Knowing cyclists’ roadway design preferences is critical to encouraging more cycling, but research has not always examined these preferences in a nuanced way. For example, a person may prefer the most direct route when commuting, but may prioritize roads with low-stress bicycling facilities when riding with children. Furthermore, given the needs of practitioners to plan for all modes, it is important to understand how motorists’ comfort levels for sharing the road with bicyclists change depending on roadway design. However, few studies have examined drivers’ design preferences.

This research strengthens our knowledge about drivers’ roadway design preferences and contributes to a nuanced understanding of bicyclists’ design preferences, providing particular insight into how they differ when bicycling by oneself versus children.

This study’s sample was mostly White/Caucasian, so care should be taken when extending these conclusions to other races and ethnicities. Also, with all survey research, some bias because people are more likely to respond when interested in a subject. In addition, the seven roadway designs did not represent the universe of designs available; in addition, the seven roadway designs did not represent the universe of designs available; some respondents may have preferred other designs more or less than the ones discussed in this survey. Finally, it cannot be guaranteed that all respondents held the same definition of “comfort” or “limit” when answering the survey questions.

Conclusion

These findings corroborate past research, clarify the impact of bicycling with children on roadway design preferences, and suggest that perceived safety as a barrier to bicycling can be addressed through infrastructure. In particular:

- The findings show an overwhelming preference for more bicycle accommodations, and particularly for more separated facilities.
- Most respondents felt considerably more comfortable and were more willing to try bicycling on a roadway with any bike facility or one with no facility. This comfort was most associated with physical separation from cars.
- The strong preference for greater separation was consistent between bicyclists and drivers, and was most pronounced (p<0.001) when considering bicycling with children.
- Preferences for separation were strongly associated with perceived facility barrier for all age groups, but particularly for non-sporadic cyclists.

Future research examining how bicycling comfort changes after separated facilities have been installed and used will help clarify their impact on the willingness to bicycle and their potential to help address perceived safety as a barrier to bicycling.