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Award-winning paper in 2021.
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Announcement

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Award-winning paper in 2021

Papers published in *Infrastructure Asset Management* are eligible for awards from the Institution of Civil Engineers (ICE). 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 14 October 2022, ICE president Ed McCann presented an award to the following paper published in *Infrastructure Asset Management* in 2021. The Editorial Panel nominated their best papers and an awards committee chaired by Tim Broyd allocated the awards.

Infrastructure Asset Management Prize

The Infrastructure Asset Management Prize was awarded to Bernardo *et al.* (2018).

Abstract

This study employed computational fluid dynamics (CFD) to investigate the impact of helicopter downwash on pedestrian comfort in a representative low-rise streetscape. A time-averaged approach was adopted, where propulsion from the helicopter blades was included using the so-called rotor disc method, as implemented in the open-source software OpenFoam. The modelling approach was validated by comparing downstream air velocities with experimental measurements. The effect of helicopter downwash on pedestrian comfort in a low-rise built environment, representative of an Irish city streetscape, was then analysed. It was found that pedestrian comfort significantly decreased in the immediate vicinity of the helicopter, while minor propagating effects were felt further downstream. The effects of building height, street width and prevailing winds were then examined. In general, it was found that taller buildings tended to improve street-level pedestrian comfort, while narrow streets surrounded by tall buildings tended to funnel the downwash towards the street level, decreasing pedestrian comfort. The main conclusion is that although the effect of helicopter downwash is smaller in magnitude compared with that of prevailing winds, a local mitigation must be established to deal with it.

REFERENCE

Bernardo P, Mac Réamoinn R, Young P *et al.* (2021) Investigation of the helicopter downwash effect on pedestrian comfort using CFD. *Infrastructure Asset Management* **8(3)**: 133–140, <https://doi.org/10.1680/jinam.19.00060>.



Infrastructure Asset Management Prize winner Jennifer Keenahan with ICE president Ed McCann