Reviewer's report

**Title:** Respiratory symptoms in children living near busy roads and their relationship to car and truck traffic: Results of an Italian multicenter study (SIDRIA 2)

**Version:** 2  **Date:** 16 April 2008

**Reviewer:** Bert Brunekreef

**Reviewer's report:**

Comments on Berti Manuscript

This paper addresses associations between respiratory symptoms in children and self reported traffic density on street of residence. The authors find significant associations especially with wheeze and cough combined and truck traffic densities.

Comments:

This is in most ways a repeat study of the Ciccone OEM paper published in 1998. What this study adds is more specificity on cars and trucks. The main issue with questionnaire based studies like this is the potential for response bias. The recent papers by Kuehni and Piro – which the authors show themselves to be keenly aware of – make clear that this is a very real concern. The authors now restrict themselves to reporting some associations between self reported traffic densities and objective traffic counts and/or pollution measurements, but that is not enough. The question is whether traffic densities are differently reported by parents of kids with and without symptoms. The authors should do an analysis similar to the one performed by Kuehni, who identified cases and controls living in the same street (post code area) and then showed that parents of case children systematically reported higher traffic densities for the same streets. From their discussion in the 3d to last paragraph it seems that the authors should have the data to do so.

What’s missing is a basic cross tabulation of frequencies of car and truck traffic densities for the whole population.

Another issue is the use of complex endpoints (‘current asthma symptoms’ and ‘persistent cough or phlegm’). It would be good in addition to have one table showing the associations with the key individual ISAAC symptom variables, if only for comparison with the literature.

The authors chose not to use the self-completed questionnaire from the 13-14 yr olds. That seems odd, because it would add strength to the findings if they were able to show that similar associations are observed when exposure and symptoms are reported by the adolescents themselves rather than by their parents. I strongly recommend to add an analysis of these data to the paper.
Again for reasons of comparability with the literature, it would help if the authors provided the exact wording of the questions on traffic density that they used.

It is unclear why effect modification was only studied for the truck associations, not the car associations.

Paragraph 4 of the discussion can be deleted, it is too unspecific to be of use here.

The point in para 5 of the discussion about diesel cars is well taken. No doubt the authors can have access to data on percentage of diesel cars in Italy that they can quote to support their assertions.

Were the effect modifications shown in figure 1 significant?

**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:**

no c.i.