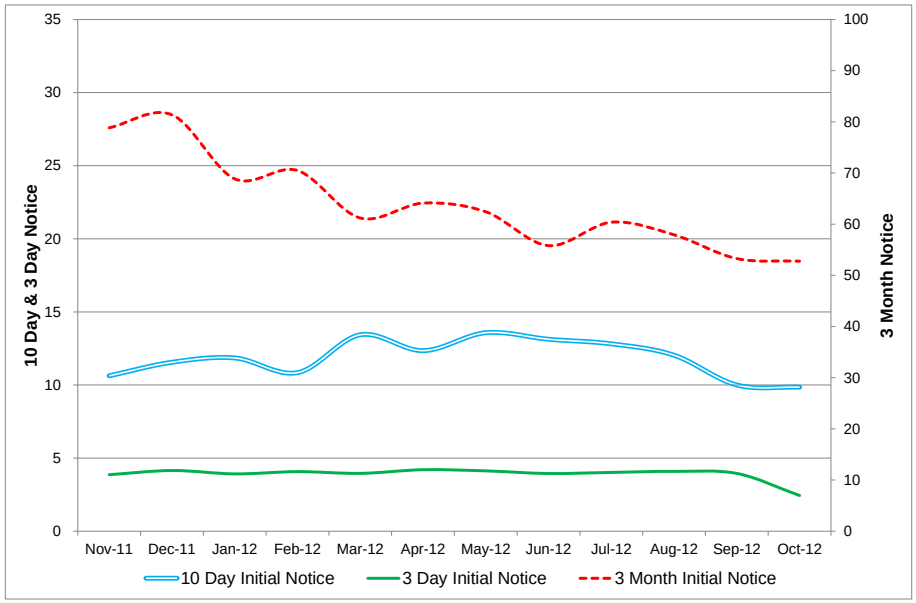
Provisional Advanced Authorisation and 3 Month Initial Notice	*Lead-time of less than 120 days (c.6%).*
Major Permit Application	*Lead-time of less than 40 days (c.5%).*
10 Day Initial Notice and Standard Application	*Lead-time of less than 25 days (c.8%).*
Minor Application	*Lead-time of less than 10 days (c.6%).*

Pre-scheme

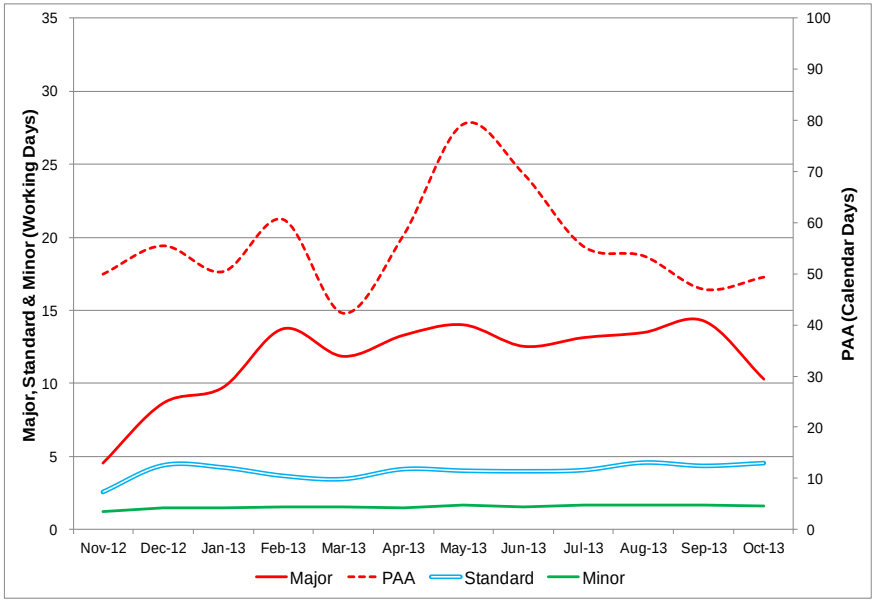
	All Works			Statutory Undertaker			Highways		
	10 Day Initial Notice	3 Day Initial Notice	3 Month Initial Notice	10 Day Initial Notice	3 Day Initial Notice	3 Month Initial Notice	10 Day Initial Notice	3 Day Initial Notice	3 Month Initial Notice
Average (Days)	11.84	3.90	63.95	13.66	3.63	90.90	10.02	4.16	37.00
Target (Days)	10.00	3.00	90.00	10.00	3.00	90.00	10.00	3.00	90.00
Variance +/- (Days)	1.84	0.90	-26.05	3.66	0.63	0.90	0.02	1.16	-53.00

