

# Strimmers are worse than motorway traffic

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Motorway maintenance workers are exposed to various harmful emissions. Surprisingly, motorised hand-held tools such as strimmers and chainsaws, rather than motorway traffic, are responsible for the highest emissions of particulate matter. These are the conclusions of a study supported by the Swiss National Science Foundation (SNSF).

The study was conducted between May 2010 and February 2012 by researchers working with Michael Riediker at the Institute for Work and Health in Lausanne. They accompanied 18 maintenance workers on 50 working days during tasks such as clearing snow, mending crash barriers, cleaning drains, cutting wood or mowing grass on the motorway central reservation. They measured the levels of [air pollution](#), particulates and noise to which workers were exposed during each activity. The result: compared to the average population, maintenance workers are exposed to between three and eight times higher particulate levels. In addition, noise levels often exceed the critical level of 85 decibels.

## "Real belchers"

Surprisingly, motorway traffic is not the main source of noise and pollutants. More than 50 percent of airborne particulates are emitted by strimmers and chainsaws. "The small [combustion engines](#) which the workers carry on their backs use petrol with oil additives. This makes them real belchers," says Reto Meier, the lead author of the study. The quickest way to reduce particulate levels, therefore, is to improve the engines in these machines. This is primarily a challenge for the manufacturers, but Meier adds that employers can also play a role by

considering [emission levels](#) when purchasing equipment.

## Hearing protection

Maintenance workers are exposed to the highest noise levels when using pneumatic drills. But the use of trimmers or chainsaws and the traffic during maintenance work in tunnels also give rise to [noise levels](#) of 90 decibels or more. Researchers noticed that workers wear hearing protection reliably when they are the cause of the noise, but often fail to do so when the noise is caused by their colleagues or by the traffic. "To prevent damage to the ears, protection should be worn whenever possible," says Meier.

**More information:** Meier, R. et al. (2013). Exposure of highway maintenance workers to fine particulate matter and noise. *Annals of Occupational Hygiene* [doi:10.1093/annhyg/met018](https://doi.org/10.1093/annhyg/met018)

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