



Permit Scheme Measurement for Hertfordshire County Council

Year 2 Evaluation

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Foreword from the Authority Sponsor

It is good to see that we have built on our successes from the first year of operation of the permit scheme in Hertfordshire. We have done all the things we said we would do in the first year annual report, and we continue to improve.

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 size towns scattered across the whole county meaning complex inter urban journeys on the connecting minor roads.

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 to assist the provision of public transport and drive towards alternative transport.

Works on minor roads have a cumulative impact on inter urban bus journeys which affect journey time reliability. Better management of works on minor roads which serve buses and form parts of the cycle network, assist with the modal shift from the private car to other forms of transport. With around 70,000 works on Hertfordshire's 5,000Kms of highway that means there is a lot of co-ordination to be carried out and help ensure that congestion is kept to a minimum.

I am pleased that Hertfordshire has continued to work together with the unitary authorities of Southend-on-Sea, Luton and Bedford to bring consistency to the common scheme which is the East of England Permit Scheme, EEPS. It is also good to see new schemes continuing to come into effect using some of the best practice developed through EEPS. A key success factor with the scheme has been the continued engagement with stakeholders to obtain real views and opinions as to how the permit scheme operation can continue to be improved.

Whilst we can demonstrate numbers of permits processed at all stages, and how efficient we have been, there still seems to be a national struggle to demonstrate and place a figure on how effective a permit scheme is. I have a good feeling through case studies, publicity and general messages from Hertfordshire's highway users that 'management of road works' is getting better. I'm hopeful that future measures which we are in the process of developing, will help to show that effective operation and delivery of a permit scheme in Hertfordshire delivers significant benefits to the local economy, helps in the fight against pollution and minimises congestion as much as possible, allowing the highway network to do its job in the movement of people and goods

Rob Smith

Traffic Manager, Hertfordshire County Council

Deputy Director of Environment

1 Introduction and Report Format

1.1. 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 2 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 operation 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 scheme 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.

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

1.2. Report Format

The format of this report, and the data within it, builds upon the principles and objectives detailed in the Year 1 Evaluation Report. Therefore, if required, further information on the following areas can be viewed in the Year 1 Evaluation Report:-

Year 1 Report Section	Year 1 Report Section Number
Background to introduction of the Scheme	2
Objectives of the Scheme	3
Approach to measuring the scheme	5.1
Measuring Efficiency	5.2
Measuring Effectiveness	5.3
Averages	5.4
National Performance Indicators	5.7

The Year 1 Evaluation Report can be accessed by clicking [here](#)

2 Executive Summary

The East of England Permit Scheme (EEPS) has been in operation for 2 years. At its commencement there were only 3 other permit schemes in operation. On its 2 year anniversary there were 67. This means there is much more experience in the industry of operating permit schemes, both by works promoters and by highway authorities. With this wealth of best practice coming onto the market, Hertfordshire has been keen to continually develop and evolve the operation of EEPS.

Trend data and hard facts over the two years from 5 November 2012 have helped us to continually improve operations with the ultimate goals of reducing unnecessary congestion, ensuring expeditious movement of traffic and improving journey time reliability. This at the same time as ensuring the highway performs its primary function of the movement of people and goods whilst still enabling works promoters to access their apparatus below, in or over the highway. Trend analysis is available in Appendix L.

Volumes are up nearly 10% on last year, which may be explained by highway works now being more accurately permitted than at the start of the scheme. There are now more highway works being permitted in Hertfordshire than utility works.

A suite of 60 indicators has been developed to measure success of the permit scheme. Of the 45 available (15 are missing due to KPI#1 report being unavailable), 64% show an improvement. These include;

- Permit application lead time has improved allowing better co-ordination, preparation and publicity before major works;
- Duration of works has reduced, showing that the length of time works take is less so the road is available more often for people to use;
- A reduction in the cancellation of unrequired booked road space leading to more timely information in the public domain;
- Hits on roadworks.org in Hertfordshire are higher than any other council area, and second only to the highways agency who look after motorways and trunk roads. This demonstrated that the attention to detail to ensure correct information is included in permits means that the information is reliable for the public to use when it transfers to the public websites.

New developments are being introduced for year three which are described in chapter 6 and these will be reported on in the evaluation report after the third year anniversary of the permit scheme.

3 Measurement Framework

For Year 2 of the operation of the scheme, HCC have used the same measures as Year 1 and these are explained below.

3.1. 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:-

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

This report within the EToN Street works system used by Hertfordshire County Council – Confirm - has been unable to provide reliable data since the introduction of EToN6 in April 2014. Therefore this data cannot be included in the evaluation report.

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 are identified within the relevant Section.

3.2. 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.

4 Measuring Efficiency

This section of the Report describes the efficiency measures whilst actual data is contained within the appendices of this Report.

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).

In addition, Appendix L of this report provides a Summary Trend Analysis of the performance indicators (efficiency) for pre-scheme operation and years 1 and year 2 of the Scheme Operation

4.1. Volume of Permit Applications (EEPS KPI#1)

The basic measure of the EEPS is the volume of permit applications received by the Permit Authority. 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.

4.2. Volume of Permit Applications Granted, Refused or Deemed (EEPS KPI#1)

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 a Permit Authority to process a permit application (including an application to vary/modify 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 should be contained within Appendix B of this Report. Volumes related to applications to vary/modify a permit should be contained within Appendix C of this Report.

The data for this measure is determined from the standard KPI#1 Permit Response report. This report within the EToN Street works system used by Hertfordshire County Council – Confirm - has been unable to provide reliable data since the introduction of EToN6 in April 2014. Therefore this data cannot be included in the evaluation report.

4.3. Volume of Permit Variation/Modification Applications

The EEPS provides a process to allow a Works Promoter to vary/modify 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/modifications) 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. The transaction data displayed reflects the introduction of Permit Modification Requests and Permit Modification Applications with EToN6.

The data for the number of granted and deemed variations/modifications is determined from the standard KPI#1 Permit Response report. This report within the EToN Street works system used by Hertfordshire County Council – Confirm - has been unable to provide reliable data since the introduction of EToN6 in April 2014. Therefore this data cannot be included in the evaluation report.

4.4. Application of Conditions by Condition Type (EEPS KPI#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 5.1 of this Report contains further detail on the application of conditions.

4.5. Volume of Approved Extensions (EEPS KPI#3)

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.

4.6. 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 and is contained within Appendix F of this Report

4.6.1. Adherence to Minimum Lead Time (EEPS KPI#4)

The measure for adherence to minimum lead times has been calculated by comparing the date of the application and the estimated start date provided within the application.

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

4.6.2. Average Lead-in Time

An important factor to consider for permit applications 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.

4.7. 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. This issue would be negated if it is to be included in the new proposed Statutory Guidance.

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

4.8. 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.

4.9. 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.

Appendix I of this Report contains the Average Duration of Works data.

4.10. 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.

Appendix J of this Report contains the Permit Compliance Inspection data.

5 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.

5.1. Application of Permit Conditions

A permit scheme not only provides the capability to grant or refuse a permit (and the associated works) but also to attach 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.

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 – as detailed in section 4.4

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

- the detail on the actual condition applied can't 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.

After consideration to these limitations, 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.

