

Neighbourhood Factors Influencing the Elderly's Walking in Singapore's High-Rise High-Density Context

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Introduction

Walking is the most inclusive physical activity and it is beneficial for health. Although there is a list of quantitative studies discussing how neighbourhood factors impact walking behaviour, the research results are incongruent (Cerin et al. 2017, Van Cauwenberg et al. 2011). Few articles take a qualitative research approach to explore how environments influence the elderly's walking, especially discussing neighbourhood walkability for the elderly in the high-rise high-density context (Moran et al. 2014, Van Cauwenberg et al. 2012). Taking Yuhua East as a study case, this research uses walk-along interview, a qualitative approach, to explore how neighbourhood physical and social environments encourage and/or inhibit the elderly's walking in Singapore's high-rise high-density context.

Methodology

Study area

Yuhua East neighbourhood is located in Jurong East, in the west region of Singapore. Yuhua West and Toh Guan neighbourhoods are located to its west and east. Chinese Garden and Town Centre with shopping malls, library and hospital are located to its southwest and southeast.

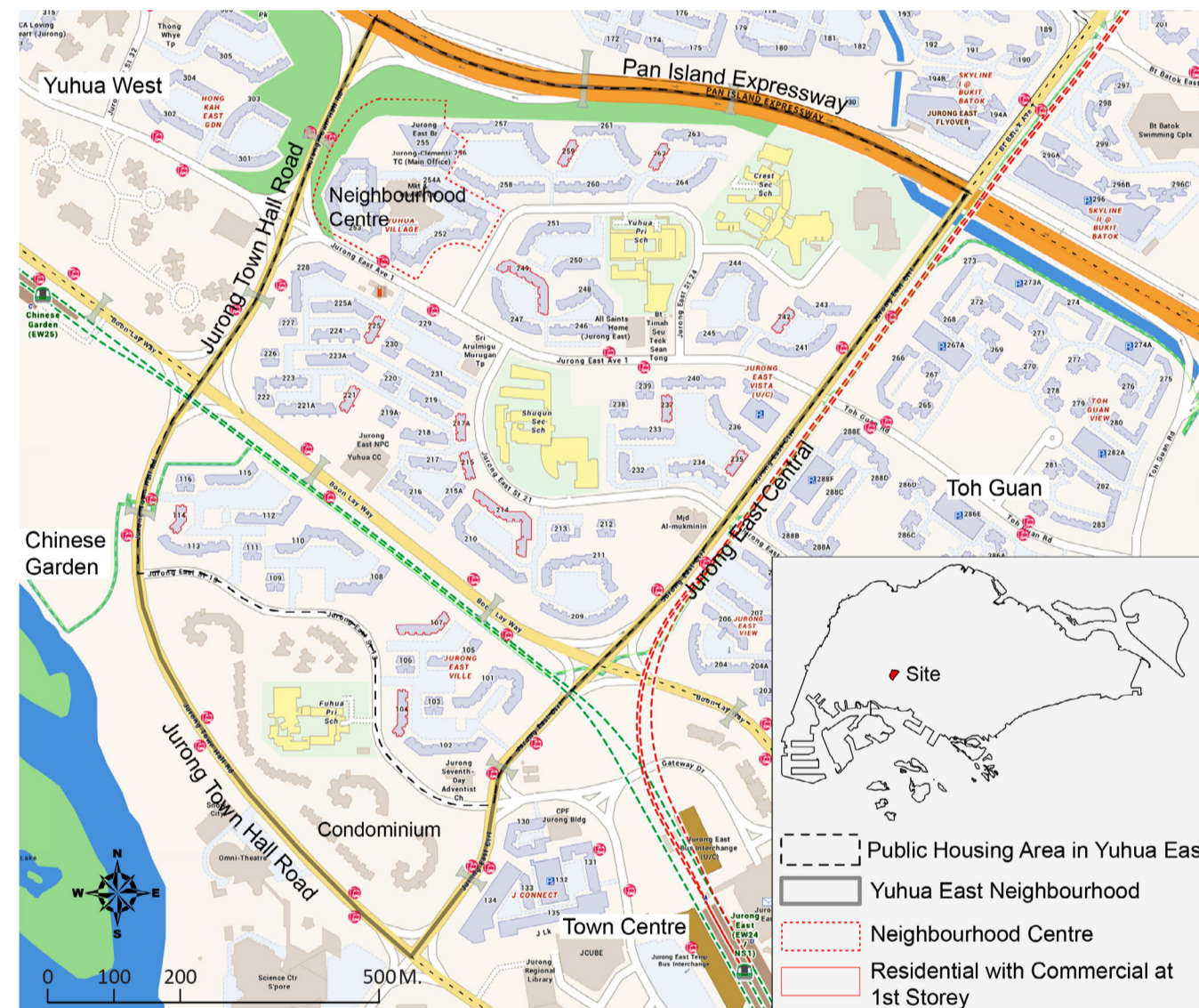


Figure 1. Location and Site Plan of Yuhua East

(Figure 1). With 26,330 population, Yuhua East is an ageing neighbourhood where 16.4% of the residents are aged 65 years old and above and 32.9% are 55 years old and above (DOS 2017).

Data Collection & Analysis Twelve elderly persons (aged 55 years old & above) were recruited for walk-along interviews using purposeful convenience sampling. The samples include people of different gender, ethnicities, and different age groups. After explaining the research procedures, the researcher walked together with the participants from the common corridor to a daily neighbourhood destination, or the other way around. Along the route, the participants were asked to talk about any things in the environment that influence their walking experiences. Additional questions were asked to completely understand the participants' experiences. Data from the transcribed interviews, field notes and photographs were added to NVivo 11 software and analyzed via content analysis.

