

MIDDLESBROUGH COUNCIL
OVERVIEW AND SCRUTINY BOARD

28 MARCH 2017

**FINAL REPORT OF ECONOMIC
REGENERATION AND TRANSPORT
SCRUTINY PANEL – POTHOLE REPAIRS**

AIMS OF THE INVESTIGATION

1. The aim of the investigation was to examine pothole repair in Middlesbrough and ascertain whether the purchase of a Jet Patcher machine would provide a more cost effective and appropriate method of repair than current methods.

INFORMATION REQUESTED

2. Prior to the Panel meeting, information was requested from the Service Area on the following items:
 - Cost of repairs and maintenance to potholes/roads in Middlesbrough over the last 3 years.
 - Details of any Government funding available to the Council for the above.
 - Current methods of repair/maintenance.
 - Any legislation relating to responsibility for road repair.
 - Information/expenditure on compensation claims for damage to vehicles caused by potholes.
 - How Middlesbrough compared with other Tees Valley Authorities in terms of expenditure on potholes/state of the roads.
 - The Jet Patcher machine - how it worked - pros and cons.
 - The Jet Patcher- how much it cost to buy, how much it cost to use, whether any savings could be made.
 - Which other Local Authorities were using the Jet Patcher.
 - Whether there was any interest from other Tees Valley Authorities in purchasing a Jet Patcher.

BACKGROUND INFORMATION

3. Legislation relating to responsibility for road repairs falls within Section 41 of the Highways Act 1980 which imposes a duty of care for Local Authorities to maintain those highways which are maintainable at public expense.

4. The cost to Middlesbrough Council of repairs and maintenance to potholes specifically, for the last three financial years is as follows:

2013/2014 - £132,676 (This figure includes £120,000 Central Government funding for Pothole Purge)

2014/2015 - £61,447

2015/2016 - £93,626

5. Information provided in relation to annual expenditure for responsive and reactive maintenance from other Tees Valley Authorities for the last three financial years is as follows:

	<u>2013/2014</u>	<u>2014/2015</u>	<u>2015/2016</u>
Middlesbrough	£129,898	£147,274	£217,296
Stockton	£646,801	£559,695	£559,944
Hartlepool	£281,750	£330,295	£206,868
Redcar and Cleveland	no data	£301,000	£121,000

6. In 2016/2017 the Council received an additional £71,000 from the Government's Pothole Action Fund. The Executive approved the allocation of this additional funding for pothole prevention and improving local roads, rather than pothole filling, to facilitate the delivery of the capital programme. This was based on the current asset management approach of dealing with maintenance repairs utilising the red, amber, green (RAG) priority system. The view is that strategic investment in the highway network is more advantageous than a reactive pothole filling approach. The programme aligns to the Council's Transport Asset Management Policy (TAMP) and Strategy which has recently been reviewed in line with current guidance and recommendations.

7. Funding of £71,000 awarded by Central Government from the Pothole Action Fund for 2016/2017 has been allocated to the following highways for resurfacing and patching:

Dales Park Road, Canton Gardens, Earlsdon Road, Tollesby Road, Keith Road, Heywood Street, A66 Middlesbrough Bypass.

8. Expenditure on compensation claims for damage to vehicles caused by potholes is as follows:

2013/2014 – 21 claims. Compensation paid £85.00

2014/2015 – 19 claims. Compensation paid £259.04

2015/2016 – 25 claims. 17 closed. Compensation paid £361.50.

9. Results of the recent National Highways (NHT) Public Satisfaction Survey showed that Middlesbrough is rated above the national average for both highways and pavement

condition. The Council's adopted highway is currently rated within the top quartile for country.

CURRENT PRACTICE

10. Middlesbrough Council currently employs one full-time senior highways inspector and four full-time inspectors. Middlesbrough is divided into four geographical areas that are routinely inspected using a combination of walking and driving, depending on the type of road or footway. The information collected is collated and centralised so that there is an overall view. When carrying out footway inspections the inspectors also pick up any carriageway defects at the same time. An inspection report is completed and, if repairs are required, a works order is raised on the management system which is then actioned by the reactive maintenance team. If the inspector considers that immediate repair is not needed but is likely to be required in future, they add a note to that effect to the management system.
11. The inspectors currently work to a Code of Practice which identifies defect inspection criteria for each class of road or pathway. However, a new Code of Practice is due to be implemented which is risk-based. By 2018 every road in Middlesbrough will need to be risk assessed to determine whether weekly, monthly or annual inspections are required.
12. Reactive maintenance is carried out in-house and all planned works are contracted out. The Council's Strategic Highways Department manages the Highways Maintenance Plan. Although the reactive maintenance team has a machine that can do overlays, when inspectors identify a larger area that requires repair, this work is forwarded to the Strategic Highways Team and contracted out. The internal quality control system to check on the quality of repairs is currently being reviewed.
13. Currently, where multiple potholes or surface fretting is identified, the Council adopts a plane and patch approach which affords the opportunity to carry out a permanent repair. This involves the use of a planing machine which planes off 20-30mm of carriageway surface and enables the use of a hot lay macadam surface course which is levelled with a road roller. Currently planing machines are hired in for capital project schemes.

