

No silver bullet given the exemptions, but cuts toxic emissions

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REDUCING THE number of vehicles on the road will definitely reduce the peak pollution levels, but this emergency action is not a silver bullet and its impact will be limited because two-wheelers — which contribute significantly to emissions — are exempted, and so are taxis.



“Transport has two components — one is exhaust from the tailpipe, and the other is from tyre and brake wear and tear. Tailpipe emissions have PM2.5, which will have soot, organics, nitrogen oxides, carbon monoxide, and some poly-aromatic hydrocarbons,” said Sachchida Nand Tripathi, Professor, IIT Kanpur, and Steering Committee member, National Clean Air Programme.

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● Odd-even no silver bullet but cuts toxic emissions

But transport is the top contributor to pollutants, and it cannot be left out when air quality remains 'severe' for days together. "If you look only at Delhi's local sources, transport is the top contributor to pollutants. Vehicles are the biggest part of the problem now and you cannot leave vehicles out while taking emergency action," said Anumita Roychowdhury, Executive Director, Research and Advocacy, Centre for Science and Environment (CSE).

While pollution would come down with the scheme, experts say it is difficult to estimate exactly how much. "This time, it would be difficult to say. Some parts of transport sector emissions come from outside Delhi, and these restrictions are being implemented in Delhi. Restrictions are also only a small subset of the transport fleet which actually plies on the roads. Even within that subset, there are exemptions. It's also about how effective you can make it. With all that, it doesn't give the result you would expect. If you have many interventions concurrently, it would be difficult to say what impact an individual intervention might have," said IIT Kanpur's Prof Tripathi.

On impact, Tripathi pointed to a study on the odd-even scheme implemented in January 2016 published a year later. This study

indicated it had "failed to mitigate air pollution". Tripathi, SAFAR's Gufran Beig, and Sagnik Dey at the Centre for Atmospheric Sciences, IIT Delhi, were among those involved in the study.

It said that "the change of PM_{2.5} due to traffic restriction remains small and within the uncertainty range of the satellite-based PM_{2.5} estimates. Simulations... reveal a decrease of PM_{2.5} by 8-10% in three pockets of Delhi; while in the remaining parts of Delhi NCT, it decreases by only 2-3%. It can be concluded that restricting traffic volume alone cannot control PM_{2.5} concentration over Delhi, where there are multiple other sources contributing towards making the city's air dirty... Therefore, in the current circumstances, this intervention will continue to fail to deliver the expected benefit. We also feel that the bulk of pollution that lingers outside NCT limits will not be contained outside the boundaries of the city if the traffic interventions are applied only within the NCT."

An analysis by CSE on week one of the odd-even scheme in January 2016 said the peak PM_{2.5} level during a smog episode in the first week of January, was 391 µg/m³, down from a peak of 498 µg/m³ during a smog episode in December, and 606 µg/m³ during an episode in November.

Roychowdhury of CSE said their centre had looked into the data in 2016. "What it showed was that during the odd-even week, pollution was not as high as the previous week. Also, during the day, under no wind conditions, hourly trends were downward. Odd-even is not an isolated measure, but part of several emergency actions that are being taken, like stopping construction. The sole purpose is that when pollutants are already trapped outside and there is no wind to blow it away, all that you can do till ventilation improves is ensure that you are preventing the loading of more pollutants. Emergency action is not a silver bullet, that you do it and the air will clean up," she said.

Impact cannot be determined on the basis of AQI, but by looking at the concentration level of pollutants, Roychowdhury said.

The Decision Support System of the Indian Institute of Tropical Meteorology estimated emissions from Delhi's transport sector to be 17.75 per cent on Sunday, about 3 percentage points lower than 21.07 per cent from stubble burning. "If you look only at Delhi's local sources, transport is the top contributor to pollutants. Vehicles are the biggest part of the problem now and you cannot leave vehicles out while taking emergency action," Roychowdhury added.