

## Highways Maintenance for Communities – findings of the East/Mid Devon trials

Report of the Chief Officer for Highways, Infrastructure Development and Waste

### 1. Purpose of report

This report is intended to provide the CIRS Scrutiny Committee with an update on the performance of the Public Interface Portal (PIP) triage trial that has been carried out in the East Devon and Mid Devon areas in advance of formal adoption of the new process.

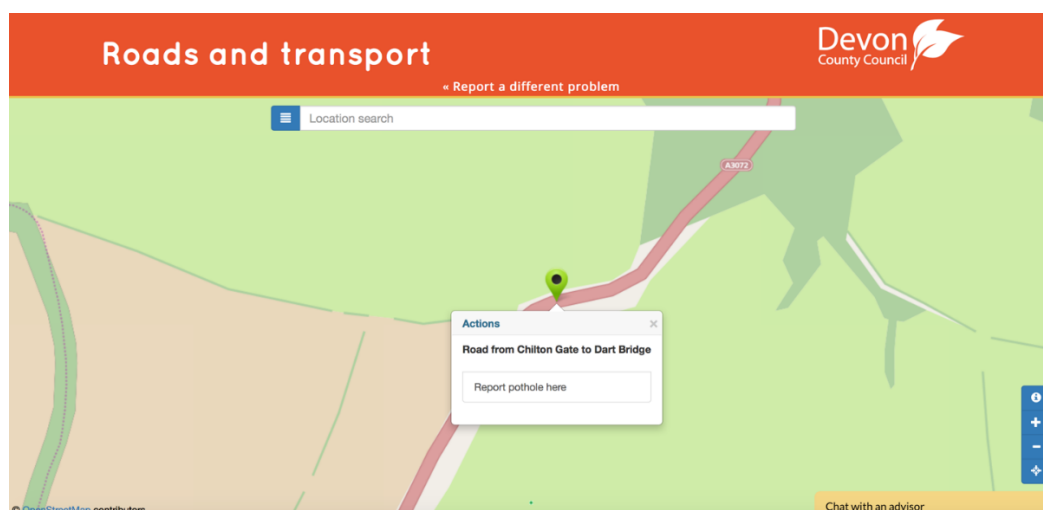
### 2. Background to PIP

In 2014 Devon County Council relaunched their Roads & Transport webpages and introduced an improved online reporting system. The 'report a problem' webpage (PIP) allows members of the public to report 16 distinct types of issues including flooding and blocked drains, issues with street lighting equipment and potholes. The 'report a problem' categories enables over 80% of our fault reporting demand to be captured via customer self-service.

The intention of the website was to improve the experience for our citizens, by making it easier to report issues and resolve queries whilst also reducing demand on officers. We also hoped to encourage channel shift from more costly communication channels such as telephones and emails. The 'report a problem' facility has been a success with the use of the website continuing to grow year on year. Over 50% of our recorded contact is now being received via citizen self-service.

### Issues associated with PIP process

When entering the pothole webpage a member of the public is presented with a map of Devon, allowing them to find the location of the pothole they wish to report.



Once they have found the location they click on the map. They are then invited to report a pothole in this location. Once they click 'Report pothole here' they are given the opportunity to add a description.

**Roads and transport**
Devon  
County Council

[« Report a different problem](#)

Please select the nature of your problem

**Pothole**  
One Big, deep hole in the road, approximately the size of a large dinner plate in any direction. Select trip hazard if there is hole in a pavement or cycleway. Please be aware, each report recorded will only result in 1 pothole being assessed for repair. If there are multiple large potholes present, please report each one separately, see example

Additional Information:

Next
Cancel

Once submitted, the system is configured to send the details directly to the contractor to carry out a repair in line with the Highway Safety Policy. The system automatically generates a response time based on the Maintenance Category of the road in question. Approximately 34% of PIP defects are reported on the Category 7 to 11 network.

