COVID-19 transformed road safety for older Australians, finds study

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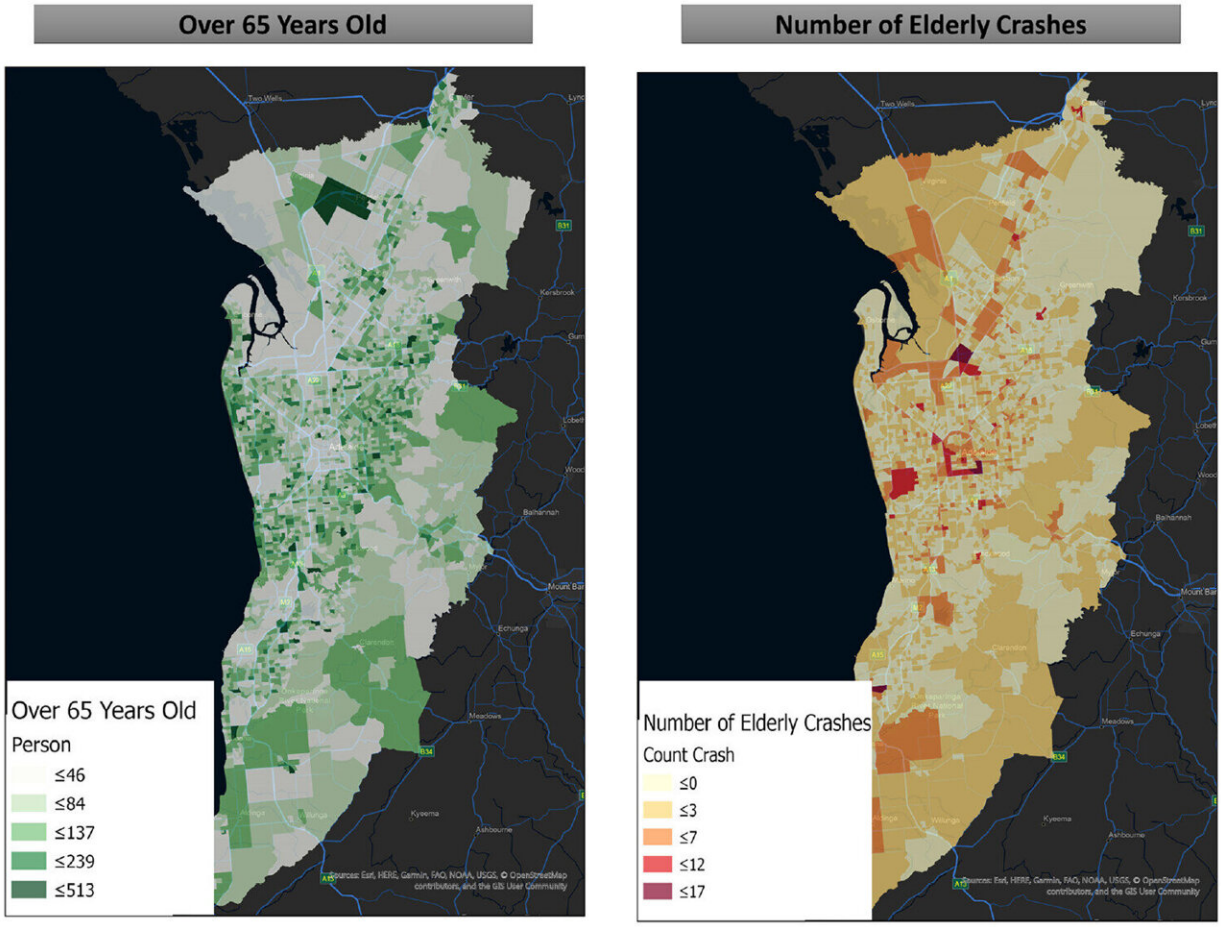

Map of metropolitan Adelaide: distribution of older adults versus distribution of crashes. Credit: *Transportation Research Record: Journal of the Transportation Research Board* (2023). DOI: 10.1177/03611981231163866

To examine the patterns of road crashes suffered by specific socially disadvantaged groups, researchers led by Dr. Ali Soltani from the Flinders Health and Medical Research Institute at Flinders University, evaluated crash data before and after COVID-19 to determine the impact of the pandemic on the frequency and location of crashes involving older people.

The research, "Post COVID-19 Transformation in the Frequency and Location of Traffic Crashes Involving Older Adults," has been published by *Transportation Research Record: Journal of the Transportation Research Board*.

Police-reported crash data for the over-65 population in metropolitan Adelaide was investigated for two periods: two years before and one year after COVID-19—and the researchers found that during the lockdown period of the pandemic in 2020, there was a 20% reduction in the frequency of crashes involving older adults compared with the same period before the pandemic. This was surmised to be a positive effect of COVID-19 lockdown travel restrictions rules.

However, although reduced traffic volume resulted in fewer crashes overall, the severity of crashes was slightly raised as the crash hotspots shifted to higher speed zones.

"The changes in crash occurrence were strongly related to time and certain spatial characteristics of the environment," says Dr. Soltani.

Cases with three types of characteristics were prominent in the change: pedestrian–vehicle conflicts in areas of mixed land use; proximity to crash high-risk corridors; and distance from public transit stations in areas controlled by traffic-calming strategies.

Age-related factors tend to increase risk of crash involvement in old age,

older people are more vulnerable to injury than younger adults, and the proportion of older people in the population is increasing. Temporal and spatial factors also affect road crash risk, and this study provides insights into spatial patterns of road crashes involving older people, which could be used to improve road safety.

"It is vital to consider variations in the built environment regarding their impact on crashes within metropolitan areas," says Dr. Soltani.

He adds that improving the legibility of appropriate traffic signs at mixed-use zones in Adelaide's inner suburbs that inform, warn and control speeds are essential for improving the visual knowledge and understanding for people to best avoid crashes.

The pandemic's influence in reducing the number of crashes could also influence management policies for new ways of employing telecommunications throughout Australia to prevent unnecessary commuting. This would necessitate empowering the 65+ age population by increasing their digital literacy and facilitating online shopping, recreation, medical and health services and employment options.

"The results of the study could assist academics and policy makers in Australia to better understand multi-dimensional implications of the built environment on the road safety of the elderly," says Dr. Soltani.

More information: Ali Soltani et al, Post COVID-19 Transformation in the Frequency and Location of Traffic Crashes Involving Older Adults, *Transportation Research Record: Journal of the Transportation Research Board* (2023). DOI: 10.1177/03611981231163866

Provided by Flinders University