

Smog-Eating Streets Created by Dutch Scientists

Source: mnn.com

Published: July 10, 2013

Pavement that acts as an air purifier could help cities consume their own pollution.



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Imagine a city that could devour the very pollution that it creates. Such was the scenario envisioned by scientists in the Netherlands, who have found that using specially treated pavement on city streets can cut [air pollution](#) nearly in half.

The researchers from Eindhoven University of Technology installed concrete paving which included titanium dioxide – called photocatalytic pavement – on a block in the city of Hengelo, Netherlands. Titanium oxide has the ability to remove pollutants from the air and reduce them into less harmful components. Another part of the street was outfitted with normal paving blocks as a control.

The [study](#) looked at reductions in [nitrogen oxides](#) (NO_x), a group of poisonous gases produced by cars and power plants that react with other compounds in the atmosphere to form smog.

After analyzing measurements gathered over the course of a year, the researchers found that the treated street reduced NO_x air pollution by 19 percent on average; the figure bumped up to 28 percent during the afternoon and a remarkable 45 percent under ideal weather conditions (high radiation and low relative humidity).

The findings were published in the [Journal of Hazardous Materials](#); it is hoped the research may lead to ways in which cities might be designed to intrinsically deal with the air pollution they create.

Although the application of photocatalytic surfaces [has been studied for several years](#), David Brown, Chief Executive of Institution of Chemical Engineers, noted in a press release, “this latest research shows the potential of chemically engineered surfaces to further improve our quality of life, especially in major urban areas where traffic emissions are high.”
