



Rapid Pothole Repair System Trial (Road Mole)

TfL Lane Rental Industry Publication

A photograph of a city street scene with a blue speech bubble overlay. The speech bubble contains the word "Introduction" in white text. The background shows a road with a zebra crossing, a cyclist, and pedestrians. There are trees and a street lamp in the background.

Introduction

Roads and streets are the veins and arteries, that bring life into the capital. They transport people, goods and services, so it's important they are looked after along with the assets that lay beneath.

Last Year, the Annual Local Authority Road Maintenance (ALARM) survey* which provides an independent survey of local authority highway departments in England and Wales, identified that the repair backlog would take 14 years to complete and a pot hole was filled every 21 seconds.

Transport for London's (TfL) road network, more commonly known as the 'red routes' covers 580km across London making up five percent of London roads but carries 30 percent of all traffic. Always striving for continuous improvement and ways to innovate, a challenge was identified to explore pot hole repair methods which could improve both the safety of operatives and speed of operation for the 14,000 repairs which take place each year.

One of the technologies identified was Road Mole which provides an all-in-one system. While the equipment had been used on private estates and a county council's road, it had not been stress-tested in an urban setting, on a heavily trafficked strategic highway network.

If proven, the technology could challenge the traditional breakout and relay method.

The Trial

Road Mole is a self-mounted all-in-one pothole repair system. It uses a variable diameter remote-controlled circular cutting head, vacuum debris collection method and conveyor which negates the use of any hand-held breakout equipment.

The cutting head is surrounded by a protective skirt to contain dust and any flying debris. Being a circular repair, it proposed to limit the likelihood of a patch failure compared to the traditional 'square-cut' pneumatic breakout approach and provides a five year defect guarantee period. The repair process involves very minimal operative handling, improving operative safety and limiting the risk of Hand Arm Vibration Syndrome.

Trial sites were selected through routine highway inspection regimes, where repairs were identified. These sites included locations which usually are subject to more wear and load demand, such as wheel tracks and abutting bridge joints.

Outcomes



The repairs were found to be completed within a quicker timeframe than those of traditional method.

Noise levels were recorded at much lower levels than those recorded during the use of pneumatics. On this basis, it was determined that Road Mole could increase the ability to carry out night-time carriageway repairs where they are situated in more densely populated areas.

A circular repair was also deemed more economical insofar as the amount of material excavated/replaced compared to the usual square/rectangular shape.

Early indications highlight the repairs are performing to required standards with no signs of failure.

Conclusion

Road Mole have proven to be successful both in terms of defect repair efficiency and operative safety.

The system was far quicker than the traditional breakout and repair methods. However, given the guarantee period, it is too early to tell the longevity of the repairs.

Overall, a positive outcome so far, with no degradation visible at any of the test sites which will continue to be monitored over the repair lifecycle.



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TfL Lane Rental Scheme

Optimising customer journeys through the delivery of safer, innovative and sustainable roadworks



Transport for London

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