Overall, this activity provided HCC with the capability to analyse 43 sub-categories within the 6 Regulatory condition types and 13 EToN 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.*

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 and steps to improve this were introduced in April 2014 as detailed in section 6.

This ability to analyse condition text will be a key focus for year 3 of the operation of the scheme but initial high-level analysis of year 2 condition text shows the following examples, applied to planned works, that have delivered a direct benefit to all users of the Network:-

Subject Area	Number of Granted Permits where Subject Area has been included in condition text
Restricting works on Traffic Sensitive Streets to Non Traffic Sensitive time	142
Weekend working specified (Saturday, Sunday or both)	546
Provision of pedestrian footway above 1.2 meters	12
Change of Traffic Management type (all types above 'some carriageway incursion')	55
Restricting impact of noise pollution	43
Requirement to display advance warning boards	2078
Requirement to issue letters to residents and businesses	1748
Requirement to display "business as usual" signage	369
Consultation with bus operators	746

5.2. Permit Scheme Case Studies

The case studies below demonstrates where the additional powers granted by a Permit Scheme have been used to the benefit of all Network users.

1 - Elstree Crossroads – Major Junction Improvement Scheme

A previously planned major junction improvement scheme was due to be delivered on A411 Watford & A5183 Elstree Hill North, otherwise known as the Elstree Crossroads.

The scheme was an HCC funded project delivered by Eurovia. It aimed to improve the efficiency of the existing traffic signals, and widen the junction for increased traffic flow during peak periods. To enable this to happen, it was essential that both BT and UK Power Networks diverted their apparatus that were located within the crossroads themselves.

Works started on site in early 2014 but unfortunately due to the impact of the traffic management and the volume of traffic using this junction during peak periods, the network was not able to cope to a sufficient level. As a result the works were postponed, pending a complete review of all aspects with a view to re-commence in the summer of 2014.

As a result of operating the permit scheme. NM were able to have immediate control of the site and take the required action. Following a completed review of the scheme, we were able to make significant changes to the proposed traffic management; introducing some full road closures, which whilst appearing to be higher impact actually resulted in some traffic being taken away from the junction and onto a diversion route and therefore easing the pressures on the junction itself.

Due to having full road closures in place this also allowed greater freedom in terms of the works being carried out on site and therefore the works programme was significantly reduced in terms of duration. It was also possible to impose additional working hours (6am to 10pm) and seven day week working to further shorten the site occupation.

A further advantage that was brought as a result of the permit scheme was that we had far greater control, and a mechanism by which to encourage both BT & UKPN to work alongside HCC in diverting their apparatus. By offering the discount and option of working within HCC's road closure we were able to encourage a co-ordinated approach.

Additionally, the change of the Traffic Management allowed HCC to accelerate a drainage scheme that was due to be delivered at a later date and build it under the same regime. Finally the permit scheme enabled us to ensure that all relevant publicity i.e. press release, letter drops and bus consultations were carried out in advance of the scheme starting on site.

All of the above changes resulted in the scheme being delivered over a period of 12 weeks instead of 24, and ensured that whilst the works remained highly disruptive, they were delivered both more efficiently and effectively for the service users of Hertfordshire and a significant reduction in Co2 emissions.

2 - Much Hadham High Street. Culvert Repair.

Following flooding at two separate highway storm water culverts on the High Street, HCC's works contractor carried out investigations and found utility services had damaged both culverts, restricting flow. The southern culvert was located at a flooding incident which involved flood damage to residential properties.

HCC's works contractor requested an urgent eight week closure to repair both culverts.

The Southern Culvert - After negotiation, a six week closure was agreed so the southern culvert associated with residential property flooding could have the utility service (Affinity Water; water main) redirected and the culvert reinstated. Communications to affected and interested parties were issued.

Following representations from the fire service they raised concerns relating to access for their retained fire station south of the closure including unable to meet prescribed response times, access for tenders and the signed diversion route which, being in the region of eighteen to twenty miles, was not a viable option if response times were to be maintained.

At a meeting with the fire service and the police, HCC took the unusual decision to close a single track side road normally considered too narrow for fire tenders and use it only for emergency access and responding fire service personnel on route to the station. The closure was controlled by gatemen. Vehicle access to residents and the church was maintained.

This action was necessary to stop head on meetings of vehicles and the subsequent delays, gridlock and reversing of vehicles in the narrow lane and possible delays to emergency vehicles.

Finally, HCC requested the works promoter arranged shuttle buses for schools and public as the through route to Bishops Stortford was closed off.

The Northern Culvert - because of the reduced risk of flooding to private property, HCC requested these works are reprogrammed for the school summer holiday of 2015, removing the need for alternative school transport.

Because the carriageway is wider at the location of this culvert the works promoter is now considering traffic management options such as portable traffic signals instead of a closure. If viable, HCC will consider a programme date earlier in the New Year.

5.3. 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.

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

6 Future Operation of the Scheme

From the outset of the permit scheme, HCC have embraced the new and exciting opportunities to learn from other emerging schemes, to develop improved operational practices in full consultation with stakeholders, and to evolve the scheme as a whole.

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

In the year one annual report we said we would, during year two, improve key areas around aligning operations to strategic benefits, producing a framework for permit co-ordination & compliance and provide greater insight & use of performance statistics. All of these things have been actioned, and we will continue to develop and evolve.

Introduction of EToN6. HCC introduced EToN6 in April 2014, and from the start of year 3 have the ability to receive and send document attachments with permit applications and responses. It should be noted that the marked increase in permit variations/modifications is due to the introduction of the Permit Modification transaction with corresponding reduction in permit refusal transactions. During year three we will continue to align systems and processes to achieve the full benefits.

Improving the use of conditions. An initial review of the quality of data within the Condition Text field of granted permits revealed a significant amount of data that was either incorrect, unenforceable or unnecessary. Example of this include:-

- We may work at weekends – unenforceable due to ambiguity
- Road Closure – unnecessary as stated elsewhere within the permit application
- Reference to local conditions – incorrect as there are no local conditions within EEPS

As a result of this analysis, in April 2014, HCC introduced a set of measures aimed at improving the data/text. These included:-

Issuing Permit Modification Requests for any Permit Application that included any of the following:-

- Any information not required including:-
 - Reference to 1.0m or 1.2m for pedestrian footways
 - Reference to red book or chapter 8
 - Information shown elsewhere on permit e.g. Traffic Management type
- Removal of ambiguous information e.g. "maybe", "could", "possibly"
- Where Model text references do not refer to the correct information e.g. EEMC3 used for works activity information, not TM information;
- Any instance of the "local condition" box being ticked and/or local conditions being referred to in the text box must be removed.

These actions have already had a significant impact on the quality of data/text and HCC will continue to address this area.

HCC are currently resisting the move to the introduction of the proposed National HAUC Standard Conditions as they do not provide the coverage that EEPS conditions currently give us. They do not allow us to bring equivalent benefits to our network. We will continue to lobby for improvements to the proposed National HAUC Standard Conditions.

Continued and refined use of TEMIS analysis of conditions. Whilst this year's report provides examples of the analysis of condition text applied to granted permits, further analysis will commence during year 3. This will include demonstrating how the application of conditions directly affects journey time analysis and emissions. It is also hoped to provide an economic impact assessment (£'s) although this is reliant on the provision of an industry accepted cost of impact of roadworks per hour on differing road types and traffic sensitive streets.