Year 1

	All				Statutory Undertaker				Highways			
	PAA	Major	Standard	Minor	PAA	Major	Standard	Minor	PAA	Major	Standard	Minor
Average (Days)	55.91	11.64	11.41	4.44	69.96	11.42	13.17	4.17	41.86	12.51	9.65	4.70
Target (Days)	90.00	10.00	10.00	3.00	90.00	10.00	10.00	3.00	90.00	10.00	10.00	3.00
Variance +/- (Days)	-34.09	1.64	1.41	1.44	-20.04	1.42	3.17	1.17	-48.14	2.51	-0.35	1.70



Pre-Scheme



Year 1

Appendix G – Permit Cancellations

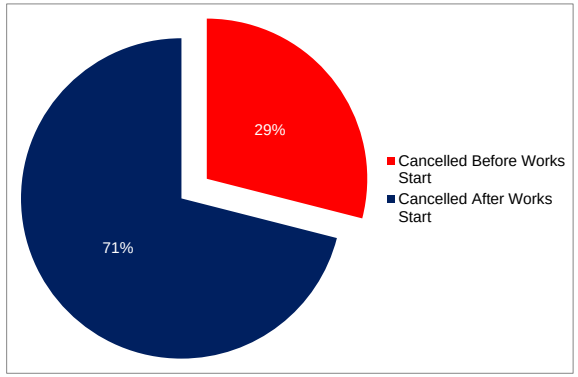
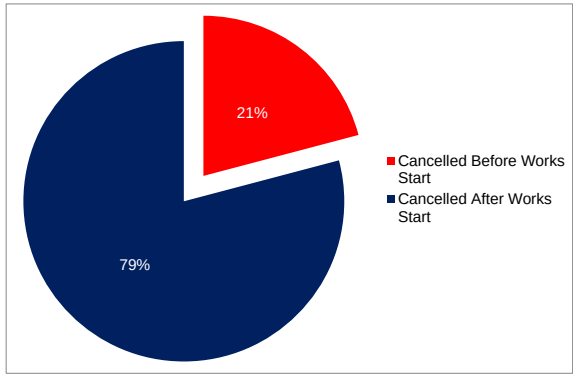
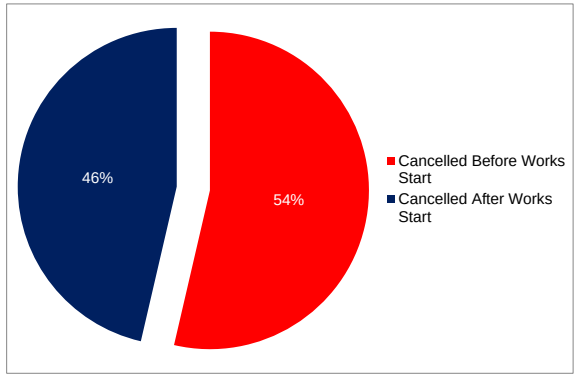
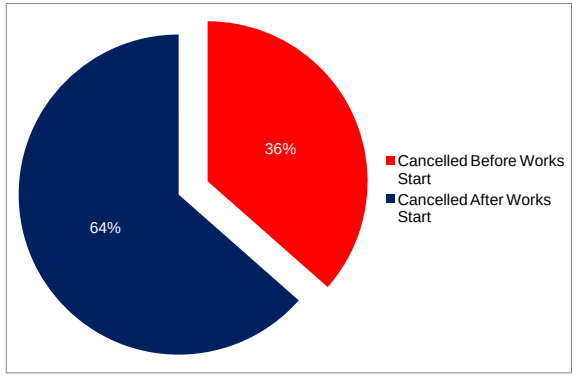
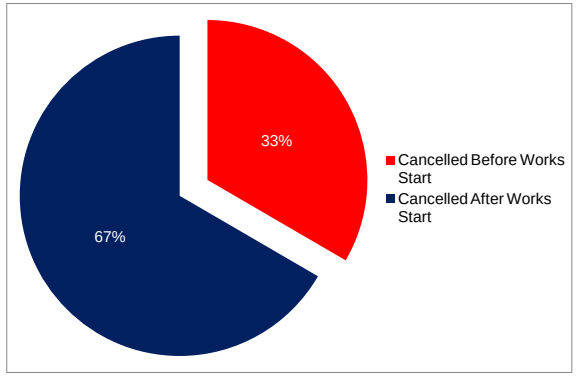
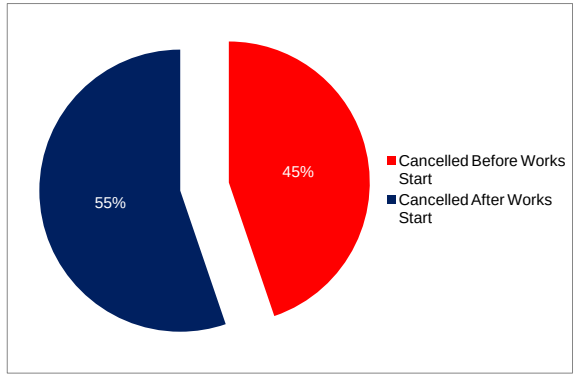
This measure is a count of cancellations received before or after the (proposed) works start date within the permit application. Since the introduction of the EEPS, permits cancelled after they have been granted can be measured (are also shown in Year 1).

