

Normalised particle number traffic emission factors

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Unit of emission factor

- ◆ Particles per km driven
- ◆ Particles per kg fuel
- ◆ Particles per mole NO_x

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Emission factor measurements

- ◆ Nitrogen oxides
- ◆ Size distributions of particles

No need for:

- ◆ Traffic counts
- ◆ Meteorology
- ◆ Modelling
- ◆ Background measurement station

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Emission factor definition

$$E.F. = \frac{UFP_{\text{emitted}}}{NOx_{\text{emitted}}}$$

[emitted]=[high traffic]-[background]

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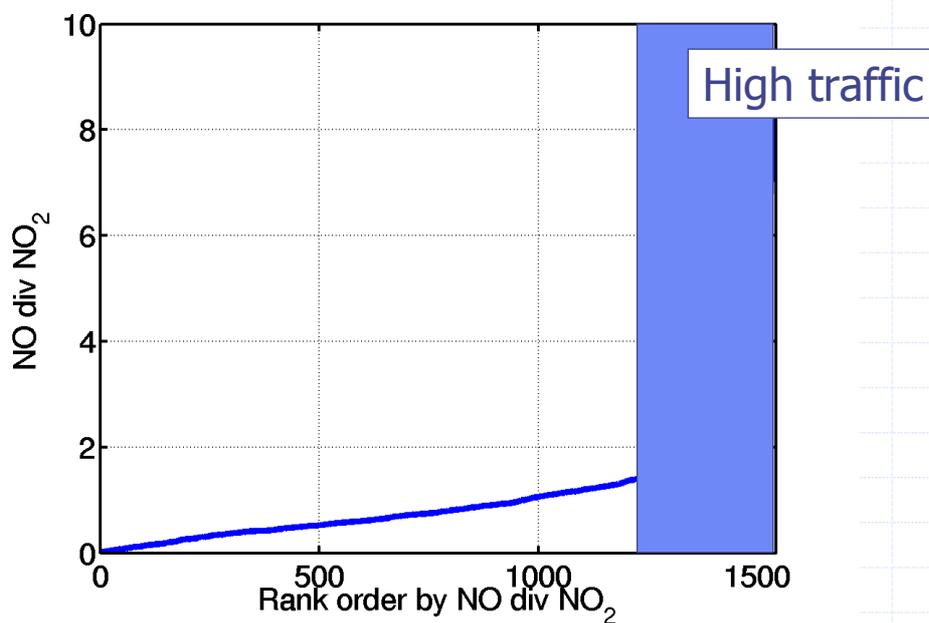
Find high traffic exposure

Particles correlate with NO_x, not traffic, due to meteorology.

- ◆ NO_x
- ◆ NO₂
- ◆ NO
- ◆ NO/NO₂

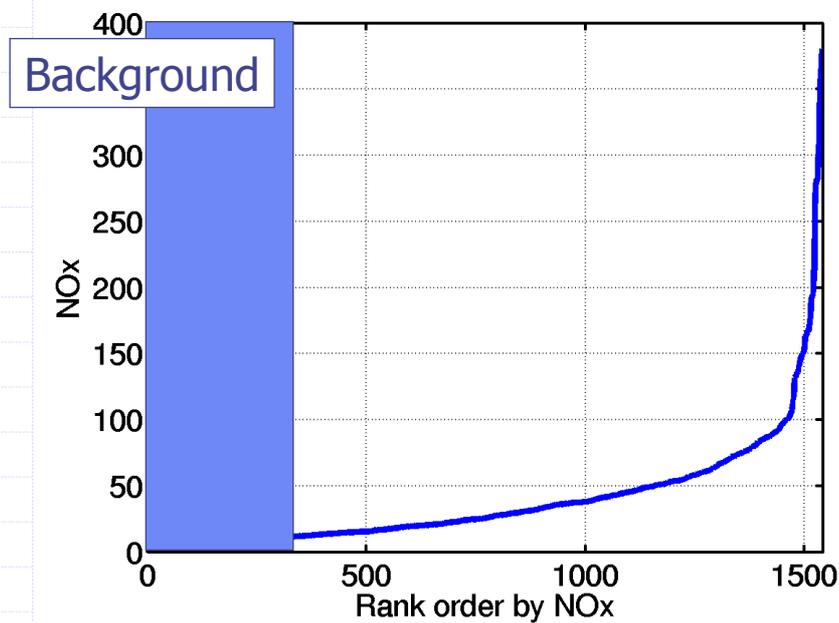
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Finding high traffic conditions



