BALTIC JOURNAL OF SPORT & HEALTH SCIENCES
5(Supplement); 2025; p. 165; eISSN 2538-8347
DOI: https://doi.org/10.33607/bjshs.v5iSupplement.1922

The Impact of 30 Km/H Speed Limit Policy on Physical Activity – A Mixed-Methods Natural Experiment in Amsterdam, The Netherlands

Carel-Peter van Erpecum[1], Jack Benton[2], Fleur Heuvelman[3], Anna Bornioli[4], Pilar García-Gómez[1], Joline Beulens[3], Famke Mölenberg[5], Nicolette R. den Braver[3]

[1] Erasmus University, Rotterdam, The Netherlands
[2] The University of Manchester, Manchester, United Kingdom
[3] Amsterdam University Medical Center, Amsterdam, The Netherlands
[4] Barcelona Institute for Global Health (ISGlobal), Barcelona, Spain
[5] Erasmus University Medical Center, Rotterdam, The Netherlands

Purpose: In this mixed-methods natural experiment study, we evaluated the impact of a speed limit reduction policy (50 to 30 km/h) on physical activity (PA) outcomes in the city of Amsterdam.

Methods: In Amsterdam, policy for a city-wide reduction to 30 km/h was implemented on December 8th, 2023. We conducted baseline (November 2023) and follow-up (November 2024) measurements in four intervention and two control sites, based on street-, neighbourhood- and SES-characteristics. We assessed PA and transport behaviour outcomes by inviting 9,679 households for the International Physical Activity Questionnaire (IPAQ) and systematic street observations using an adapted version of Method for Observing pHysical Activity and Wellbeing (MOHAWk). The latter provided additional insight into safety outcomes related to children (e.g. supervision). Changes in PA outcomes between intervention and control groups were analysed using a multilevel linear or negative binomial difference-in-differences analyses (as appropriate).

Results: In the survey, a total of 618 residents (>18 years old) participated (55.1 ± 17.5 (standard deviation) years old). There were non-significant increases in self-reported leisure MVPA (97.53 min/week; 95% confidence interval (CI) = –1.09, 196.15), cycling for transport (94.97 min/week; 95% CI = –35.29, 225.23), walking for transport (75.05 min/week; 95% CI = –75.70, 225.80), walking for leisure (27.38 min/week; 95% CI = –62.09, 116.85). Similarly, there were non-significant decreases in self-reported time spent in a car (–35.65 min/week; 95% CI = –188.68, 117.39) and time spent sitting (–92.10 min/week; 95% CI = –556.50, 372.29). In street observations, we observed a total of 16,055 street users over 120 hours (47% adults, 23% children (<12 years old)). We observed street users going up (all age groups) but particularly in children (inter-rater reliability (IRR) = 1.56; CI = 0.96, 2.53). Similar to the survey, we observed non-significant increases in walking among adults (IRR = 1.34; 95% CI = 0.72, 2.49). However, we did not observe a difference in cycling between intervention and control after the implementation of 30 km/h in adults (IRR = 0.90; 95% CI = 0.69, 1.17). For children, we observed positive intervention effect on cycling (IRR = 1.49; 95% CI = 1.01, 2.20). Also, we observed somewhat higher numbers of children under supervision of an adult, although non-significant (IRR = 1.16; 95% CI = 0.89, 1.50).

Conclusion: Preliminary findings from this study suggest that 30 km/h speed limits may encourage PA and reduce sedentary behaviour. Some trends indicate increases in PA behaviours and potential shifts from passive to active transport.