Pre-Scheme

	All Works				Statutory Undertaker Works				Highways Works			
	3 Month Notice	10 Day Notice	3 Day Notice	Total	3 Month Notice	10 Day Notice	3 Day Notice	Total	3 Month Notice	10 Day Notice	3 Day Notice	Total
Cancelled Before Works Start	474	433	1,906	2,813	182	371	973	**1,526**	292	62	933	1,287
Cancelled After Works Start	585	850	5,459	6,894	156	775	4,850	**5,781**	429	75	609	1,113
% Cancelled After Works Start	55.2%	66.3%	74.1%	71.0%	46.2%	67.6%	83.3%	**79.1%**	59.5%	54.7%	39.5%	46.4%
% Cancelled of all Notified Works	36.3%	25.1%	22.7%	18.2%	29.0%	26.2%	21.5%	22.4%	41.3%	18.8%	28.8%	30.6%

Year 1

	All Works				Statutory Undertaker				Highways			
	Major	Standard	Minor	Total	Major	Standard	Minor	Total	Major	Standard	Minor	Total
Cancelled Before Works Start	514	234	1,323	2,071	144	202	1,032	**1,378**	370	32	291	693
Cancelled After Works Start	154	225	3,225	3,604	39	178	2,532	**2,749**	115	47	693	855
% Cancelled After Works Start	23.1%	49.0%	70.9%	63.5%	21.3%	46.8%	71.0%	**66.6%**	23.7%	59.5%	70.4%	55.2%
% Cancelled of all Granted Permits	42.8%	13.5%	18.2%	18.9%	28.3%	17.4%	19.6%	**19.7%**	53.1%	6.5%	14.4%	17.2%

	All Works Promoters	Statutory Undertaker Works	Highways Works
Pre-scheme			
Year 1			

Appendix H – Authority Imposed Variations and Revocations

This measure is a count of the number of Authority Imposed Variations or Revocations issued by the Permit Authority. The calculation for the % of Authority Imposed Variations does not include PAA's as these cannot be varied by either the Works Promoter or the Permit Authority.

