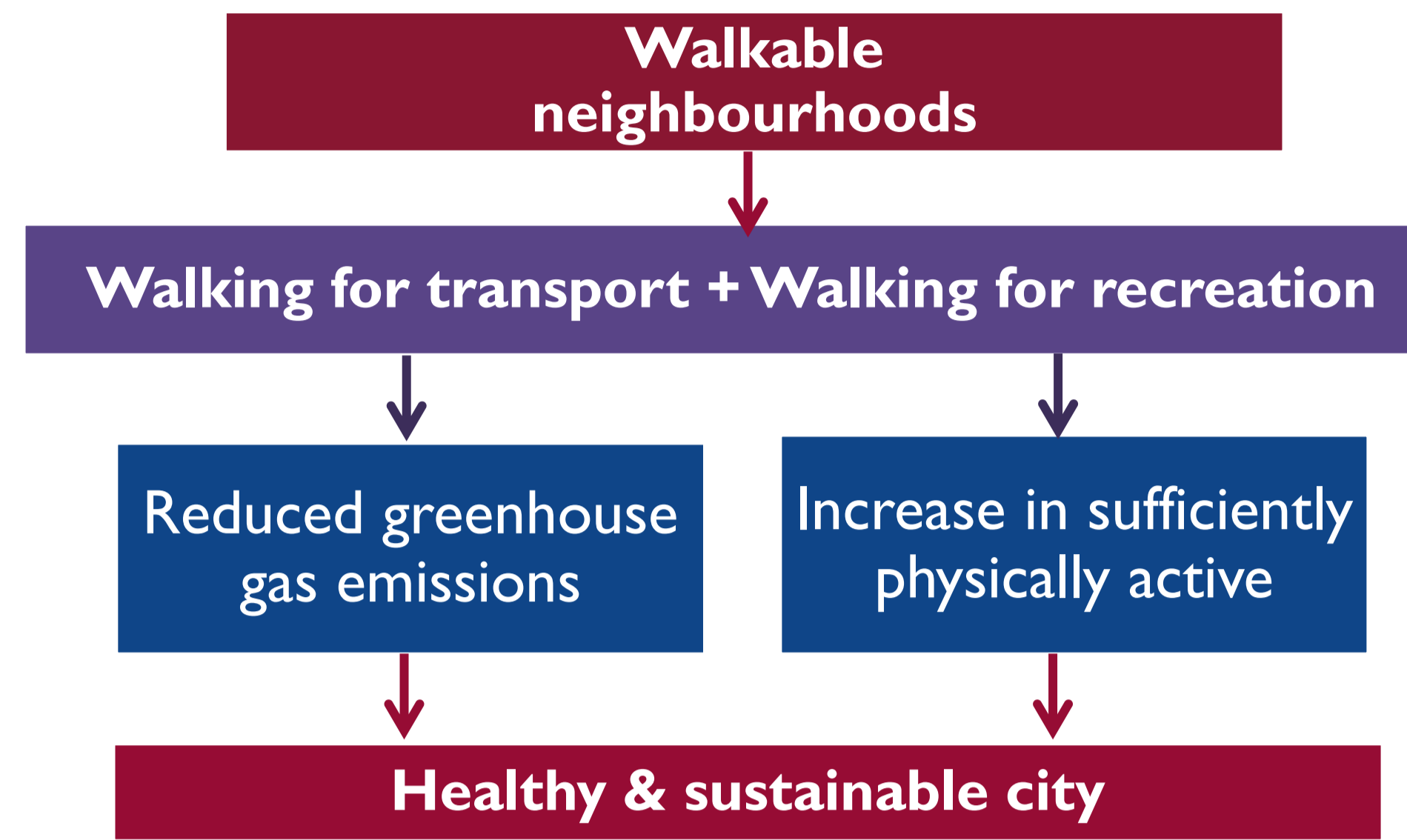


# Determining **thresholds** for spatial urban design and transport features that support walking to create **healthy and sustainable cities**: findings from the IPEN Adult study

