Reviewer's report

Title: Exploring bikeability in a metropolitan setting: stimulating and hindering factors in commuting route environments

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Reviewer: Susan Handy

Reviewer's report:

This paper focuses on the important question of the quality of bicycling routes. This work succeeds in matching the relevant environment to the relevant behavior, where many studies on the built environment and physical activity fail. It uses an original approach to examine the association between perceived aspects of the bicycling environment and subjective assessments of the degree to which the route hinders or stimulates bicycling. This will be an important contribution to the literature, particularly as a starting point for future studies.

Discretionary revisions

The results could be used to develop a bikeability measurement tool for use in planning practice, in which planners objectively assess the different components of bikeability identified in this study and then combine them using weights based on the coefficients of this model to come up with a composite score. The potentially fatal flaw in this plan is the important role of the “ugly or beautiful” variable, which is hard to assess in an objective way. Also, as the authors discuss at the end of the paper, exploration of the relationship between objective and perceived measures of these environmental characteristics is needed.

With respect to sampling, the researchers face something of a Catch-22, as we say in the U.S. The ratings of hindering-stimulating in their sample of bicycle commuters is likely to differ from the more hindering and less stimulating ratings that non-cyclists would likely give. But it is hard to get such ratings from non-cyclists, as they are not familiar enough with the possibility cycling routes to work to give such ratings. I’m not sure how to get around this (e.g. send non-cyclists out on test rides?). Perhaps it doesn’t matter, if the hindering-stimulating scale is interpreted as a worse-better environment scale rather than to determine the “good enough” threshold, as the “hindering-stimulating” terminology implies. It is this threshold, rather than the ordering of the different routes as to bikeability, that is likely to differ between cyclists and non-cyclists.

Not that I want to encourage the authors to lengthen their paper! It is rather long, and while I appreciate the careful and detailed discussion, it does feel wordy in places.

Finally, the authors should check for recent papers out of the University of British Columbia (some of which they do cite) and Portland State University that also
focus on bicycle routes and include some assessment of the quality of the environment along the route. I’m sure the methodologies are very different, but they probably should be noted in the paper and the similarities and differences explained. See first paragraph of Discussion section.

Essential Revisions: none.

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interests.