New measurement framework. So far performance management of the results of the permit scheme are biased towards efficiency (numbers, how quickly we process permits) and not effectiveness (objectives and benefits of the permit scheme).

The proposed revised set of National Performance Indicators appear to give little consideration to measuring the real impacts and benefits of a Permit Scheme e.g.

- cost/saving of impact of roadworks on the network;
- The impact on average journey times as a result of revised traffic management.

HCC are working towards introducing a set of measures that are linked directly to objectives and stated benefits of the scheme. HCC are reviewing their current performance analysis framework and how data is disseminated and reviewed, with an aim to change the culture whereby operational roles assess and challenge performance data to identify areas of positive and negative performance.

Working on Traffic Sensitive Streets wholly outside of traffic sensitive times. For the start of year three of the permit scheme, stakeholders have been advised that HCC will apply the relevant permit fee discount as described in the scheme. Until an easier way of identifying this is available, works promoters will clearly state via a standard condition text that they will be working outside of traffic sensitive times to qualify for a discount, and to avoid unnecessary works at traffic sensitive times, thereby having a positive effect on all uses of the Network.

Reviewing the 'end to end' permit process within Hertfordshire. Utilising the experience gained in operating EEPS, a project has been commissioned to look at the permit process within the overall Network Management function in Hertfordshire.

Future developments are not limited to those listed here. Other guidance and advice notes, such as the recently released suit of 7 'congestion busting' notes from government will wherever possible influence operations in Hertfordshire. And the new permit regulations may affect how the scheme operates. Whatever happens, HCC will continue to develop and improve the permit scheme in Hertfordshire.

7 Conclusion

Generally the East of England Permit Scheme continues to be 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. Hertfordshire continues to improve and develop the scheme to ensure we operate the scheme as it was designed and for its stated objectives.

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.

Although the number of permits approved for works in Hertfordshire has risen from year one, the total number is less than originally estimated, probably due to better works promoter planning of works. The split between utility works and highway works remains fairly constant at about 45%/55% respectively.

The success of a permit scheme is very reliant on the use of conditions to achieve success. This report has shown improvements in this area, but further consideration needs to be given to the detail and appropriateness of conditions used.

Some significant improvements have been seen in the quality of information, the co-ordination of works, and the efficiency of dealing with permit applications, but the permit scheme and its objectives remain a huge culture change to the organisation which will take time to see fully embraced.

Several areas remain where operations or measures can be improved. Hertfordshire will prioritise these and continue to improve its operations and measures.

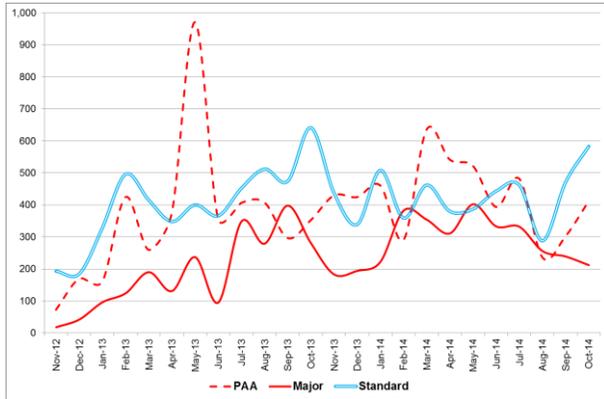
Appendix A – Permit Volumes

This measure is a count of total applications received during the year. Year 1 data is also displayed for comparison purposes. The charts below show the volumes of notifications and applications for all works, and also Statutory Undertaker and highways works.

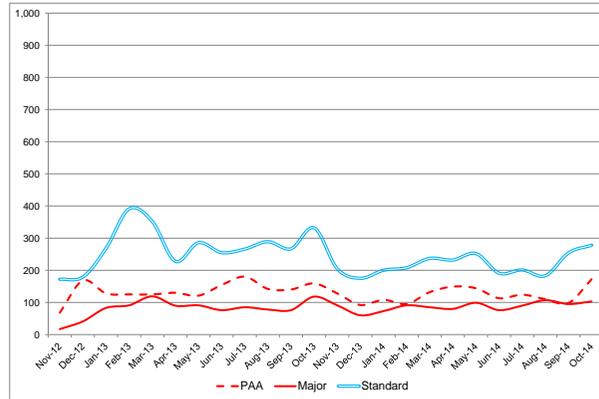
	All Works						Statutory Undertaker					Highways				
	PAA	Major	Standard	Minor	Immediate	All Works	PAA	Major	Standard	Minor	Immediate	PAA	Major	Standard	Minor	Immediate
Year 1	4,257	2,239	4,811	33,168	29,788	74,263	1,640	965	3,285	25,067	9,811	2,617	1,274	1,526	8,101	19,977
Year 2	5,135	3,420	5,119	29,026	38,695	81,395	1,465	1,050	2,616	24,679	11,039	3,670	2,370	2,503	4,347	27,656
VARIANCE	878	1181	308	-4142	8907	7132	-175	85	-669	-388	1228	1053	1096	977	-3754	7679
% VARIANCE		34.5%	6.0%	-14.3%	23.0%	8.8%	-11.9%	8.1%	-25.6%	-1.6%	11.1%	28.7%	46.2%	39.0%	-86.4%	27.8%



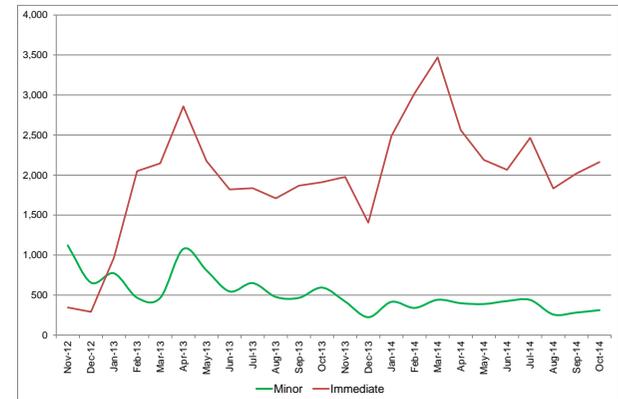
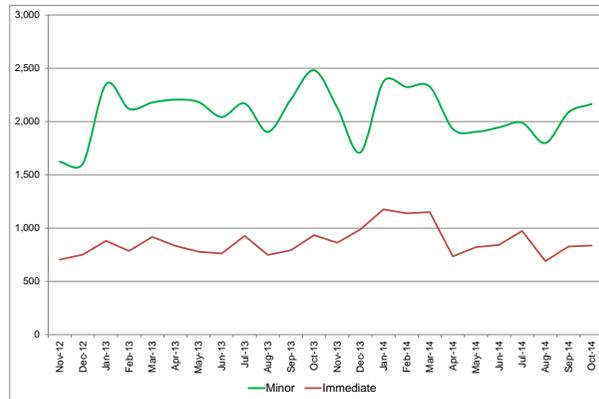
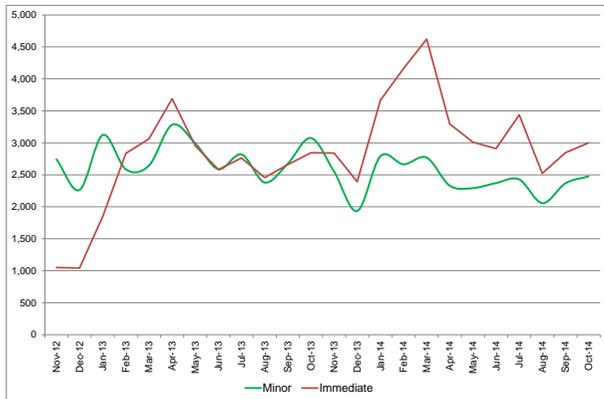
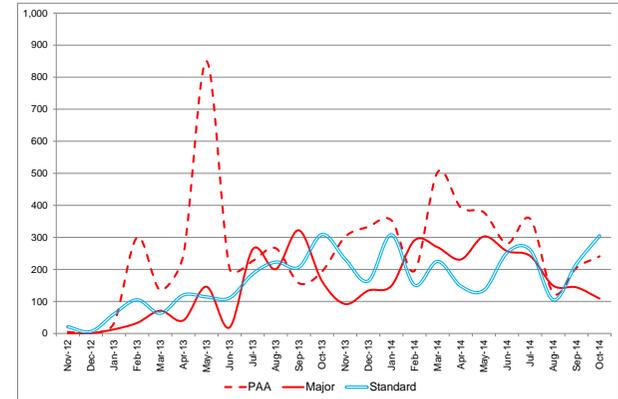
All Works Promoters