This process is significantly different to the way in which a Safety Inspector operates. All Inspectors have to achieve a City and Guilds qualification and undertake a period of shadow working before they can be considered fit to carry out safety inspections on the highway. Once a carriageway pothole defect has been identified an Inspector first considers whether the defect meets DCC's safety criteria which for a carriageway is 300mm in any horizontal direction and 40mm deep with vertical edges. The Inspector then carries out a risk assessment in line with the Well Maintained Highway Infrastructure Code of Practice to establish the degree of risk a 'safety defect' impacts upon highway users. The result of this assessment defines an appropriate response from immediate to no further action and is detailed below.

RISK MATRIX						
		PROBABILITY / LIKELIHOOD OF INTERACTION WITH HIGHWAY USER				
		Rare (1)	Unlikely (2)	Possible (3)	Likely (4)	Almost Certain (5)
IMPACT	None (1)	1	2	3	4	5
	Negligible (2)	2	4	6	8	10
	Minor (3)	3	6	9	12	15
	Moderate (4)	4	8	12	16	20
	Serious (5)	5	10	15	20	25

Category 4 (Low Risk) Consider an appropriate response including no further action/monitor	Category 3 (Medium Risk) Repair within 28 days	Category 2 (High Risk) Make safe or repair within 7 days	Category 1 Make safe or repair by end of the next working day
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In addition to the risk assessment a Safety Inspector is required to add details of any special traffic management such as traffic lights, dimensions of the defect and add any information that will be important to the operatives carrying out the work. None of this information is included in a report received by the public via the PIP process.

There are other significant problems experienced with reports from the general public. It can be difficult to accurately identify on the electronic map the location of the defect to be reported, particularly in rural locations with few landmarks. The system is unable to determine whether a report in the same location is an additional defect or a duplicate. It has been known for members of the public to make many duplicate reports thinking that they would receive a quicker response.

## **Impacts of PIP Process**

The outcome of the PIP process was a service that did not meet the expectations of the general public, was reputationally damaging for the Council, created significant levels of waste and inefficiency and placed additional pressure on staff.

The gangs employed to repair PIP generated defects would frequently visit a location and be unable to carry out any work for a number of potential reasons.

- Defect did not meet intervention criteria (wasn't a safety defect);
- Had already been repaired by another gang;
- Did not have appropriate traffic management equipment to work safely;
- Defect was of such a size that they were not carrying appropriate plant;
- Defect was not found (not identified in correct location).

In addition, gangs would frequently visit locations expecting a number of defects to find fewer due to duplicate reports. Repair gangs often have to make decisions on whether to carry out repairs without them having the appropriate training or experience, and were not identifying the root cause of the issue.

### **3. Aims of trial**

In order to address the inefficiency and failings of the process a trial was established to verify and assess each of the defects reported via the PIP website by an Inspector and make sure the necessary information was included to allow the gangs to carry out an appropriate repair first time.

It was also felt that the Safety Criteria (40mm deep and 300mm in any horizontal direction) was in some cases preventing our contractor from carrying out timely repairs, ideally in advance of a defect reaching a point that it becomes a hazard for road users. As such the category of serviceability defect was identified. This new category was defined by the idea of a defect that was likely to become a safety defect within the next two or three months. The definition was left intentionally imprecise to enable the team managing the trial the ability to act on their findings rather than be limited by any preconceptions. These types of defect are a significant cause of repeat contact and frustration for members of the public; they report the defect, a gang attends (sometimes up to 28 days after the report) but do not repair as the safety criteria has not been met.

The focus on safety defects and continual reductions in budgets had led the service to focus on repairs that removed the immediate hazard but not necessarily addressed the root cause of the problem. As such you can see many examples across the county of numerous pothole repairs that have been carried out over a period of maybe 18 or 24 months when it would have been more appropriate to have ordered a patch for the whole area when the first defect had been identified.

The final aim of the trial was to ask the inspector to use their judgement to record the root cause of the defect to help build a better understanding of the contributing factors to the deterioration of the network and help identify future budget provision.

