

Interactive comment on “Sources and composition of urban aerosol particles” by M. Vogt et al.

Anonymous Referee #2

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This paper presents the aerosol measurements at two urban locations and one street canyon. The aerosol measurements consisted of BC, PM₁, chemical analysis, particle number size distributions and volatility (diameter 250 nm – 1 μm), and particle and CO₂ fluxes. They also accessed traffic and met data. Their analysis also contained emission factors based on the upscaling of NO_x.

The paper does address relevant scientific questions within the scope of ACP. The description of the experiments and calculations are sufficiently complete only with the help of previous studies published by some of the authors. However, the novel part in the investigation is not yet pointed out!

Further careful reading of this paper revealed the following weakness:

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1. The title is too general for the findings presented in this investigation. The reasons are: (1) the term urban is too general because they focused on traffic related emissions, (2) they did not have measurements for ultrafine particles, which is a very important part of the urban-traffic-related emissions, (3) they used a very limited part of their long data-set (spanning over 10 months), and (4) the analysis can be improved to include other sources from other wind sectors to give more support for their findings relating the emissions to traffic activity.

2. While the authors credited their own related work clearly, they have not provided enough credit to other work outside their group. At the same time, they did not clearly indicate their own new/original finding and how it is different than their previous work. They could consider comparing their findings extensively with previous studies outside their group and also within their group.

3. The overall presentation is structured concisely, but needs slight modification to improve it. For example:

- A table is needed to list the instrumentation at each site, the measured parameter, the time period, etc.

- Section 3.1 is a part of the methods because it shows comparison between instruments and it is not a result.

- Section 3.4 presents mixed topics between PM, emissions factors, etc. Those topics can be better presented and discussed separately.

4. The language is not fluent and not precise. They use long sentences with interruptions between the verb and object and the subject.

5. There is a problem in terminology. For example, they referred to the “particle number size distributions” as the “particle number concentration” or “concentration size distribution” – see Figure 4 and related text as well.

The authors are encouraged to address the above mentioned comments before sub-

mitting a revised version. Most importantly, they have to provide more analysis and use their data set extensively.

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