Reviewer's report

Title: Influence of geocoding quality on environmental exposure assessment of children living near high traffic roads

Version: 2 Date: 19 January 2007

Reviewer: Dave Stinchcomb

Reviewer's report:

General
* I agree it is a much stronger paper. Thanks for the updates!

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)
1. p. 3 typo: "started to received some attention" -> "started to receive some attention".
2. p. 4 typo: "ontaking" -> "on taking"

Discretionary Revisions (which the author can choose to ignore)
3. p. 10 "valid ZIP 5 code" -> "valid 5-digit ZIP code"
4. pp 14-15 discussion of figure 4, there are a couple of sentences that seem unnecessary, consider deleting: "Logically, the number of children increases with increasing distance. However, there is a substantial difference between the results for the two geocoding techniques."
5. p. 15 More possibly unnecessary text - consider deleting (a consequence of a cumulative graph): "As already demonstrated in Figure 4, for larger distances the total number of children residing within that distance increases. The prevalence i.e. the percentage of parcel geocoded children residing within the buffer zone as a % of all children within the study area) increases from 0.37% for a buffer radius of 50 meters to 51.97% for a buffer radius of 1,000 meters.".
6. p. 15: consider adding "particularly at short distances" to the end of "The results in Table 2 confirm a very strong bias towards an overestimation of the number of children at risk when using street geocoding."
7. p. 22: consider changing "While the study area includes both urban and rural areas, differences across these gradients ..." -> "While the study area includes both urban and rural areas, it is predominantly urban and differences across these gradients ..."
8. p. 22 Another limitation that might be worth mentioning: commercial street file vendors are actively updating address ranges to reduce problems like 5c and this is being done regionally (e.g. one has initially focused on updates like this in NY state). So street geocoding with these street files in these areas might not see the same type of biases. (You could simplify and generalize this a bit.)
9. p. 23 Author's contribution sentence is missing a period (and, I suspect, you could add something about PAZ writing and revising the text).
10. p. 32 Figure 1 legend: "Location of Orange County, Florida." -> "Study Area Location: Orange County, Florida."
11. Figure 1 - map of study area: Could be smaller and rotated so it isn't sideways, would be nice if you could add the major cities, could use a less-detailed boundary file.
12. Figures 3&4 maybe could be smaller and rotated so they aren't sideways without losing too much.

What next?: Accept after discretionary revisions

Level of interest: An article whose findings are important to those with closely related research interests

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