Odd-even falters on road pollution

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A traffic guard wears a mask in Delhi. (PTI)

New Delhi: The odd-even rule imposed on private vehicles by the Delhi government last year to curb air pollution did not reduce primary traffic emissions, a study by government scientists and the Union earth sciences ministry has revealed.

The scientists who conducted the study say their findings suggest that altered travel timings by people and the emissions of vehicles that plied during the odd-even periods might have undone the effects of reduced numbers of private cars.

The study is the first to measure how 13 gases released by vehicle tailpipes changed during the first implementation of the odd-even rule during January 2016 that allowed odd numbered vehicles to ply only on odd days and even numbered vehicles on even days.

The Delhi government and sections of environmental scientists had last year cited dips in tiny particulate matter (PM) during the implementation periods to argue that the odd-even rule had improved air quality.

Now, government scientists who analysed levels of volatile organic compounds, carbon dioxide, carbon monoxide and methane from air samples have found increases in the concentrations of 13 of the 16 gases during the mornings and the afternoons and no significant differences during the evenings.

Their peer-reviewed study has been accepted for publication in *Current Science*, a research journal of the Indian Academy of Sciences.

The scientists say their findings do not contradict earlier claims that the odd-even rule was associated with lower PM concentrations but point out that multiple sources - construction dust, soot from burnt crop stubble and industrial emissions and traffic - contribute to PM levels.

"The best way to assess the impact of a traffic intervention would be to directly measure tailpipe emissions emitted into the street canyon," said Vinayak Sinha, associate professor for earth and chemical sciences at the Indian Institute of Science Education and Research, Mohali, who led the study.

Sinha and his colleagues at IISER, the Indian Institute of Tropical Meteorology, Pune, and the India Meteorological Department, New Delhi, analysed concentrations of tailpipe emissions at the street level through air samples collected from an arterial road in the capital.

The scientists say the increases in concentrations of the traffic-linked emissions between 7am and 8am suggest that four-wheeler users might have opted to commute before the 8am to 8pm restriction.