

Environment and Transport Select Committee- 15 December 2014

Item 4: Members questions

Submitted by: Cllr Jonathan Essex

This report (item 9) presents a safety inspection policy with identification of defect severity (page 81 of the report).

The report refers to the Department of Transport document, 'Prevention and a Better Cure' which says that maintenance should be planned at the right time, to minimise cost as well as safety. The following points follow on from recommendations set out in this document.

A) Please provide details of Surrey County Council's current Preventative Maintenance Strategy for highway maintenance, and how this is calculated to deliver best value for money as well as maximise road safety over the lifetime of our roads.

B) What routine and preventative maintenance works are planned to reduce the occurrence of potholes in the first place such as crack sealing (see Prevention and a Better Cure, page 29) as opposed to giving higher priority to the worst roads?

C) How much money will be saved by adopting this preventative maintenance strategy, and could more be saved by extending it? If so, how?

D) Has Surrey County Council considered localisation of Highway Routine and Periodic Maintenance (not including surface dressing) to district and borough councils like verge maintenance as part of this review, and what the costs and benefits of adopting such an approach in future are estimated to be?

E) Please confirm details of how the material types used for resurfacing have been reviewed against best practice. In particular what surfacing materials are currently used (eg HRA or TSCS) and how does this affect the rate at which potholes are likely to occur after resurfacing is completed.

F) Please confirm how the planned number of potholes repaired per day will change based on the change from 24 hour to 5 and 20 day repair targets. Please also confirm what the unit costs for pothole repair and crack sealing currently are for the Surrey County Council highway contract and how this will be affected by this change.

G) The report 'Well Maintained Highways' suggests that Category 1 defects should be made safe at the time of highway inspection. Please confirm whether this is Surrey's current or proposed approach, and whether such repairs are temporary or permanent. Does Surrey use, or has Surrey recently trialled 'Inspector Gangs' (Prevention and a Better Cure, page 34).

H) Does Surrey County Council currently require utility companies to adopt minimum dig or trenchless technologies, and if so, in what cases?

I) What percent of potholes in Surrey are reported by the public and how has this changed since 2010?

Response:

A) Surrey recognised the benefits of preventative maintenance long before the "Prevention and a Better Cure" report was published. For many years we have implemented a major maintenance programme for sections of roads that have come to the end of their useful life as well as a preventative maintenance programme to extend the useful life of roads. The preventative maintenance programme comprises primarily of surface dressing and micro asphalt treatments, but also utilises other treatments such as crack sealing of concrete roads. We recognise that preventative maintenance is both cost effective and enables us to enhance the life of roads by resealing the surface from the ingress of water and restoring skid resistance properties.

B) Surrey's major maintenance programme is prioritised using data such as road condition, road hierarchy, pothole defects etc. as such roads are dealt with on a predominantly worst first basis. The preventative maintenance programme however, is not prioritised based on those types of aspects. The primary drivers for the preventative maintenance programme are;

- road surfaces which are between 7 and 10 years old are assessed for suitability for addition to the programme in order to seal the surface before defects such as potholes form
- road surfaces which have been assessed as having poor skid resistance properties via machine survey or where there is a known accident history, are investigated to assess their suitability for addition to the programme
- roads which have had patching work carried out in the previous 12 months are assessed for addition to the programme in order to seal the patches and restore the uniformity and skid resistance of the road

These programme drivers help us to reduce the occurrence of potholes developing as well as improving safety by restoring skid resistance.

C) We have been developing lifecycle plans for roads which include using preventative maintenance treatments rather than waiting until a road fails before treating it. Early indications suggest lifecycle costs of £5,300 per year /km for roads when an asset management strategy using preventative maintenance is adopted as opposed to £12,000 per year/km for roads if a "worst first" strategy using conventional resurfacing and continuous patching is adopted.

