Sunday Business Standard, 10 April 2016

Making odd-even work better

Even if pollution does not decline due to the odd-even rule, Delhi residents' exposure could decrease as a result of reduced congestion and travel time on the roads

JYOTI PARIKH & KIRIT PARIKH

The Delhi government is implementing the 'odd-even' policy once again during April 15-30. The experiment that permitted the use of only odd or even numbered cars on odd and even dates during January 1-15 generated much debate about the impact of this experiment. The citizens of Delhi, under the threat of a ₹2000 fine, complied with it and the city functioned. The impact on pollution is debated.

Drawing lessons from the most unique odd-even experiment is like churning buttermilk for butter. Most importantly, the people of Delhi and the Aam Aadmi Party government along with the traffic police get full marks for the self-disciplinary approach that one did not think Delhiites were capable of. That it reduced congestion is not in doubt. The debate arose whether pollution dipped and whether peak pollution was the right measure. It was argued that the average level of air pollution increased during this period, but the peak level decreased compared with that in the previous 15 days. This debate is somewhat misplaced, because the most relevant indicator is exposure to pollution, as exposure has an adverse health impact. Exposure is defined as the amount of pollution multiplied by the number of people exposed, multiplied by the duration of time they were exposed. If no person was so exposed, pollution does not matter.

Secondly, if exposure to pollution is for short periods owing to reduced congestion, the damage to health is reduced. Since the number of cars on the roads decreased during the odd-even experiment, car occupants exposed to direct exhaust pollution from vehicles must have decreased to some extent, even allowing for higher numbers of occupants due to car sharing. Moreover, they and even those travelling in buses also travelled faster and were exposed for less time, as the buses moved faster. Both factors declined significantly during the odd-even experiment, especially the time of exposure, as congestion decreased substantially. Thus, even if pollution does not decline due to the odd-even rule, exposure could decrease due to reduced congestion and travel time.

Undoubtedly, a lot of people got exposed less, as travel time declined. Pollution at peak periods is a relevant factor, as it exposes a large number of people stuck in traffic jams, which was far less due to the odd-even rule. Those who argue on the basis of only 24-hour average pollution are mistaken. We need many measures, as they tell different stories.

One cannot compare air pollution without accounting for weather and many other factors. Temperature, wind speed and direction, inversion as well as what happens in surrounding areas, all matter. However one thing is certain. During this period Metro trips increased by more than 10 per cent, traffic congestion reduced and average speed increased. If fewer cars drive for fewer hours, emissions will be lower. If car trips were replaced by trips by Metro or buses or taxis or auto rickshaws, emissions will still be less, as public buses, taxis and rickshaws in Delhi run on CNG. Also, a bus carries many more passengers than a private car. So there can be no doubt that vehicle emissions were reduced.

The major improvement this time should be to make travel by public transport practical. It seems reasonable to assume that more people would have travelled by public transport, if more buses were available and if last mile connectivity were better. A quick way to provide it is to reintroduce e-rickshaws now that Parliament has regularised them. In Delhi they had grown to more than a lakh in only few months. They provide cheap last mile connectivity, making travelling by Metro that much simpler. And they do not pollute the city air. Unfortunately, they were banned. Of course, the electricity they use creates pollution where it is generated. Introduction of a certificate of road-worthiness for e-rickshaws can be quickly done. With e-rickshaws, more buses on the road and increased capacity of the Metro with more coaches and trains, travel by public transport can be made more attractive and practical for a lot more people.

The next phase of the odd-even plan must be accompanied by more rigorous pollution measurement, both concurrently and after the experiment

How to make the odd-even policy more effective? First, trucks and buses, which were left out, and are still at Bharat Standard (BS) III and even BS II, must be given a strict timeline by which they need to upgrade to BS III and even BS IV if possible. After a prescribed date, trucks that do not meet this standard should not be allowed to ply in the city.

Second, streamline the vehicle registry to prepare a comprehensive data base to include the year of make, BS level, fuel type, fuel efficiency as declared by the manufacturer, etc, so that one can make informed decisions. Digitise the vehicle registry with all this information. This can be done within a month by setting up a website at the registry and requiring owners to upload information for their vehicles online within a month. Also, ensure that there is a record of retired vehicles that do not ply any more. Digitised data for all vehicles is critical for any policy measure to get an idea about how effective the planned measures will be.

Third, pollution exposure can be reduced by further reducing travel time. For this traffic signals should be synchronised to reduce traffic jams. A computerised signal system where the signal cycle varies with traffic density can further reduce travel time.

Fourth, the most important measure is to introduce EURO VI vehicles as soon as possible, latest by April 1, 2018.

Of course, there are many other contributors to Delhi's air pollution and each one requires specific actions. It needs quick completion of bypasses to divert through traffic; vacuum cleaning of roads for curbing road dust; imposing stricter emission norms on industry, especially the construction industry and power plants; incentivising farmers in Punjab and Haryana to produce bio-char instead of burning paddy stubble; minimising biomass burning; improving walkways and providing cycle tracks even at the cost of a motor lane and above all, reducing emissions from motorised vehicles.

Phase II of the odd-even experiment needs to be accompanied by a pollution measurement exercise with greater rigour and vigour, both concurrently and post-experiment. Hopefully, pre-experiment measures are available as required.

Jyoti Parikh is Executive Director and Kirit Parikh is Chairman of Integrated Research and Action for Development