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# Adult Bicycle Education Classes Increase Confidence, Feelings of Safety, and Knowledge of Bicycling Rules

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## Issue

Adult bicycle education classes are becoming an increasingly popular strategy to improve safety, mitigate congestion, and reach environmental goals. However, there is limited empirical research on the effectiveness of these classes among adults, and there are no studies evaluating the impacts of classroom-based education on this population. To address this gap in knowledge, a study was conducted evaluating the effectiveness of classroom-based adult bicycle education on delivering changes related to bicycling activity, self-perceptions while bicycling, knowledge of the bicycling rules of the road, and mode choice in the San Francisco Bay Area. Evaluation of the intervention was conducted using self-administered surveys completed prior to the intervention and again six weeks after the course. Self-reported data was validated using objective data collected using the Ride Report app.

## Key Research Findings

**Bicycle education classes increase participants’ feelings of safety while bicycling, confidence while bicycling, and knowledge of rules of the road.** Participants who took a two-hour classroom course on bicycling reported a significant increase in their confidence while bicycling in both traffic and car-free areas, such as parks or trails, and an increase in their feelings of safety while bicycling in a car-free area. The percentage of participants reporting high knowledge of bicycling rules of the road, such as hand signals and where to legally ride, more than doubled to an estimated 87.9 percent (Figure 1).

**Participants with low confidence bicycling in traffic benefitted the most from the course.** Participants who initially had rated their confidence while bicycling as “low” were likely to see larger changes from before to after, compared to other participants, across three metrics: minutes bicycled, bicycling for exercise, and feeling safe bicycling in traffic. This suggests that the course has disproportionate benefits for people with low confidence bicycling in traffic, such as women.<sup>1</sup>

**Classroom-based bicycle education is not sufficient to increase overall bicycling activity.** Although class participants were more likely to ride for fun or recreation after taking the class, they did not bicycle more frequently or ride a bicycle more often for transportation. Prior research studying on-bicycle classes is mixed, but some studies have found increased bicycling after an on-bicycle course.<sup>2,3,4,5,6</sup>

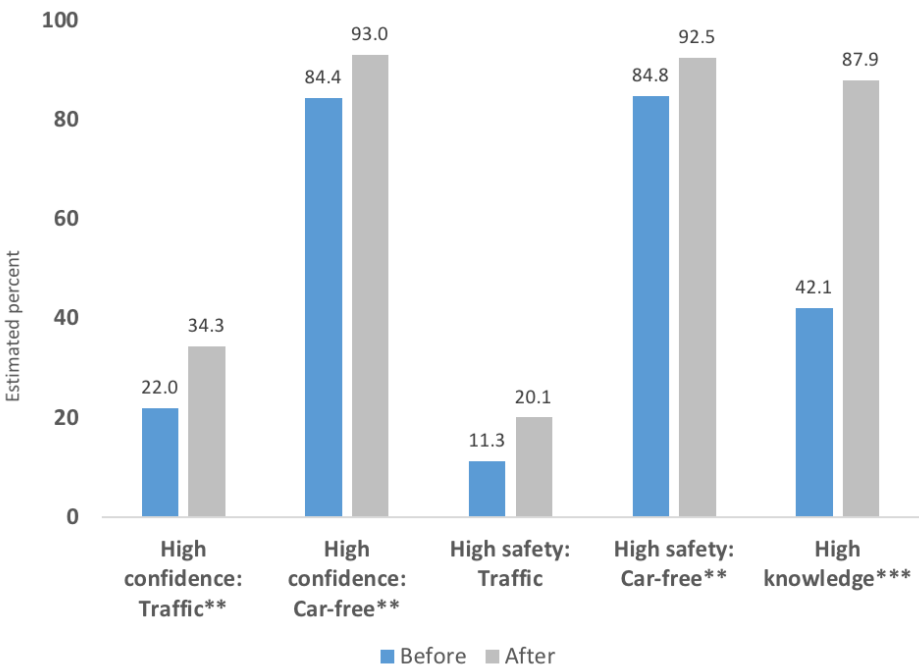


Figure 1. Effects of a bicycle education class on confidence, personal safety, and knowledge (i.e., rules of the road). Note: \*\*, \*\*\* indicate statistical significance at 95% and 99% levels of confidence, respectively.

