

Modeling Children's Independent Walk and Bike Travel to Parks and School

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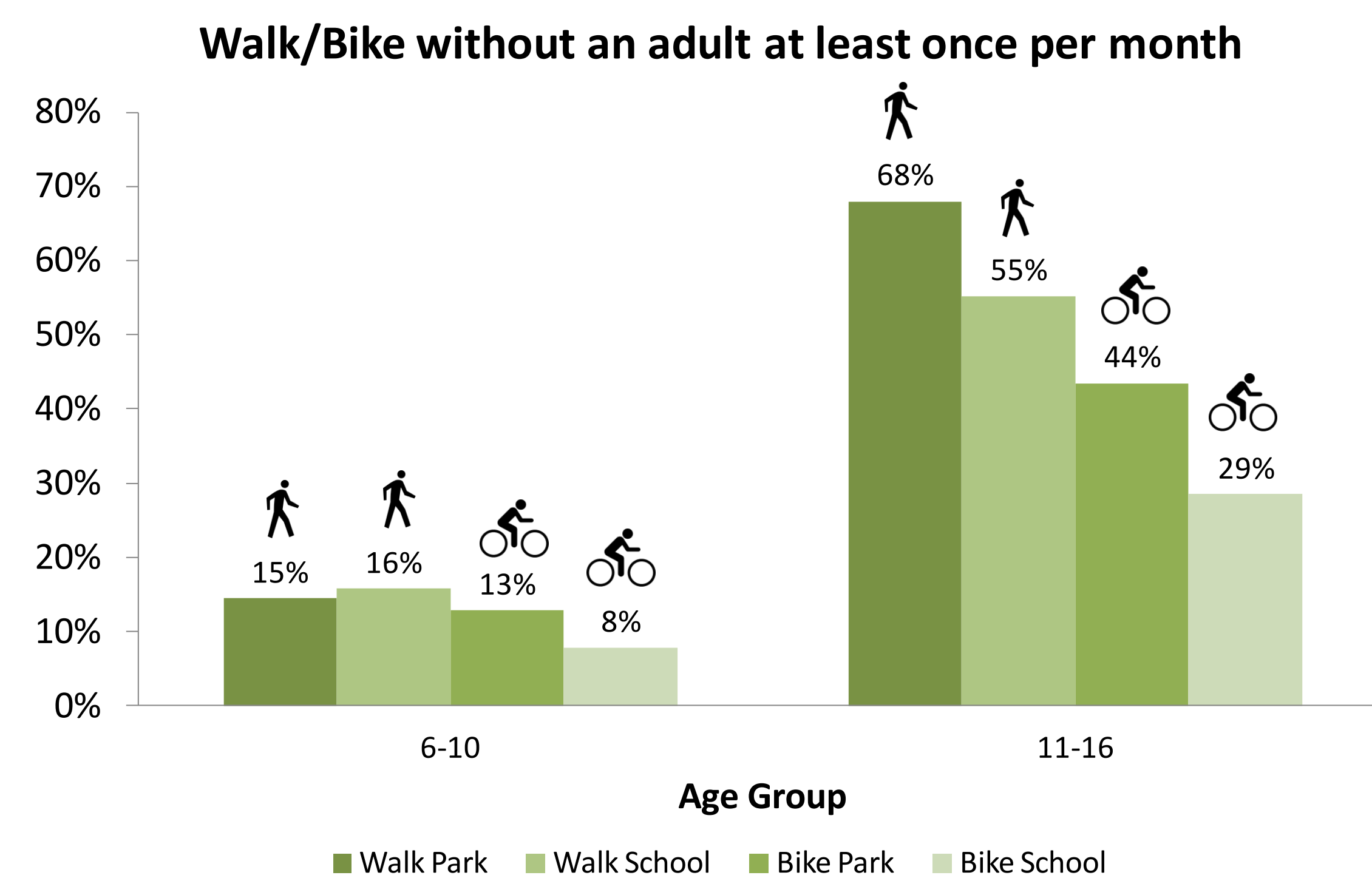
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What factors predict kids' independent biking and walking?

Kids today are traveling less often by active modes and less often independently (without adult supervision). Potential negative effects include decreased physical activity and increased vehicle miles traveled. This study considers a range of factors that may explain differences in active travel choices across children to inform policy.

