

“It is a big ask to have these repaired ,so I take on the responsibility of taking care & keeping myself fit”



Older adults experiences of walking and falling in urban environments

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1. Background

EDITOR'S CHOICE

Most older pedestrians are unable to cross the road in time: a cross-sectional study FREE

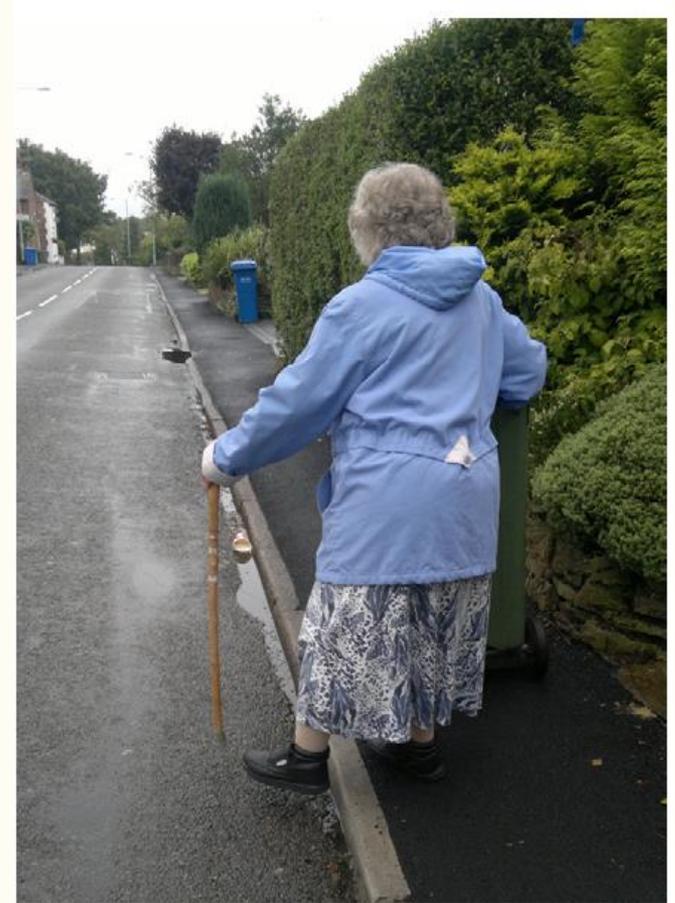
Laura Asher ✉, Maria Aresu, Emanuela Falaschetti, Jennifer Mindell



Data source: United Nations (2015), World Population Prospects.

Mobility, falls and ageing

- Mobility → wellbeing (Schwanen & Ziegler, 2011; Gattrell, 2013)
 - Facilitator
 - Physical/mental health
 - Motility – potential to move
- Falls are a significant health concern
 - Leading cause of injury resulting in hospitalisation (all age groups)
 - Leading cause of injury resulting in death (over 75s)
 - ~10% ambulance call outs (St. John)
 - 11,517 ACC claims (>\$19million) Jul '17-Jun '18 for **outdoor** falls among over 60s
 - 260,000 claims costing \$280million falls **at home** among over 60s
- *Fear of falling* restricts outdoor mobility and affects physical and mental wellbeing and accessibility



Why outdoor falls?

- NZTA – 19,345 injured road users – 3% involve pedestrians
- BUT only record if a vehicle is involved
- Of all ACC claims where the location is “**road or street**”, 43% (53% > 60s) are falls (compared with 12% driving related, 16% collision/knocked over)

“The lack of footpath condition data means that it is not possible to say whether footpaths are at an adequate level, whether their condition is responsible for the 400 people injured by trips and falls on footpaths each year, or whether footpath condition limits access by the elderly or those with disability”*