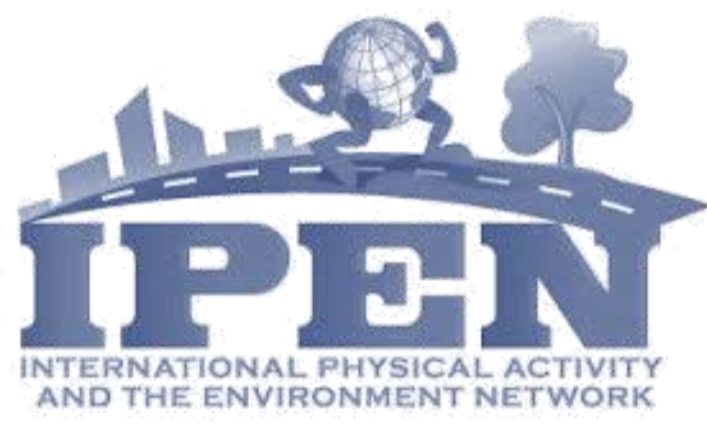
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**INTRODUCTION**

- **Physically active population** = essential characteristic of a healthy and sustainable city
- **>25%** is **insufficiently active** (do less than 150 min/week of moderate intensity physical activity as recommended by World Health Organisation)



**METHODS**



11615 adults (18 – 66 years) from 14 cities across 10 countries living in areas varying in walkability and socio-economic status

**URBAN DESIGN AND TRANSPORT FEATURES**

- 1km-radius street-network residential buffers
- Population density (people per km<sup>2</sup>)
- Street intersection density (intersection per km<sup>2</sup>)
- Public transport density (stops per km<sup>2</sup>)
- Distance to nearest public transport (m)
- Distance to nearest public park (m)

**OUTCOMES**

- Engaging in walking for transport
- Doing at least 150 min/week of walking for transport or recreation