### **4. Details of the Trial**

DCC officers worked with our Highways Software System supplier (WDM Ltd) to develop a new interface for the triage inspectors. This software effectively intercepts the PIP reports prior to them being passed to the contractor. Skanska our Term Maintenance Contractor dedicated a qualified Highway Safety Inspector to the trial who worked closely with the DCC team to understand the aims of the trial and the new way of working. This role was vital to the success of the project as it was important that two-way communication between the team and the inspector helped build a

much better understanding of the intricacies of some of the issues incurred by the operatives working in the field.

Reports received from the public are treated as enquiries with a commitment that a visual inspection will be carried out within 3 days of receipt of the report. Once inspected the defect is then managed in line with the Highway Safety Policy including the risk assessment discussed above.

The trial commenced in July 2018 in the East Devon area with one new Triage Inspector and was initially focused on the Category 3 to Category 9 network. In August Skanska provided an upskilled patching gang that was dedicated to the trial. The purpose of this gang was to carry out patching to areas with serviceability issues identified by the inspector as likely to fail within the next one or two formal inspections.

As the understanding of the trial and new ways of working developed the trial was carefully expanded both geographically and across a wider number of maintenance categories. Mid Devon was added to the trial in October with the support of an additional inspector in November. In January a third inspector was added to the team, the trial was expanded into Exeter and all maintenance categories were covered for East and Mid Devon.

## 5. Results of trial

### 5.1 Defects Identified

In the period through to the end of February 2019 the Inspectors assessed 5,837 pothole defects reported via the PIP system. Analysis of the findings reveals that only 53% met the criteria to be considered as a safety defect. 11% were identified as service defects requiring additional work and 36% required no further action.

Further analysis of the defects that required no further work identified that 92% were either a duplicate or had already been repaired with a small number that either could not be found or were not considered significant enough to be considered a service defect.

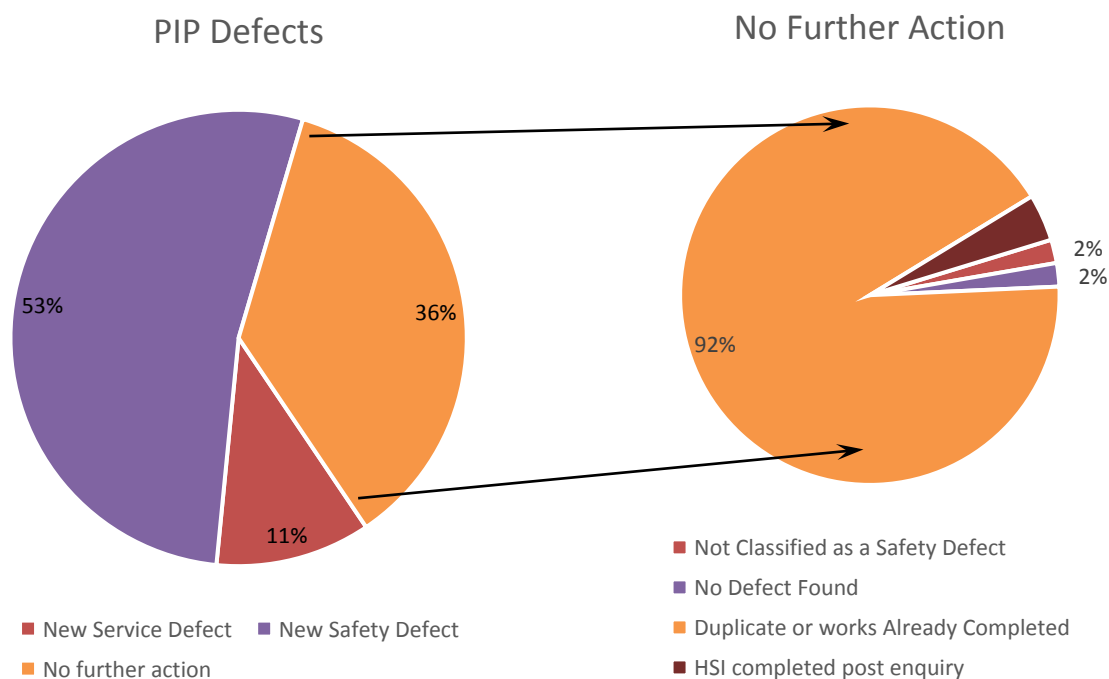


Figure 1 Breakdown of PIP reports received

## 5.2 Productivity

By providing accurate information to the gangs there has been a significant increase in their productivity. We are now seeing gangs fixing 97% of all the defects they attend first time. This compares to a figure of 68% recorded in June 2018 which was in advance of the trial. The team are confident that the figure of 97% can be improved.

