

Cutting back on noise and dust at roadworks thanks to innovation

Currently large excavators are used to remove the waterproof layer on road surfaces – effectively a ‘steel bucket with teeth’ digging into the surface.

But the new Deck Scraper vehicle uses a blade to shave the membrane off more quietly and without taking out chunks of the road surface.

Highways England teamed up with industry leaders to create the machine that was purpose-designed and built to offer a safer, more environmentally-sound and efficient process.

It was developed by partners Kier, CLM construction and US-based National Flooring Equipment with the first prototype unveiled to industry representatives earlier this month.

Highways England Innovations Lead for the Midlands, Lisa Maric, said:

Current methods to remove the waterproof layer are quite antiquated with environmental issues and some risk to the workforce. We wanted to develop a unique machine that would be more efficient and improve the safety of road workers while easing the impact on the environment and communities.

Instead of essentially using a steel bucket with teeth to remove the membrane, we can use a blade to simply peel it off – quietly, effectively and without damaging the road which will also save time and money.

It is anticipated that thanks to the Deck Scraper, this method will now set the benchmark expected for membrane removal throughout the country.

Waterproof membranes are routinely used on structures such as bridges and underpasses to help protect the structure from corrosive damage caused by winter gritting operations.

It has to be removed to undertake concrete repairs, re-waterproofing and resurfacing and this is traditionally done with an excavator.

[View video showing the removal of water membrane with excavators.](#)

As well as the environmental impact of current methods such as dust and noise, there is a greater risk to the workforce using heavy plant often in a small area.

The Deck Scraper is a lot smaller than excavators and diggers and does not

need an arm or a bucket. It also gives the operator 360-degree visibility.

Kier Highways Senior Project Manager Mark Sheppard said:

This was an interesting opportunity to develop a prototype specifically designed to make the task of waterproof membrane removal techniques more efficient, cost effective and better for the environment.

By working with our design partners CLM and specialist manufacturer National Flooring Equipment, the project has culminated in the production of a method far removed from the existing techniques which are quite brutal and can often introduce additional damage to bridge decks as well as being extremely noisy and dusty.

And we have been able to do that without compromising quality, output or negatively impacting on road users.

[View video of new deck scraper in action.](#)

Following two years of development and having undergone testing in the US, final trials were carried out at the Kier depot in Telford and the machine can now be taken to the market by National Flooring Equipment.

Highways England contributed to the cost of developing the Deck Scraper through its Designated Funds programme. Highways England had a £150 million ring-fenced fund allocated to support innovation as support of the Road Investment Strategy for 2015-2020.

General enquiries

Members of the public should contact the Highways England customer contact centre on 0300 123 5000.

Media enquiries

Journalists should contact the Highways England press office on 0844 693 1448 and use the menu to speak to the most appropriate press officer.