

Smith, M., Witten, K., Field, A., Thorne, R., Macmillan, A., van der Werf, B., Hosking, J., Mackie, H. (2019) The Pathway to Behaviour Change: Preliminary Findings from Te Ara Mua – Future Streets. 5th International Conference on Transport and Health, Melbourne, Australia, 4-8 November.

High-Scoring Researcher Abstract Award Sponsored by the Institute of Transportation Engineers.

Background: Physical environments can have a significant and enduring role in promoting or hindering active travel behaviours. Robust community-level environmental interventions are challenging to design, undertake, and evaluate. *Te Ara Mua – Future Streets*, in Māngere, Auckland, New Zealand is an area level randomised, controlled before and after community intervention study to make streets safer and easier for people to travel around actively. Intervention elements included widening footpaths, cycle lane installation, and cultural landscaping (see www.futurestreets.org.nz). This presentation will outline the research methods for measuring the effect of the intervention and preliminary results from the first wave of follow-up.

Methods: Baseline measures were taken in 2014 and follow-up occurred in 2016/17, 6-14 months post intervention completion. All households in the intervention and control areas were visited and enumerated to obtain a random sample of children/young people (aged 7-13 years) and those aged 14 years and older. Replenishment sampling was used at follow-up to replace participants who were no longer available to participate. The survey comprised sections on socio-demographic information, travel patterns, physical activity, neighbourhood perceptions, social wellbeing, road traffic injuries, and physical abilities. Qualitative face-to-face interviews, go-along interviews, school focus groups, and participatory mapping were undertaken in the intervention area to explore neighbourhood use and perceptions of place, accessibility, and barriers for active travel. Objective measures of traffic volume and speeds, air quality, road traffic injuries, and diabetes risk were collected. Video footage was collected to measure road user characteristics and behaviours. Quantitative data analyses are guided by a causal loop diagram. Generalized linear mixed models are being used to analyse changes in outcomes, accounting for repeated measures and intra-cluster dependencies. Qualitative data have been analysed using thematic analysis.

Results: At baseline, 1243 adults (response rate 65%) and 658 children (83%) participated in the survey. At follow-up, 1280 adults and 630 children participated. Survey and qualitative data show improved perceptions of walking and cycling in the intervention area. Sociocultural norms, safety concerns and practical limitations were identified as barriers to active travel. Qualitative, video and survey data all point to improved accessibility and more trips for people with disabilities. Significant reductions in vehicle speeds on local and collector streets and reductions in motor vehicle volumes on local streets have been found in the intervention area.

Conclusions: Early findings align with the theorised pathways from intervention to behaviour change. Analysis is ongoing including planned economic cost-benefit modelling. Long term follow-up is essential to determine whether changes in safety and perceptions translate to increases in active travel in residents, and is scheduled for 2020.