Surveyed parents and children in Portland, Oregon

Children aged 6-16 and their parents were surveyed in 323 households. Questions covered reported travel behavior, neighborhood perceptions, attitudes, rules, perceived social norms, and socio-demographics. In addition, GIS-based measures were calculated for proximity to parks and each child's school along with the built environment up to one mile around home.



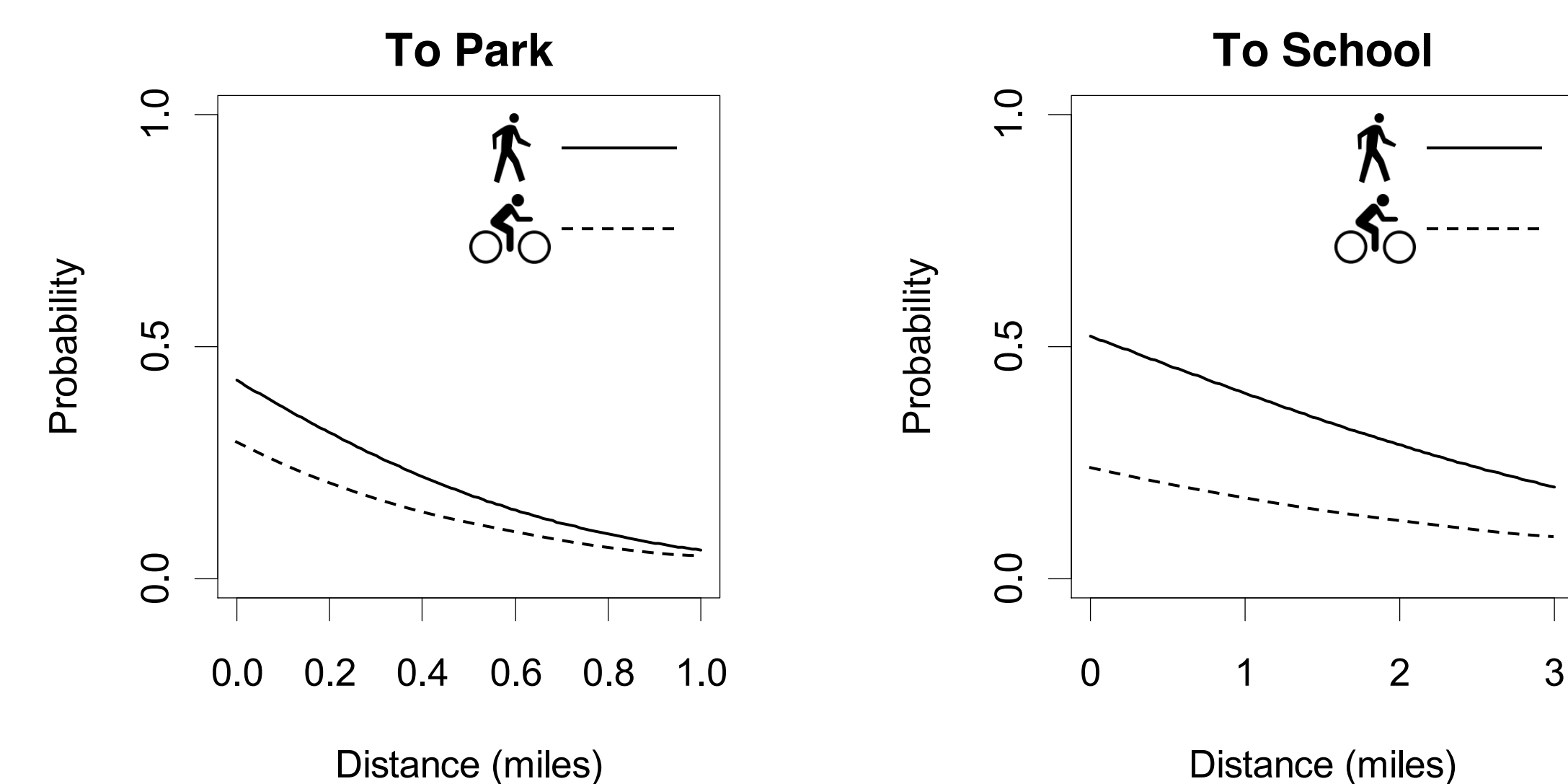
Estimated binomial logit models to predict behavior and rules

Binomial logit models were estimated separately for each mode (walk, bike) and destination (park, school). For each mode-destination pair, the dependent variable was whether a child was reported to travel without an adult chaperone at least once per month during nice weather. Models were also specified to predict two household rules (stay in sight, do not bike in street).