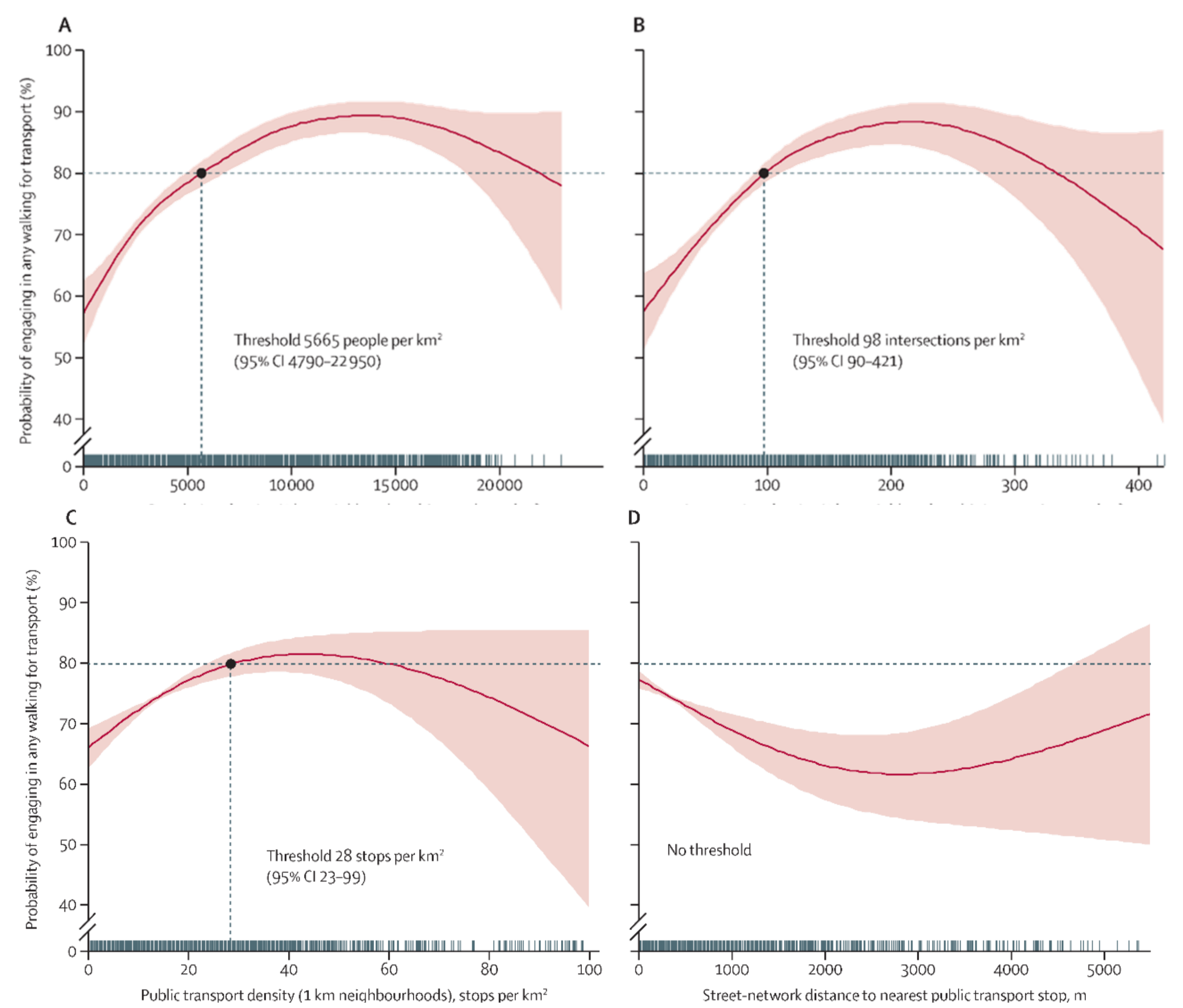
**QUESTIONS**

What are the thresholds of urban design and transport features associated with ... ?

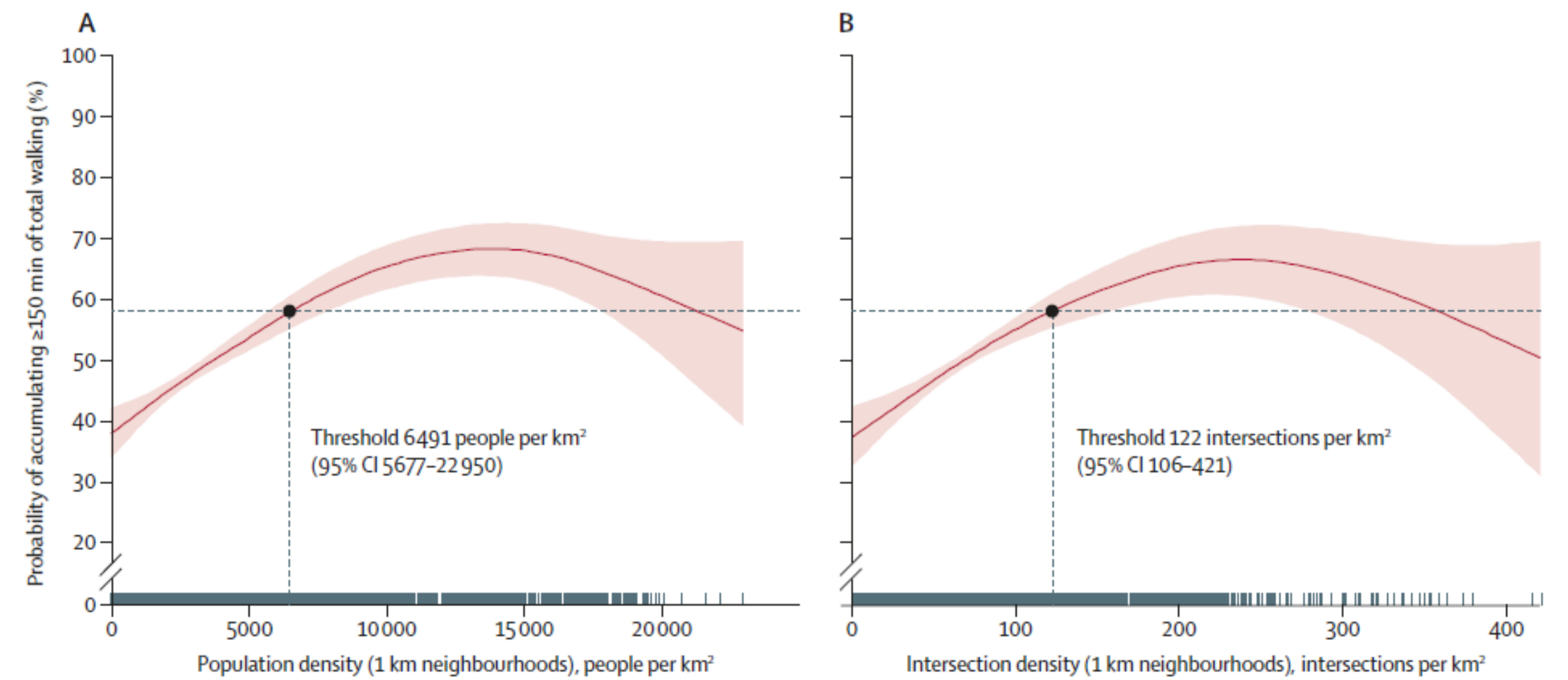
- **80% probability of walking for transport**
- WHO target **≥15% reduction in insufficient physical activity by walking = 58% probability of meeting the WHO physical activity guidelines by walking**

