

Towards an Expert Panel on Clean Cities

Rob Maas @ TFIAM – 8 May 2018

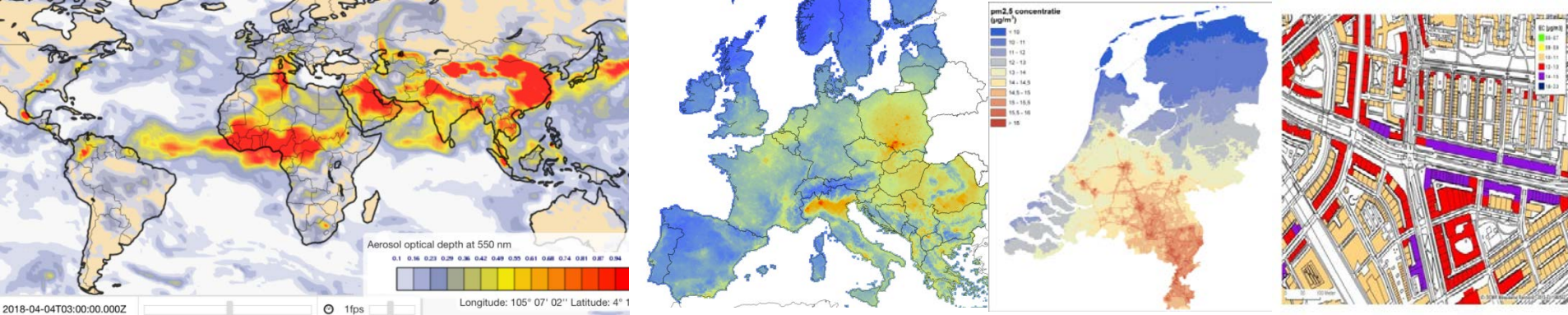
Recommended by the Saltsjöbaden-6 meeting, 19-21 March 2018

Several initiatives

- FAIRMODE
- Urban Partnership on Air Quality
- Eurocities
- HEAL
- Urbact
- Covenant of Mayors, ... C40, IPCC, WMO

*Current focus of air assessments is on reducing the number of exceedances of AQLVs at '**hotspots**'*

*For **health** impact assessments trends in **average** exposure of the urban population are more relevant*



For reducing population exposure actions are needed at all levels

Transboundary

1. Agreement on national reduction obligations & *real life* ELVs for cars, etc.
2. Increase energy saving, wind, solar, hydro power
3. Emission standards wood burning, existing ships, low-emission manure application

National

1. Enforcement of ELVs: Euro-6 standards, IED, Agri, etc
2. Early scrapping/retrofitting old vehicles, ships, installations
3. Green taxes, green infrastructure

Cities

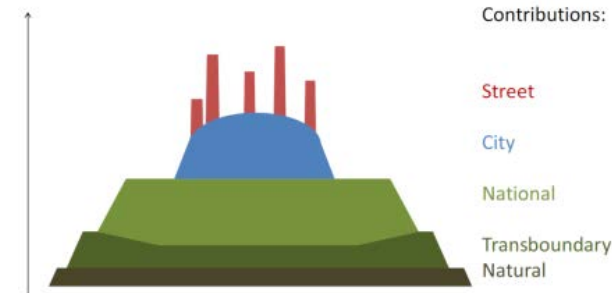
1. Low emission zones, speed limits, zero-emission vehicles
2. Limit use of domestic wood burning, natural gas
3. Stimulate walking/cycling – healthy city design

