To:	Transport & Health Policy Makers, & Practitioners
From:	Professor Adrian Davis
Date:	23rd January 2025
Subject:	Essential Evidence 4 Scotland No.97 Pavement gritting as a preventive service

Top Line: Savings in the road transport sector through less snow clearance and gritting of roads and pavements reduces the mobility of older groups and transfers problems to the health and social services. Gritting is a preventive service.

The severe cold spells in the UK in the winters of 2009–10 and 2010–11 focused attention on the subject of gritting roads in order to reduce road traffic collisions, and led to an independent review of England's transport systems in winter conditions.[1] However, less attention has been paid to the issue of gritting pavements in order to prevent unintentional injuries to pedestrians. Currently, some individuals and UK businesses choose to de-ice pavements outside their properties. Furthermore, certain councils grit pavements, whereas others do not; provision is patchy across the UK.[2]

Unintentional injuries are an important public health issue.[3] Falls are a leading cause of injury-related injury and premature death, as well a significant burden on health and social services. The most serious common falls related injury is hip fracture. These types of injuries are especially common during the winter months, particularly in older people, and often present to emergency departments. The major factor contributing to the excess winter risk of injury and fracture is thought to be slipping on snow and ice. A study from England, based on injuries occurring during a period when 70% of the walking surfaces were covered by ice and snow, reported 9 to 16 injuries per 100,000 people per day.[4] In terms of location, half of these types of injuries occur on a pavement, streets or roads.

In countries with winter weather characterised by low temperatures, snowfall and icy roads and pavements, getting out of the home to carry out everyday activities can be a challenge for many older people in cities and beyond. Inadequate clearance of snow and poor gritting of pavements prevent people with even slightly reduced motion capacity from going outdoors, while those who use a walking-stick or a rolling walker are even more vulnerable to the weather. A Norwegian study reported that what older people get up to in summer is reduced in winter, very often due to the inadequate winter maintenance of roads and pavements. Their reduced daily mobility, measured in number of trips and km travelled, can be seen as an indicator of reduced welfare and well-being. Existing problems with walking and using public transport were intensified in the winter season, often due to insufficient clearance of pavements and bus stops hindering the bus driver to drive near enough to the kerb to make it easier to enter and step out of the bus. Older people need more assistance in their homes when winter conditions prevent them from carrying out different activities, e.g. shopping groceries. Breaking arms or legs on icy pavements charge the budget of hospitals in addition to be a pain for the older person.[5]

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[1] Department for Transport. *The Resilience of England's Transport Systems in Winter*. London: Department for Transport, 2010

[2] Atenstaedt, R., 2013 Should we be gritting pavements to prevent pedestrian injuries? *Perspectives in Public Health*, 133(3): 149-150.

[3] Orces, C., Martinez F. 2011 Epidemiology of fall related forearm and wrist fractures among adults treated in US hospital emergency departments. *Injury Prevention*. 17: 33–6

[4] Ralis, Z., Barker, E., Leslies, I. et al, 1988 Snow-and-ice fracture in the UK, a preventable epidemic. *The Lancet*, 336: 589–90.

[5] Hjorthol, R., 2013 Winter weather – an obstacle to older people's activities? *Journal of Transport Geography*, 28: 186-191.