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Comment

Interactive comment on "Development of a high temporal-spatial resolution vehicle emission inventory based on NRT traffic data and its impact on air pollution in Beijing – Part 1: Development and evaluation of vehicle emission inventory" *by* B. Y. Jing et al.

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1. According to the authors, the Underwood model was used because of the best fitting effect among the Greenshields, Greenberg, and Underwood models. However, the authors haven't provided any comparison method and result.

Response: Thanks for your comment. Considering the structure and length of the article, we had simply described the comparison method and results in this paper. The

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detailed comparison method and results is as follows: Based on the traffic volume observed by the video identification data and traffic speed collected by floating car data, Greenshields, Greenberg, and Underwood models has been fitted respectively for three road types. And the above traffic speed data on 40 roads and in all periods were not zero. The goodness of fit (R2) of Underwood model in the three speed-flow models was the best, as shown in STable 1-3. Therefore, Underwood model has been used to estimate traffic volume from traffic speed on every road segment in Beijing, and the parameters of Underwood model in different road types was different.

Change in manuscript: 'The Underwood model was used because of the best fitting effect among the Greenshields, Greenberg and Underwood models.' change to 'In this study, Greenshields, Greenberg, and Underwood models was fitted respectively for three road types. The Underwood model was used because of the best goodness of fit (R2) among the Greenshields, Greenberg and Underwood models.'

2. I am wondering if the NOx emission rates showed in Fig 6 are for specific road types in Beijing (one specific freeway, one specific artery road, and one specific local road)? or they are average of NOx data on all the freeways, artery roads, and local roads in Beijing?

Response: In Fig 6, the data showed the average of NOx emission rates on freeways, artery roads and local roads in Beijing.

Please also note the supplement to this comment:
http://www.atmos-chem-phys-discuss.net/15/C11423/2016/acpd-15-C11423-2016-supplement.pdf

Interactive comment on Atmos. Chem. Phys. Discuss., 15, 26711, 2015.