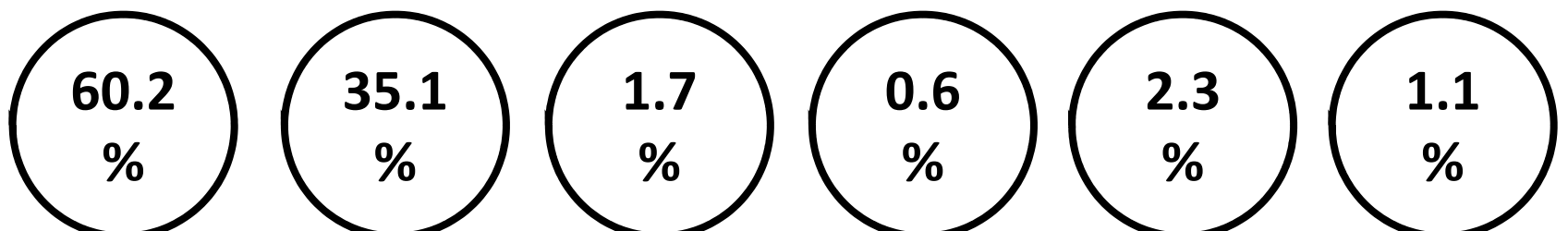


benefits of odd/even program were unclear from ambient data

here is an estimate from the emissions perspective

total registered number of vehicles **8.8 million**

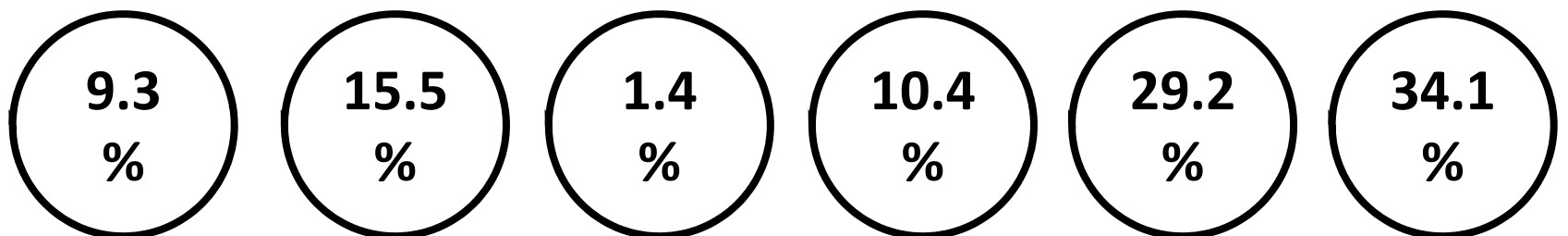
share of registered vehicles



in 2015

2-wheelers (2W) All petrol	4-wheelers (4W) Mixed fuel Majority petrol	3-wheelers (3W) All CNG	Buses (BUS) Diesel+CNG Majority CNG	Light duty trucks (LDV) Mixed fuel	Heavy duty trucks (LDV) All diesel
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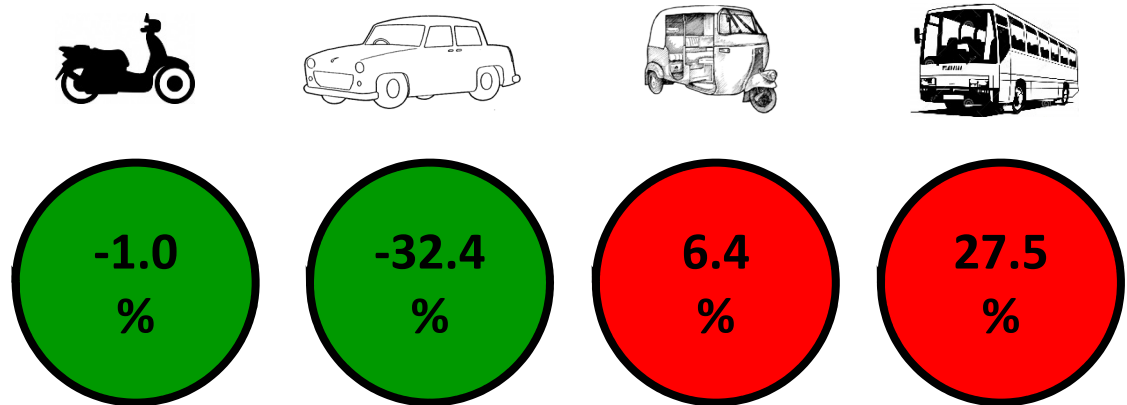
share of PM_{2.5} emissions