**RESULTS AND DISCUSSION**

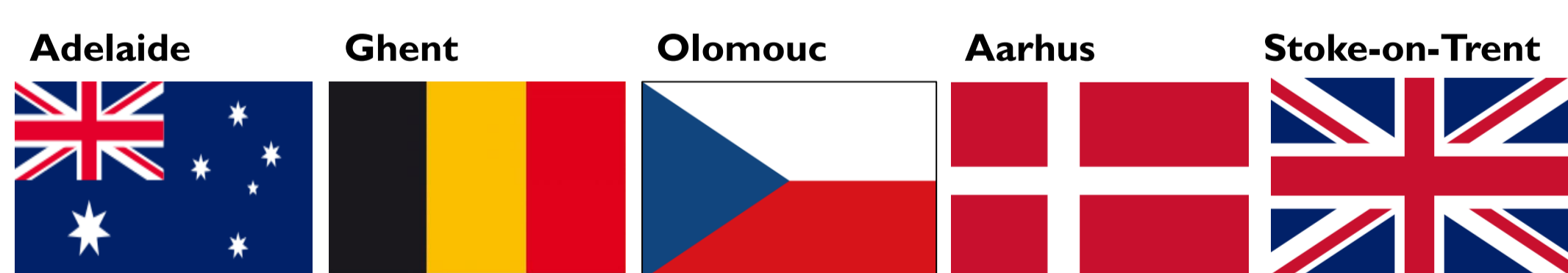
**Relationships between urban design measures and the probability of walking for transport**  
Dotted vertical lines show the thresholds associated with at least 80% probability of walking for transport (dotted horizontal lines).



**Relationships between urban design measures and the probability of ≥150 minutes of total walking per week**  
Dotted vertical lines show the thresholds associated with at least 58% probability of at least 150 min of total walking per week (dotted horizontal lines). Pink shading shows 95% CIs



- ↑ Distance to nearest park = ↓ probability of walking for transport  
↓ probability of meeting the WHO physical activity guidelines via walking
- ↑ Public transport density = ↑ probability of meeting the WHO physical activity guidelines via walking



- Most neighbourhoods included in the study would benefit from densification
- However, "more is better" is not always the most appropriate message
- Thresholds derived in this study are not definitive
- Further international work on low-to-middle income countries, cities with higher density, youth and older adults is needed