

## ***Interactive comment on “An updated emission inventory of vehicular VOCs/IVOCs in China” by Huan Liu et al.***

### **Anonymous Referee #2**

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#### General Comments:

This work developed an updated speciated emission inventory of VOCs and IVOCs from vehicles in China for the year of 2015 based on a set of state-of-the-art methodologies and a mass of local measurement data. The strength of this inventory is that massive GPS records and questionnaire analysis are collected to better characterize the activity level. In addition, in terms of the method, this work improved the emission estimation by including evaporative emission calculation and applying road emission intensity based approach. This well-written and well-structured paper is potentially important and will be valuable in the future for modelling the formation of fine particles and ozone pollution in China. There are a few comments that need to be addressed to improve the paper and make it more accessible to the wide audience of users of the

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information presented.

#### Specific Comments:

In the first place, the information need to be made available, for example through the journal with a doi, or through the website of the author's institute.

A second recommendation is that speciated emission inventory of VOCs and IVOCs based on prevailing lumped chemical mechanisms like CB05 and SAPRC are suggested to be provided since that this emission database will be mainly used in chemical transport models.

There still large uncertainty lies in activity level, emission factor and the estimation method itself. Another recommendation is that uncertainty analysis ought to be conducted and more quantitative results should be provided in Section 3.3.

#### Technical Corrections:

Section 3.2.2-3.2.4 are too short to be an individual section. I personally think that this part of discussion is not necessarily to be divided into three sections.

Supporting Information, Table S4: Some abbreviations of vehicle types (LDGTAs, LD-DTAs) ought to be specified.

Some in-text citations are missing in the reference list, e.g., MOVES, 2010; ICCT, 2012.

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