Typical health impacts of local measures

local share in NO₂-exposure is substantial

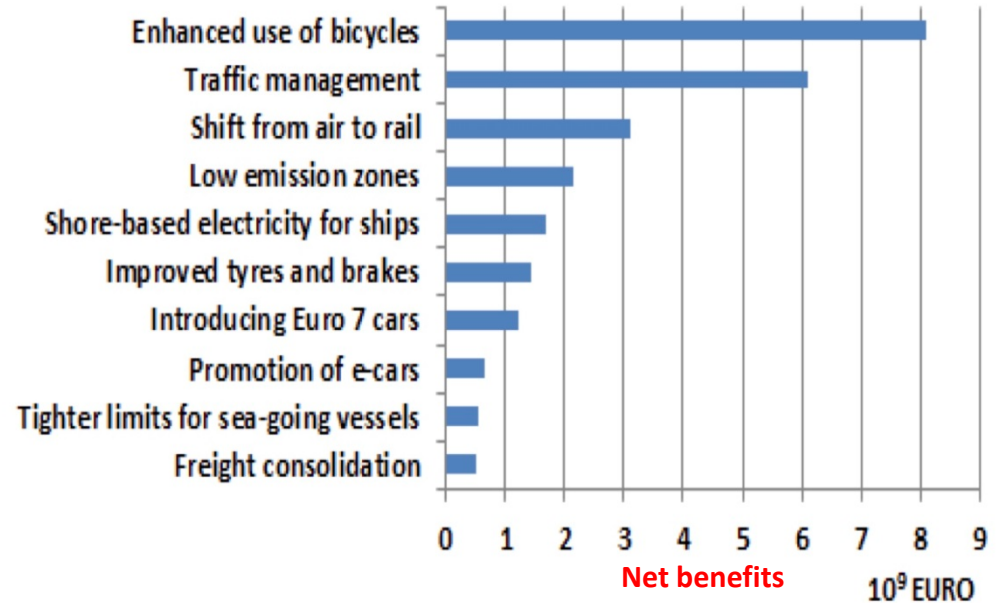
local share in PM_{2.5} exposure is small

- | | |
|---|------|
| 1. Less car traffic – more walking & cycling | +++ |
| 2. Electric vehicles, electric busses & LDVs/HDVs | ++ |
| 3. Low emission zones (...diesel ban?) | + |
| 4. Speed limits | + |
| 5. Traffic circulation plans, Trees | +/- |
| 6. Adaptation (photocatalytic paint, episode warning) | 0 |
| 7. Ammonia reduction at regional level | +++ |
| 8. Other sources in the region (industry, transport) | ++ |
| 9. Other local sources (shipping, domestic heating) | ++/+ |



Which local measures are effective ?

NAME	JOAQUIN SCORE
Low Emmission Zone (LEZ)	Good
Traffic Restriction	Good
Traffic Signal Coordination	Good
Public Transport	Good
Electric Vehicles (EV)	Good
Congestion Charge Scheme (CCS)	Good
Carpooling	Good
Car Sharing	Good
Active Transport	Good
Speed Limit Reduction	Good
Fuel Taxation	Good
Noise Barriers	Good
Fleet Renewal	Moderate
Parking Management	Moderate
Urban Planning	Moderate
Urban Parks	Moderate
Traffic Reallocation	Moderate
Green Barriers	Moderate
Engine Idling Reduction	Moderate
Street Cleaning	Moderate
Street Vegetation	Low
Air Purifying Building Materials	Low



Example: how to improve local health?

UTRECHT 2015	Burden of disease	Contribution local sources	Local contribution burden of disease
PM2.5	44,0%	12%	5%
NO ₂	24,3%	50%	12%
EC	5,0%	50%	3%
Ozone	0,5%	0%	0%
Traffic safety	7,8%	80%	6%
Noise	5,4%	50%	3%
UV	4,7%	0%	0%
Indoor air	8,2%	100%	8%
Total	100,0%		37%

Reduced burden of disease in Utrecht in selected policy scenarios (in DALY)

	Car free	50% less cars	Speed limits	100% EV	LEZ
PM2.5	400	200	100	200	100
NO ₂	1000	500	200	1000	200
EC	200	100	50	200	100
Traffic safety	500	250	250		
Noise	200	100	20	50	
Total Utrecht	2300	1150	620	1450	400
reduction in %	29%	14%	7%	18%	5%

To conclude

- Cities have a limited influence on local exposure ... national and international action are still needed, *but what are the most cost-effective strategies? ... We need to exchange information*
- Effective measures require that air policy measures (and funding) are embedded in spatial planning, energy policy and agricultural policy, *how to include health benefits of active mobility and green routes? ... local information needed*
- *How to best exchange local, national and international knowledge? Who to involve? Who is funding?*

To start: *28/29 June - FAIRMODE/TFIAM workshop on assessment of health impacts of local air quality measures in **Talinn***