

**A COMBINED APPROACH FOR TRAFFIC RELATED NOISE AND AIR QUALITY:
IMPROVING THE ENVIRONMENT OF CITIES IN THE NETHERLANDS**

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EU guidelines and national laws set operative limits to both air quality and noise in urban areas. These limits are frequently exceeded in the urban agglomeration formed by the cities Amsterdam, Rotterdam, the Hague and Utrecht in the Netherlands (called 'the Randstad'). Conformance to these guidelines forces local authorities to create action plans that tackle the bottlenecks which result from the very dense network of roads in this region. Such plans require modeling of the air quality in order to calculate future scenarios. In our experience, local authorities are sometimes reluctant to do so because of the discrepancies that are often encountered between measured and modeled air quality. However, in our opinion, this drawback is outweighed by a substantial advantage of modeling: by taking both noise and air quality aspects into account during the preliminary stages of urban planning, one can achieve a more optimal spatial planning. The result is a more sustainable urban development because the limited space can be used more efficiently and people can live a more healthy and pleasant life. In this article, we present a number of cases where such a combined modeling approach has been applied. For one of these projects, we developed a tailor-made model for a bus station in the center of a city. We discuss the bottlenecks encountered and show how the combined modeling of the acoustical situation and air quality helped in finding a better location for the station, resulting in less nuisances to the community.