Statutory Undertaker Works



Highways Works



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.

The data for this measure is determined from the standard KPI#1 Permit Response report. This report within the EToN Street works system used by Hertfordshire County Council – Confirm - has been unable to provide reliable data since the introduction of EToN6 in April 2014. Therefore this data cannot be included in the evaluation report.

Appendix C – Permit Modification/Variation Applications

This measure is a count of the three types of permit modification/variations: (1) modifications/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 applications for a permit modification/variation and does take in consideration multiple variations for one permit.

Activity Type	All Works						Statutory Undertaker						Highways					
	Modification Request	Variation & Modification	Works Data Variation	Duration Variation Application	Variations & Modifications Granted	Variations & Modifications Deemed	Modification Request	Variation & Modification	Works Data Variation	Duration Variation Application	Variations & Modifications Granted	Variations & Modifications Deemed	Modification Request	Variation & Modification	Works Data Variation	Duration Variation Application	Variations & Modifications Granted	Variations & Modifications Deemed
Major	308	2,049	352	782	N/A	N/A	127	601	240	339	N/A	N/A	181	1,448	112	443	N/A	N/A
Standard	600	2,048	291	527	N/A	N/A	481	1,295	192	202	N/A	N/A	119	753	99	325	N/A	N/A
Minor	1,591	4,259	831	624	N/A	N/A	1,394	3,073	747	436	N/A	N/A	197	1,186	84	188	N/A	N/A
Immediate	15	1	786	2,932	N/A	N/A	14	1	741	1,241	N/A	N/A	1	0	45	1,691	N/A	N/A
Total	2,514	8,357	2,260	4,865	N/A	N/A	2,016	4,970	1,920	2,218	N/A	N/A	498	3,387	340	2,647	N/A	N/A

The data for the volumes of Variations Granted and Deemed is determined from the standard KPI#1 Permit Response report. This report within the EToN Street works system used by Hertfordshire County Council – Confirm - has been unable to provide reliable data since the introduction of EToN6 in April 2014. Therefore this data cannot be included in the evaluation report.



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.

All Works Promoters

	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	894	3,225	692	662	1,149	436	2,428	292	396	264	4,033	85	57
Standard	823	1,280	61	236	2,459	272	12	86	107	145	200	53	99
Minor	1,919	4,331	506	933	8,727	816	51	444	314	1,423	1,075	119	560
Immediate	2,115	5,129	793	341	8,661	802	71	77	99	711	97	23	639

Statutory Undertaker Works

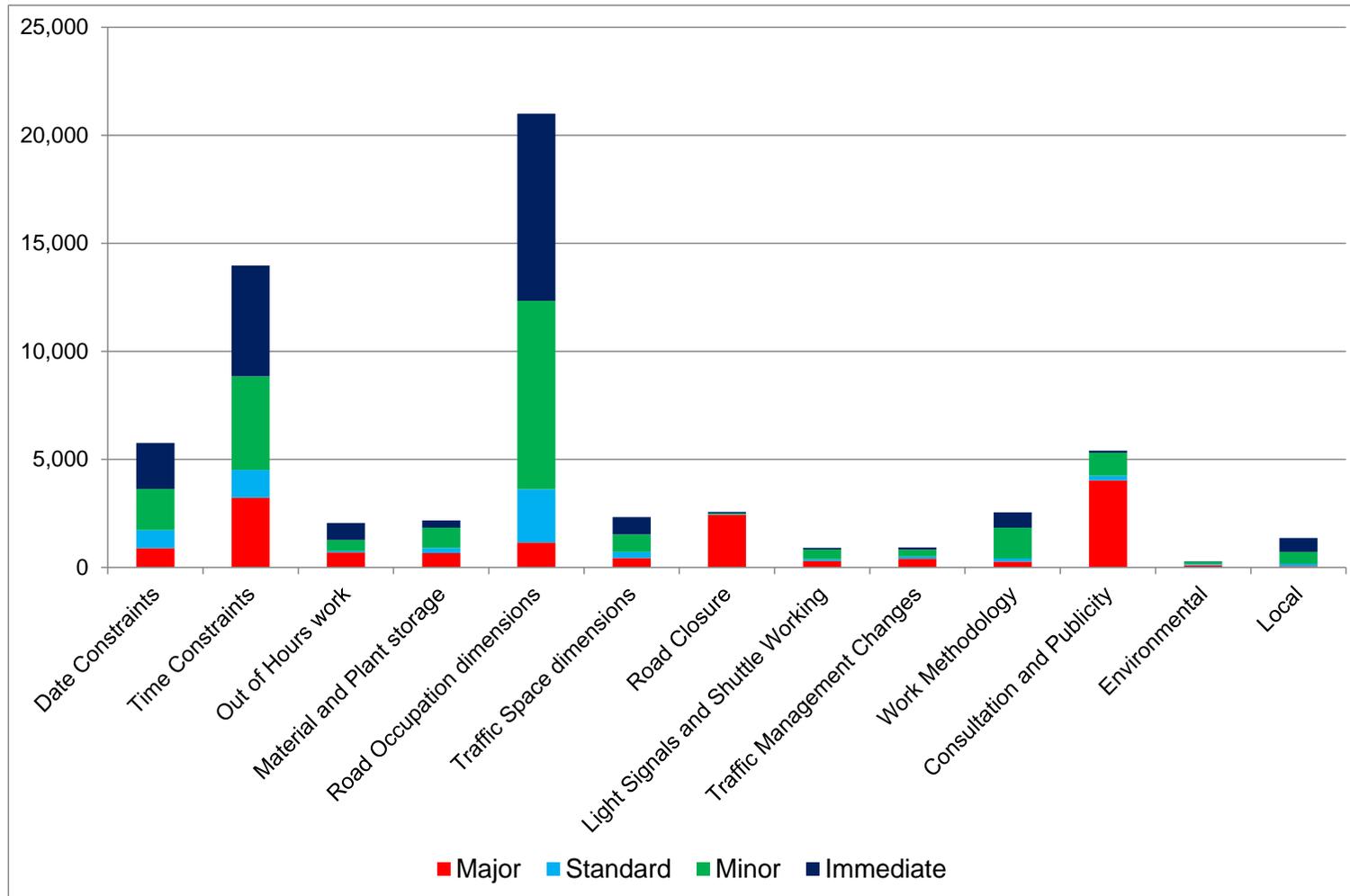
	Date Constraints	Time Constraints	Out of Hours work	Material and Plant storage	Road Occupation dimensions	Traffic Space dimensions	Road Closure	Light Signals and Shuttle Working	Traffic Management Changes	Work Methodology	Consultation and Publicity	Environmental	Local
Major	757	457	172	588	756	417	371	178	353	209	1,682	46	50
Standard	589	596	31	225	940	257	7	68	94	78	123	39	73
Minor	1,622	2,686	431	905	7,020	744	41	388	293	1,267	735	98	477
Immediate	1,955	2,103	716	321	3,081	742	64	73	89	621	90	21	579



