Nottinghamshire County Council

Report to Communities and Place Committee

7 February 2019

Agenda Item:5

REPORT OF THE CORPORATE DIRECTOR, PLACE

IMPROVED AND ADDITIONAL ROAD REPAIR TECHNIQUES

Purpose of the Report

1. To seek approval for ongoing capital investment of £1m, and revenue investment of £750,000, to support the establishment of the additional approaches to road repair techniques as identified in this report.

2. To seek approval for a review of the benefits of the investment to be undertaken, and reported to Committee, following 12 months of operation.

Information

3. The last winter and cold spring resulted in a rapid deterioration of parts of Nottinghamshire's highway network due to climatic conditions and the effects of freeze/thaw. In consequence, over 100,000 potholes were repaired on the network between January and November 2018. This compares with 50,000 over the same period in the previous year. These repairs were successful in removing actionable defects and restoring the running surface. However, the volume of repairs that have been necessary has led to concerns regarding the medium/long term sustainability of such an approach.
4. In line with good assessment management principles therefore, a review of the current maintenance strategy has been carried out to identify the ways in which current approaches could be improved.
5. Several treatments have been trialled to establish the most appropriate proposals for Nottinghamshire, and the 2 preferred treatments are described in this report.

Recommended Options

6. The additional road repair techniques proposed by his report are described below. Each has its own advantages and will form part of a larger maintenance strategy:
   Spray Injection Chip Patching is road repair system which is a non-invasive treatment similar to surface dressing , it seals the area treated by filling cracking and removing localised surface irregularities including small potholes, whilst restoring the surface texture.
7. **Mechanised Patching** is a road repair system which combines small scale surface planing and hand lay patching repairs into a rapid repair solution utilising 'hotbox' material storage and direct material placement. This treatment is ideal for any patching and small scale structural repairs, particularly around junctions and those areas that suffer from increased loading (e.g. bus stops, junction approaches).

Advantages of the Proposed Arrangements

8. The advantages of the proposed alternative road repair techniques are set out below:

Spray Injection Chip Patching

- This technique significantly increases productivity. It is reasonable to expect outputs to be in the region of 150m² per day compared with 65m² per day for conventional techniques.
- Spray injection chip patching allow relatively large areas of carriageway to be treated quickly. This allows defects other than those normally deemed actionable by inspectors to be addressed.
- The ability to effectively treat non-actionable defects arrests the deterioration of carriageway surfaces and reduces the necessity for future re-visits.
- The proposed technique for Nottinghamshire will allow patches with a regular 'squared-off' appearance to be produced, this matches the public's perceptions of correctly constructed road repairs.
- Materials are transported internally within the vehicle itself in clean and controlled conditions. This reduces the likelihood of road repairs failing prematurely.
- The proposed technique for Nottinghamshire is operated from within the vehicle's cab, minimising the likelihood of injuries being caused by manual handling or operatives being struck by vehicles.

Mechanised Patching

- Whilst spray injection chip patching can be an effective treatment for surface defects, mechanised patching allows for deeper structural works to be undertaken.
- When 'breaking-out' existing surfaces is required, mechanisation allows for economies of scale to be achieved, making larger patches economically viable.
- Patching larger areas means that material adjacent actionable defects – which is more prone to future defects - can also be replaced.
- Treating larger areas reduces the 'patchwork quilt' appearance of carriageway surfaces which require frequent patching and improves the ride quality for vehicles which pass over them.
- Mechanised patching allows for the correct preparation of existing surfaces to be undertaken, new materials to be transported and laid in optimum condition and proper compaction of repairs to be achieved. When patching is carried out under controlled conditions the serviceable life of repairs is maximised.
- Mechanisation reduces the likelihood of operatives suffering manual handling injuries and other conditions such as Vibration White Finger.

Deployment

9. The identification, batching, prioritisation, issuing, recording, monitoring and performance reporting of both treatment methods will be carried out by Via's Highway Inspectorate and the Assets Team using the Highway Asset Management System (Confirm) to manage the process.

10. Suitable sites will be prioritised using a risk-based approach, taking into account the relevant hierarchy of the road, the nature of the defective area and local factors such as proximity to key amenities or infrastructure. The deployment will be equitable across all Districts based upon relative network length and road condition within each District, and the presence of the types of defect which are suitable for these treatment methods.

11. Viafix will continue to be a valid treatment and will be used as appropriate in a reactive way on the network to respond to urgent safety defects. With the deployment of spray injection chip patching and mechanised patching the use of Viafix should be reduced.

Proposed Approach

12. An appraisal of the options set out above has been undertaken and it has been concluded that the most effective approach for Nottinghamshire will be for the County Council to utilise a spray injection chip patching vehicle and the equipment necessary to establish two mechanised patching teams. It is intended to pilot this approach and review after a year of operation. The lead in times for the purchase of the relevant plant and equipment are such that the new approaches will be in place during the summer of 2019.

Other Options Considered

13. Various other alternative patching techniques have been investigated such as infrared road repairs, various configurations of spray injection patching vehicles and ex-situ recycling.

Reason/s for Recommendation/s

14. The alternative road repair techniques proposed in this report will allow the Council, with Via as its delivery partner, to improve the quality of road repairs, increase productivity and extend the life expectancy of Nottinghamshire's highway network.

Statutory and Policy Implications

15. This report has been compiled after consideration of implications in respect of crime and disorder, data protection and information governance, finance, human resources, human rights, the NHS Constitution (public health services), the public sector equality duty, safeguarding of children and adults at risk, service users, smarter working, sustainability and the environment and where such implications are material they are described below. Appropriate consultation has been undertaken and advice sought on these issues as required.

Financial Implications

16. The new approaches will require approximately £1m per year of capital funding funded from the existing highways capital programme. The revenue costs of approximately £750,000 per year wil be met from existing revenue budgets.

Implications for Service Users

17. There will be an additional set of treatments available to highway inspectors and engineers and this should help prevent the formation of potholes. The approach outlined in this report combined with the highway works in the capital programme should lead to an overall improvement in the condition of the network.

RECOMMENDATIONS

1) To seek approval for ongoing capital investment of £1m, and revenue investment of £750,000, to support the establishment of the additional approaches to road repair techniques as identified in this report.

2) To seek approval for a review of the benefits of the investment to be undertaken, and reported to Committee, following 12 months of operation.

Adrian Smith
Corporate Director, Place

For any enquiries about this report please contact: Gary Wood, Group Manager Highways and Transport , Tel: 0115 9774270

Constitutional Comments [SLB 24/12/2018]

18. Communities and Place Committee is the appropriate body to consider the content of this report.

Financial Comments [SES 28/12/2018]

19. The financial implications are set out in paragraph15 of the report

Background Papers and Published Documents

Except for previously published documents, which will be available elsewhere, the documents listed here will be available for inspection in accordance with Section 100D of the Local Government Act 1972.

- None

Electoral Division(s) and Member(s) Affected

- All