Authority Imposed Variations

	All Works					Statutory Undertaker					Highways				
	Major	Standard	Minor	Immediate	% of all Granted Permits	Major	Standard	Minor	Immediate	% of all Granted Permits	Major	Standard	Minor	Immediate	% of all Granted Permits
Total AIVs	174	91	287	293	1.5%	140	80	248	282	2.5%	34	11	39	11	0.3%
Total Permits Granted	1,561	3,406	25,004	27,620	-	647	2,187	18,158	8,894	-	914	1,219	6,846	18,726	-
% of Permits Granted	11.1%	2.7%	1.1%	1.1%	-	21.6%	3.7%	1.4%	3.2%	-	3.7%	0.9%	0.6%	0.1%	-

Permit Revocations

	All Works					Statutory					Highways				
	Major	Standard	Minor	Immediate	% of all Granted Permits	Major	Standard	Minor	Immediate	% of all Granted Permits	Major	Standard	Minor	Immediate	% of all Granted Permits
Total Revocations	49	15	53	10	0.2%	13	15	30	7	0.2%	36	0	23	3	0.2%
Total Permits Granted	1,561	3,406	25,004	27,620	-	647	2,187	18,158	8,894	-	914	1,219	6,846	18,726	-
% of Permits Granted	3.1%	0.4%	0.2%	0.0%	-	2.0%	0.7%	0.2%	0.1%	-	3.9%	0.0%	0.3%	0.0%	-

Appendix I – Average Duration of Works

This measure is the average duration of works where a Stop Notice has been received by the Permit Authority. For any planed works, i.e. not an Immediate activity, there must have been a Start Notice submitted. The durations have been calculated by determining the working days between the actual dates contained within the Start and Stop Notices.

As referenced within Section 4.4 of this Report, exceptional values for durations have been removed from the total records in order to provide a more realistic average. The filter applied to the records is shown below and in additional to these, all records where the duration is less than zero have been removed (c.% of all records). In total, no more than 10% of the records have been removed.

Major Works *Duration of over 100 days removed.*

Standard Works *Duration of over 20 days removed.*

Minor Works *Duration of over 10 days removed.*

Immediate Works *Duration of over 20 days removed.*

Pre-scheme

	All Works	Statutory Undertaker	Highways
Major	16.0	26.6	5.4
Standard	7.6	7.6	7.7
Minor	2.2	2.5	1.9
Immediate	3.1	4.5	1.7

Year 1

	All Works	Statutory Undertaker	Highways
Major	15.8	25.8	5.8
Standard	7.6	7.1	8.2
Minor	2.1	2.5	1.7
Immediate	3.0	4.8	1.2

Appendix J – Permit Compliance Inspections and Post Section 74 Inspections

This is a count of the number of Inspections carried out by the Permit Authority for either Permit Compliance or Section74 – shown as either a Pass or Fail. This measure also includes a % of failed Permit Compliance Inspections where the failure is as a result of Traffic Management non-compliance. Un-attributable works are excluded from any of these counts.

