

Delhi's air as dirty as ever despite some reforms

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In this Thursday, Dec. 15, 2011 photo, India Gate, the war memorial, is seen through haze in New Delhi, India. A decade ago, plans for a metro and clean-fuel buses were hailed as New Delhi's answer to pollution. But air in the Indian capital is as dirty as ever - partly because its continued development has brought skyrocketing use of cars. (AP Photo/Saurabh Das)

(AP) -- A decade ago, plans for a metro and clean-fuel buses were hailed as New Delhi's answer to pollution. But air in the Indian capital is as dirty as ever - partly because breakneck development has brought skyrocketing use of cars.

Citywide pollution sensors routinely register levels of small airborne particles at two or sometimes three times its own sanctioned level for residential areas, putting New Delhi up with Beijing, Cairo and [Mexico City](#) at the top of indexes listing the world's most-polluted capitals.

Sunrises in India's capital filter through near-opaque [haze](#), scenic panoramas feature ribbons of brown air and everywhere, it seems, someone is coughing.

"My family is very worried. Earlier, the smoke and dust stayed outside, but now it comes into the house," said 61-year-old shopkeeper Hans Raj Wadhawan, a one-time smoker now being treated for [chronic obstructive pulmonary disease](#) at the Delhi Heart and Lung Institute.

"I can see the air is bad again, and I can feel it in my chest."

New Delhi could lay some of the blame on its own success. Its recently minted middle class adds 1,200 cars a day to the 6 million on roads already snarled with incessantly honking traffic. Generous diesel subsidies promote the use of diesel-powered SUVs that belch some of the highest levels of carcinogenic particles, thanks to their reliance on one of the dirtiest-burning fuels and low Indian [emissions standards](#).

"The city has lost nearly all of the gains it made in 2004 and 2005," said Anumita Roychowdhury, executive director of research at the Delhi-based Center for Science and Environment.

New Delhi has undergone head-spinning expansion as Indian economic reforms in the 1990s ushered in two decades of record growth. Once a manageable capital of 9.4 million where cows, bicycles and bullock carts ruled the road, New Delhi today is a gridlocked metropolis and migrant mecca now home to 16 million. Authorities have scrambled to deal with everything from rocketing real estate prices to overflowing garbage dumps.

Efforts to clean the air, it seems, have only just begun.

The capital saw some success after a 1998-2003 program removing

power plants from the city center and adopting compressed natural gas, CNG, for running buses and rickshaws. The buses had run on diesel, and the rickshaws on gasoline and highly polluting kerosene. Of all possible fuels, CNG releases the smallest amounts of particulate matter.

But just a few years later pollution levels are back up, with levels of [airborne particles](#) smaller than 10 micrometers - called PM10s - often near 300 per cubic meter, three times the city's legal limit of 100 - and well above the World Health Organization's recommended limit of 20.

The tiny particulate matter, sometimes called black carbon or soot, is small enough to lodge in people's lungs and fester over time. WHO says the stuff kills some 1.34 million people globally each year.

Studies on the Indian capital put the number of such deaths in the thousands.

It worsens in the dry winters, as winds die down and pollution pools over the Delhi plains. Vehicular smog mixes with smoke from festival-season fireworks as well as countless illegal pyres of garbage burned by homeless migrants to stay warm as temperatures near freezing. And the booming construction scene, free for a few months from monsoons, sends up clouds of dust.

"Our biggest challenge is the vehicles, but building roads is not the answer," Roychowdhury said. "We badly need second-generation action to restrain this increasing auto dependence."

But so far India's diesel subsidies, billed as aid for poor rural farmers who need the fuel for generators and tractors, have only boosted its market for vehicles, and the worst-polluting kind.

Diesel cars, which in 2000 accounted for 4 percent of India's market,

now make up 40 of new car sales, and are soon expected to hit 50 percent.

It's an odd automotive trend for today's world. In the United States, where markets set fuel prices, the popularity of diesel is nearly naught. China taxes diesel and petrol fuels at the same rate, while neighboring Sri Lanka sets high duties on diesel cars.

Indian car owners now spend more on diesel than the agricultural sector and benefit from 100 billion rupees, or about \$1.86 billion, in direct diesel subsidy, according to the Center for Science and Environment.

Environmentalists call the diesel policy an incentive to pollute. And with the capital's 16 million residents now living on some of the world's most lung-challenging air, city authorities seem to agree and say more action is needed to clean up the air.

The city recently proposed a raft of reforms to bring down PM10 levels by boosting public transportation and discouraging drivers from taking out their cars. Ideas floated include taxing diesel vehicles, increasing parking rates that are now lower than bus fares, and introducing a London-like congestion charge for driving in the city center.

Delhi also is expanding its metro, and wants to auction off its 17 bus routes to replace a chaotic system that has dozens of single owner-operators working independently - and inefficiently.

But whether the changes are made, and how effective they would be in persuading people to give up their cars, remains to be seen.

In the meantime, at least 3,000 Delhi residents will die each year from pollution-related causes, out of the city's 100,000 annual deaths, according to a recent study by The Energy Resources Institute in New

Delhi and the U.S.-based health Effects Institute. Other studies have put the number of pollution-related deaths at 10,000 a year or higher.

Thousands more will develop asthma, chronic bronchitis or other respiratory ailments.

Unsurprisingly, most patients and victims live near the city's biggest roads.

"The number of respiratory diseases is definitely on the rise. Even in children we are finding more respiratory problems," said Dr. Vinod Khetarpal, president of the Delhi Medical Association. "With the introduction of CNG, it had come down quite drastically. But now it's back up again. Cars seem to be our new vice."

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