

TH3.15.12 Crossing streets intersections in old age, with or without risks? A combined exploration of risk perceptions and walking behaviours for older pedestrians

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While walking has become a public health priority and a true challenge for urban policies, elderly pedestrian are known to be a critical group in road safety. Various studies have tried to link the aged pedestrian behaviours with different variables such as age, gender, sensory acuity, attentiveness level, physical declines or intersections design. If age, physical abilities, and spatial configuration are critical dimensions, the literature shows the complexity urban environment. Indeed, knowledge of the environment, spatial proficiency, and individual capacity of adaption must be taken into account. This study focuses on perceptions of both urban quality and road risk for elderly people in Montréal (Canada). The elders' perceptions have been used to define seven profiles of pedestrians. A sample of 198 elderly persons has been observed when crossing the street. Just after this observation, elders have been surveyed using a questionnaire with closed questions. The aged pedestrians evaluated scales for 17 environmental ambiances and risk behaviours. Using principal component analysis (PCA), these perceptions scales have been merged into six components that define 7 pedestrian profiles after the use of hierarchical cluster analysis (HCA). Each group has been described according to socio-economic dimensions as well as mobility uses and observed behaviours. The results show some variability of the perceptions among older people, although their perceptions seem to be less consistent to describe the crossing behaviours than the intersections' physical attributes, even if they could influence some aspects such as the respect of intersections signalling. Even for seniors there is a strong variability in the perceptions of risk, which could influence their behaviours. Some of the behaviours were consistent with the perceptions declared by the respondents, but these perceptions are not determinants. The results seem to indicate that perceptions only play a marginal role on the senior pedestrians crossing behaviours.

TH3.15.17 Urban Design and Route-Choice: Interaction between micro-spatial attributes of street segments and pedestrian spatial navigation

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To counteract with the reduction of physical activity and for understanding the walkers' preferences about the streets scape quality, the investigation examined, what are the attributes of route choice that may attract a commuting pedestrian to choose one route over another? This is novel methodology that eliminates the self-selection bias and also provides variations in settings. Until now, studies of the association between street attributes and route choice have mixed results. Some suggest that walkers consider the shortest route to minimize distance or walking time. Other studies found route quality to be a predictor of route choice. No studies have been identified that included both physical features and perception to achieve a clear transaction between environmental attributes and walking behavior. The

focus of this case-control study (i.e., The case is the route taken, and those not taken are controls) is on micro-level street segments to explore how the urban design qualities of streets associated with transit users' preferences in choice of routes. The primary data collected in light rail stations in Charlotte, NC. The subjective data gathered through a survey questionnaire and the objective data gathered by using Pedestrian environmental data scan inventory tool. The study compared the number of times the segment was walked or picked by participants in survey. The betweenness value, which is a weighted accessibility measure, for this pair of segments was similar, but they could differ based on other attributes (i.e., predictors of conceptual framework like sidewalk width, the presence of certain land uses, and average set back). By observing how these systematic differences affect usage, for a given level of betweenness and walkability level (low, medium, and high), we examined how micro-level built environment attributes associated with actual walking at different levels of walkability and betweenness. In addition to the strong positive correlation of shortest route, the primary findings imply that pedestrians will choose the high level of attributes.

TH3.15.17 Pedestrian Urban Design; Linking Public Transport Ridership to Environmental Benefits.

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It has been said that every transit user is a pedestrian. Then, do walkable neighbourhoods contribute to public transport ridership and success? This research looks at urban design amenities in catchment areas around public transport stations in Los Angeles, Hong Kong, Medellin, London and Berlin. Specifically, catchment areas of transport nodes were analyzed with an urban design survey based on the classic methods that William H. Whyte and others used to study congregation. Site analysis was contrasted and confirmed with macro level mapping tools and ridership data. Public transport lines are receiving major investments in many cities under the assumption that the mode of travel is better for the environment, can channel economic growth and even have social benefits. However, benefits beyond travel are often related to public transport infrastructure tenuously. In order to establish a link between transport infrastructure and benefits, this paper searches for a correlation between pedestrian friendly zones around transport stations and ridership numbers. At the catchment scale, a relationship being urban design quality and ridership numbers is hard to prove consistently. However, at a more macro scale destinations and centrality drove ridership with some transfer or end conditions also having high numbers. Employment and intersections of transport lines were confirmed to be the major drivers of ridership as the literature has often claimed. Urban quality and high numbers of people are not mutually exclusive except at the highest levels of ridership. These preliminary conclusion is problematic to unhinge from other variables but provides a step in linking a pedestrian environment to ridership and therefore understanding the benefits such as social life, lower pollutant emissions and vibrant economic neighbourhoods more fully.