	All Works					Statutory Undertaker					Highways				
	Passed	% Passed	Failed	% Failed	Total Inspections	Passed	% Passed	Failed	% Failed	Total Inspections	Passed	% Passed	Failed	% Failed	Total Inspections
Permit Compliance Inspection	3,443	72.8%	1284	27.2%	**4,727**	2,712	73.0%	1001	27.0%	3,713	731	72.1%	283	27.9%	1,014
Traffic Management Failure	-	-	855	18.1%	**-**	-	-	700	18.9%	-	-	-	155	15.3%	-
Section 74 Inspection	573	66.2%	292	33.8%	**865**	450	63.3%	261	36.7%	711	123	79.9%	31	20.1%	154

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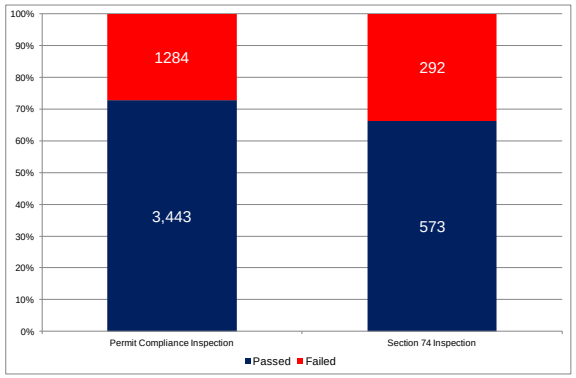
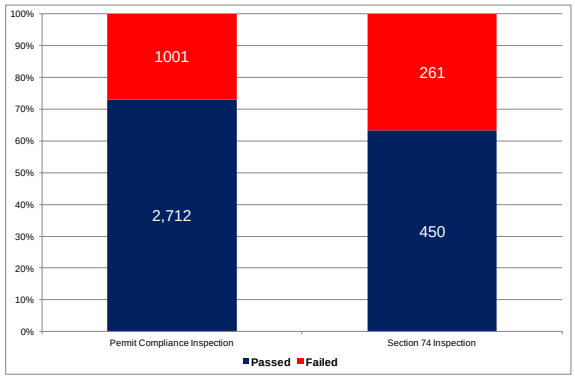
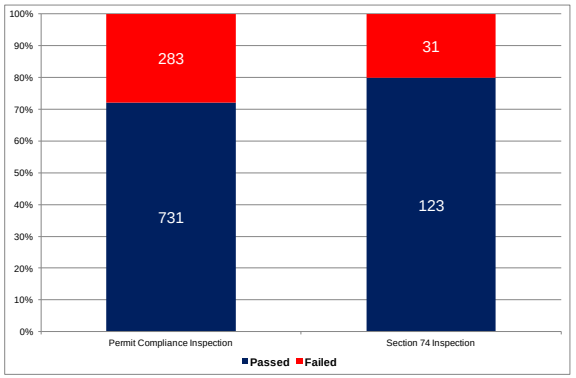