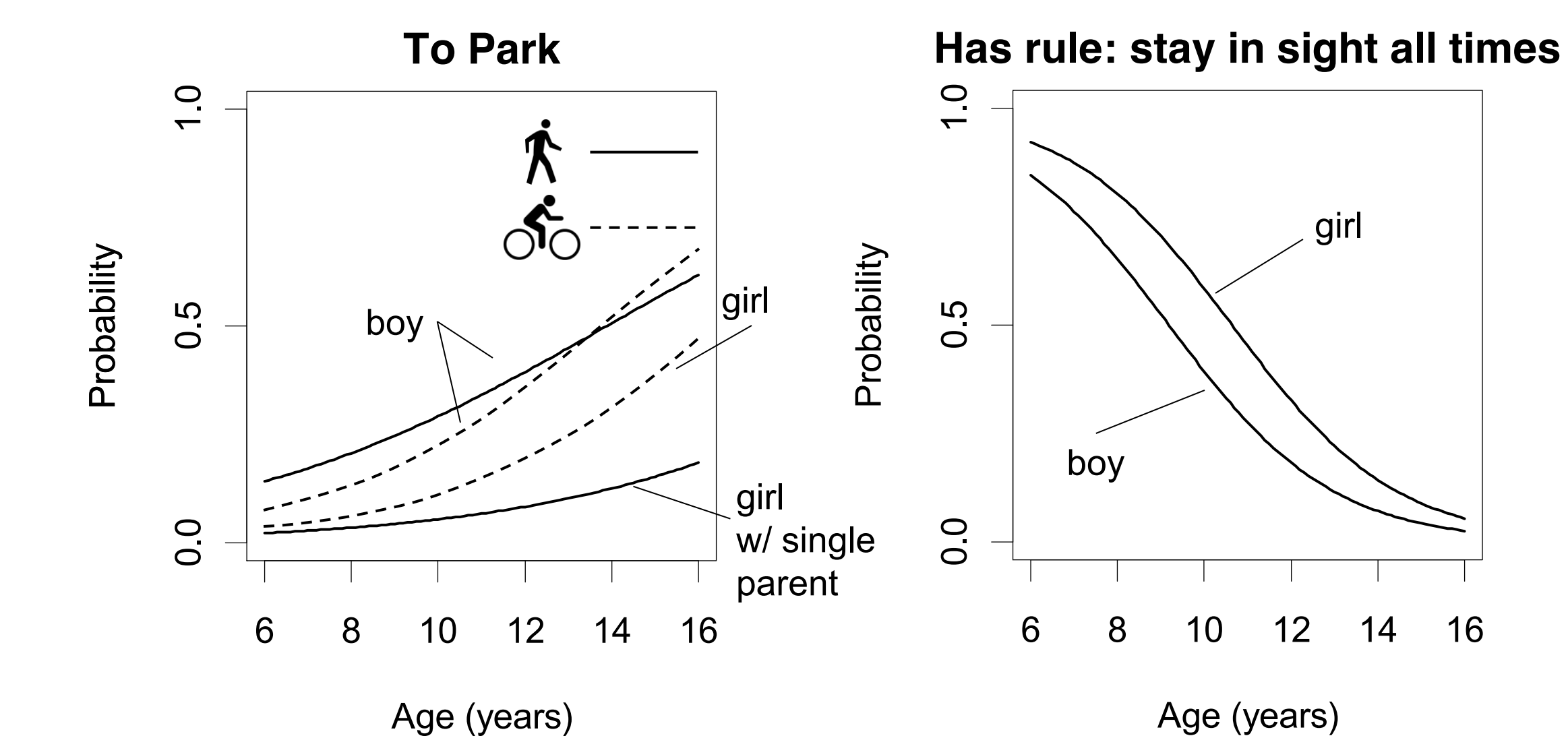
Key findings: independent child travel & household rule models

