

**To:** Transport & Health Policy Makers, & Practitioners  
**From:** Prof Adrian Davis, TRI, Edinburgh Napier University  
**Date:** 4<sup>th</sup> January 2021  
**Subject:** Essential Evidence 4 Scotland No.33 The walking environment and older adults

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Top Line: Design of neighbourhood environments has a profound effect on the availability of destinations that can be accessed by non-drivers including those 60+. This is an important consideration for designers.

Physical activity, especially walking, has many important health benefits for older adults. The importance of activity for seniors outside the home is demonstrated by studies which find that those who go out more often and walk are less functionally impaired and have fewer depressive symptoms. Yet, many older adults may not feel comfortable negotiating street crossings due to problems such as un-signalled crossings and relatively large crossing distances. Indeed, studies show increased risk of a motor vehicle collision with a pedestrian over age sixty-five at marked crossings with no traffic signal or stop sign.<sup>1</sup> Indeed, much of the focus of review level evidence on walking as transport among older adults has addressed facilitators and barriers. This reflects an increasing research focus on physical activity among older members of the population. This not least as the demographics of population shifts to more people aged 60+ and living longer, and that older adults are a large but very inactive population group.

The increased research focus on routine physical activity includes transport and it is also likely to be reflective of older adults desire to be able to 'age in place' and maintain independence. Following on from this, in order to facilitate ageing in place and maintaining quality of life as people age, it is important to understand the role of the built environment on mobility limitations and disability.<sup>2</sup> Yet, knowledge about the relationship between the physical environment and physical activity in older adults is limited. Moreover, there are methodological issues possibly accounting for the high prevalence of non-significant relationships. Firstly is the focus of most studies on total physical activity without the ability to objectively assess transport's contribution. Secondly, nearly all physical activity measured is through self-report.<sup>3</sup>

When asked, older adults have suggested that motor traffic control measures are one of the most important environment issues to address. Recreation and total walking and physical activity have consistently been positively related to perceptions of neighbourhood safety and negatively related to neighbourhood problems. These findings suggest that older adults may feel more comfortable recreating in settings where there is supervision or safety in numbers. There is also a notable concentration on the details of pavement quality and maintenance, slopes and curbs, and temporary obstacles on pavements which are important determinants of walking among older people.<sup>4, 5</sup> In the presence of hills or stairs, older pedestrians like the presence of handrails. Furthermore, they dislike cracked, uneven, steeply sloped, or high curbs. Pavement width, smoothness of pavements surfaces, holes, and cracks also posed barriers.<sup>6</sup> The design of a community has a profound effect on the availability of destinations that can be accessed by non-driving individuals.

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<sup>1</sup> Studies cited in Kerr, J., Rosenberg, D., Frank, L, 2012 The Role of the Built Environment in Healthy Aging: Community Design, Physical Activity, and Health among Older Adults, *Journal of the Planning Literature*, 27(1): 43-60.

<sup>2</sup> Rosso, A., Auchincloss, A., Michael, Y. 2011 The Urban Built Environment and Mobility in Older Adults: A Comprehensive Review, *Journal of Aging Research*, Article ID 816106.

<sup>3</sup> Van Cauwenberg, J., De Bourdeaudhuij, I., De Meester, F., Van Dyck, D., Salmon, J., Clarys, P., Deforche, B. 2010 Relationship between the physical environment and physical activity in older adults: A systematic review, *Health & Place* 17: 458-469.

<sup>4</sup> Annear, M., Keeling, S., Wilkinson, T., Cushman, G., Gridlow, B., Hopkins, H. 2014 Environmental influences on healthy and active ageing: a systematic review, *Ageing & Society*, 34: 590-622.

<sup>5</sup> Stav, W. 2014 Updated systematic review of older adult community mobility and driver licensing policies, *The American Journal of Occupational Therapy*, 68 : 681-689.

<sup>6</sup> Moran, K., Cauwenberg, J., Hercky-Linnewiel, R., Cerin, E, Deforche, B., Plaut, P. 2014 Understanding the relationship between the physical environment and physical activity in older adults: a systematic review of qualitative studies, *International Journal of Behavioural Nutrition and Physical Activity*, 11:79.