FAIRMODE CT5 AQ management practices

Key challenges in Stockholm

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Exceedandes and measures in Stockholm

- Local emissions from road traffic is the major source of exceedances
  - Non-exhaust PM10 (road dust)
  - NO_x/NO_2 exhaust
- Hard measures implemented
  - Congestion charges for the inner city (2007)
  - LEZ heavy-duty vehicles for the inner city (1996)
  - LEZ light-duty vehicles on 1 inner-city street (2020)
  - Ban of studded tyres on 3 inner-city streets (2010)
  - Reduced signed speed on some motorways during the spring winter
  - Intense cleaning/sweeping of inner-city streets during
  - Application of dust binding agents on paved streets
  - No sanding of roads, only salting
- Soft measures implemented
  - New metro lines
  - Expansion of the bike lane network
  - Reducing parking spaces
  - New infrastructure for electrical vehicles, i.e. charging stations
  - .. with more

How do we translate abatement measures into emission changes and further into concentration changes?

Key challenges: Evaluation measures/Modelling AQ plans

Traffic emissions of NO_x/NO_2

- Convert emission reduction of NO_x to concentrations of NO_2
- How do reduced traffic volume affect queuing and traffic rhythm?

Traffic emissions of non-exhaust PM10

- Evaluate the importance of street cleaning
- How to optimize the application of dust binding agents on the roadway, e.g. which period of the year? How many days a week? What time of day? What type of salt to use (CMA, $MgCl_2$)?
- Evaluate relationship between speed and non-exhaust PM emissions
- Evaluate relationship between the share of vehicles with studded winter tyres and non-exhaust PM emissions

Applies to all measures

- How to predict compliance? For example, how many will break the rules in LEZ? Or drive faster than environmental based speed regulations? Are there methods to increase compliance?
- How do reductions in emissions and concentrations affect residents' health?


Stockholms stad
Thank you!
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