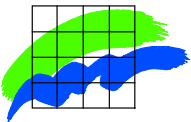


# The PM PROBLEM

What are the sources of PM<sub>10</sub> and PM<sub>2.5</sub> pollution in streets?

How to model the different contributions?

- exhaust emissions
- non-exhaust emissions



## Calculation of emission factors of PM<sub>10</sub> and PM<sub>2.5</sub> using WinOSPM and measurements from the permanent monitoring stations in Copenhagen

Emission factors are calculated using the so-called “inverse method”. The Operational Street Pollution Model (OSPM) is used to calculate the dilution function  $C_{st}$ . The street contribution (street level concentration – urban background) can so be expressed by

$$C = Q * C_{st}$$

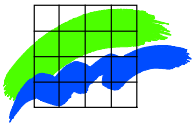
From this equation the emission from the street traffic can thus be calculated as

$$Q = C / C_{st}$$

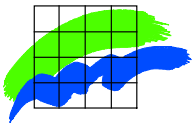
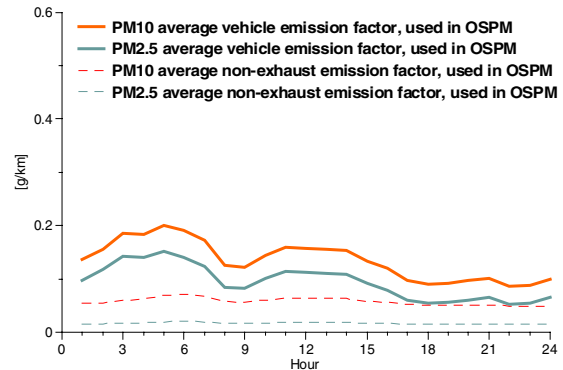
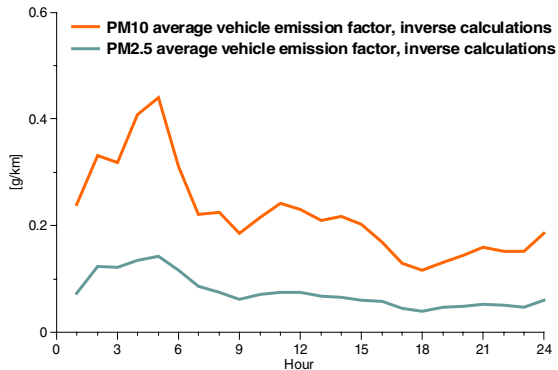
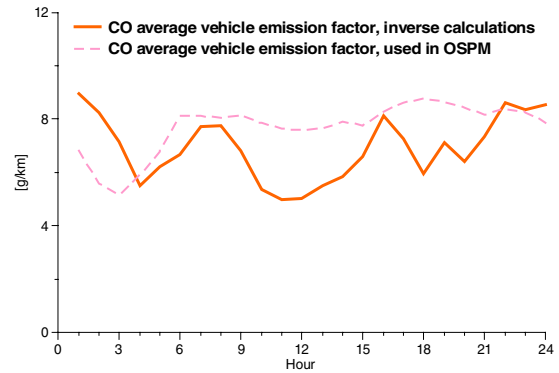
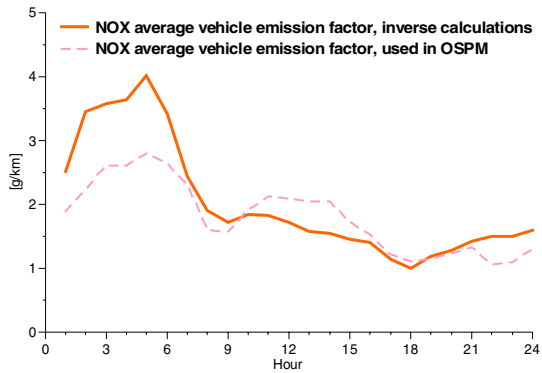
This provides the total emissions from the traffic in the street. Consequently the average emission factors (g/km) can be calculated for each hour as:

$$\text{EmiFact} = Q / \text{Traffic}$$

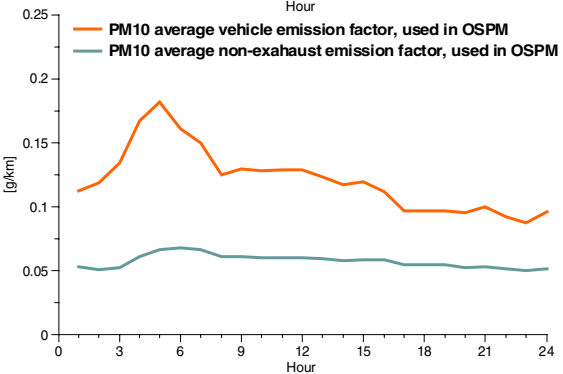
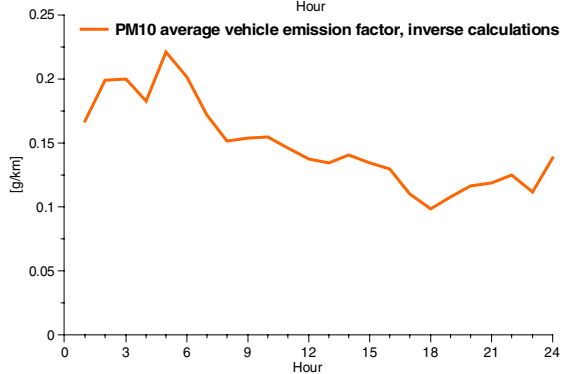
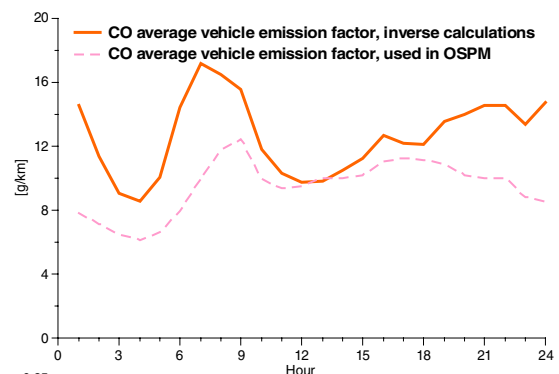
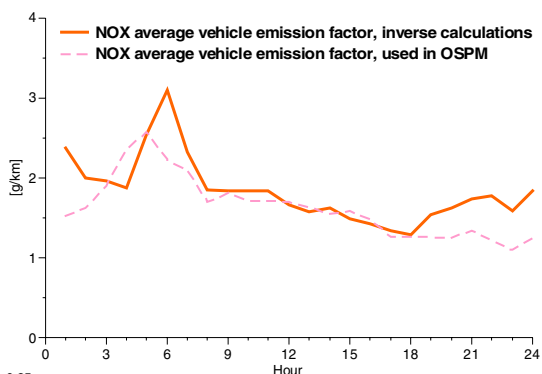
Emission factors for PM<sub>10</sub> and PM<sub>2.5</sub> calculated by this method can be compared with the theoretical emission factors estimated taking into account the exhaust and non-exhaust contributions from the traffic.

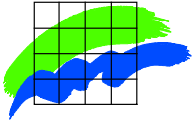


## H.C. A. Boulevard, Copenhagen



## Jagtvej, Copenhagen





# Hornsgatan, Stockholm