Highways Works

	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	137	2,768	520	74	393	19	2,057	114	43	55	2,351	39	7
Standard	234	684	30	11	1,519	15	5	18	13	67	77	14	26
Minor	297	1,645	75	28	1,707	72	10	56	21	156	340	21	83
Immediate	160	3,026	77	20	5,580	60	7	4	10	90	7	2	60

All Works Promoters

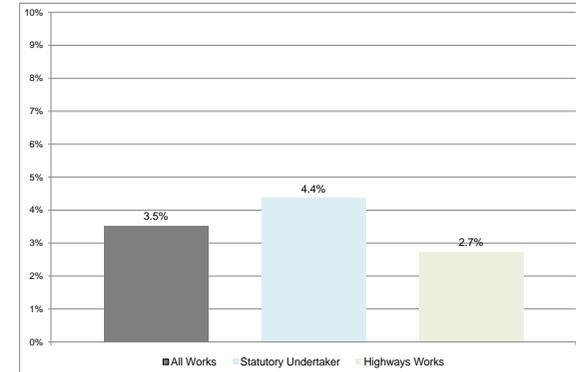




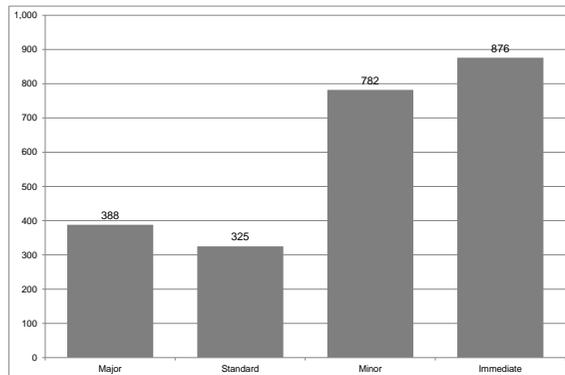
Appendix E – Number of Approved Extensions

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.

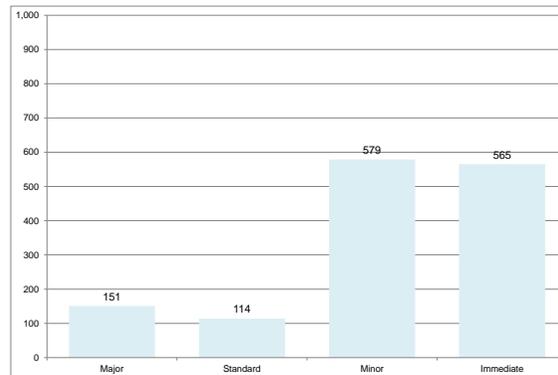
The % of started work with approved extensions shows the average of all extension requests for all started works, including Immediate works.



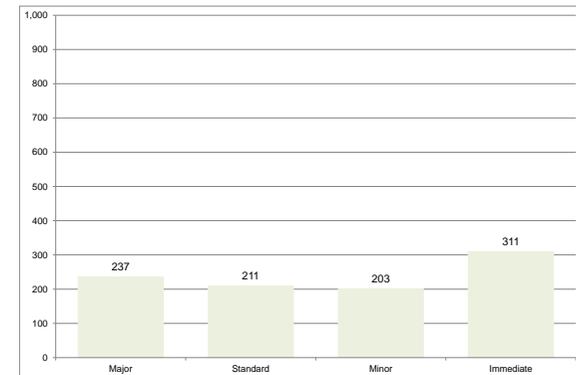
% of Started Work with Approved Extensions



All Works Promoters



Statutory Undertaker Works



Highways Works



Appendix F – Permit Application Lead in Time

Adherence to Lead Times

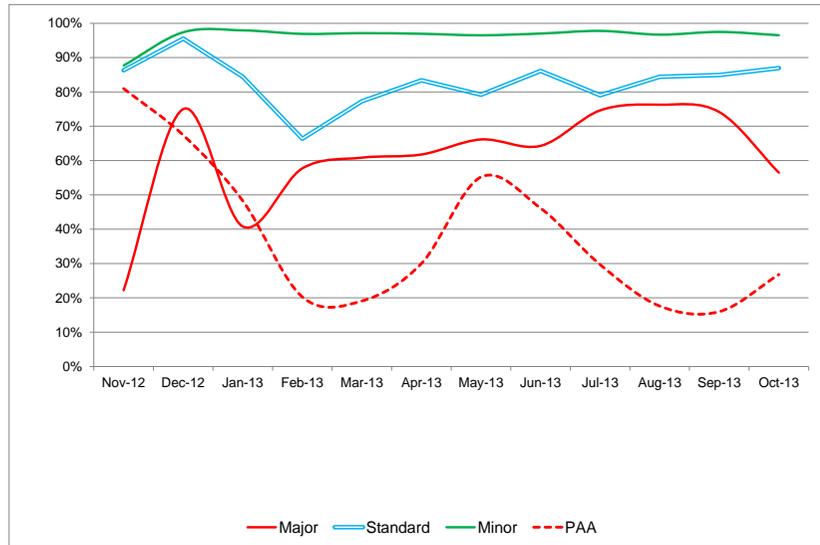
This measure is a count of the permit applications that were received by the Permit Authority within (in time) or outside (not in time) the application lead times (prior to the proposed start date) specified within the EEPS. This measure is of the initial permit application as subsequent applications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