Distance



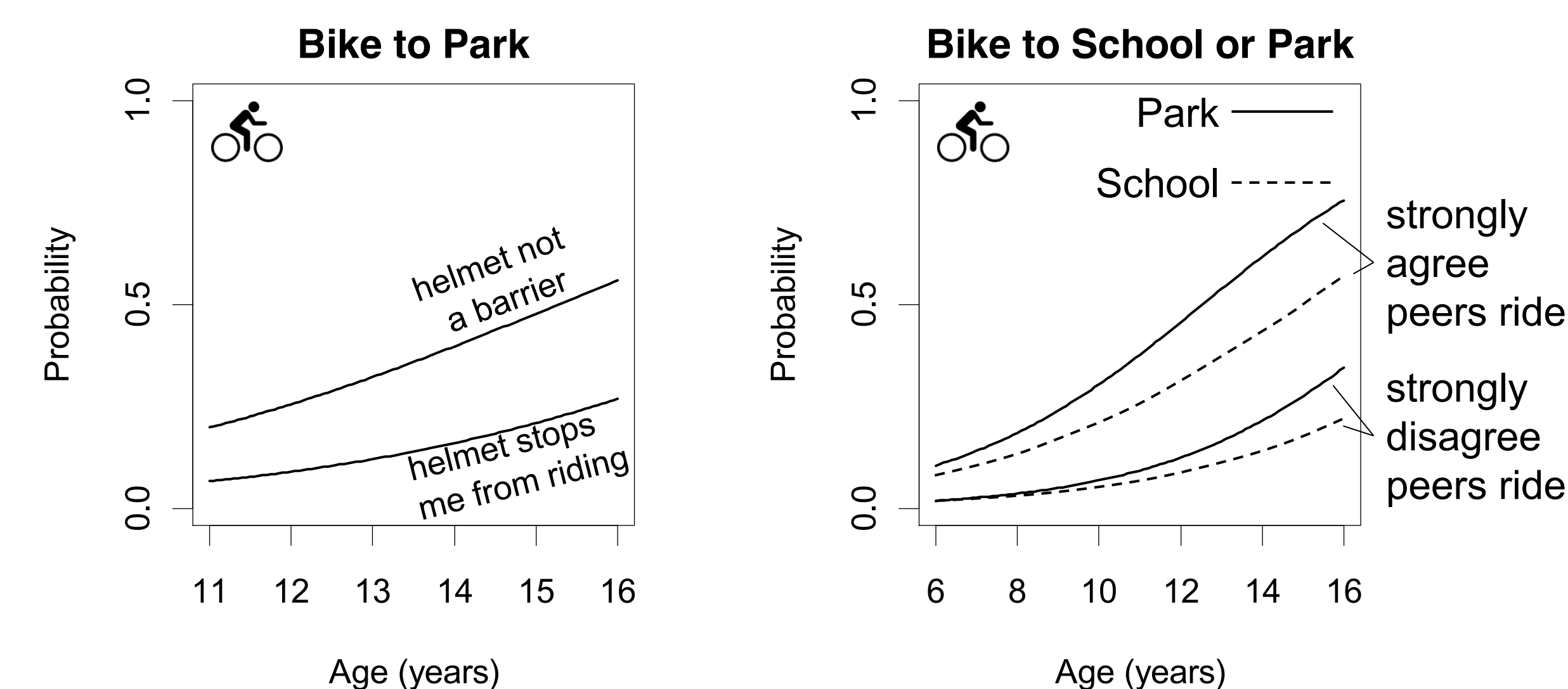
Proximity is key, especially for park travel. The average child was nearly three times as likely to walk or bike to a park $\frac{1}{4}$ mile from home than one $\frac{3}{4}$ mile away.