Results

Qualitative data analysis revealed twelve categories of environmental factors that affected the elderly's walking: access to facilities (shops & services, public transit and connectivity), walking facilities (sidewalk quality, universal design, sheltered walkway, crossing, benches and public toilet), aesthetics (natural elements, cleanliness, noise, buildings), traffic safety (behaviour of other road users, road width), high-rise high-density (lift, population, flat size, privacy), familiarity (long-term residency, routine activities), legibility, maintenance & upgrading, safety from crime, weather, and social contact (Figure 2).

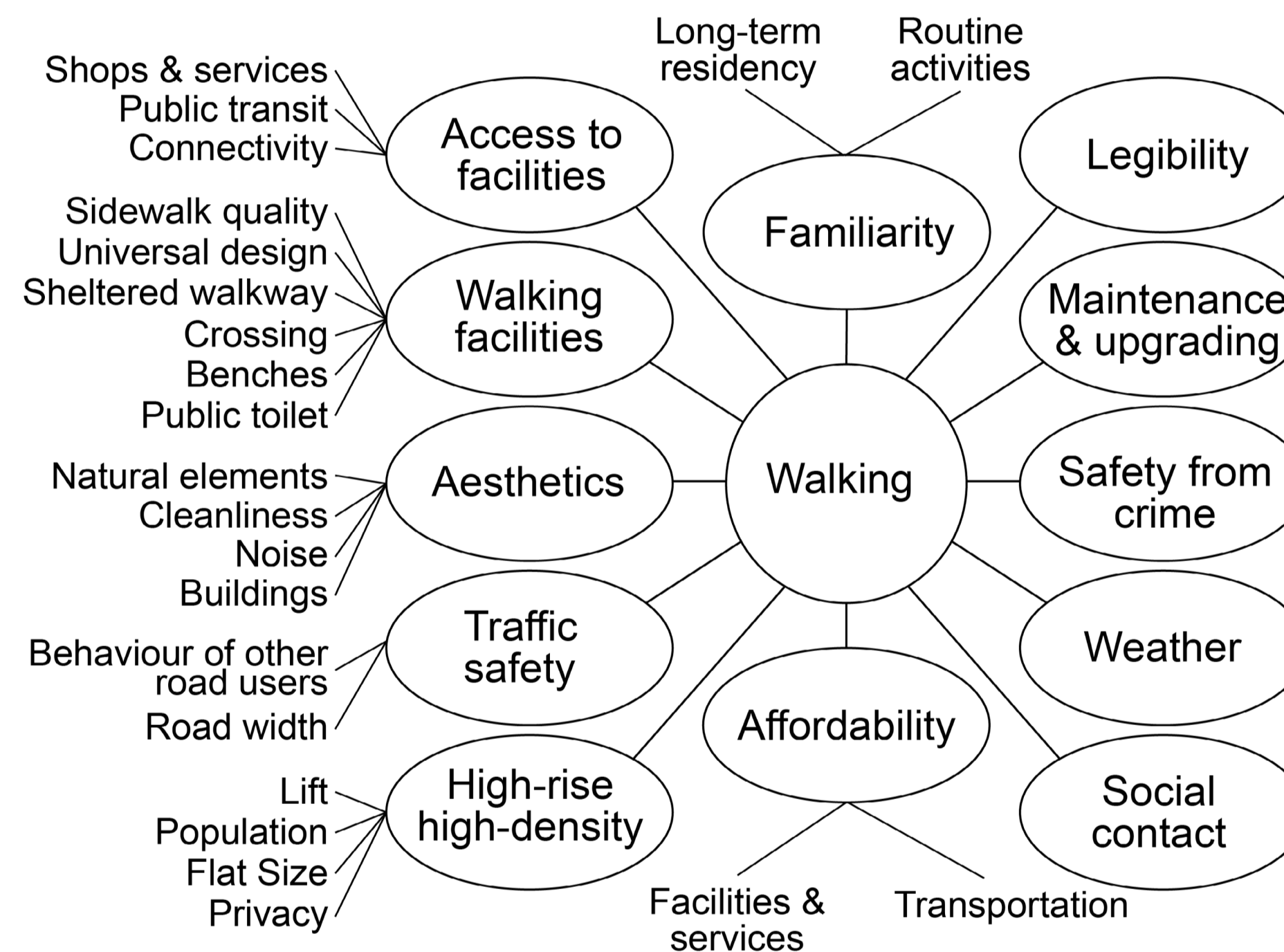


Figure 2. Categories and sub-categories of neighbourhood environmental factors influencing the elderly's walking



Figure 3-8. Participants mentioned facilities that promote walking along the route, including hawker centre & market, coffee shop & shop @ precinct centre,

exercise corner, school, playground, kindergarten, community club (CC), park, community garden, social service centre, MRT station and bus stops.



Figure 9-13. Participants mentioned several environmental factors make their walking pleasant, including greenaries, sidewalks that are smooth, easy to walk and clean, sheltered walkways, overhead bridge with ramp and benches.



Figure 14-18. Some environmental factors that inhibit walking were mentioned, including steps, narrow accessible routes, unsheltered accessible routes, long waiting time at crossing, inadequate benches at some blocks and PMDs.

Conclusion

This study identified twelve dimensions of environmental factors that influence the elderly's walking behaviour. It concludes that access to facilities and walking facilities are important for the elderly's walking. The elderly can gain sense of familiarity via long term residency and routine activities, which give them the confidence to go out even with reduced physical capacities. Considering Singapore's climate, sheltered walkway, proximity of facilities, and connectivity (e.g. distance between crossings) should be well considered. Except from physical factors, affordability of facilities and services, and social contacts are also important.

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