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Abstract Title

Effect of Protected Cycling Trail on Active Transportation, Physical Activity and Cycling Traffic: A Natural Experiment

Background

Physical activity (PA) in childhood is a critical determinant of lifelong health, yet over 60% of Canadian children do not achieve the recommended 60 minutes of daily PA. Despite significant municipal investments in cycling infrastructure, there is little evidence on their impact on youth PA.

Objective

We will eventually test the hypothesis that neighbourhoods within 600 metres (m) of a new multi-use trail will experience increases in cycling traffic, cycling commuting to school, compared to control neighbourhoods. Here we present baseline data prior to the construction and opening of the new trail.

Methods

In partnership with the City of Selkirk, we designed a natural experiment consisting of a new 3-km protected multi-use trail. Six schools located within 600m of the trail are considered “exposed” to the new trail and three schools, beyond 600m are considered “unexposed.” The two primary outcomes are (1) commuting to school via bicycle and (2) overall cycling traffic. From May 2024 to June 2025 we counted bicycles parked at each school for 15-days to calculate daily cycle commuting rates at each school relative to school enrollment. Automated Eco-counters embedded in the trail provide continuous hourly cycling traffic data from May 2024 to September 2025.

Results

Across pre-intervention observations, intervention schools experienced 5.83 (95% CI: 5.26-6.39) bikes parked/day, corresponding to a 2.6% cycling-to-school rate. Conversely, control schools averaged 2.24 (95% CI: 1.87-2.61) bikes per day, a cycling-to-school rate of 1.4%. Daily cycling traffic along the road where the trail is being installed was 43.51 (95% CI: 37.16-49.87) counts/day.

Conclusion

This study is the first natural experiment in Canada to rigorously evaluate the effects of the addition of significant cycling infrastructure on active transportation to schools. Baseline data suggest that rates of active transportation are very low suggesting that changes following a new trail are potentially detectable.

Authors

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