Gender



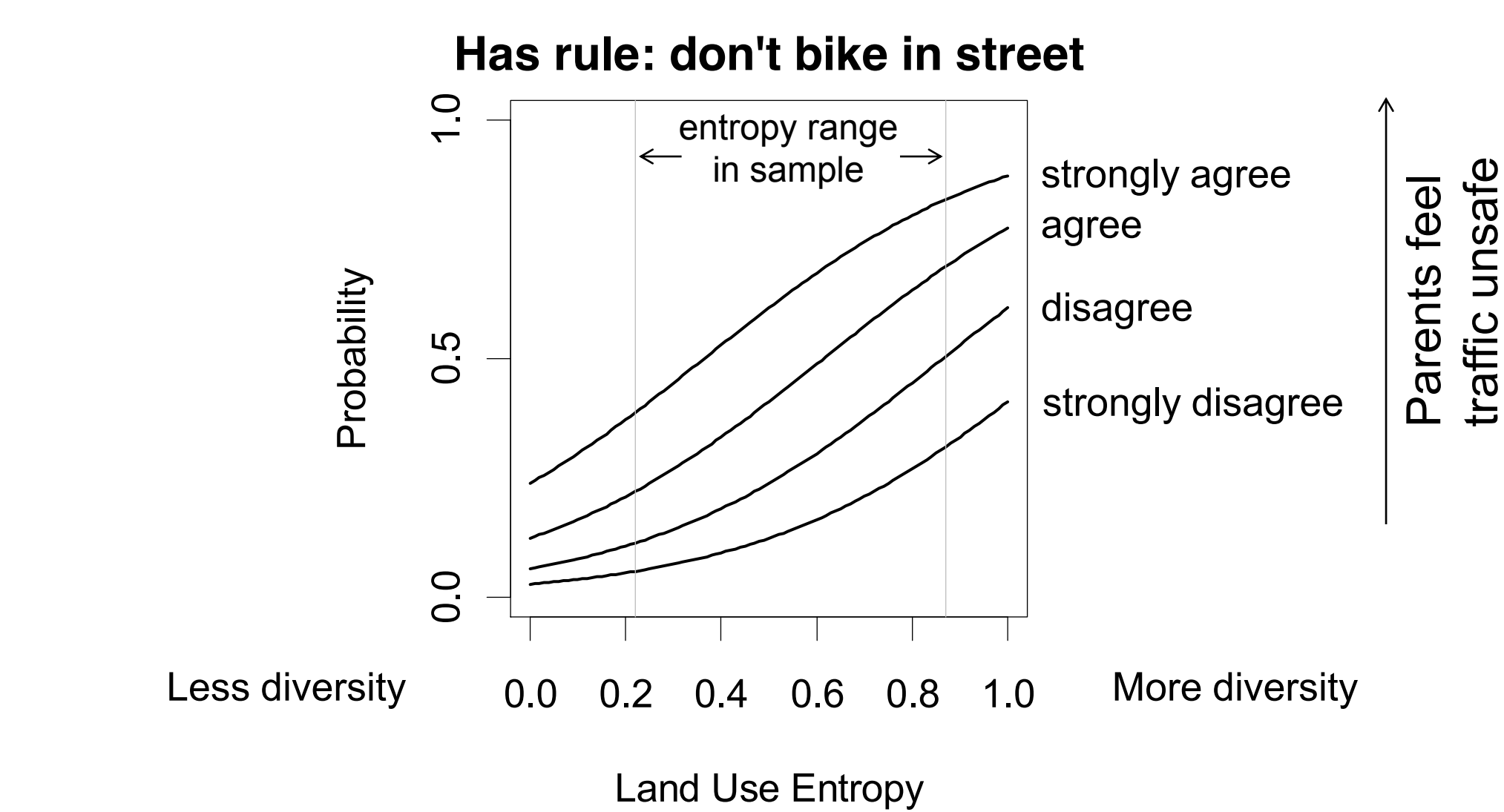
Significant gender gaps were evident for travel to parks. For biking to parks, the effect was direct. For walking to parks, the effect was direct for girls of single parents, while other girls were affected via more prevalent “stay in sight” rules. Girls were subject to “stay in sight” rules roughly 1.5 years longer than boys. No gender gaps were detected for school travel.

Peer group norms



Helmets were a significant barrier preventing 11-16 year olds from biking to the park. Peer group biking encouraged riding to parks and school across all ages.

Built environment



Parents who perceived neighborhood traffic as unsafe were much more likely to have rules against kids biking in the street. Kids living in neighborhoods with diverse land-use were less likely to be allowed to ride on neighborhood streets, even after controlling for parent perceptions of traffic safety.

Policy & Research Implications

Small “pocket” parks very close to home might be especially effective for improving accessibility to kids.

Special attention should be paid to the persistent gender gap for non-school travel.

Policies should recognize the strong social element in bicycling behavior. Targeting smaller social units (clubs, classrooms, teams) could be more effective than broader campaigns.

More research is needed to identify specific elements of traffic patterns and mixed-uses that parents feel make neighborhoods unsafe for kids biking.

Acknowledgments

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