**Classroom courses can be implemented at a fraction of the cost of on-bicycle courses, with many of the same outcomes.** An on-bicycle course could cost approximately \$1,500, while a classroom course may cost approximately \$200. Prior research suggests many of the confidence, safety and knowledge gains experienced in this study have also been found when participants take an on-bicycle course.<sup>7,8</sup>

**Additional research is needed to understand the effects of classroom-based education on increasing bicycle safety and ridership.** Based on a review of the literature, no other research has examined the effects of a two-hour classroom course on bicycle safety. More attention is needed to understand this cost-effective way to increase awareness of the bicycling rules of the road, and increase people's feelings of confidence and safety while riding.

## Further Reading

This policy brief is drawn from the report “Evaluating the Effects of a Classroom-based Bicycle Education Intervention on Bicycle Activity, Self-efficacy, Personal Safety, Knowledge, and Mode Choice” prepared by Elizabeth R. Nachman and Daniel A. Rodríguez with the University of California, Berkeley. Digital copies of the report and this brief can be found on the UC ITS website following this link: <https://www.ucits.org/research-project/uc-its-2019-18>. An associated brief summarizing a literature review on the effectiveness of bicycle education can also be found by following the link provided above.

## Contact Information

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<sup>1</sup> Garrard, J., G. Rose, and S. K. Lo. *Promoting Transportation Cycling for Women: The Role of Bicycle Infrastructure*. *Preventive Medicine*, Vol. 46, No. 1, 2008, pp. 55–59. <https://doi.org/10.1016/j.ypmed.2007.07.010>.

<sup>2</sup> Johnson, R., and S. Margolis. *A Review of the Effectiveness of Adult Cycle Training in Tower Hamlets, London*. *Transport Policy*, Vol. 30, 2013, pp. 254–261. <https://doi.org/10.1016/j.tranpol.2013.09.005>.

<sup>3</sup> Zander, A., E. Passmore, C. Mason, and C. Rissel. *Joy, Exercise, Enjoyment, Getting out: A Qualitative Study of Older People's Experience of Cycling in Sydney, Australia*. *Journal of Environmental and Public Health*, Vol. 2013, 2013, pp. 1–6. <https://doi.org/10.1155/2013/547453>.

<sup>4</sup> Transport for London. *Adult Cycle Training Monitoring Final Report Financial Year 2014/15*. Publication jn1575/BB/DK/ER\_v9. 2016.

<sup>5</sup> Schneider, R. J., J. Kusch, A. Dressel, and R. Bernstein. *Can a Twelve-Week Intervention Reduce Barriers to Bicycling among Overweight Adults in Low-Income Latino and Black Communities? Transportation Research Part F: Traffic Psychology and Behaviour*, Vol. 56, 2018, pp. 99–112. <https://doi.org/10.1016/j.trf.2018.03.023>.

<sup>6</sup> Van der Kloof, A., J. Bastiaanssen, and K. Martens. *Bicycle Lessons, Activity Participation and Empowerment. Case Studies on Transport Policy*, Vol. 2, No. 2, 2014, pp. 89–95. <https://doi.org/10.1016/j.cstp.2014.06.006>.

<sup>7</sup> Telfer, B., C. Rissel, J. Bindon, and T. Bosch. *Encouraging Cycling through a Pilot Cycling Proficiency Training Program among Adults in Central Sydney*. *Journal of Science and Medicine in Sport*, Vol. 9, No. 1–2, 2006, pp. 151–156. <https://doi.org/10.1016/j.jsams.2005.06.001>.

<sup>8</sup> Zander et al. 2013; Johnson and Margolis 2013; Schneider et al. 2018; van der Kloof et al. 2014.

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