VELOCITY JET PATCHER

14. The Velocity Jet Patcher machine involves a three-step process to provide a temporary pothole repair. The advantages of the system are the speed at which a repair can be carried out, the potential for less waste as the defect does not need to be cut out first, and possibly shorter traffic disruption due to the reduced repair time and the potential to re-open a road as soon as the repair is completed. The disadvantages are that in urban areas there can be difficulties using the machine due to its physical size, the potential for fine bitumen spray or aggregate damaging nearby vehicles or property, and the noise of the machine which can limit operational time.

15. Middlesbrough, along with Stockton, Hartlepool and Redcar and Cleveland Councils has previously carried out trials with the Velocity Jet Patcher. Whilst the quality of repair is acceptable, the longevity of the repair is dependent on other factors including traffic levels and weather conditions. The Jet Patcher does not work well in low temperatures or wet weather. In addition, the Jet Patcher only provides a temporary repair until planned planing and patching works or total resurfacing can be carried out.
16. Middlesbrough Council trialled the Jet Patcher in 2014/2015 at a cost of £18,126 for six days' work and 21m³ of material laid. The capital cost to purchase a Jet Patcher machine is currently approximately £150,000 and there are various specifications. The machine can repair between 50 and 60 potholes per day and is mainly used by Authorities with a predominantly rural highway network.
17. It is highly unlikely that the Jet Patcher will be in continuous use and its cost-effective use would necessitate a programme of works. Since highway inspections are carried out on a cyclic, daily basis, highways defects might be identified that require immediate response to make safe, or a permanent or temporary repair within twenty four hours, in accordance with the current Well Maintained Highways Code of Practice.

CONCLUSIONS

18. The scrutiny panel reached the following conclusions in respect of its investigation:
 - a) Middlesbrough Council places an emphasis on maintenance of roads, footways and verges through a capital investment programme with the focus on prevention of deterioration via a focused asset management based approach.
 - b) Whilst it is acknowledged that there will always be a need for responsive maintenance to small areas of highway, the best approach is to focus on planing and patching rather than pothole repair. This approach enables a permanent repair which is more cost effective and aesthetically pleasing.
 - c) The jet patching repair method has advantages over conventional pothole repair methods, particularly in rural areas. However, Middlesbrough does not have the quantity of potholes required to make a machine purchase an efficient use of resource. In addition, the hire costs are prohibitive when considering that the repair is only temporary.
 - d) Views had been sought at a meeting of the Tees Valley Combined Authority Highways Maintenance Engineers on 8 August 2016, regarding the possible combined purchase of a Jet Patcher or combined works programme to provide the service. The consensus at that meeting was that due to the cost and suitability of the process there was no interest at the current time.
 - d) Middlesbrough Council currently hires in planing machines for capital project schemes and the purchase of a planer, and either a bobcat, or JCB 3CX attachment for use in responsive maintenance is considered a cost effective repair solution.

RECOMMENDATIONS

19. The Economic Regeneration and Transport Scrutiny Panel recommends to the Executive:
- a) That a planer, and either bobcat or JCB 3CX attachment is purchased from the capital expenditure programme.
 - b) That Middlesbrough's Executive Director of Economic Development and Communities makes a formal enquiry to the Tees Valley Combined Authority regarding the joint purchase of a Jet Patcher machine.

ACKNOWLEDGEMENTS

20. The Economic Regeneration and Transport Scrutiny Panel would like to thank the following Council officer for his assistance with its work:
- Chris Bates, Highways and Fleet Services Manager

BACKGROUND PAPERS

21. The following sources were consulted or referred to in preparing this report:
- Minutes of the Economic Regeneration and Transport Scrutiny Panel meeting held on 16 November 2016
 - Potholes and Jet Patching - Report of the Assistant Director, Environment, Property and Commercial Services, 16 November 2016.
 - Transport and Infrastructure Capital Funding Allocations 2016-2017 Executive Report.

COUNCILLOR T HIGGINS - CHAIR OF ECONOMIC REGENERATION AND TRANSPORT SCRUTINY PANEL

The membership of the scrutiny panel is as follows: Councillors T Higgins (Chair), L Lewis (Vice-Chair) and R Arundale, J Blyth, R Brady, JG Cole, N Hussain, M Saunders and Z Uddin.

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