We split our roads budget on a 70/30 major maintenance/preventative maintenance basis and the price differential between the two types of treatment means that we can carry out more preventative maintenance for less cost; for instance in 2013/14 we carried out 130km of major maintenance treatments and 230km of preventative using a 70/30 budget split. We believe that we are carrying out the right level of preventative maintenance currently and do not feel that there is justification for extending the amount we do at the present time.

D) Localisation of routine and periodic maintenance would not represent best value and could lead to a decrease in the quality of overall repair and increase risk on the network. This is based on seven critical reasons:

1. **Specialist Material** - A permanent repair for potholes is only possible if it is repaired using specialist hot material, which has a shelf life of just 24 hours. Further to this, based on Geography, this material is only available from 2 plants in the South East. Therefore each day the council must collect the material from one of the batching plants. As there is only 2 batching plants, economies of scale and effective buying power are critical to cost control.

Equally the batching plant allocates collection times to companies based on order value; a small company would not be able to collect material until late in the day.

2. **Flexible Resource** - There is no way to effective forecast where potholes will appear, on one day there may be large volume in Reigate and the next, high volume in Waverley. Therefore a county wide resource of a minimum of 12 full time gangs is needed, with the gangs being allocated to work based upon need. If resource was localised, then districts and boroughs would need to employ extra full time gangs to cope with the weekly peaks, as a minimum resource would not be able to cope with unforecast emergencies. The current approach also enables resilience for illness and holidays.

3. **Winter Gritting** - Delivering the county's winter gritting routes requires a minimum of 36 drivers. SCC, and almost all other councils, use the pothole resource to also support winter gritting and snow clearance. Removal of this resource would increase risk of delivery of the winter service as SCC would not have any fixed in-house resource.

4. **Training** - Kier employ a high level training programme for how to repair potholes properly and have supervisors to quality check work, the local supply chain would not be able to afford this cost as it is a Kier liability and not paid for by SCC.

5. **Overhead** - SCC currently employs 4 area managers and 4 schedulers to manage the pothole service. They are responsible for ensuring potholes are inspected and scheduled in the most cost effective way to gangs. Localisation of this activity would increase managers and schedulers from a total of 8 staff to 32 staff.

6. **IT System** - One of the biggest drivers for improvements in the reactive service was the installation of the new WMS scheduling and software system. This system cost Kier over £1m to fully implement and it would be unlikely that economies of scale could support this level of system if it was localised.

7. **Insurance Claims** - Currently insurance claims are the responsibility of SCC and are managed through highway budget and central insurance teams. Local parish and districts would find it difficult to accept and maintain this level of risk and cost, for example, legal fees, court fees and any accepted claims.

There is also further operational and commercial implications which would impact best value, however, the reasons above are the primary reasons why a central county wide solution continues to represent best value for the taxpayer.

E) SCC along with its term partnering contractor carried out a joint review of surfacing material options against best practice during the supplier engagement phase of operation horizon in Oct 2012.

The range of proposed materials were developed into a materials matrix that is used to determine on a site by site basis the best product most suited to resolving defects for the local conditions. The matrix allows the user to choose the preferred option by assessing its engineering features along with the various known risk and benefits.

The current materials matrix allows the use of both HRA and TSCS and their resilience to potholing is further enhanced through the application of stringent testing, an extended 10 year warranty and lifecycle planning for future preventative maintenance.

F) Gang Productivity has increased significantly over the past 12-18 months - prior to the change in response times, which came into effect Nov 13, gangs were completing 8-9 defects per day. This is currently at 14-15 per day. There are several factors which have

affected this and it is difficult to attribute % increases to any one intervention however most notably we believe the shift to 5 days has had the biggest impact as work is more easily clustered based upon an area for each team as opposed to simply attending everything that came in yesterday however far apart the defects are - any travelling time is lost repair time.