## 5.3 Reduction in PIP Reports

We have compared the like for like number of PIP reports received in the East Devon area during the trial period against the previous year. This indicates a significant reduction. Whilst we have benefitted from milder weather this winter it is thought that the improved ability to fix safety defects first time coupled with the subsequent knock-on boost in productivity and the positive approach to service defects is helping to contribute to this improvement.

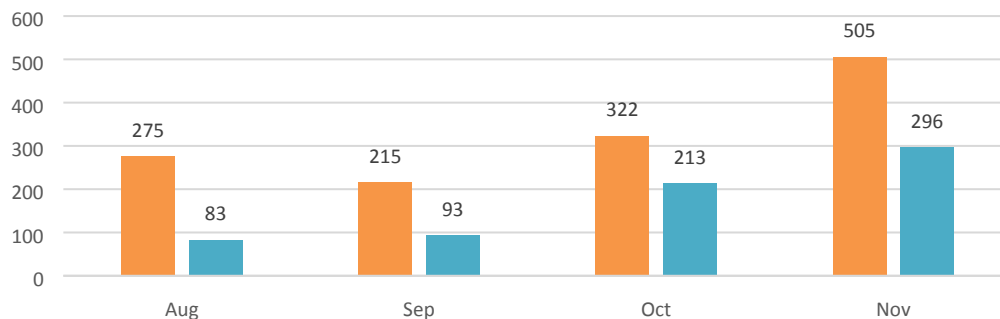


Figure 2 Number of PIP reports received 17/18 vs 18/19

## 5.4 Short Term Financial Savings

We have looked at the likely savings associated with the improved productivity and effective elimination of 'no action' visits. Based on this simple approach the trial itself will see a saving of approximately £30,000.

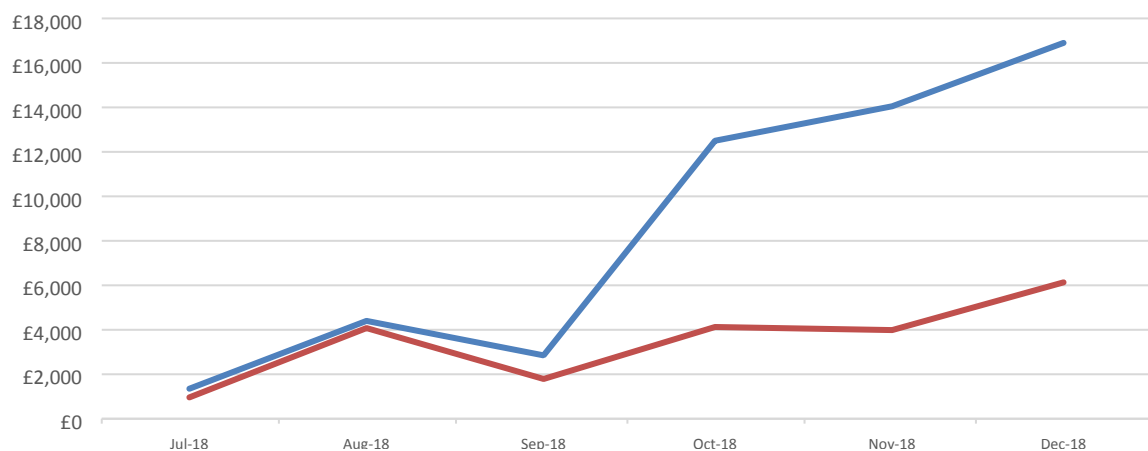


Figure 3 Short term financial savings

## 5.5 Long Term Financial Savings

The team have used historic data to project potential annual savings. The indications are that the process could save in the region of £375,000 between Jan and Dec 2019 once fully established county-wide.