GPS Transport – Analysis Document 2017

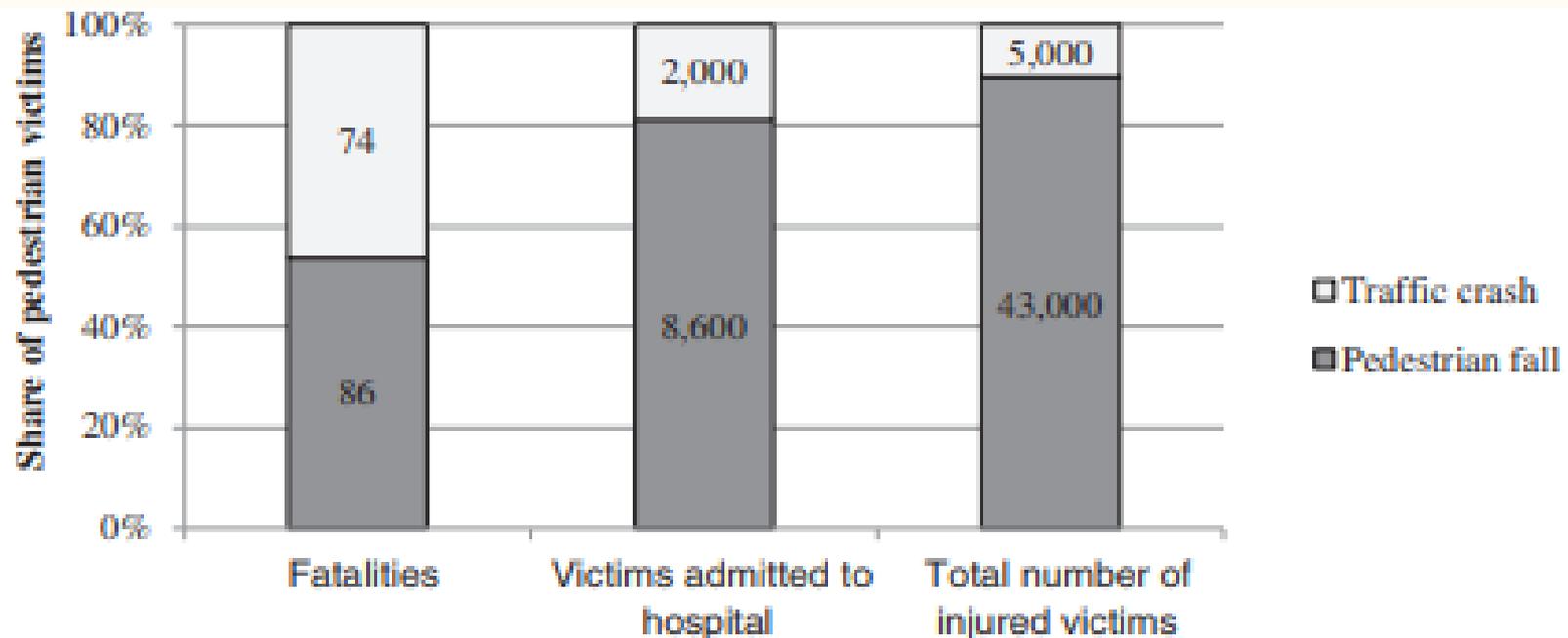
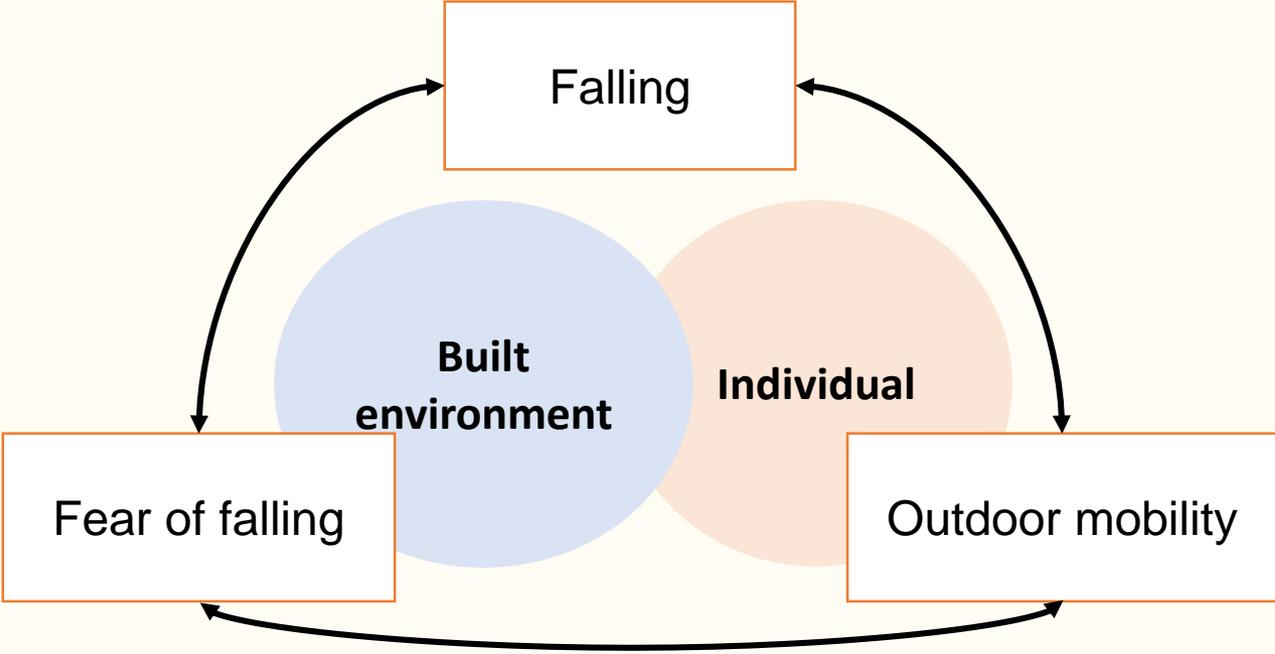


Fig. 1. Pedestrian injuries in the Netherlands in 2011 (Den Hertog et al., 2013; Methorst et al., 2017).



Research Questions

- 1) Which individual and environmental factors are associated with:
 - Falling
 - Fear of falling
 - Walking outside

- 2) Can we characterise the locations where people fall outdoors?

