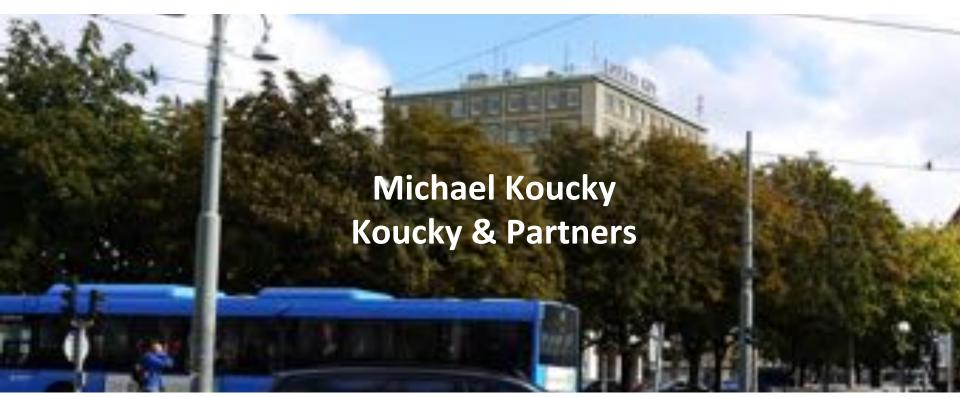
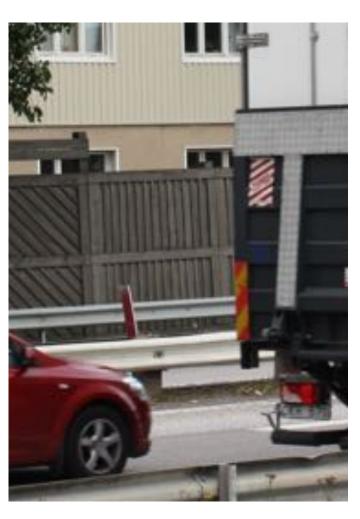
Quiet city buses – benefits and procurement possibilities





Noise – a growing problem



- The cost of noise
- Negative health
- Reduces liveability
- Major obstacle in densification
- Property value
- Limits public transport expansion



Electric buses – part of the solution



- Remarkably lower noise levels
- Even beyond measurement protocol – e.g. idle





Socioeconomic benefits of quiter buses



















EU-regulations

- Insufficient
- Drive by test, 50 km/h; does not reflect a variety of driving conditions in cities
- Slow progress





Procurement - an important tool



- Driving development
- Making noise performance count
- Today noise is often a neglected topic in public procurement

Image: FreeDigitalPhoto.net



Procurement – possibilities today

- Sharper limits for drive by test blunt
- Tyres
- Educate drivers in silent driving
- Very limited possibilities to demand real life noise reductions through procurement





Future possibilities

- Measure several cases of driving
- Coordination between cities
 - split the cost
 - increase the demand
- Raise the status of noise performance



Conclusions

- Large socio-economic benefits through more silent busses – up to 1/3 of operational costs
- Low-noise emissions should be rewarded in procurements
- Today difficult to benefit low-noise buses in procurements
- Own measurements needed, coordination between cities is essential
- The city is the winner!





Notes MK

- Other possibilities environmental zones,
 SULEV-zones, entry-restrictions
- Economic incentives for quiet busses are motivated in dense urban areas
- Benefits electrification, but puts also pressure on the development of more quiet ICE-busses