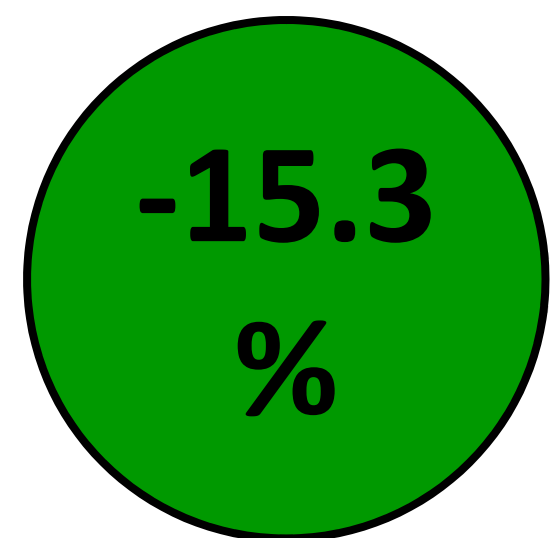
$$\text{emissions} = \text{\#vehicles} * \text{\#km traveled} * \text{\#emission factor}$$

- Estimated 300,000 cars off the road per day
- Cars and motorcycles are assumed to have traveled more on odd/even days
- Improvement in the day time fuel economy assumed for all modes due to lower congestion and higher moving speeds
- Delhi Transport Corporation made 40% more bus trips per day
- Metro ridership was 25% higher compared to a year ago
- Anecdotally taxi, cab, and auto drivers made 2-4 additional trips per day
- Anecdotally fuel stations observed 20% drop in the number of cars refuelling

estimated change in day time (8am to 8pm) PM_{2.5} emission rate between a regular day and a odd/even day



net change in the day time (8am to 8pm) PM_{2.5} emission rate between a regular day and an odd/even day (of the passenger vehicle emissions only)



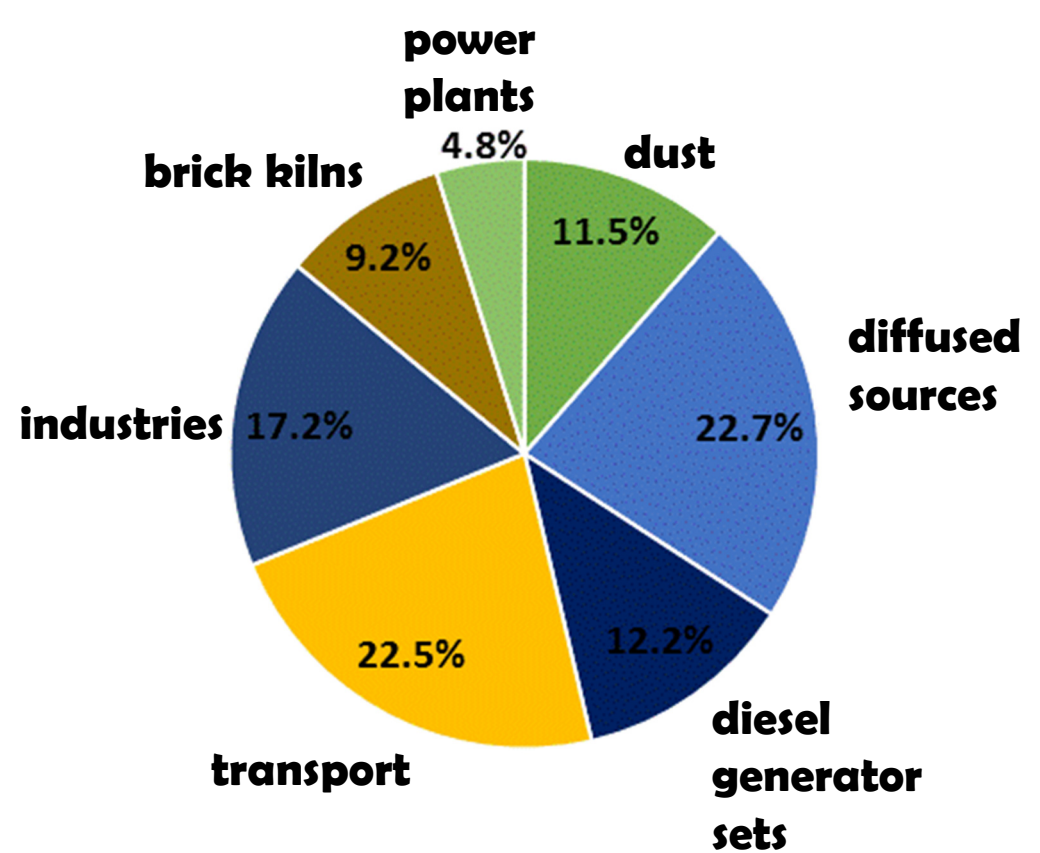
bigger picture

April is one of the months with better air quality. If the goal is to see significant changes, then

- data from 6 DPCC stations is statistically not enough to analyze the benefits on air quality - need at least 20 ambient monitoring stations in the public access mode
- next time, no or limited exemptions for motorcycles and 4-wheelers
- next time, run more buses, maybe offer free rides for women on certain days or times, push for more change in the travel behavior
- increase the para-transit (taxi, cab, and 3-wheeler) options
- increase the parking fees (with or without drivers) by at least 10 times

modeled annual source contributions

(Guttikunda and Goel, 2014)



more details

@ <http://www.delhiairquality.info>

don't forget that transport is part of the pollution problem and passenger transport is only a fraction of that