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Award-winning papers in 2020.

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Announcement

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Transport

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Award-winning papers in 2020

Papers published in *Transport* are eligible for awards from the Institution of Civil Engineers. Papers from any of the ICE journals can be nominated for several awards. In addition, each journal has awards dedicated to their specific subject area.

On Friday 15 October 2021, ICE president Rachel Skinner presented awards to the following papers published in *Transport* in 2020. The editorial panel nominated their best papers and an awards committee chaired by Tim Broyd allocated the awards.

Rees Jeffreys Award

The Rees Jeffreys Award, presented for the best paper on highway engineering, was awarded to Nyambayo *et al.* (2020).

Abstract

London is a megacity with a population of just under 10 million people that is increasing. Investment in major infrastructure projects is required to cope with this growth, including the upgrade of existing rail infrastructure. The West Anglia main line project in north London involves upgrading the railway network to meet the demands spawned by the regeneration of the Lea Valley hinterland, catalysed by the redevelopment of the Elizabeth Park (former site of the London 2012 Olympics). The works included upgrade of Tottenham Hale and Northumberland Park stations, and construction of a brand new Meridian Water station and other lineside infrastructure. The project will increase rail capacity, provide better internal mobility and improved links to the city on this congested West Anglia main line, as well as accommodate proposed future plans for Crossrail 2 between London and Stansted airport. The project will also unlock housing development and economic growth in the boroughs of Enfield, Haringey and Waltham Forest. This paper presents a geotechnical perspective of the project and discusses the ground conditions, design and construction of the trackbed and substructures for bridges, overhead line equipment and station upgrade works. This will leave a legacy for future designers of upgrade and extension works.

William Webb Prize

The William Webb Prize, awarded for the best paper on a non-highways transport scheme, was awarded to Haiderali (2020).

Abstract

Subsidence and collapse of structures supporting overhead line equipment (OLE) due to legacy coal mining can be catastrophic during both the construction and operational phases, causing damage to construction plant, injuries and fatalities to the construction and maintenance workforce, failure of the track and disruption to the operational railway. When applied to linear railway schemes spanning considerable distances, industry guidelines for appraising and mitigating these mining hazards are overly conservative with a disproportionate cost. On phase 4 of the North West Electrification Project between Manchester Victoria and Euxton Junction, an innovative risk-based method was devised and implemented to identify and mitigate mining hazards to OLE structures. Formulation of these value-engineering solutions prevented programme drift and led to



ICE president Rachel Skinner with Rees Jeffreys Award winner Vincent Nyambayo

significant cost savings. Details of this methodology, including a detailed desk study, computational geomechanics, a well-targeted ground investigation, void remediation and real-time foundation monitoring, are discussed in this paper.

REFERENCES

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- Nyambayo V, Chandrashekharaiyah N, Gray C *et al.* (2020) West Anglia main line upgrade – a geotechnical perspective. *Proceedings of the Institution of Civil Engineers – Transport* **173(4)**: 258–272, <https://doi.org/10.1680/jtran.19.00096>.