Year 1

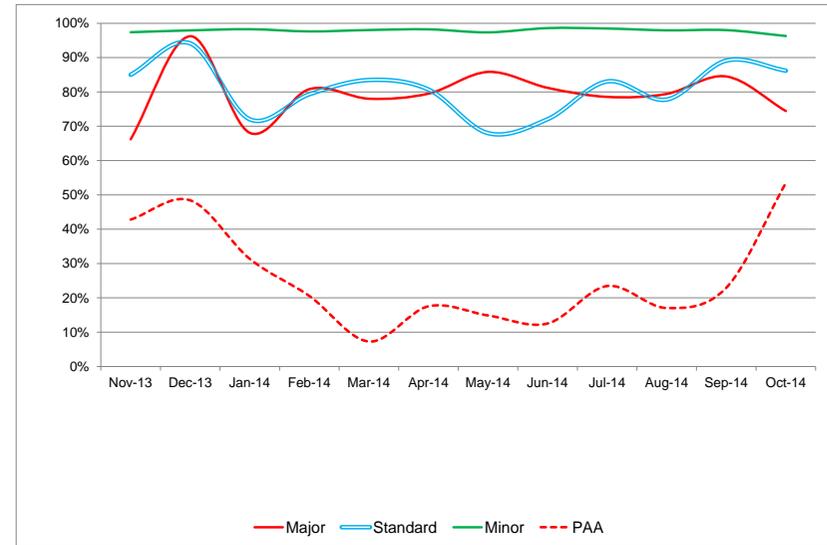
	PAA	Major	Standard	Minor	PAA	Major	Standard	Minor	PAA	Major	Standard	Minor
% In Time	41.6%	60.1%	80.0%	95.8%	58.1%	56.1%	85.5%	98.7%	31.1%	66.8%	62.7%	85.2%
% Not in Time	58.4%	39.9%	20.0%	4.2%	41.9%	43.9%	14.5%	1.3%	68.9%	33.2%	37.3%	14.8%

Year 2

	PAA	Major	Standard	Minor	PAA	Major	Standard	Minor	PAA	Major	Standard	Minor
% In Time	25.2%	79.8%	81.4%	97.8%	40.4%	73.4%	85.0%	98.6%	19.2%	82.7%	77.8%	92.5%
% Not in Time	74.8%	20.2%	18.6%	2.2%	59.6%	26.6%	15.0%	1.4%	80.8%	17.3%	22.2%	7.5%



Year 1



Year 2



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).

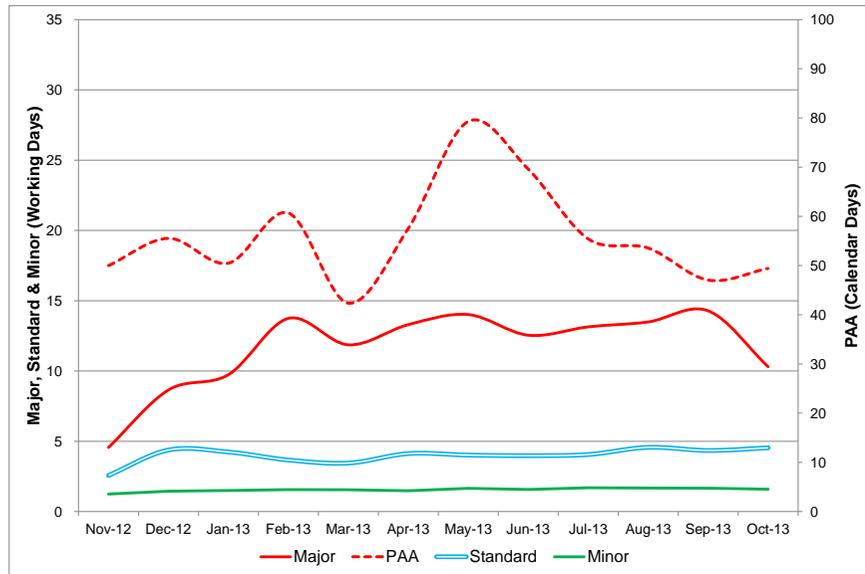
Exceptional values for lead times have been removed from the total records in order to provide a more realistic average. Additionally, all records where the lead-time is less than zero have been removed (c.2% of all records). In total, no more than 10% of the records have been removed.

Year 1

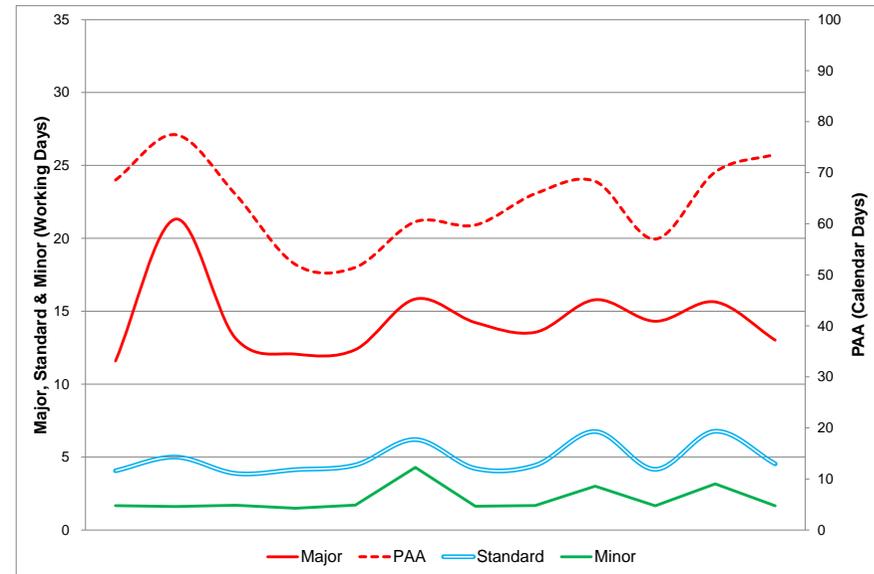
	All				Statutory Undertaker				Highways			
	PAA	Major	Standard	Minor	PAA	Major	Standard	Minor	PAA	Major	Standard	Minor
Average (Days)	55.91	11.64	11.41	4.44	69.96	11.42	13.17	4.17	41.86	12.51	9.65	4.70
Target (Days)	90.00	10.00	10.00	3.00	90.00	10.00	10.00	3.00	90.00	10.00	10.00	3.00
Variance +/- (Days)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

Year 2

	All				Statutory Undertaker				Highways			
	PAA	Major	Standard	Minor	PAA	Major	Standard	Minor	PAA	Major	Standard	Minor
Average (Days)	64.19	14.41	13.96	6.02	68.63	11.66	13.48	4.04	59.75	17.15	14.43	8.00
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)	-25.81	4.41	3.96	3.02	-21.37	1.66	3.48	1.04	-30.25	7.15	4.43	5.00