All Works Promoters



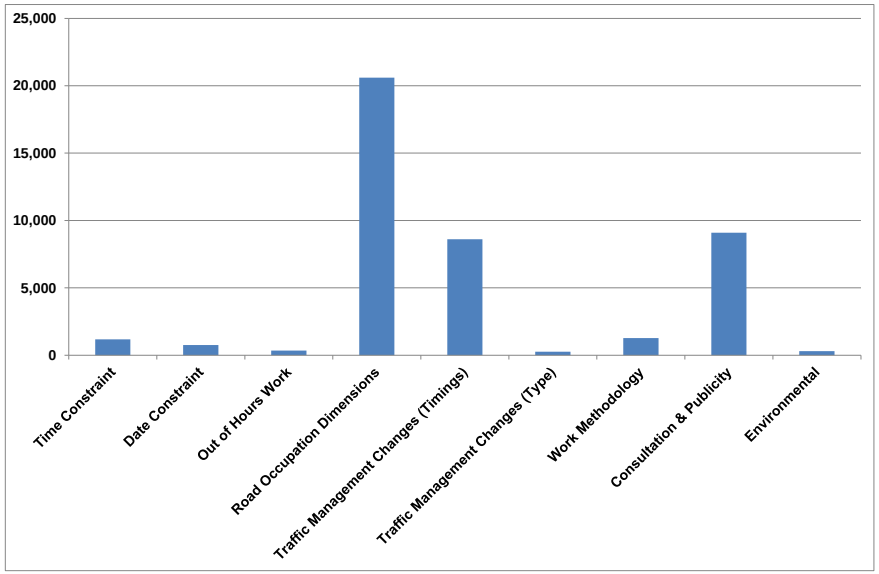
Statutory Undertaker Works



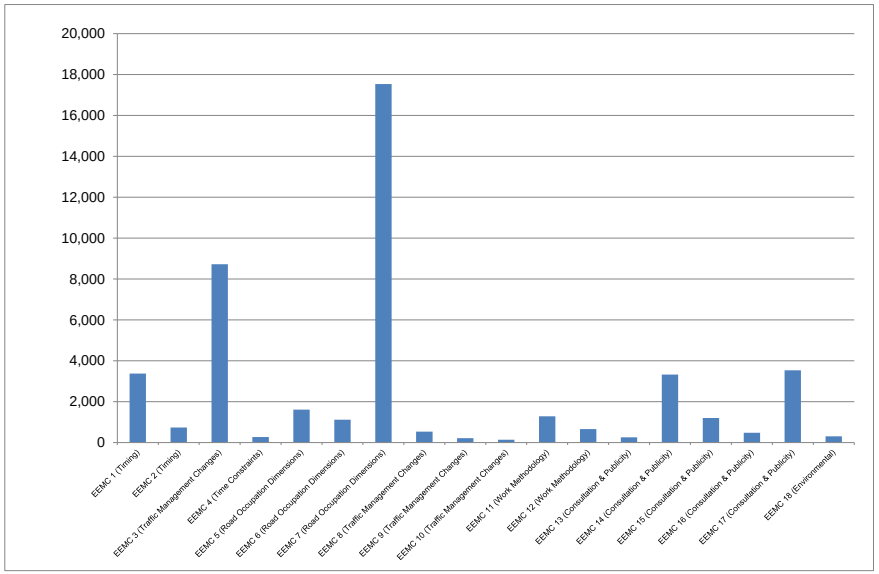
Highways Works

Appendix K – Application of Conditions (Text Analysis)