Online survey using maptionnaire software during August and September 2018, distributed using local contacts (e.g Elder Care Canterbury, AgeConcern, Sport Canterbury) – Canterbury focussed

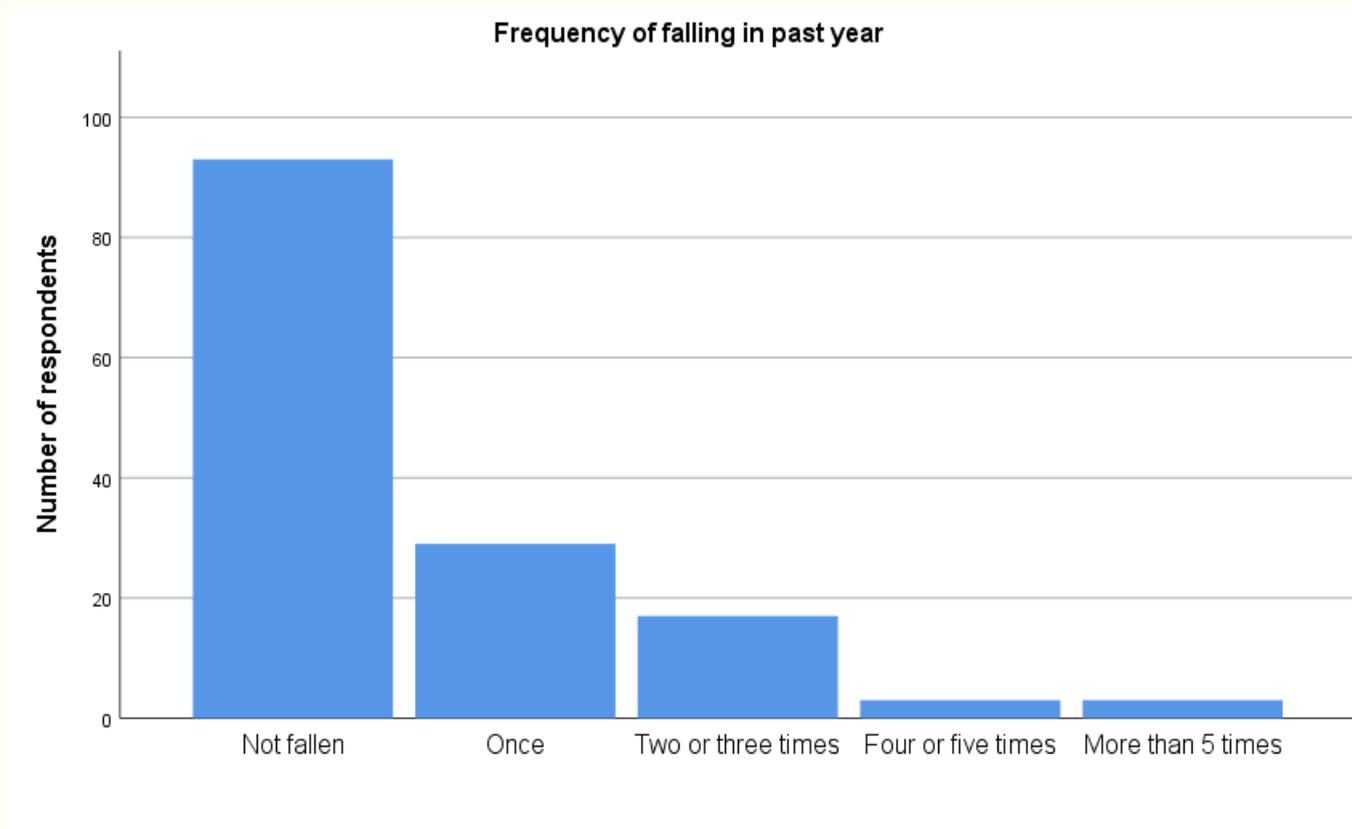
Survey respondents

- 173 responses from Greater Chch
- 77% female
- 12% <60; 35% <70; 46% <80; 17% <80; 1% 90+
- 95% have a driving licence
- 32% living alone, 58% with a partner
- Relatively active sample