Year 1



Year 2

Appendix G – Permit Cancellations

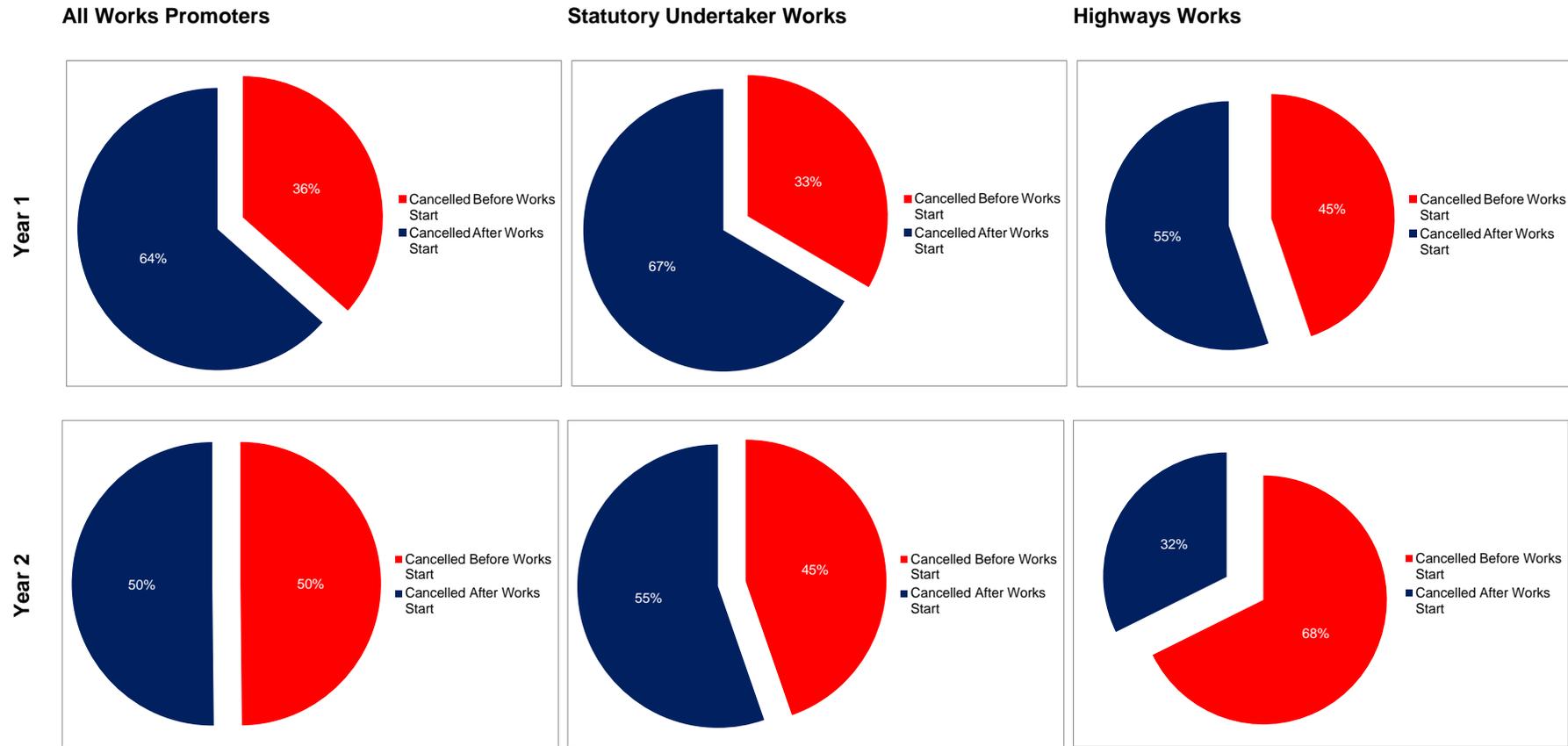
This measure is a count of cancellations received before or after the (proposed) works start date within the permit application. Since the introduction of the EEPS, permits cancelled after they have been granted can be measured.

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%

Year 2

	All Works				Statutory Undertaker				Highways			
	Major	Standard	Minor	Total	Major	Standard	Minor	Total	Major	Standard	Minor	Total
Cancelled Before Works Start	1,486	674	2,823	4,983	505	496	2,464	3,465	981	178	359	1,518
Cancelled After Works Start	583	298	4,136	5,017	335	245	3,713	4,293	248	53	423	724
% Cancelled After Works Start	28.2%	30.7%	59.4%	50.2%	39.9%	33.1%	60.1%	55.3%	20.2%	22.9%	54.1%	32.3%
% Cancelled of all Granted Permits	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A





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.

Year 2

	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	87	42	134	114	N/A	51	33	125	108	N/A	36	9	9	6	N/A
Total Revocations	28	20	26	6	N/A	12	17	22	5	N/A	16	3	4	1	N/A



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 planned 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.

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 addition to these, all records where the duration is less than zero have been removed. 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.*

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

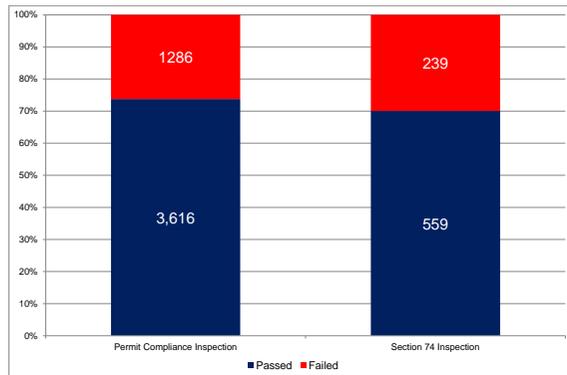
Year 2

	All Works	Statutory Undertaker	Highways
Major	13.1	18.9	7.3
Standard	7.5	6.8	8.2
Minor	2.3	2.5	2.2
Immediate	2.8	4.5	1.2

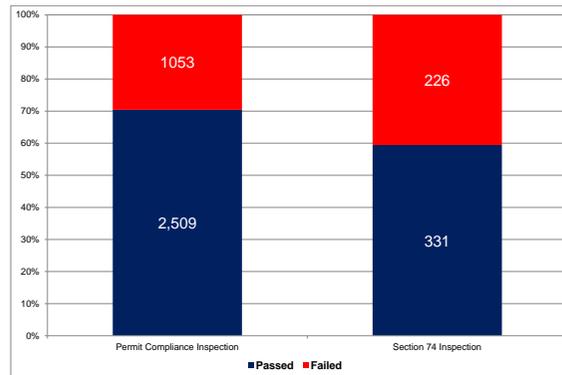
Appendix J – Permit Compliance Inspections and Post Section 74 Inspections

This is a count of the number of Inspections carried out by the Permit Authority for either Permit Compliance or Section 74 – 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.

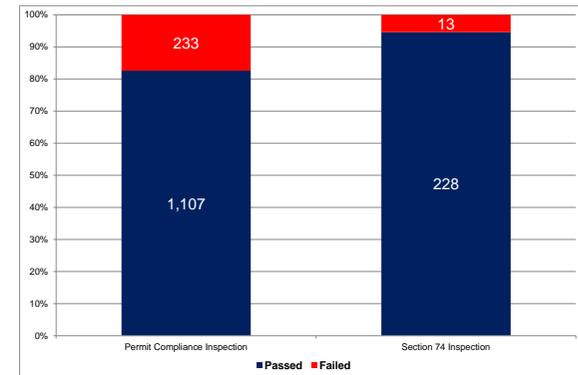
	All Works					Statutory Undertaker					Highways				
	Passed	% Passed	Failed	% Failed	Total Inspections	Passed	% Passed	Failed	% Failed	Total Inspections	Passed	% Passed	Failed	% Failed	Total Inspections
Permit Compliance Inspection	3,616	73.8%	1286	26.2%	4,902	2,509	70.4%	1053	29.6%	3,562	1,107	82.6%	233	17.4%	1,340
Traffic Management Failure	-	-	1004	20.5%	-	-	-	850	23.9%	-	-	-	154	11.5%	-
Section 74 Inspection	559	70.1%	239	29.9%	798	331	59.4%	226	40.6%	557	228	94.6%	13	5.4%	241