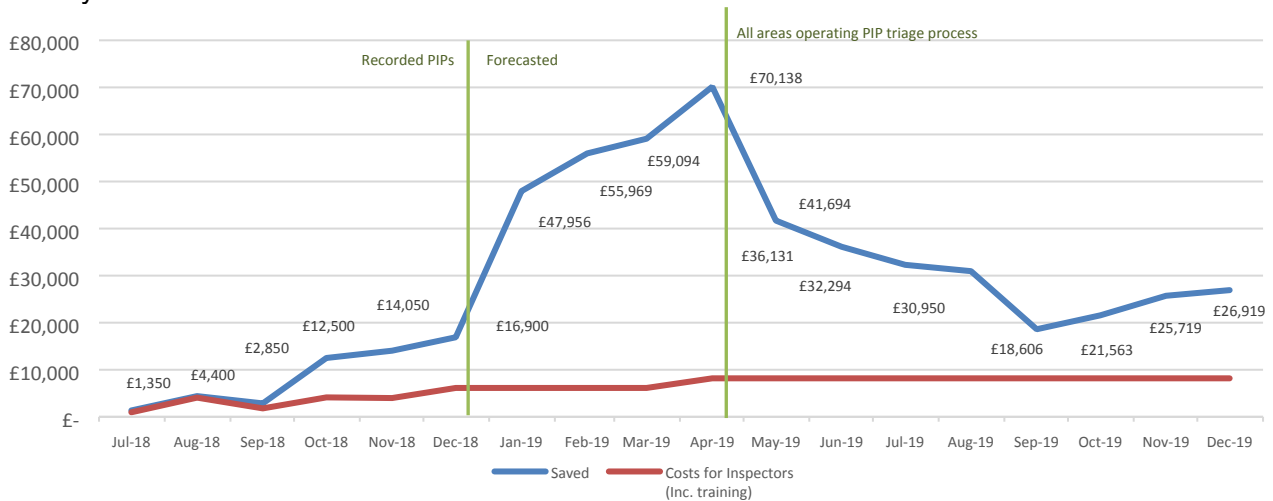


Figure 4 Potential savings for 2019

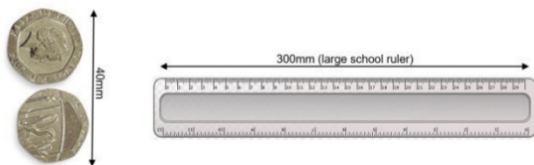
## 6. Other improvements

### Report a pothole

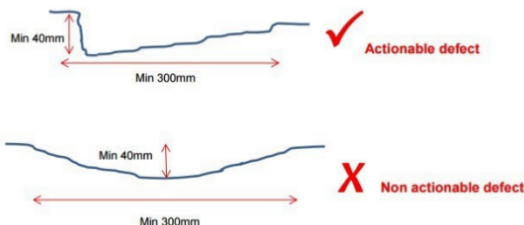
Not all potholes that are reported to us meet the criteria required to instigate repair.

We will not ignore any reports, however, we do have to prioritise our funding on safety and we cannot afford to fix all of the problems that are reported to us.

We will only repair potholes that are deeper than 40mm, wider than 300mm and have a vertical edge.



Please see the images below which illustrate a pothole with a vertical edge:



Overestimating the size of a pothole does not mean that it will be fixed but it does mean that we could end up being charged for a wasted call out. **The impact of misreported potholes could ultimately lead to further reductions in the service we are able to provide.**

[Report a pothole now >](#)

Please be aware, each report created will only result in one pothole being repaired if it meets our criteria for repair. If there are multiple large potholes please create a report for each pothole or report a road surface issue via our Customer Service Centre on 0345 155 1004.

Since the trial commenced the report a problem website has been changed to provide the public with practical information on the safety criteria to help manage expectations.

