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Atmospheric Chemistry and Physics Discussions

Interactive comment on "Size and time-resolved roadside enrichment of atmospheric particulate pollutants" *by* F. Amato et al.

Anonymous Referee #2

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In this paper, roadside enrichments for several PM10 pollutants in Barcelona were studied. The authors classified the pollutants and determined whether they are related to traffic emissions. Data of high time resolution were analysed to obtain more detailed information on the individual sources of the pollutants. F. Amato et al. accomplished an extensive study, and the manuscript is generally well written and worthy of publication in ACP. Prior to publication I recommend minor changes to improve the readability.

1) Section 2 Methods is well written and informative in general, however the readability could be improved by avoiding the repetitions of information, e.g. the number of vehicles per day (p. 458 line 6 and 17, line 12 and 17).

2) p.458 line 15f: a specification of the distance to the nearest crossing would be useful.

3) Section 3.1 Roadside impacts: The authors describe clearly the criteria for the classification of the PM components into Group I and Group II, however the criteria for Group III becomes not clear until towards the end of section 3.2, page 464f. In section 3.1 due to the description of NO3-, V and Ni, these pollutants fulfil the criteria for Group I (regression line above 1:1 line) and it is hence not clear why these are considered as exceptions at that time.

Interactive comment on Atmos. Chem. Phys. Discuss., 11, 453, 2011.