

## ***Interactive comment on “Air quality in Delhi during the Commonwealth Games” by P. Marrapu et al.***

### **Anonymous Referee #1**

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This work carefully investigated the facts of regional air pollution in Delhi and suggested the way to manage the mega city air pollution. The assessment of model performance with recent emission data and the analysis to identify the main factors contributing the air quality seemed to be scientifically reasonable. This study is worth publishing after some more analysis and modifications.

P10034: The author mentioned that “Under the reduced NO<sub>x</sub> emission case the ozone distribution is much closer to that observed”. But throughout this manuscript, there were no analytic evidence of the modeling improvement with the correction. At least one case of the correction result should be provided since the readers may wonder how the model results got closer to the observation (at least in the main text).

Section 3.3: I wonder if the method of the sector contribution is generally reasonable. This work may assumed that the amount of emissions generally have linear relationship

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with the pollutant concentrations. However, some cases of the photochemical reactions are not (e.g., OH<sub>x</sub>, NO<sub>x</sub> feedback). The author should explain or provide the evidence of the fact that the linear assumption is applicable for this case.

Some of the legends in the figures are too small to read. It must be larger for readers (i.e., Figure 9, Figure 10., Figure 12)

Throughout the manuscript, some number of table/figure are not consistent with the order of paragraphs in the text. The numbers are better to be consistent with the contextual flow.

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