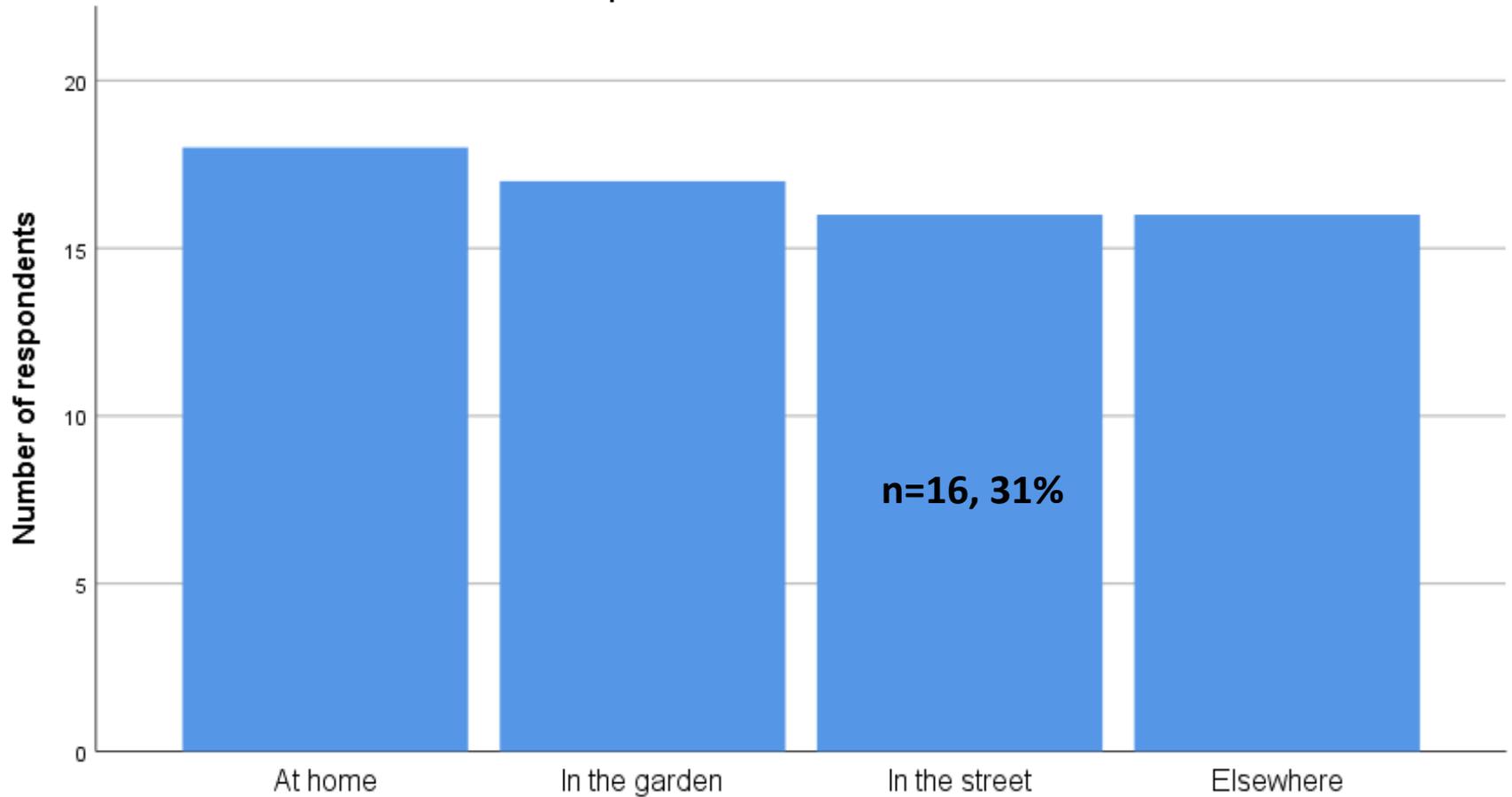
- Questions on: walking, perceptions of neighbourhood environment, perceived accessibility, activities of daily living, falling and fear of falling

Results: Falling

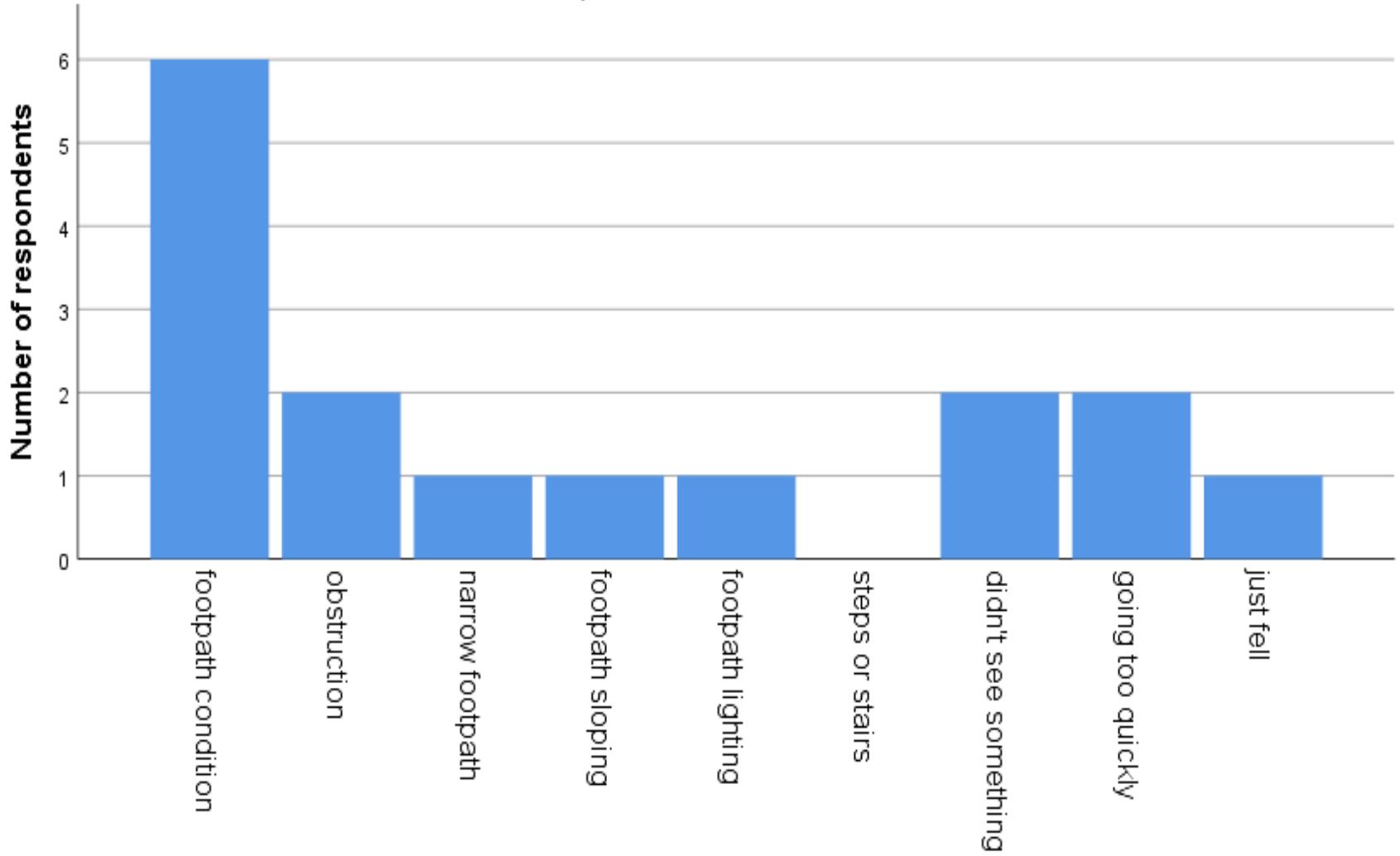
- 30% (n=52) have fallen over in the last year