Conditions by Type



Use of Model Text Conditions

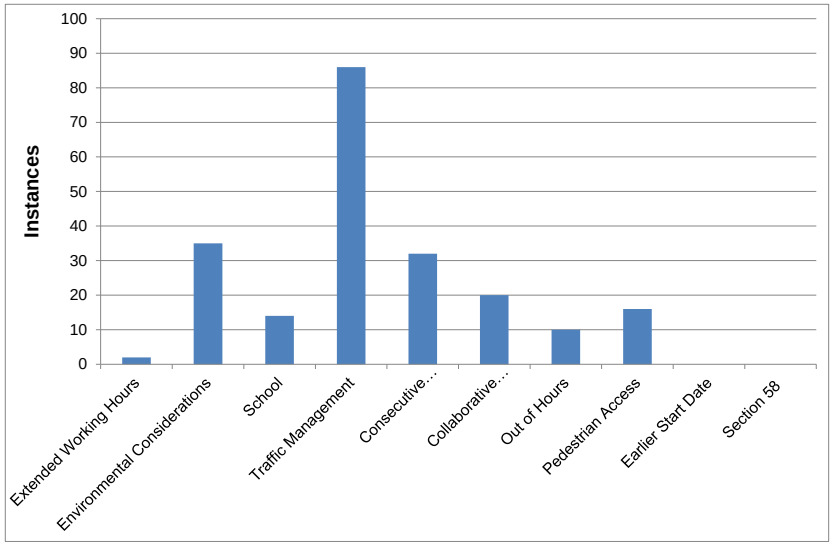


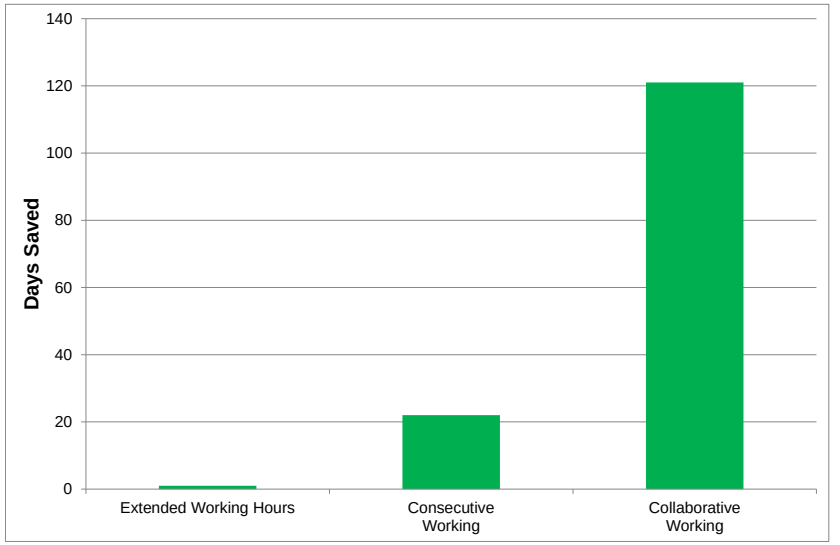
Appendix L – Performance Measures

The table below shows the instances, and days saved where applicable, of where each PM code has been applied to granted permits. These statistics were collected for a period of 3 months, towards the end of Year 1, August to October 2013.

Instances										
Extended Working Hours	Environmental Considerations	School	Traffic Management	Consecutive Working	Collaborative Working	Out of Hours	Pedestrian Access	Earlier Start Date	Section 58	Total Comments
2	35	14	86	32	20	10	16	0	0	215

Days Saved			
Extended Working Hours	Consecutive Working	Collaborative Working	Total Days Saved
1	22	121	144


Instances
100
90
80
70
60
50
40
30
20
10
0
Extended Working Hours
Environmental Considerations
School
Traffic Management
Consecutive…
Collaborative…
Out of Hours
Pedestrian Access
Earlier Start Date
Section 58


Days Saved
140
120
100
80
60
40
20
0
Extended Working Hours
Consecutive Working
Collaborative Working

Appendix M – NHT Survey

		2011	2012			2013			
NHT REF	**MEASURE**	**Score**	**Score**	**Ranking (National) out of 75**	**Ranking (County Councils) out of 22**	**Score**	**Ranking (National) out of 75**	**Ranking (County Councils) out of 24**	**Trend**
KBI 17	Traffic Levels & Congestion	**48.38**	**48.21**	45	14	**50.60**	N/A	9	-2.39
KBI 18	Management of Roadworks	**51.30**	**55.07**	12	3	**54.00**	N/A	12	1.07
KBI 19	Traffic Management	**53.10**	**53.63**	61	18	**55.70**	N/A	15	-2.07
	Tackling Congestion	**Score**	**Score**	**Ranking (National) out of 75**	**Ranking (County Councils) out of 22**	**Score**	**Ranking (National) out of 75**	**Ranking (County Councils) out of 24**	
TCBI 01	Advanced Warning of Roadworks	**62.99**	**64.66**	19	8	**60.70**	N/A	20	3.96
TCBI 02	Efforts to reduce delays to traffic	**54.20**	**57.95**	10	3	**57.00**	N/A	6	0.95
TCBI 03	Time taken to complete roadworks	**45.55**	**52.93**	4	2	**50.90**	**N/A**	4	2.03
TCBI 04	Signposting of road diversions	**53.92**	**56.41**	43	11	**57.90**	N/A	4	-1.49
TCBI 05	Help lines to find out about roadworks	**43.11**	**46.80**	38	11	**43.80**	N/A	24	3.00
TCBI 06	Efforts to minimise nuisance to residents	**48.06**	**51.66**	33	11	**53.60**	N/A	8	-1.94