All Works Promoters



Statutory Undertaker Works



Highways Works



Appendix K – NHT Survey

NHT REF	MEASURE	2011	2012		2013			2014			Trend	
		Score	Score	Ranking (National) out of 75	Ranking (County Councils) out of 22	Score	Ranking (National) out of 70	Ranking (County Councils) out of 21	Score	Ranking (National) out of 78		Ranking (County Councils) out of 20
KBI 17	Traffic Levels & Congestion	48.38	48.21	45	14	50.60	N/A	9	44.63	55	18	-5.97
KBI 18	Management of Roadworks	51.30	55.07	12	3	54.00	N/A	12	52.00	43	15	-2.00
KBI 19	Traffic Management	53.10	53.63	61	18	55.70	N/A	15	55.00	53	16	-0.70
	Tackling Congestion	Score	Score	Ranking (National) out of 75	Ranking (County Councils) out of 22	Score	Ranking (National) out of 70	Ranking (County Councils) out of 21	Score	Ranking (National) out of 78	Ranking (County Councils) out of 20	
TCBI 01	Advanced Warning of Roadworks	62.99	64.66	19	8	60.70	N/A	20	62.30	78	13	1.60
TCBI 02	Efforts to reduce delays to traffic	54.20	57.95	10	3	57.00	N/A	6	54.00	34	14	-3.00
TCBI 03	Time taken to complete roadworks	45.55	52.93	4	2	50.90	N/A	4	47.00	32	11	-3.90
TCBI 04	Signposting of road diversions	53.92	56.41	43	11	57.90	N/A	4	53.10	75	20	-4.80
TCBI 05	Help lines to find out about roadworks	43.11	46.80	38	11	43.80	N/A	21	44.90	63	18	1.10
TCBI 06	Efforts to minimise nuisance to residents	48.06	51.66	33	11	53.60	N/A	8	50.90	45	17	-2.70



Appendix L – Summary Trend Analysis

The table below provides a high level analysis (trend) of the performance indicators (efficiency) for pre-scheme operation and years 1 and year 2 of the Scheme Operation.

Measure	Promoter Group	Pre Scheme	Year 1		Year 2		
		Number	Number	% Change	Number	% Change	
Permit Volumes	Statutory Undertakers	44864	40768	-9.1%	40849	0.2%	↑
	Highways	8510	33495	293.6%	40546	21.1%	↑
	All	53374	74263	39.1%	81395	9.6%	↑
			%	%	% Change	%	% Change
Permits Granted, Refused* or Deemed <i>* Refused includes variation applications</i>	Statutory Undertakers						
	Granted	N/A	75.6	N/A	No Data Available (Street Works System KPI#1 report unavailable since April 2014)		
	Refused	N/A	12.4	N/A			
	Deemed	N/A	4.4	N/A			
	Highways						
	Granted	N/A	87.4	N/A			
	Refused	N/A	6.1	N/A			
	Deemed	N/A	0.9	N/A			
	All						
	Granted	N/A	80.9	N/A			
Refused	N/A	9.5	N/A				
Deemed	N/A	2.8	N/A				
Permit Variation/Modification Applications		Number	Number	% Change	Number	% Change	
	Statutory Undertakers	N/A	7023	N/A	9108	29.7%	↑
	Highways	N/A	4264	N/A	6374	49.5%	↑
	All	N/A	11287	N/A	15482	37.2%	↑
Permit Variation/Modification Granted or Deemed		Number	Number	% Change	Number	% Change	
	Statutory Undertakers						
	Granted	N/A	59.4	N/A	No Data Available (Street Works System KPI#1 report unavailable since April 2014)		
	Deemed	N/A	8.1	N/A			
	Highways						
	Granted	N/A	75.5	N/A			
	Deemed	N/A	5.6	N/A			
	All						
	Granted	N/A	65.5	N/A			
	Deemed	N/A	7.2	N/A			

Measure	Promoter Group	Pre Scheme	Year 1		Year 2		
		Number	Number	% Change	Number	% Change	
Number of Approved Extensions	Statutory Undertakers	2704	1786	-33.9%	1409	-21.1%	↓
	Highways	149	699	369.1%	962	37.6%	↑
	All	2853	2485	-12.9%	2371	-4.6%	↓
Permit Application Lead in Time <i>% Not in Time</i>		%	%	% Change	%	% Change	
	Statutory Undertakers						
	PAA	10.0	41.9	319.0%	59.6	42.2%	↑
	Major	N/A	43.9	N/A	26.6	-39.4%	↓
	Standard	1.5	14.5	866.7%	15	3.4%	↑
	Minor	0.3	1.3	333.3%	1.4	7.7%	↑
	Highways						
	PAA	91.3	68.9	-24.5%	80.8	17.3%	↑
	Major	N/A	33.2	N/A	17.3	-47.9%	↓
	Standard	49.2	37.3	-24.2%	22.2	-40.5%	↓
	Minor	21.6	14.8	-31.5%	7.5	-49.3%	↓
	All						
	PAA	70.5	58.4	-17.2%	74.8	28.1%	↑
	Major	N/A	39.9	N/A	20.2	-49.4%	↓
	Standard	18.8	20	6.4%	18.6	-7.0%	↓
Minor	3.5	4.2	20.0%	2.2	-47.6%	↓	
Permit Cancellations <i>% Cancelled After Works Start</i>		%	%	% Change	%	% Change	
	Statutory Undertakers	79.1	66.6	-15.8%	55.3	-17.0%	↓
	Highways	46.4	55.2	19.0%	32.3	-41.5%	↓
All	71.00	63.5	-10.6%	50.2	-20.9%	↓	

Measure	Promoter Group	Pre Scheme	Year 1		Year 2		
		%	%	% Change	%	% Change	
Authority Imposed Variations <i>% of all granted permits</i>	Statutory Undertakers	N/A	2.5	N/A	1.0	-60.0%	↓
	Highways	N/A	0.3	N/A	0.2	-33.3%	↓
	All	N/A	1.5	N/A	0.6	-60.0%	↓
Permit Revocations <i>% of all granted permits</i>	Statutory Undertakers	N/A	0.2	N/A	0.2	0.0%	↓
	Highways	N/A	0.2	N/A	0.1	-50.0%	↓
	All	N/A	0.2	N/A	0.1	-50.0%	↓
Average Duration of Works		Days	Days	% Change	Days	% Change	
	Statutory Undertakers						
	Major	26.6	25.8	-3.0%	18.9	-26.9%	↓
	Standard	7.6	7.1	-6.6%	6.8	-3.8%	↓
	Minor	2.5	2.5	0.0%	2.5	0.0%	↓
	Immediate	4.5	4.8	6.7%	4.5	-6.3%	↓
	Highways						
	Major	5.4	5.8	7.4%	7.3	25.4%	↑
	Standard	7.7	8.2	6.5%	8.2	0.0%	↓
	Minor	1.9	1.7	-10.5%	2.2	26.5%	↑
	Immediate	1.7	1.2	-29.4%	1.2	-1.2%	↓
	All						
	Major	16.0	15.8	-1.3%	13.1	-17.3%	↓
	Standard	7.6	7.6	0.0%	7.5	-0.8%	↓
Minor	2.2	2.1	-4.5%	2.3	11.4%	↑	
Immediate	3.1	3.0	-3.2%	2.8	-5.2%	↓	
Permit Compliance Inspections <i>% Failed</i>	Statutory Undertakers	N/A	27.0	N/A	29.6	9.6%	↑
	Highways	N/A	27.9	N/A	17.4	-37.6%	↓
	All	N/A	27.2	N/A	26.2	-3.7%	↓