

Road traffic noise exposure scenarios 2015 - 2035 for Gothenburg, Sweden

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ABSTRACT

Exposure to high levels of road traffic noise at the most exposed building facade is increasing, both due to urbanization and due to overall traffic increase. This study investigated how different noise reduction measures would influence the noise exposure on a city-wide scale in Gothenburg, a city in Sweden with approximately 550 000 inhabitants. The scenarios include business as usual, traffic flow reductions, increased proportion of electrically powered vehicles, introduction of low noise pavements and tires. The noise exposure was estimated for the period 2015-2035 using the standardized Nordic noise prediction method together with traffic flow measurements and population statistics. In the business as usual scenario the number of inhabitants exposed above 55 dB equivalent level increases by 23% from 2015 to 2035. The best reduction was achieved with the low noise tires scenario, where the number of exposed instead decreased by 23%.