

Cite this article

(2024)

Award-winning paper in 2022.

Proceedings of the Institution of Civil Engineers – Municipal Engineer **177(1)**: 50,
<https://doi.org/10.1680/jmuen.2024.177.1.50>

Announcement

Emerald Publishing Limited: All rights reserved

Award-winning paper in 2022

Papers published in *Municipal Engineer* 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 13 October 2023, ICE president Keith Howells presented an award to the following paper published in *Municipal Engineer* in 2022. The editorial panel nominated their best papers and an awards committee chaired by Tim Broyd allocated the awards.

James Hill Prize

The James Hill Prize, presented for the best paper published in *Municipal Engineer*, was awarded to Ku *et al.* (2022).

Abstract

Currently, the evaluation of pedestrian paths is very time consuming. Additionally, disabled pedestrians do not tend to change their routes, even if pedestrian conditions are poor, resulting in reduced convenience and safety. Therefore, it is important to identify and act on the statuses of pedestrian paths quickly. Therefore, this study aimed to identify and process the conditions of pedestrian paths quickly to achieve high resilience. A resilience triangle was calculated according to the discrimination automation to analyse the corresponding values. Pedestrian path discrimination automation applies convolutional neural networks and 'you only look once' analysis to identify the road surface conditions of walkways and the presence of obstacles. Quantitative analyses for the safety and economic problems associated with transportation vulnerabilities through discrimination algorithms using deep image learning were carried out. As a result of the analyses, it was possible to determine the extent of damage with 94% accuracy if only damaged sidewalk photographs are captured. When this result was applied in Seoul, the benefits of improving pedestrian paths were quantitatively calculated to be South Korean Won (KRW) 41.2 billion (1 KRW = US\$0.00085). This study may secure pedestrian resilience and improve convenience in the current scenario of a rapidly ageing population.



James Hill Prize winner Seungjae Lee with ICE president Keith Howells (left)

REFERENCE

Ku D, Choi M, Oh H, Shin S and Lee S (2022) Assessment of the resilience of pedestrian roads based on image deep learning models. *Proceedings of the Institution of Civil Engineers – Municipal Engineer* **175(3)**: 135–147, <https://doi.org/10.1680/jmuen.21.00037>.