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Finding background conditions



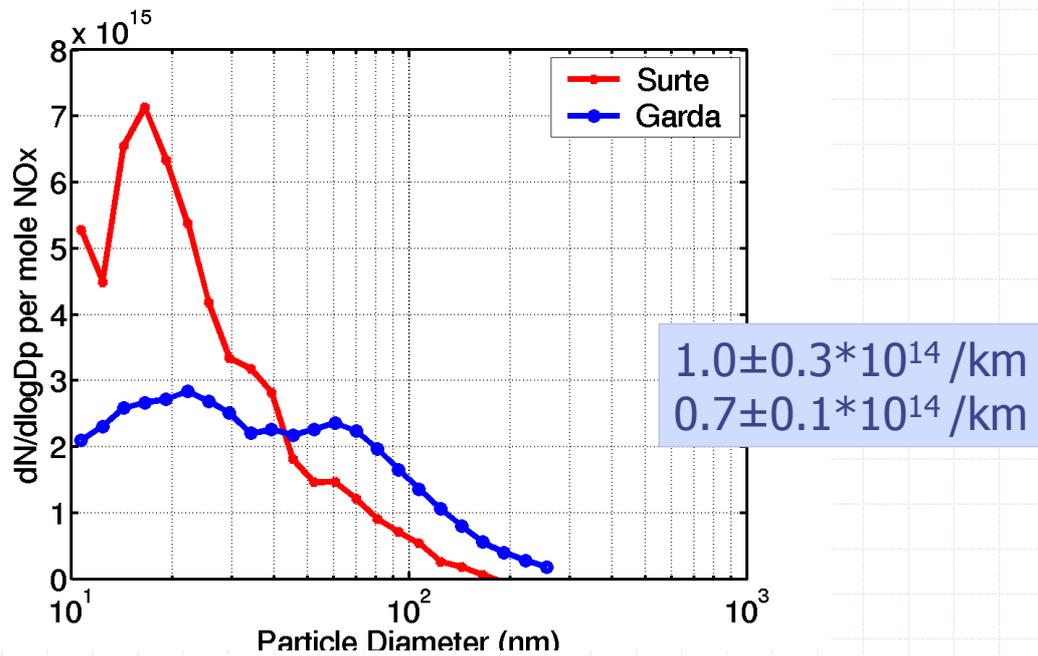
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Emission factor equation

$$E.F. = \frac{UFP_{\text{traffic}} - UFP_{\text{background}}}{NOx_{\text{traffic}} - NOx_{\text{background}}}$$

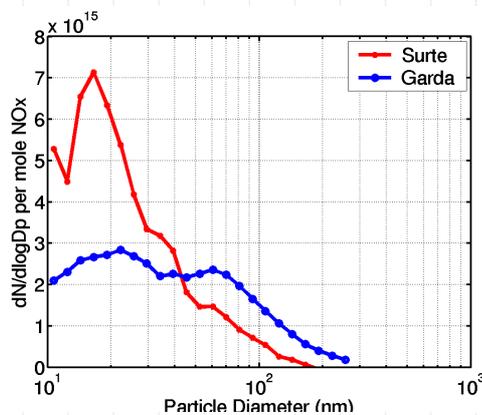
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Emission factor at road side



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Thank you for your attention!



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