Visual examples of the safety criteria have been included and the need to report potholes individually to help maintain control of resources.

## 7. Future direction/aims

At the time of writing the trial has expanded into Area North with the remainder of the county programmed for inclusion from early April. This managed roll out has allowed the team to work with new inspectors to ensure the new way of working is correctly embedded giving the maximum chance of success.

As more and more data from the trial is collected the team are looking to continually improve the way in which resources are managed and directed to get the best outcome for both the general public and Devon County Council. Figure 5 below shows the breakdown of level of risk associated with different maintenance categories across the network, as assessed by the triage inspectors. The data indicates that the most significant risks are found on the Category 3 to Category 6 network with up to 12% requiring a next working day response. This figure drops to less than 1% on the Category 8 and above network.

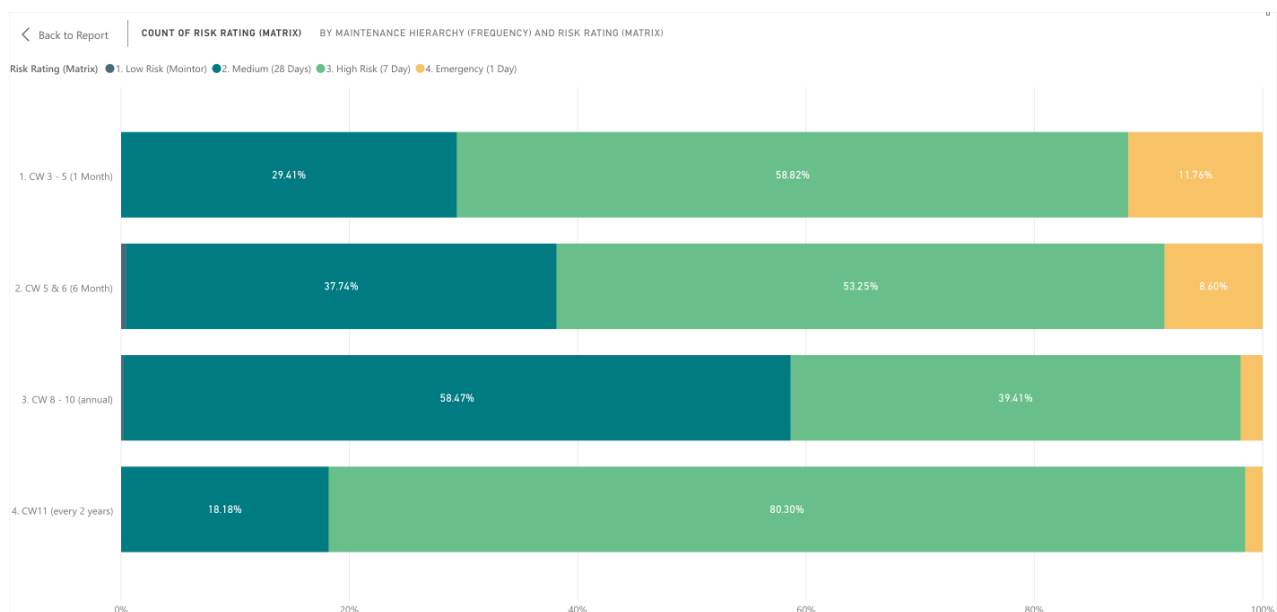


Figure 5 Count of risk rating across maintenance categories

From this data we are trialling a risk-based approach to managing enquiries. By increasing the response time for enquiries on the Category 8 and above network resources can be focused on the higher risk sections of the network. At the time of writing though we are confident that on the lower maintenance categories the repairs can still be completed within 28 days of first report, even if the assessment time is increased.

Meg Booth  
Chief Officer for Highways, Infrastructure Development and Waste

### Electoral Divisions: All

Cabinet Member for Highway Management: Councillor Stuart Hughes

Local Government Act 1972: List of Background Papers

Contact for enquiries: Rob Richards

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Tel No: (01392) 383000

Background Paper	Date	File Reference
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Nil

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