The service is based upon a fixed annual sum which pays for all defects and so it is not easy to specify a price per defect. This change has allowed repairs to be completed more efficiently (enabling more to be completed with the same level of resource) and in a lot of cases allowing the gang to repair all defects in a road rather than just those that have the shortest time to be repaired.

G) 'Well Maintained Highways' recommends that Category 1 defects are at least temporarily repaired within 24 hours and permanently repaired within 28 days. Since the inception of the contract in 2011, defects deemed to require an Immediate Response are attended within 2 hours. In the case of a defect being captured as part of a routine Inspection, the report is called into the Control Hub and the Highways Inspector will remain on site (if safe to do so) to mark the hazard until a repair crew arrive. There will be defects that are considered to be Category 1 defects which do not require an immediate (2 hour) response but do require attention within 24 hours. These are recorded as High Priority Defects which require attendance the following day.

H) Surrey County Council welcomes and encourages the use of Minimum Dig and Trenches Technologies to reduce disruption to both traffic movements and the highway fabric. These techniques are however not always suitable for use, dependant on such factors as the nature of the work being undertaken, subsoil conditions, condition of existing pipework etc.,

Minimum Dig centres around the use of the Core and Vacuum extraction technique with a core or plug of up to 600 mm diameter removed from the highway pavement. This maximum size does limit the works that can then be undertaken. No Department for Transport specification exists for reinstatements and SCC have experienced problems with contractors using this technique. Whilst taking a cautious approach Surrey generally promotes this process due to the time saving and associated reduction in traffic disruption.

There is a recently published DfT Transport Advisory Leaflet TAL 2/14 covering this activity. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/383712/tal-2-14-core-and-vac.pdf

There are many names given to Trenchless Technologies however the basic methods are covered by Moling (Directional Drilling or Auger Boring), Pipe Bursting or Slip Lining. With all Trenchless Technologies, account has to be made for the necessity of launch and reception pits hence not being truly Trenchless.

Moling involves a mechanical mole device creating a void in the sub soil through which new pipe work is then inserted. This can only be used on relatively small pipe sizes, where subsoil composition is suitable and no obstructions exist in the intended path. (Reference <http://www.surreymirror.co.uk/Damaged-water-main-closes-Chipstead-road/story-24686664-detail/story.html> "telecommunications contractor caused significant damage by drilling through a water trunk main whilst laying new cables").

With Insertion, new pipe work is literally pushed (inserted) inside existing pipe work. This can be done where the capacity of a system does not require increasing and the run is relatively straight and short.

Pipe bursting follows the route of existing pipe work however using mechanically applied force from within, the existing pipe is broken with the fragments being forced into the surrounding ground at the same time a pipe of the same or large diameter is drawn in. This technique again is soil condition dependant and cannot be used when the pipe is in close proximity to other underground services due to the aggressive nature of the activity.

At a recent presentation by Southern Gas Networks, robotic technology for metallic pipe repair was presented along with new systems to make connections to properties from a newly laid main without the need to excavate. These new techniques are welcomed by Surrey County Council. It is unlikely however that they will be available before 2017 at the earliest.

l) As detailed in the report, the % reported by the public varies throughout the year and understandably increases significantly during the winter months. In part, this will relate to roads inspected in the middle of the year on an annual basis as defects occurring as a result of bad weather would not have been present during the previous inspection and if not reported by the public might wait a number of months to be identified by routine inspections.

	Sept 13 - Nov 13	Dec 13 - Feb 14	Mar 14 - May 14	Jun 14 - Aug 14
Total Defects	16402	25758	26412	16374
Reported via SCC Website	3085	12677	11183	6134
% Reported by Public	19%	49%	42%	37%

The change in the inspection frequency introduced earlier this year should go some way to reducing this as defects will be identified sooner through a routine inspection than in previous years. Officers were not specifically recording the source of defect reports in 2010 so the change cannot be measured however as this is now captured trends can be monitored over time.

David Harmer
Chairman of the Environment and Transport Select Committee

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