Reviewer's report

Title: Road proximity, air pollution, noise, green space and neurologic disease incidence: A population-based cohort study

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Reviewer: Beate Ritz

Reviewer's report:

The authors answered appropriately to many of my comments except for the following:

- Concerning associations between air pollutants and MS, they state in line 263 that these were "generally null with wide confidence intervals" when the table 3 shows the largest of all estimates for MS and PM2.5 estimates between 1.25 and 1.45 and a number of 95% CIs for estimates are excluding the null. If the authors believe that these were random findings they should explain why they came to this conclusion for these estimates and not others. On the other hand, they claim there are positive associations for non-AD dementia when in table 3 not one of the estimates is far from the null and all CIs include the null. This is quite puzzling in terms of interpretation of results for the air pollutant measures. It seems that the authors were mostly basing their conclusions on road proximity instead of air pollution measures, since those seem more in line with their interpretations. If that is the case this needs some explanation to why they prefer the road proximity measures over the air pollution measures. For example they say in line 255/56: "Air pollutants, except for NO, were generally associated with slightly increased hazard ratios (HR) for both NAD and PD (e.g. HR for NAD = 1.02, 95% CI: 0.98-1.06 per IQR increase in NO2) - in table 3 with adjustment for greenness it become 1.08 (1.01-1.15)" and in line 262/263 they state "Associations between air pollutants, AD and MS were generally null with wide confidence intervals." But in table 3 the HR for MS is 1.25 (0.93, 1.70) and with adjustment for greenness it is 1.43 (1.04, 1.97). What really is it that makes the authors conclude that there is an association for non-AD dementia and none for MS? One could interpret this to the contrary unless they want to say there is NO association for either.

- Also, it is unclear why the authors emphasize the positive results in males with PD for road proximity but do NOT mention that for the air pollutant NO2 it is females who seem more strongly affected. How do the authors reconcile these opposing results for men and women? See tables Appendix 2. One could argue that none of these results are really showing gender differences since all CIs are generally overlapping.

I recommend to limit the percentages in tables 1 and 2 to only one digit past the comma for legibility

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