Reported locations of falls



Reported reason for fall



Those who have fallen...

- Walk fewer *days per week* in local neighbourhood BUT
- report more total minutes walking (+43) per week (exposure to risk)
- At home walk 144 min a week less than those who've fallen in the street (*some have fallen in both....)



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- Report greater difficulties with daily activities

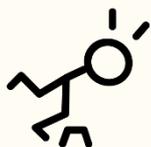


- Report poorer neighbourhood accessibility



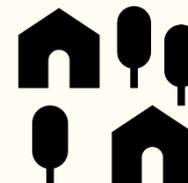
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- Are *slightly* more concerned about falling – increases if fallen more than once



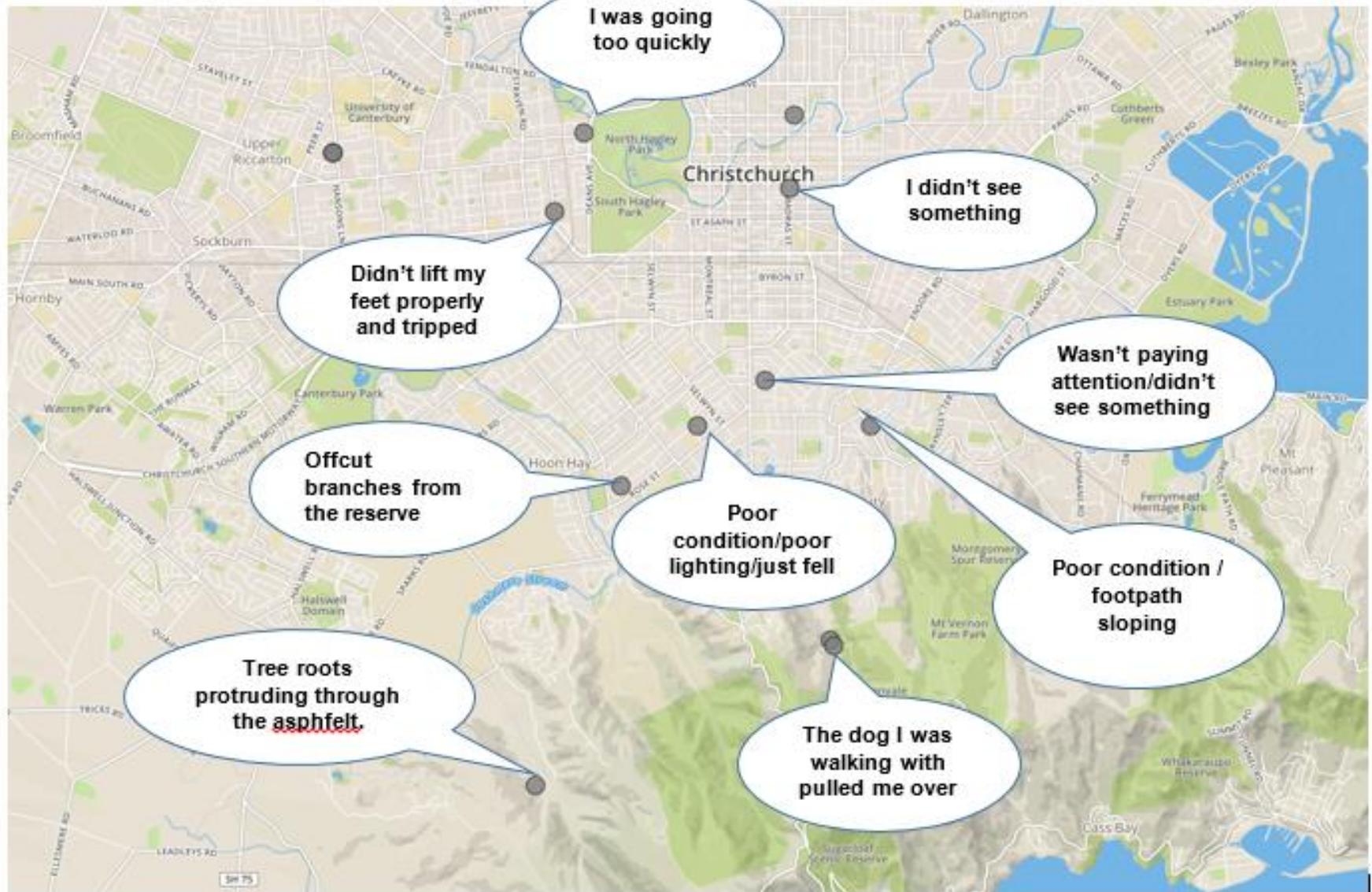
- Report poorer neighbourhood environment

- Footpath condition / quality
- Crossing and roads
- Obstructions



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44% report fear of falling...



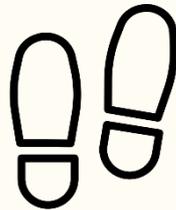
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Slight association with having fallen (more so if fallen more than once)

53% of females and 17% of males fear falling (although males slightly more likely to report having fallen)



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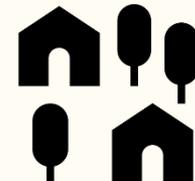
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Fear of falling associated, on average, with 24 mins a week less walking

Those who fear falling have poorer perceptions of accessibility, more likely to live alone and more difficulties with daily activities (no association with age)



Report more problems with footpaths



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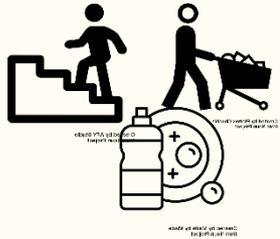
Walking outdoors

Minutes per week associated with falling (+) and fear of falling (-)



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Days per week (10 mins+) associated with falling (-) and fear of falling (-)

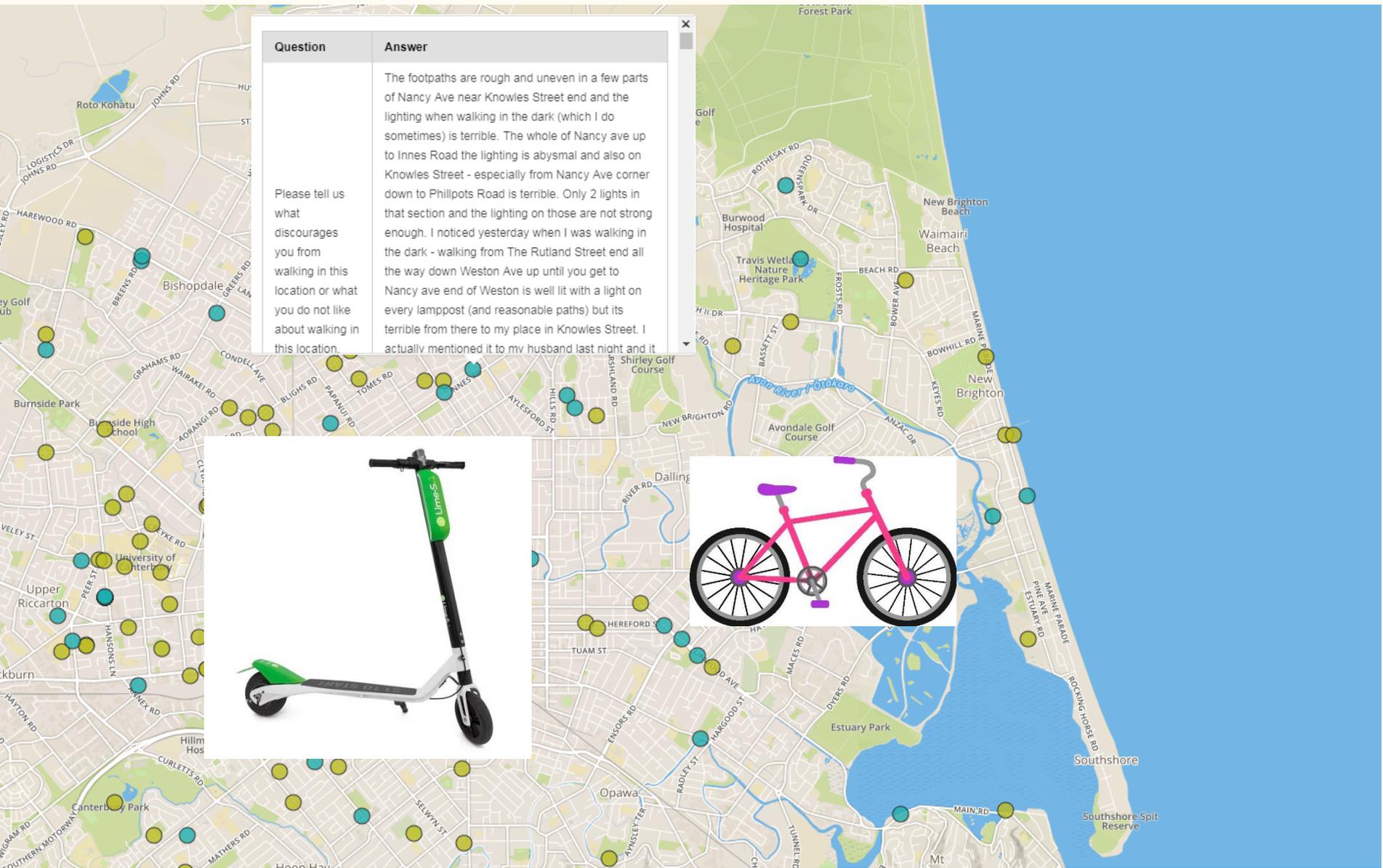


Difficulties with daily activities (-)

Perceptions of accessibility (+)



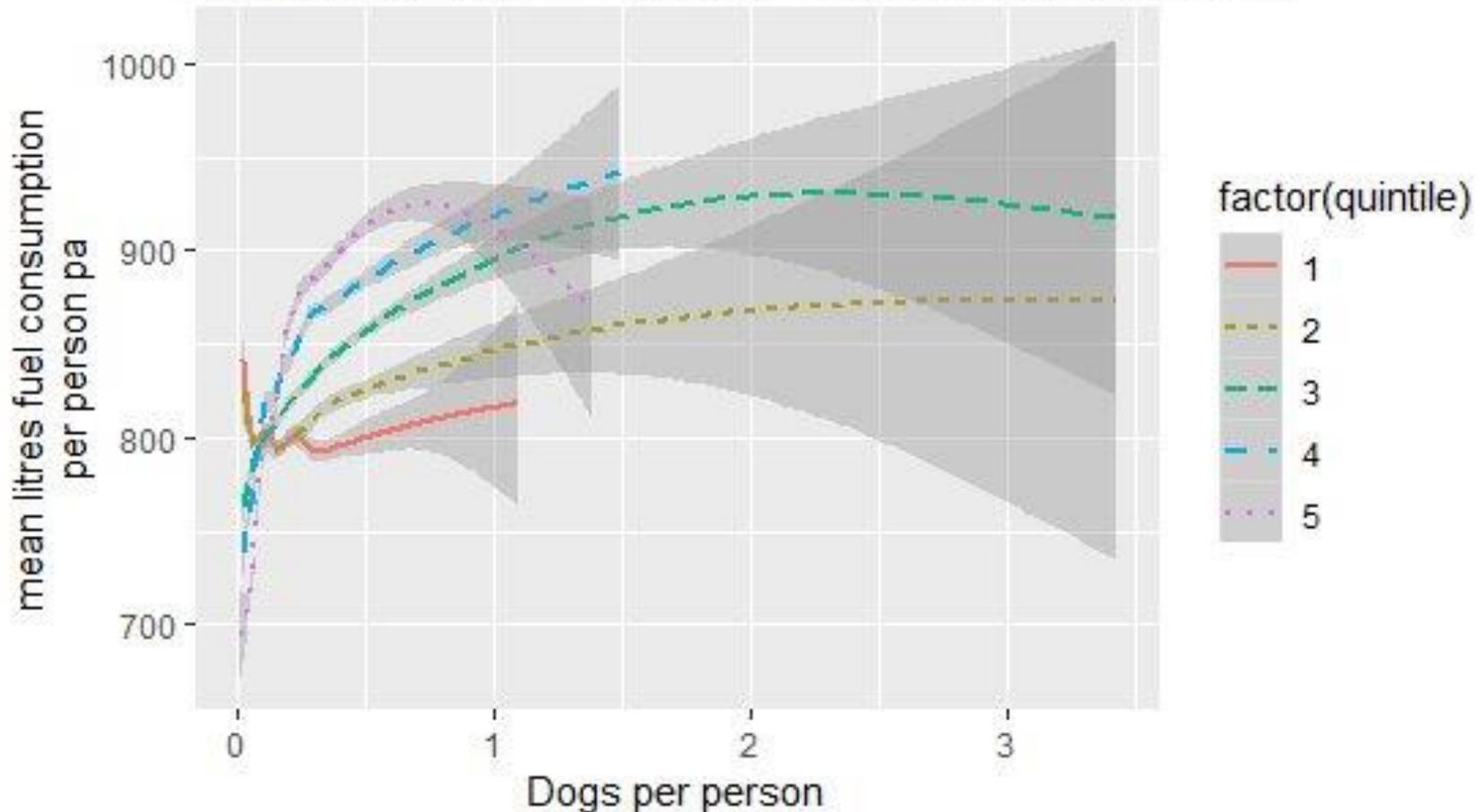
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| Question | Answer |
|---|---|
| Please tell us what discourages you from walking in this location or what you do not like about walking in this location. | The footpaths are rough and uneven in a few parts of Nancy Ave near Knowles Street end and the lighting when walking in the dark (which I do sometimes) is terrible. The whole of Nancy ave up to Innes Road the lighting is abysmal and also on Knowles Street - especially from Nancy Ave corner down to Phillpots Road is terrible. Only 2 lights in that section and the lighting on those are not strong enough. I noticed yesterday when I was walking in the dark - walking from The Rutland Street end all the way down Weston Ave up until you get to Nancy ave end of Weston is well lit with a light on every lamppost (and reasonable paths) but its terrible from there to my place in Knowles Street. I actually mentioned it to my husband last night and it |



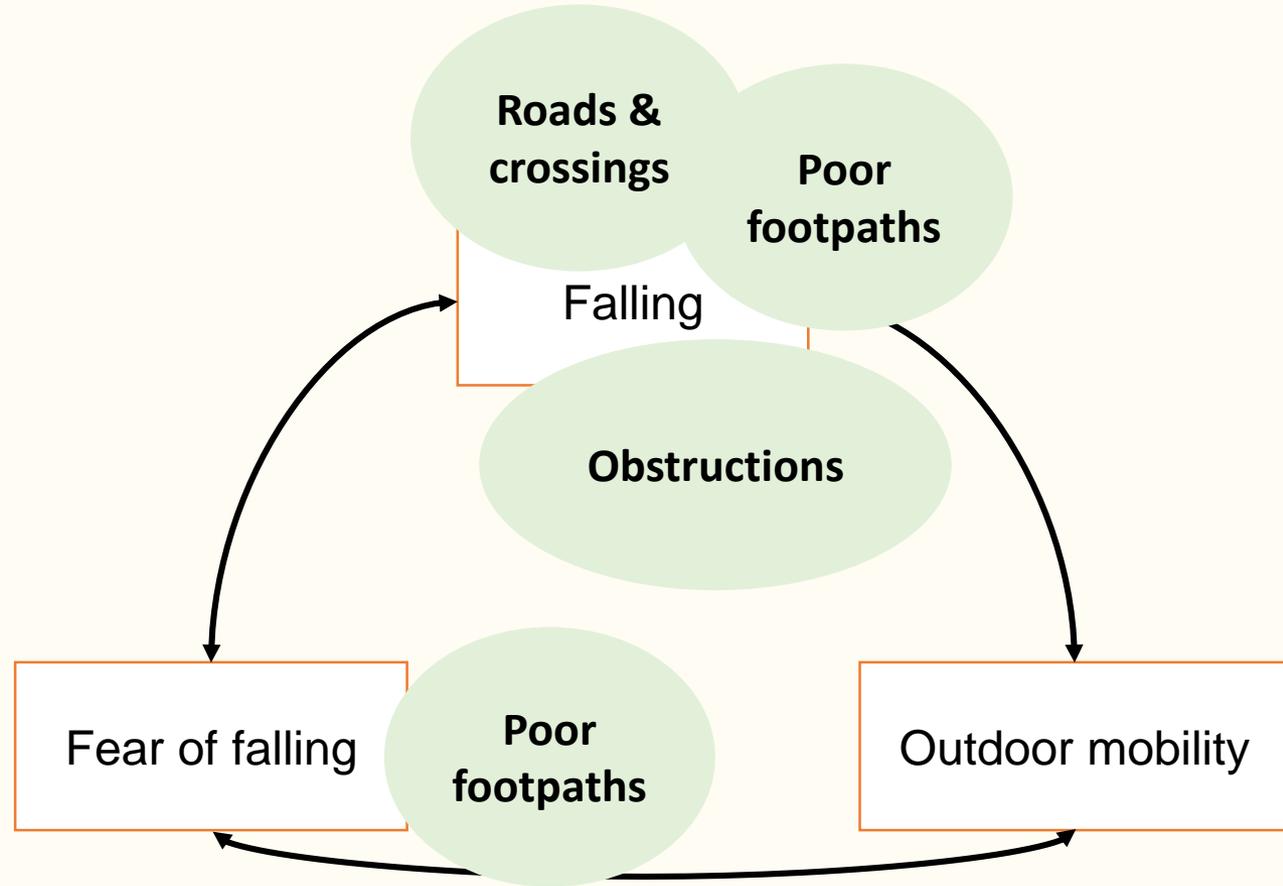
Vehicle fuel consumption per person versus dogs per person (income quintile 1 = low, 5 = high), English LSOAs



Credit:
@IanPhilipsITS

Correlation coefficients: income quintile 1 = -0.033,
2 = 0.12, 3 = 0.31, 4 = 0.40, 5 = 0.54

Summary



- Driving for a walk = Active ageing?
- Acceptance of poor environments
- Numbers too small to characterise types of environment
- Can “wearable technology” (or biosensing) improve data collection? (~50% have smartphone/ 10% fitness watch)

Policy recommendations and future interventions

- Active ageing needs to consider neighbourhoods – not just physical activity – inclusive urban design
- Need to consider upstream causes of falls ~ not all falls happen at home
- Under-reporting and under-representation in official statistics of **outdoor** falls
 - (Older) people are road users too!

Thank you

Any questions?



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